ARCHITECT AND ENGINEER

JANUARY, 1943

Los Angeles Completes $16,000,000 War Housing Program

New Building Materials Will Influence Post War Design

Camouflage Becomes a Definite Technique

ARCHITECT AND ENGINEER

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NEXT MONTH

Continuing our war housing series several pages will be devoted to the Vallejo Dormitories for single men and women employed at the Mare Island Navy yard. The 38 structures were built by the Farm Security Administration from plans by Vernon De Mars, District Architect for the FSA. The reader will discover many unique and unusual features embodied in the design of these war homes.

An engineering feature of timely interest next month will be an article on "The Resistance of Reinforced Concrete Structures to Air Attack," by J. Bertrand Wells, Professor of Civil Engineering at Stanford University. The problem of designing to resist air attacks, Professor Wells points out, is a very large one and it does not appear that at the present time we are justified in going beyond first class design and construction. Generally speaking, reinforced concrete has made a creditable showing under very severe bombing conditions in London.

Entrance Hall and Drawing Room, with windows overlooking the Golden Gate, of the new Girls' Dormitory, University of California at Berkeley. Architects were Corbett and MacMurray and William W. Wurster Associated. D. W. Durant Co. were the plumbers.

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RUNNING FIRE — By MARK DANIELS, A. I. A.

• *THE ARCHITECT'S FUTURE*

AS MR. BLANCHARD SEES IT

An architect trying to find the solution to the problem of how best to direct his training and talents in the present turmoil will likely wind up chasing his mental tail and biting things. We are told that young college professors, who have never swung anything heavier than a quill pen, are telling the Henry Kaisers how to build dams and ships; that the War and Navy departments are going to design all the domestic as well as other architecture in the country, a task which they have essayed and at which they have lamentably failed. Now, if the inexperienced professor is to tell the tried and true and experienced graduate how to do things he himself cannot do, how long will it be before those in authority go a step farther and let the sophomores determine the curriculum?

To get out of this mental tail spin I decided to ask a few of our leading architects to shed the light of their opinions on the whirling architectural future. The State Association has picked on Norman K. Blanchard, if you can call electing him president a form of picking. Perhaps he is not representative of the profession, for he is so busy showing the government how to solve the architectural problems they were going to work out all by themselves, that his outlook may be rosier than others. But it is a clear one.

"I don't believe," said Mr. Blanchard, "that the government is going to take over the profession. Nor will the contractors. I believe the practice of architecture will come back, but in a greatly modified form. In my opinion, the successful architects of the future will go in for group, community and city planning. They'll have to. The architects of most of the world are doing just that right now." In brief, Mr. Blanchard felt that the work of the architects would have to include far more collaboration; that the old practice of the individual designer planning a house or a building to suit himself and his client alone, would have to give way to group study. That would be paramount.

Mr. Blanchard had other well fixed opinions but this one alone is enough to stimulate some serious thought. The Russian architects and artists moved in on this group planning idea many years ago. Now they are well along the road Mr. Blanchard thinks we must start out on. So, here's another tail spin.

• *COMPETITIONS*

The ideal time for an architectural competition is when the people are ready to build and eager for new ideas, and the architects are looking for new work. As for the architects right now, some of them are looking for new work, old work, or just work. Many people are ready to build but before they can get priorities and the release of newly discovered and developed materials, the plans and specifications will have to be done over. Further, most of those architects who are not searching for work are very busy on war work of a type radically different from competition planning.

For several months the ARCHITECT & ENGINEER has been working on a plan for a competition, but interviews with the Coast architects have been discouraging. With so many offices closing or near closing, with the shipyards offering a financial way out, it was felt that to participate in a competition at this time would be hardly justifiable not only to the participant but to the project. The ARCHITECT & ENGINEER will, however, proceed with its plans when times seem more propitious.

• *MONOTONY*

The variety in the designs of our domestic architecture is not due entirely to differences in demand of our clients. By the same token it is not the necessity for different covering and protection from the elements that alone dictates changes in clothing. Few men wear the same color and style year in and year out. One reason is a desire to avoid monotony.

The same is true in architecture. When the architect had a more or less free hand in design he often varied the style to avoid monotony in a district. Instances where this was not done are plentiful in Philadelphia. But now we are threatened by a monotony of architecture, enforced by standardizations and regimentation, that will surpass the row houses of Philadelphia; a monotony of architecture that will serve only to emphasize the monotony of labor.

• *COMPOSITION*

There are many books on the theory of composition. Every course in the arts has an early series of lectures on the principles of composition. They are all valuable and enlightening and usually close with long talks about the great works and how the artists who produced them studied out their lines of length and depth along the lines of the "principles" before they set to work.

Perhaps they did, but whenever I read Poe's analysis of "The Raven" in his "Philosophy of Poetry" (or is it "The Philosophy of Verse") and how he first selected the long sonorous vowel "O," the dead motive, the love motive, and the consonant, "r," before he started the poem, I can't help but feel that the egg might have come before the hen.

• *T. L. M.*

The Little Man attacked his old fashion vigorously and tossed it off with the air of a conqueror. "Anyone," he said, as he gulped the cherry with a single bite, "can keep out of trouble by always doing exactly what he is told to do, but it takes a man of parts to ignore instructions and advices—and get away with it." A quick survey disclosed only empty glasses except at the end of the bar. Lifting my burning cigar from the ash tray, he continued, after a few puffs. "Smoking ruins the lungs. Drinking forms deadly habits. Reading ruins the eyes. Bathing is weakening. With the exception of this last I shall have none of these don'ts in my life. I am adamant. I shall never be the disgusting victim of the disgraceful habit of self denial." The arrival of my old fashion within his reach stopped him.

HUNTER

(Oil painting by Victor Tischler)

Tischler is a Viennese artist who, until the spring of 1941 when he came to this country, spent the greater part of his painting years in France. He is represented in galleries throughout Europe, and his works are presented to the American public for the first time in the current exhibition at the deYoung Museum, San Francisco.

ONE-MAN SHOW OPENS AT DE YOUNG MUSEUM

A new and outstanding exhibition scheduled to go on the walls of the De Young Museum this month is the one man showing of oils, watercolors and drawings by the Viennese artist, Victor Tischler.

Tischler's name is a new one to museum visitors in this country, the artist having spent his early years in his native city, later traveling through various countries on the continent in pursuance of his studies and painting. For the past fifteen years he has resided in France where he remained until after the French-German armistice. He was interned for six months and only after many difficulties did he finally reach the United States in the Spring of 1941. He is at present making his home in the southern part of California.

During his active years in Europe, Tischler was represented in numerous exhibitions; his paintings are included in the collection of French, Dutch and Austrian art galleries. The Tischler show opened at the De Young January 15.

ADDITION TO RODIN'S WORKS AT LEGION OF HONOR PALACE

To the extensive collection of the works of Auguste Rodin, for which the California Palace of the Legion of Honor is noted, have been added ten more works of the great master. The gift of Mrs. Alma Spreckels Awl, donor of the museum, the new additions include: Bronzes—Torso, Bust of Victor Hugo, Bust of Victor Hugo (small study), The Mighty Hand, Wounded Lion, Fugit Amor, Faun and Nymph, Man With the Broken Nose (small study); Marbles—Hand of Victor Huga, and Small Seated Female.

SAN FRANCISCO MUSEUM SHOWS SIGNIFICANT WORKS OF OREGON ARTISTS

Perhaps it is inevitable that a country as large as this should form, within its borders, several regions of more or less isolated artistic output. One could list a dozen districts of the United States in which the art produced is known to few outsiders. The larger museums often try to penetrate these regions by holding national exhibitions, but even these are limited because many artists do not care to risk the expense of transport to a juried show. Occasionally delegates of a museum will travel through various parts of the country to select works which appeal to them for one reason or another. But up to the present no museum has launched a systematic program for showing, in any concerted fashion, the most significant work produced by artists in many sections of the United States.

The present is excepted, because the San Francisco Museum of Art plans such a series of exhibitions. The first in this series, called Oregon Artists, opened at the Museum on the 12th of this month and will continue through February 9. This show includes work by nine leading painters and four outstanding sculptors of Oregon. These artists were selected by the Museum with the help of Portland Museum of Art.

What special qualities set a group of artists

apart as representing Oregon? Are they geographical, cultural? In his introduction to the catalog of the exhibition, Robert Tyler Davis, Director of the Portland Art Museum, writes: "The Columbia River draws an unmistakable line between Oregon and Washington, but geographically the whole Columbia basin might form a more logical unit. In a somewhat larger sense, the whole Pacific Northwest is a unit, easily differentiated from the rest of the nation and relatively homogeneous in resources and problems. But no matter where the regional limits are placed, the division is still geographical, whereas the artists are human beings."

"Again," he writes a little further on, "there is the cultural flavor which is a little different from that of any other section of the Pacific Northwest. Slightly more than a hundred years ago there were no white settlers. The first settlers, after the retired employees of the Hudson's Bay Company, were mainly from New England. They were simple and unpretentious, but soon had colleges and universities established all through the Valley. . . . It is impossible that the spiritual and mental, as well as the physical environment should leave the artist unaffected. . . . On the other hand, the environment is tremendously varied and the artists all individual human beings with their own sympathies and temperaments. The artists represented in this exhibition were chosen from among all those resident in Oregon, only because they seem to be those who have produced work of imaginative power. They are the ones who have seen, and felt, and found the means to express something which is their own. . . . It can only be said that when an art is produced which can be recognized as flavored by the region's physical characteristics and cultural traditions, it will be produced by artists whose first concern is imaginative creation, and who have absorbed the characteristics of their environment 'through the pores.'"

PAINTINGS AND DRAWINGS BY FOUR NEIGHBOR ARTISTS

An exhibition of paintings, drawings and prints by four leading artists of Latin America are on view at the San Francisco Museum of Art through February 9. The four artists are Oswaldo Guayasamin Calero, Susanna Guevara, Enrique Camino Brent, and Candido Portinari.

Guayasamin is not yet well known in this country, but his work is viewed enthusiastically by such distinguished Americans as Lincoln Kirstein and Rene d'Harnoncourt. D'Harnoncourt points out that Guayasamin sees Ecuador's Sierra Indians with an insight which comes of his being one himself. His pictures are not mere records made by an outsider. Guayasamin's early recognition by discerning Americans is reflected in the fact that he will soon have a scholarship for study in America.

Susanna Guevara's watercolors were made as a special series called "Childhood Memories of Chile." They were done, writes Miss Guevara, in an effort to escape from the horrible cry of war. Miss Guevara had already put in a distressing period in England during the Great War.

Enrique Camino Brent was born in Lima, Peru. He has devoted much of his time to the interpretation of Indian life in the central and southern mountain regions of Peru, and of Bolivia. After exhibiting in various parts of Peru and Argentina, Camino Brent was represented at the Exposition in San Francisco in 1940. His work is included in museum collections in various parts of South America, as well as in private collections in this country.

Candido Portinari of Brazil needs no introduction to Americans on this side of the Equator. His mural paintings and other works have been widely shown here in the past few years, most recently about a year ago at the San Francisco Museum.

"THE FORMATION OF TASTE"— A NEW COURSE BY MACAGY

Douglas MacAgy, Curator of the San Francisco

(Turn to next page)

"Diego and I," by Frieda Kahlo Rivera, an oil, from the Albert M. Bender Collection at the San Francisco Museum of Art.

Museum of Art, will open a new course at the Museum to be called **The Formation of Taste.** In an effort to clarify questions of current taste, Mr. MacAgy will indicate the character of antecedent valuations and concepts of art. The changing relationship between patron and artist under the influences of politics, economics, philosophy, science and education will be traced from the 16th century to the present. The course will be illustrated by designs of city and countryside, of architecture, sculpture, painting, dress, and manners. There will be ten consecutive weekly meetings, (Thursdays) beginning January 21.

RARE TEXTILES BEING SHOWN AT DE YOUNG G. G. PARK MUSEUM

The De Young Museum is presently offering a unique opportunity to its visitors to study and enjoy some of the most beautiful textiles ever seen on the West Coast: the showing of a part of the collection of Mr. Adolph Loewi, who spent a great many years collecting rare specimens in Venice and who but recently has come to the United States to make his home. These various textiles cover a range of over five hundred years, the earliest pieces dating from the 13th century; work of the countries of Europe and the Near East are represented. The exhibition makes it possible to review the evolution of textiles from the Romanesque era to the days of the French Empire.

The earliest examples are, of course, shown only by small pieces which, however, are exceedingly scarce, having the value of a miniature or a piece of pottery of that time. Finest in this group is a fragment from an Arabian brocade showing two seated men drinking. Among the pieces from the Near East, the velvet caftan which once belonged to a Turkish Sultan is outstanding. Other early examples come from Spain and Palermo in Sicily where, under Moslem influence, weaving had reached its highest development.

Lucca in Tuscany, most important weaving center during the 14th century, is represented by subtle gold brocades combining Chinese motifs with the old traditions. Here one can witness the rise of a new era in art, the Gothic. From here on, Venice takes the lead; the rich velvets with which Renaissance painters such as Bellini, Giorgione and Raphael adorned their madonnas and saints are shown. To own a large pieceof green velvet with the pomegranate motif is the ambition of every textile collector: Mr. Loewi has found such a piece and it is displayed along with another velvet, a 15th century Venetian red cope carrying the same motif.

The De Young is extremely fortunate to be able to show such an abundance of rare textiles at one time; it is seldom that more than a few of these pieces can be gathered for a single exhibit. The public is urged to visit and enjoy this display which remains on view through the month.

Gold Rush Days, an aggregate of photographs of old homes at Coloma and Placerville (Hangtown) and other mementos of the days of '49 are on view through the month. Mrs. William H. Voiles has donated many of these old photos.

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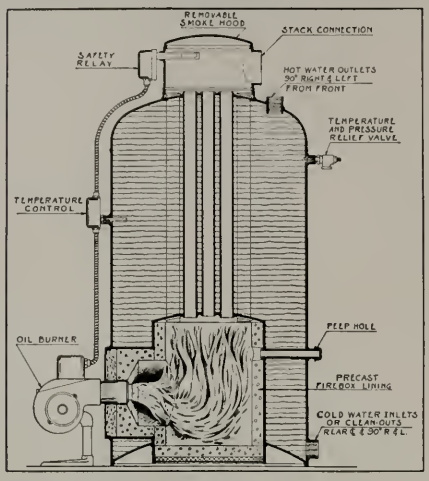

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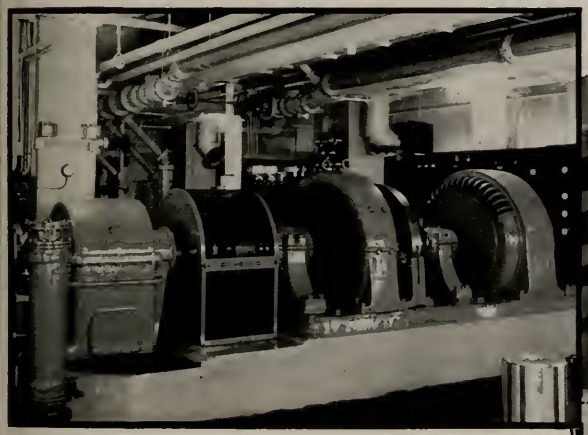

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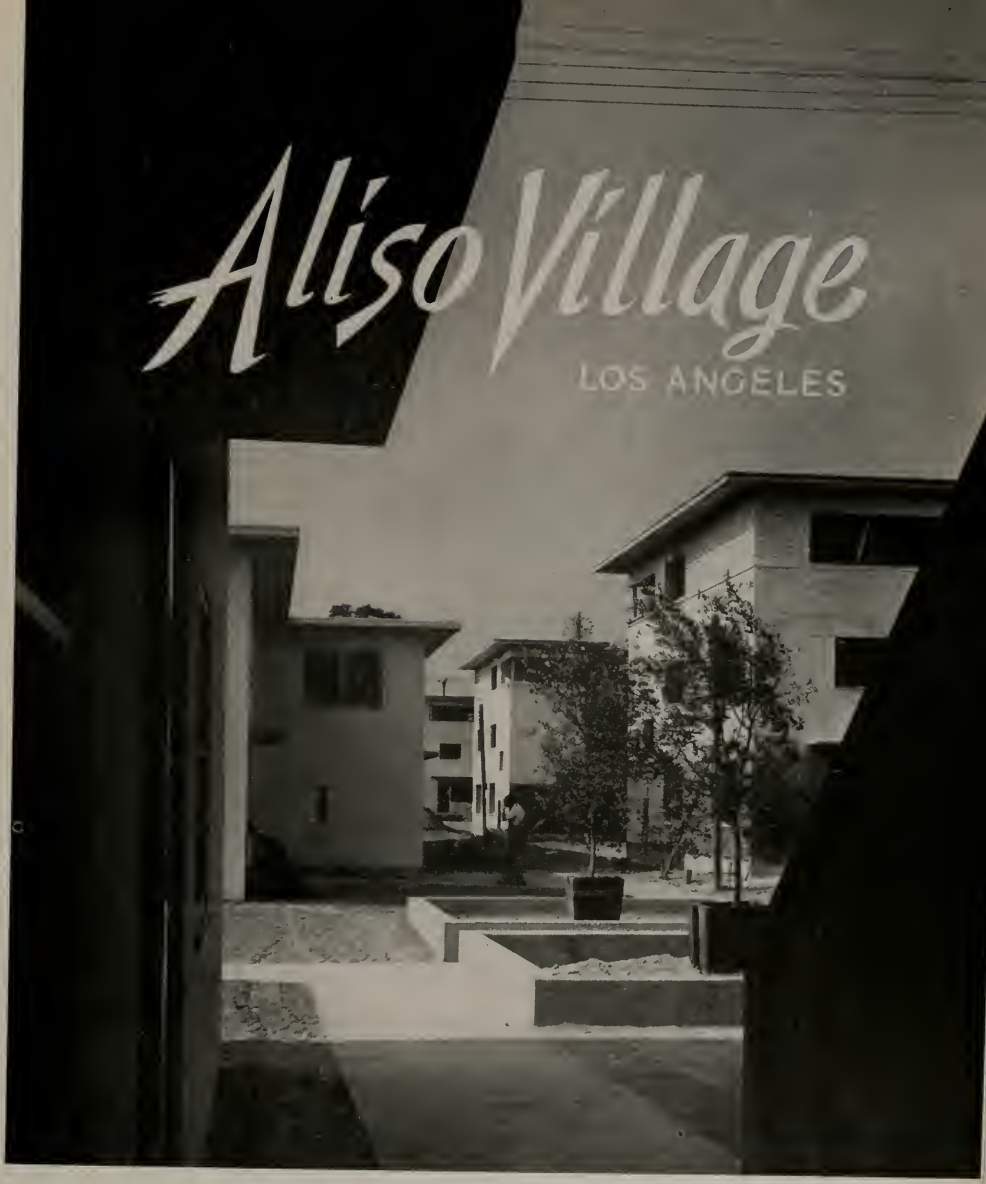
DETAIL OF "U" TYPE APARTMENT, ALISO VILLAGE, LOS ANGELES, CALIFORNIA
THERE ARE 12 BUILDINGS OF THIS TYPE, EACH CONTAINING 28 APARTMENTS



Aliso Village, largest low rent housing development in the war housing program of the City of Los Angeles, marks the completion of a $16,000,000 undertaking to provide 3,468 dwelling units for an estimated population of 13,300 persons.

Aliso Village is less than ten minutes' drive from the Los Angeles City Hall. It covers 34 acres and is bounded by East First Street, Mission Road and the Santa Ana Speedway. There are 802 homes in the village with a total of 248 one-bedroom units; 376 two bedrooms; 156 three bedrooms, and 22 units of four bedrooms. Each apartment has a living room, one to four bedrooms, a kitchen, dinette, private bath and toilet. Individual parking areas surround the homes and there is ample space for victory gardens and flowers. Rents start

Plot Plan, Aliso Village Housing Project, Los Angeles

Typical "U" Building Plan, Aliso Village Housing Project, Los Angeles

at $11 per month, ranging upward to $40, according to the net family income. Gas, lights, and water are included in this cost. To be eligible for Aliso Village homes, applicants must be American citizens, employed in a certified war industry and earning less than $1 per hour.

MOST OF TENANTS WAR WORKERS

With the exception of Ramona Gardens, built for low-income tenancy, all nine of the L. A. housing developments, originally planned for low-income groups, were converted to housing war workers and their families, after Pearl Harbor, when it became evident that the Los Angeles metropolitan area would be a concentrated war production center. For a period of 90 days, after completion of the developments, preference in tenant selection was given to war workers. In most instances, the projects were filled long before this time had elapsed.

ALISO VILLAGE SIZE OF A SMALL TOWN

Aliso Village is designed to accommodate over 3,000 persons. Three hundred eighty-seven substandard structures were removed from the site. The general contractor, R. E. Campbell Company, started operations February 23, 1942.

Planning of the project, as well as the design of the buildings, is distinctive. The dwelling units are arranged in court groups with houses fronting on the courts. This allows greater breadth of open area and more recreation space adjacent to buildings than could otherwise be obtained. Open passages, 60 feet in width, described as "ramadas," through buildings from one court to another, give a feeling of spaciousness and at the same time provide recreation areas for the tenants, shady and cool in summer, protected from rain in winter.

Diagonal parking areas in close proximity to the dwelling units form one-way directional lanes. For pedestrian use there is a broad tree-lined lane, about half a mile long, running through the entire development.

There are three general types of apartment buildings. Twelve are "U" type, each containing 28 apartments. They are three-story structures with brick masonry walls, reinforced concrete floors and stairways and wood framed

YPICAL ENTRANCE TO TWO STORY APARTMENTS. THERE ARE ELEVEN OF THESE BUILDINGS,
ACH CONTAINING 14 APARTMENTS. CONSTRUCTION IS FRAME AND STUCCO
VITH REINFORCED CONCRETE GROUND FLOORS

Playground and Recreation Center

"H" Type Apartments. Note Ramada Type of Construction (Open Passages Connecting Wings on Either Side of Court) Second Story Rests on Transverse Beams Supported by Piers

roofs. The partitions are two-inch cement plaster with metal studs and lath. Nine are "H" type with 32 apartments in each and eleven are "C" type, each containing 14 apartments. The latter are two-story frame and stucco buildings with reinforced concrete ground floors. Floor plans are varied according to types of buildings and orientation.

PREFABRICATED WALLS, PARTITIONS, STAIRS

Construction of the 20 two-story wood frame buildings was greatly facilitated by prefabrication of walls, partitions and stairways.

A mill equipped with a battery of saws for cutting lumber was erected adjacent to Clarence Street in the middle of the tract and a jig table 200 feet long, for prefabricating the wall and partition panels was set up alongside the roadway for convenience in handling material and hauling away the prefabricated units. The jigs had to be frequently changed as there were 237 different patterns required to conform to the variations in the plans for the different structures. Altogether 10,600 panels were assembled consuming approximately 900,000 board feet of lumber and requiring approximately 600 man-days of labor.

As the panels were taken off the jigs, each was marked to designate the building and the exact place into which it was to fit, before being stacked. The panels were made in various dimensions but none were too large to be lifted off a truck to the ground floor by hand. Being stiffened by the bracing against lateral forces and by fire stops, the panels retained their exact shape, so that when they were assembled in the building the walls and corners were true and no further work was involved. Window frames were omitted from the panels and were set in the openings after the buildings were under roof.

In erecting the panels the interior partitions were set up first with the assembly progressing to the outside walls and as each panel was of exact dimension, erection was not only facilitated but an excellent framing job resulted. The method of constructing the second floor with a box sill also was advantageous in that a level floor surface was assured by the joists being kept even with the top of the sill, any leveling necessary being done on the supporting wall plate.

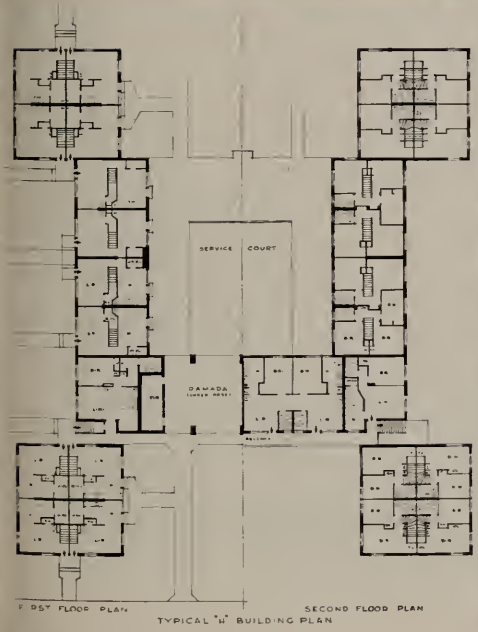
No, this is not a corral or chicken yard. Just a study in wire fences

Prefabrication of the wood stairs also not only saved time and labor but produced a

Balcony off second floor of brick apartments

Street View Shows Three Story "U" Type Apartments in Foreground Each Building Has 28 Apartments

Fleecy Foliage of Pepper Trees Add Color to the Landscaping



FIRST FLOOR PLAN SECOND FLOOR PLAN

TYPICAL "H" BUILDING PLAN

Spacious Lawns Will Improve Appearance of These "U" Buildings Of Which There Are Twelve

more satisfactory job than if they had been built in place. There are 186 straight stairways and 240 with a turn at the top, half of which were to the right and half to the left. The

Pools for foot bathing are conveniently located throughout the project

stairs were assembled in jigs set up in the nursery building which was erected but not enclosed at the outset for the contractor's use. Two jigs each designed for a right and a left turn were provided. The stairs, all of exact dimensions, were lifted and set in place in the building by a truck crane after the first story was framed, fitting snugly in the precision assembly. Treads and risers are of vertical Douglas fir and these were protected after they were in place by heavy building paper.

RAMADA CONSTRUCTION IS DESCRIBED

An interesting problem developed in connection with the construction of the ramadas through the "H" buildings. These open passages, 60 feet in width, through the first story of the structure connecting the wings on either side of the court, are formed by erecting the second story on transverse beams supported by piers. These beams are solid timbers 4x16 inches, with a cantilever extension at one end to carry a balcony across the court connecting the apartments on the second floor. It was necessary to extend the service pipes for the second story apartments from the ground up through some of the piers, but the space inside was too narrow to allow the installation of the pipes after the piers were built.

Rather than attempt construction piecemeal, it was deemed simpler and more economical to follow a uniform scheme for doing the job. Accordingly, the second story was erected on the beams, of which there are two at each pier, supported by falsework. The service pipes below ground were protected by an enclosure of metal lath while the timber columns on which the beams were to rest, and the concrete footings for the columns were being placed. These columns, which are 4x6-inch timbers, were suspended from the beams and the concrete footings were poured up to them. The columns were anchored to the beams by steel caps and the footings by steel shoes. The piers thus formed were sheathed and plastered, giving them the appearance of solidity.

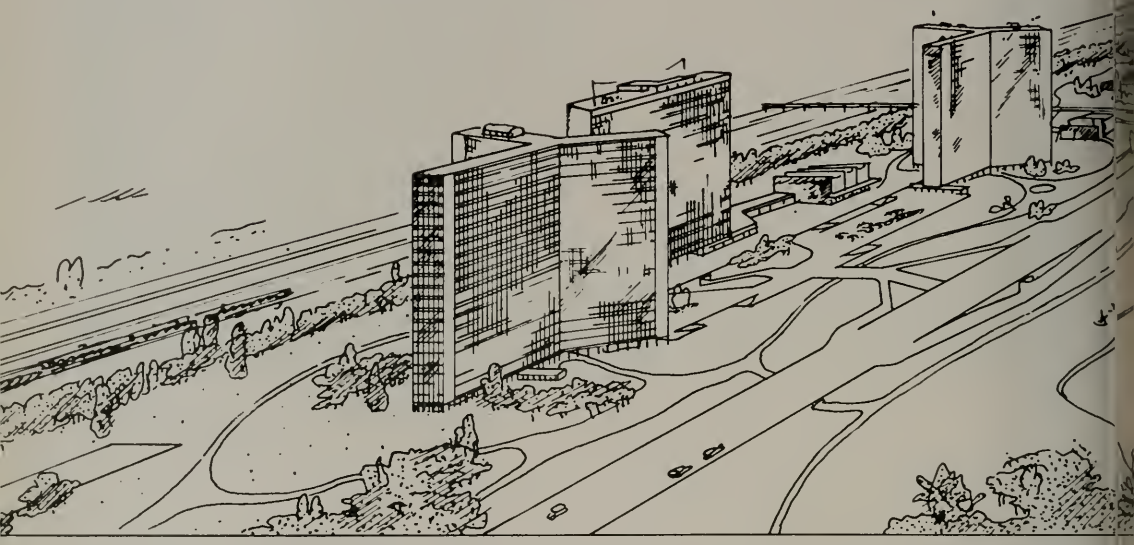
There are sixty monitors on the roofs of the wood frame buildings, two on each "C" type and four on each "H" type, providing light and ventilation for the bathrooms of four apart-

(Turn to Page 32)

Detail of a "U" Building Apartment in foreground, "H" Type in background
(Plan and close-up on Page 19)

Typical kitchen. Note spacious shelf space, tiled sink, electric refrigerator and gas stove

POST WAR PLANNER VISUALIZES HUGE APARTMENT BLOCKS



This original sketch of a proposed lake front development in Chicago, is by Jan Reiner, at the moment a Henry J. Kaiser shipdrafter and until recently a member of the staff of William W. Wurster, architect, in San Francisco. During the summer of 1942 Reiner taught at Mills College. Recently he lectured at the S. F. Museum of Art on "Architecture Today and Tomorrow." His early training was under such internationally known exponents of the modern school as Le Corbusier in Paris, Ove Bang in Oslo, Norway, and Gropius at Harvard.

The proposed residential development of Chicago's lake front, as pictured above, consists of three groups of apartment houses, each of which is composed of three 20-story buildings. Between them are smaller structures accommodating stores, schools, hospital units, recreation and community houses, clubs, movies, garages, etc.

"One of the most brilliant examples is the darmitory for Swiss students at the University City in Paris"

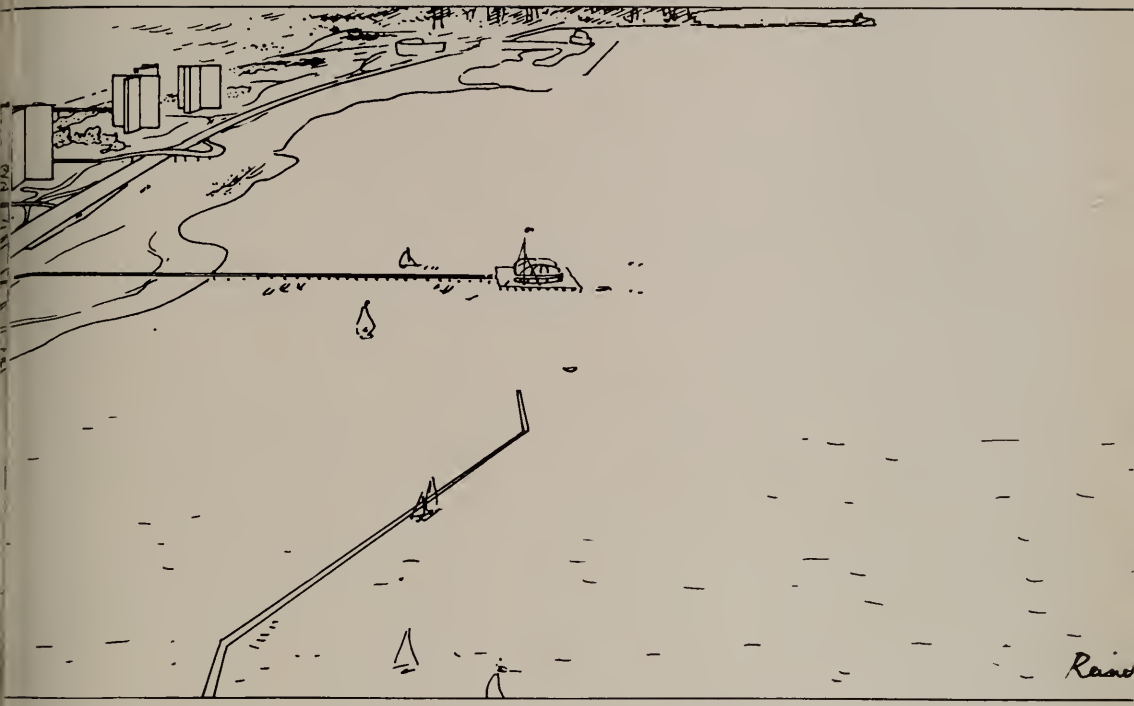
BUILDING MATERIALS — THE

By JAN REINER

History of art shows us that the characteristic which we call the "style" of any period is a family resemblance between all products of that time. In our period a new "style" is being developed in all fields of art and industry, which for want of a better word, we call modern. In the field of architecture the "style," of course, has always been modern. That is to say, it is modern in the sense that it expresses the true function of the building through a proper use of current building materials and current building methods, in juxtaposition with functional aesthetic concepts.

While the appearance, or the "style" of a building reflects the philosophy of its builders, nevertheless it is influenced by the available building materials and current methods of construction. Undoubt-

TO MEET HOUSING NEEDS NEAR METROPOLITAN AREAS



Besides the usual family apartments, one building is designed for a family in which both the man and woman are working. To minimize housekeeping, such things as elevator connections from each kitchenette to a central kitchen are provided. From this central kitchen the housewife may obtain partially prepared meals, with dishwashing and servants eliminated. In the "Y" shaped structures, Jan Reiner is proposing a flexible type of apartment. Large living-rooms can be subdivided into bedrooms.

A removable partition between the dining space and the kitchen makes the kitchen table a counter.

GRAMMAR OF ARCHITECTURE

edly, a house built of wood looks different than a house built of reinforced concrete, or transparent plastics, even though they are products of the same period. So we may say that building materials are the "grammar" or the language of the architect. The "grammar of today" is: steel, concrete, glass, stone and brick, wood, and plastics.

* * *

IT has often been said that this is an era of steel. Until this century our cities grew horizontally. After the invention of steel skeleton construction, they started to grow vertically. The skyscraper, as a part of the vertical city, is a sign of the steel age. Since the construction of the Crystal Palace at the Industrial Exhibition in London, 1851, the engineer has gradually been able to span larger and larger

The relation between the small and the large structures, and their relation to the park, are, in the judgment of the designer, characteristic of an organized city—a type of city post-war planning is almost certain to develop.

The Holbrook Building on Sutter Street, San Francisco. First glass front office structure in the West.

distances with little material. The steel design is dated by the use of rivets, screws and welded seams, which actually makes the "style." Let us compare the heavy screws or rivets which held the steel plates together on the first engines with the practically invisible seams of modern ships and machines.

The possibilities of steel construction are just beginning to be realized. Let us suppose that we could space six structures like the towers of the Golden Gate Bridge, some 100 or 200 feet apart, and widen their six suspended highways into one huge platform. Then, this platform could become the roof of a huge space without intermediate columns or supports. Such spaces would be the assembly halls, factories, and the auditoriums of tomorrow. The mighty parabolic arch which Le Corbusier designed to hold the roof over one of the large halls of the Centrosojus in Moscow is an example of the above idea. The roof is suspended from the arch in a way similar to the highway of the Golden Gate Bridge. This large hall, freed of all supporting columns, is the antithesis of a space, such as the new Johnson Wax office building at Racine, Wis., where the columns have, perhaps, been too glorified.

* * *

IF steel extends our buildings vertically, concrete extends them horizontally. Like steel, reinforced concrete lends itself to large scale spans and cantilevers. Pioneer examples of "concrete style" are: American silos, bridges by Maillard, and the hangar at Orly, built during the last war in France. All three are different in character, and yet typically reinforced concrete in "style."

From the simple geometrical appearance of American silos, modern European architects learned

Falling Water House by Fronk Lloyd Wright, an outstanding example of contilevered construction

Like Le Corbusier's mighty parabolic arch

about the aesthetic value of "pure forms." Le Co busier, for instance, writing on beauty in archite ture referred to the "prisms and cylinders" of thes silos, saying that they are pieces of art created b engineers whose minds are free from academ conventions.

Because concrete can be poured and shaped a most like a sculpture, the neo-romantic school c Central Europe was inspired to an aesthetic tren which was almost the antithesis of purism preache by the Bauhaus and Corbusier. On the Einstei Tower, concrete was shaped into a drama of hi torical significance. The popularization of this trea ment of concrete surfaces became fashionable afte 1920, leaving a great variety of aesthetically doubt ful creations. "Architectural concrete," a sad e ample of an "applique style," is perhaps ending th school of thought.

Both the structural advantage and the aesthet value of cantilevered platforms were soon recog nized by modern architects. One of the most bri liant examples is the dormitory for Swiss student at the University City in Paris, where a three-stor structure cantilevers over its reinforced concret supports. These, somewhat unusually shaped posts were left unpainted and no attempt was made t cover the traces of the wooden forms into whic concrete had been poured. Some ten years ago when this building was finished, it aroused world wide attention. In America, one of the finest can tilever constructions is the Falling Water house o Frank Lloyd Wright. Cantilevered balconies an platforms help to integrate the inside with the out side perhaps more ingeniously than in any of hi other residences.

If steel of tomorrow will span roofs over large spaces, concrete of tomorrow will build (or rebuild the Grand Coulee's and Dnieprogresses, which ul timately will help to transform our economy of the steam engine to that of the electric generator.

* * *

GLASS is one of the oldest and yet the most modern

of man-made materials. To quote Lewis Mumford, "Glass helped to put the world in a frame; it made it possible to see certain elements of reality more clearly." In ancient times, where glass was produced in small pieces, it was considered a precious stone. In the Middle Ages, it was manufactured in slightly larger sizes, stained and exposed to the passage of light in church windows. In a practical sense, the first use of glass and mirrors on a large scale was made in the Palace of Versailles.

The first gigantic use of glass in modern times was in the famed Crystal Palace some 100 years ago. Since that time glass has become of utmost importance in residential and industrial architecture. On the West Coast, one of the most interesting examples of a "pioneer glass house" is the building on Sutter Street, between Kearny and Montgomery, San Francisco, designed by Willis Polk some thirty years ago.

Because of research in modern years we are able to produce a glass which lets through certain sun rays, insulates from cold, heat, and sound, is unbreakable, and strong enough to form structural members which will support heavy loads. Glass blocks of various sizes and colors are another subject for research. Polarized glass, thus far, has seldom been used in homes. If it were to be used as an exterior wall or window, it might introduce colored effects, and perhaps replace the traditional curtain.

In the future, glass will continue to complement steel and concrete construction but perhaps will have to compete with transparent plastics.

* * *

FOURTH of our building materials is stone. From earliest times to the present, stone in architecture has symbolized permanency. Practically all of the so-called monumental buildings built through the ages are of stone. When some hundred years ago steel and concrete skeleton revolutionized building methods, massive stone and brick walls were no longer essential. In our tall office buildings stone is used mainly as veneer in thin plates to cover the surface. The time may come when, for practical reasons, this stone veneer will be replaced by other material—probably a glass or transparent plastic panel.

However, stone will undoubtedly have a use in residences of a permanent nature, particularly in rural dwellings where the use of local stone forms a natural association between building and site. Both of Frank Loyd Wright's Taliesins offer perfect examples of this.

* * *

WOOD, the earth's greatest natural renewable raw material, is one of the oldest building materials known to man. For its weight it is the strongest building material. It is inexpensive, easy to work with, and easy to take care of. It has a warm appearance desirable for the exterior and interior of homes as well as for furniture. Wood has been successfully used in large span constructions like the railroad halls of Northern Europe, or the Mormon Temples.

The modern by-product of wood, plywood, has an immense use. Aside from its obvious uses in home and furniture industries, we see it coming into use in the war effort. The airplane industry, for instance, has developed various processes whereby plywood is molded in hot steam or cooked together with frames to form a rigid fuselage.

Aalto, the Finnish architect, has developed various bent wood frames which can replace many of the laborious joints of traditional furniture production.

Recently, we heard of various wood "alloys," perhaps still experimental, where several layers of wood have been impregnated and compressed to form a hard, dark substance which can be polished like marble. The building and furniture industries will undoubtedly know more about it after the war.

* * *

SIXTH and youngest of the modern materials on our list, is plastics. It has amazingly diversified uses: it can be poured or molded in practically any shape and color, and is an ideal material for standardized products. Up to now, plastics has been used for a great many small objects. If, after the war, plastic panels can be produced cheaper than plywood panels, the building and furniture industries would take advantage of it. Sections of prefabricated homes could then be poured of transparent, translucent or even colored plastics. The furnishing, fenestration and exteriors of homes derived from the technical and esthetic properties would offer great possibilities for architects.

CAMOUFLAGE IN AMERICA IS MORE THAN A SCIENCE

By HARPER GOFF

Two hours' flight from our West Coast, dawn is breaking over the ocean's rim. On the aircraft carrier that flies the flag of the Rising Sun, the flight commander is giving final instructions as the ship maneuvers into the wind.

"On the west side of Greenhill, look for two Greek Theatres in the center of a large recreation park. Bomb anywhere in the recreation park, but particularly those Greek Theatres. To your places!"

What happens to a busy scene like this, on a hypothetical American inland waterway, when the camoufleur decides to blot it out, while still retaining its functional efficiency?

Here is the onswer. Paint, nets, fabrics, foliage are cambined to eliminate shapes and forms. Ships can be towed in and out and loading gaes on without interruption.

And that's how much good it would do to camouflage one target with another just as visible. Just one reconnaisance flight in search of the Greenhill Chemical Corporation — granted that the enemy knows its general location—would reveal the incongruous arrangement of Greek Theatres and tennis courts that disguised respectively the huge, vital storage tanks, and the more spread-out manufacturing plant, distillery, etc.

I have used an exaggerated example, perhaps, but it is indicative of some of the rationale that must lie behind every single camouflage job which has been, or now is, quietly under way in America.

To call camouflage a science may be correct. But it is more than science—it is an art, with a definite technique. It may properly be called the architecture of concealment. It is decidedly a tailor made job—custom-built to the last detail.

During the thirteen months since Pearl Harbor, a small handful of artists and engineers have been spending their days and most of their nights devising effective means of concealing West Coast defense plants from the eyes of the enemy.

As a member of this group, I have seen professional interest in camouflage grow from the stage of scattered individual effort by a single designer here and there, to a group effort; thence, to a series of organized camouflaging units. It was a rapid transition—but no more rapid than the gathering hunger for knowledge displayed by industry at large toward this architecture of concealment.

The information which these camoufleurs have gained constitutes neither professional nor government secrets, for their use belongs to every industry which, in wartime, wants to protect its valuable assets and products for the Nation's continued use, through the passive defense of concealment.

There is no opportunity to employ mass production methods in the design of camouflage.

IS AN ART WITH A DEFINITE TECHNIQUE

It is not like a ready-cut home or pre-fabricated fence that can be bought by the yard and installed according to a page of printed instructions and accomplish its mission equally well wherever or by whomever it is installed. It would be nice if the plant executive could phone his maintenance department and instruct them to order twenty thousand square feet of camouflage material and roll it over the factory like a carpet, thus removing his plant from the landscape as far as visibility is concerned.

On the contrary, local conditions of the terrain—for instance, nearness to the seashore, with its change in actinic light—make it necessary for each job of camouflage to be given individual and specialized attention.

The camoufleur or designer is the man who formulates the scheme or manner in which each separate plant is to be obscured. In our opinion, he should be on the spot and familiar with the operations of the factory under transformation. He must understand the manner of living of the people in adjacent territories. He must see with his own eyes traffic problems and points of congestion, and should observe from the air the organic structure in the earth which weaves itself like a tapestry across the map.

Further, the camoufleur must be familiar with the type of construction of buildings surrounding the factory. In our work, we feel we must know what kind of foliage grows in the immediate area—when it is full leaf—when the branches are naked—when the sun and fog and rain are most likely to bring about the critical condition of exaggerated visibility.

Clearly, all sections of the nation are not alike in soil, topography, and foliage. It is impractical for a designer, working in one city, to direct camouflage theory and procedure for defense plants in a variety of local scenery scattered from Seattle to Boston, and from Pensacola to San Diego.

Below: Intelligent camouflaging involves the altering of surrounding reference points as well as the target itself. Width of river, type of bridge, any other features identify the area from above.

The same scene after the camoufleur has applied his art. Screening of river house, wharves, bridge; narrowing of river (through use of flooting nets); disruptive painting—all combine to confuse the approaching bombardier.

HARPER GOFF *has distinguished himself since America entered the war by designing and supervising camouflaging of factories on the West Coast, including one of the great aircraft plants. For the past three years, while carrying on as set designer and illustrator for Warner Bros. Pictures, Goff studied camouflage in association with his friend, Robert Gillespie, Lieut., U. S. Army Engineer Corps. Within seventy-two hours after Pearl Harbor, Goff, Lieutenant Gillespie, Bert Teitlebaum, head of Warner Bros. Art Department, and Arthur Kooken, Warner's chief draftsman, had organized the famous Warner Bros. Camouflage Unit.*

Born at Fort Collins, in 1911, Goff exhibited water colors in many galleries. One of his paintings is owned by Mrs. Franklin D. Roosevelt, two by the O. E. M. Bureau of Information, and one by the American Red Cross.

Mr. Goff's article has been approved by the U. S. Army authorities.

Tatal camouflage, representing the addition of nets, natural and artificial foliage; and plywoad shapes, puts the air observer "in the waods" completely.

Here, disruptive painting with low-visibility, infrared resistant camouflage paints has altered the scene. A simple train shed effect can be accomplished with painted chicken wire stretched aver framework.

Petroleum storage tanks; a four track mainline railroad; a distillery; other factory buildings—all are combined in this madel.

WEAPONS OF CONCEALMENT

erhaps among the most important weapons f oncealment architecture are color and tex- re. Use of special paints compounded for v visibility and other factors to be later dis- ued, plus nets, artificial and natural foliage, ain—and a vivid imagination, combine to er er effective camouflage.

ontrary to prevalent opinion, it is not ecessarily the camoufleur's function to hide r iminate the factory from enemy eyes. One f is most important jobs is to confuse. It wo d be possible, with sufficient money and m , to hide completely many a plant, but nc authorities, in computing the speed of n pproaching bomber and the limited time hh the bombardier has to find his target, g e that so-called total camouflage is not ssntial in many instances.

ecause camouflage is a three dimensional problem, it is almost universally studied by the mens of a miniature. The necessity is dictated by he fact that sunlight and shadow are ever changing and a two dimensional scheme does no solve this telltale factor.

oday when a camoufleur is commissioned to design a "cam job," he immediately con- erwith local civilian defense authorities, plant owers, adjacent property owners and the Army Command. From air photos and sketches

(Upper picture) Vertical view of hypothetical manufacturing center, showing numerous bombing targets. Altitude considerably less than customary for enemy bombing.

(Below) Same view, after low visibility camouflage paint (disruptive camouflage) has been applied. Sufficient alteration to confuse bombardier from altitude of 20,000 feet or more.

(Left) Identical scene after total camouflaging, consisting of nets and fabrics, plywood shapes, camouflage paint, train sheds, floats on river.

Photos by courtesy of Premier Oil & Lead Works of California, camouflage paint producers.

he painstakingly builds a scale model of the area, working out his problems thereon. These are sufficiently accurate that their public display would be against the nation's best interests.

HYPOTHETICAL MODELS

However, I was recently commissioned to build a pair of hypothetical models, from which the photos appearing herewith were taken. These models were prepared for Premier Oil & Lead Works of California, developers of a spectacular infra-red, heat deflecting camouflage paint on which I rely for many effects. Together the models show the scene before, and after, a comprehensive camouflage design has been applied to a factory and its environs.

The center of interest is a large American factory, which we call the Greenhill Manufacturing Company, embodying all the buildings to be found in nearly every kind of industry.

This imaginary factory exists on a river. On one side of the factory are main line tracks and rolling tree-dotted hills; on the other, the edge of an average size industrial town. It has various pronounced landmarks including a bridge, dock, slips, parking lots, storage tanks and numerous other reference points.

Across the river is a small town with nearby farms, and a curving highway which is normally used to transport farm produce and tourists rather than industrial trucking.

All the difficult problems that beset a camoufleur have been included in this one example. It is to be hoped that very few plants would incorporate all of these trying problems.

To camouflage only the factory would not have been intelligent practice. If the enemy expects to find the target in a certain location, he will be suspicious if none is visible. He will study photographs more carefully and quickly find the exact location of the hidden plant.

To hide or obscure adjacent reference points even several miles away is as necessary as to do so to the target itself. If the enemy is to be kept from rapidly penetrating our mask, we must resort to area camouflage. In this model, it will be seen that we have taken full advantage of common physical characteristics of the river above and below the actual target.

"CAMOUFLAGE DISCIPLINE"

Of course, in a real problem, such total camouflage can only be accomplished with the understanding and cooperation of everyone in the target area. At least 35 per cent of the effectiveness of camouflage depends upon what is known as "camouflage discipline," or the willingness of everyone in the area under observation to abide by a set of rules. These may include such widely varied requests as the prohibition of smoking chimneys; the abandonment of certain roads; the constant maintenance of shine-reducing or glare-reducing properties on railroad tracks and high tension wires; the organization and distribution of traffic at certain hours; the parking of cars according to a preconceived plan; the frosting of certain windows to eliminate sunset and sunrise glare, and hundreds of other inconveniences that may be visited upon the people in the entire area surrounding the target.

In this model, a large portion of the factory —administration building and numerous plant buildings—were "broken up" by painted surfaces having the appearance of smaller buildings from bombing altitudes. The shape and height of smoke stacks were minimized by irregular shaped light wood and cable fins attached about halfway up the stack—painted to blend into the surrounding design.

In dealing with our shadow problem, it can be seen that paint alone is not enough. Paint needs an ally—a three dimensional structural sun-reflecting and shadow casting ally. Light must be introduced into shadow areas and incidental shadow areas introduced back into light areas.

Long straight persistent shadows cast by rows of buildings must be broken up by these structures. Their construction must be such that only its effect, or visual properties, are visible from the air. Methods of supporting and maintaining these shapes, nets or canopies must not be seen. No matter how clever and how real a forest may look, a photographic interpreter is on the lookout for telltale signs that will reveal man-made construction.

The type of construction, of course, must be cheap, fire-proof, water-proof, and wind-proof. It must be light weight and have a certain

amount of elasticity. Hard-boiled construction looks static and stiff from the air. Pliant circus tent construction, moving a little in the breeze, is more desirable.

This construction must also be designed with a view toward maintenance. If our war continues longer than optimists say, it may be necessary to renew our paint from time to time. And, of course, we have the changing seasons which in some climates present a continuous maintenance problem.

The appearance of forested areas in the camouflage model are accomplished through nets and flexible wire mesh on which is laced and draped colored tattered cloth and kindred material, known as garnish, and the whole painted according to a pattern.

COLORS AND SHADES

In an effort to make a flat surface take on protuberances and depressions, I find it helps to take advantage of the high and low visibility property of certain pigments. It is not done by contrasting values alone, but by the use of colors and shades of widely separated specular visibility. Brilliant primary colors of high visibility used next to background colors of Olive Drab and Grays, will seem to pop or stand out, giving the appearance of relief. This can be seen in studying textile designs of indifferent color choice. Often you will find bad combinations of colors which result in optical vibration and an erroneous conception of depth and dimension. Careful study of this phenomenon enables the camoufleur to simulate structures in relief on a perfectly smooth surface without resorting to tricks of perspective which are effective under some conditions and from certain view points but are completely in error from another.

The combination of deception, removal of shapes and substitution of others, alteration of appearance of highways, bridges, and parking lots—all were accomplished in this model without hindering the normal production of the plant or flow of surrounding traffic.

Of course, there are all degrees of camouflage besides the costly total camouflage which these models demonstrate. There are numerous places where the train and highway sheds included here, and necessary to continue the forest design, would not be practical. Yet, primary camouflage with paint alone is frequently considered enough to confuse the approaching bomber until an antiaircraft barrage can come into play.

No single mechanical consideration is more important to the camoufleur than paint. For no matter how successful our camouflage hides the plant from the bambardier's eyes, one must remember that he is equipped with highly technical photographic apparatus which is designed to penetrate paint and net camouflage.

It does this by means of color filters and infra-red film, which betray man-made and man-painted imitation vegetation and other surfaces.

To overcome this weakness, alert paint manufacturers in America's paint industry have been on the job. Today, we have camouflage paints that react to all known photographic and sensitometer tests precisely as does natural foliage. This one advancement in technology has been an immeasurable aid to camoufleurs throughout the land.

These new infra-red reflecting properties have also increased the durability of paint as well as to reduce the inside temperature of the object painted as much as 15 degrees when compared with the same color in ordinary paint.

CAMOUFLAGE PAINTS

Perhaps I should explain a little more about what we have learned to require of camouflage paints. Frankly, its technical requirements are such as virtually to nullify the camoufleur's efforts if they are not met. The architecture of concealment is worthless if it interferes with the normal production capacity of the plant to which it is applied. This means more than merely avoiding fastening nets and fabrics where they will be tripped over—it means retaining as pleasant working conditions as possible by specifying a heat-resisting camouflage paint to replace the gleaming aluminum paint widely used to deflect heat. More than a mere notion, this point was proved decisively in the first few "cam jobs" which were constructed in America after December 7th.

(Turn to Page 36)

ALISO VILLAGE

(Continued from Page 21)

ments which are so planned that all four rooms join at one corner. The monitor, divided into four parts, has windows at each corner directly above the corner of the bathroom below.

All of the buildings have concrete foundations and ground floor slabs, 3½ inches thick, reinforced with wire mesh. The slabs, 24 inches above ground, are supported by precast concrete joists. Standard wood forms were used for foundation walls and the slab panels between the joists.

COMBINATION OF BRICK AND CONCRETE

The masonry buildings have ten-inch and eight-inch brick walls, with reinforced concrete bond beams at the second and third floors and at the roof. The second and third floors are concrete slabs on precast joists. The three-story wings are connected by a two-story structure, the lower part of which is open, with reinforced concrete columns carrying the second story containing five apartments. The lower open portion is a ramada similar to that in the frame "H" buildings. A balcony formed by a cantilever extension of the second floor slab connects the five apartments. Access to these and to the apartments on the second floor in the wings is provided by cast-in-place concrete public stairways at either end of the connecting structure. Apartments on the third floor are also connected by a concrete balcony formed by a cantilever extension of the floor slab into the court.

The first and second stories in the wings are divided into up and downstairs apartments, each with separate entrance and its own stairway to the second floor. These interior stairways are precast, but are a new design, the stair horse being cast integral with a wide stringer. The stringers are anchored at the top and are tied together at the bottom with steel rods. The treads, set with the ends against the stringers, are cast with longitudinal corrugations to provide surer footing.

Stair wells are provided for the two-story dwelling units in the brick buildings by reinforced concrete longitudinal beams at the second and third floors with cast iron column supports to carry the precast concrete joists and floor slabs over the stairways which are cut through the second floor between the top platforms. Timber columns and ridge beams carry the roof structure from the third floor. All the buildings have flat roofs with a slight pitch and are covered with built-up felt and tar and gravel roofing. The ceilings are finished with plastering.

Exterior plaster of the frame buildings is cement with a sand finish and interior walls and ceilings are treated with a coat of color stucco. Exteriors have been given a brush-color coat. All wood finish floors are oak, while concrete floors have a trowel finish, waxed in their natural color. Floors in bath rooms and in kitchens are covered with linoleum.

More than 3,800,000 board feet of lumber were used on the project.

The contract included also about 200,000 cubic yards of earth excavation into the bluff along the proposed Santa Ana Parkway and construction of a concrete retaining wall 300 feet long and 41 feet high. The wall will be one foot thick at the top and 15 feet at the bottom with a spread footing 18 feet wide. Some excavation has been done to provide additional building sites, but the wall will be constructed later.

The over-all project cost of Aliso Village was $4,410,000.

The architects were Ralph C. Flewelling, chief; Eugene Weston, Jr., Lewis E. Wilson, Lloyd Wright, and George Adams; Ralph E. Phillips, mechanical engineer; C. J. Derrick, structural engineer; Harold A. Barnett, civil engineer; Katherine Bashford and Fred Barlow, Jr., landscape architects. After the project had started, Mr. Wright succeeded to Mr. Flewelling as chief architect.

The Los Angeles Authority is comprised of five commissioners: Nicola Giulii, chairman; Ralph McMullen, vice-chairman; J. E. Fishburn, Jr., Mrs. Jessie L. Terry, and Maurice Saeta. They serve without salary. Howard L. Holtzendorff is the executive director in charge of administration and Walter G. Beck is assistant executive director, in charge of all construction for the Authority.

THE OUTLOOK FOR POST-WAR BUILDING

By MAJOR GENERAL PHILIP B. FLEMING*

That private building in the Washington area, as elsewhere, has just about ceased most of us are impressively aware. I assume that your situation as builders is very much like ours in the Federal Works Agency. We are building public works—such as schools, hospitals, water works, sewer systems and recreation centers—only when they are certified to us by the Army, Navy, or some other war agency, as essential to the successful prosecution of the war. When the need is so certified, we are next up against the problem of finding materials out of which to build. The primary war effort must have first claim upon critical materials, especially of metals of all kinds, and we have no quarrel with that arrangement. But the result is that we have to take the little we can get and be satisfied with it, and try to spread it around in a manner that will do the most good. I think we have been rather ingenious in finding substitutes for metal. If we can't get cast iron pipe, we try to get pipe of reinforced concrete. And if we can't get that we turn to asbestos-cement or wood stave. But there is a real difficulty here, because the increased demand for such materials very quickly brings about a shortage of the substitute which may be almost as critical as that of the original article it is designed to replace.

Our engineers and field representatives have come to be pretty enterprising in turning up second-hand materials. If you happen to see a mysterious stranger lurking around some building that is being demolished, don't shoot. Think nothing of it; he is probably just a harassed Federal Works engineer watching for a chance to paw over the wreckage in the hope of finding some cast iron pipe, or some reinforcing steel that he can grab off and put into a new school house or hospital somewhere. There have been instances in which we have shipped just such priceless second-hand material clear across the continent. The adjustments we have had to make have led very naturally to a settled FWA policy of building structures of emergency design, stripped of metals as far as possible.

Our criteria for hospitals, for example, call for one- or two-story structures of frame or masonry construction without elevators, without intercommunicating systems, without mechanical call systems for nurses, and with no radio installations. In many instances walls are left unplastered.

These are the imperatives of war time, and I do not need to dwell upon them before this audience, for most of you as private builders have been up against about the same thing.

If I am correct in assuming that the building industry, as an industry, already is doing everything it can within the permissable limits toward the winning of the war, some profit still may be derived from considering the sort of situation in which we are likely to find ourselves once the war is won. Our economy is pretty tightly controlled, and the controls are likely to become still tighter before the last shot is fired. The other day I read that an important manufacturer, addressing a war-time conference of the National Association of Manufacturers, had demanded the quick post-war relaxation of all controls over business.

Well, if business men find war-time regulations irksome, so do the rest of us as workers and consumers, necessary as we know regulations to be. But, suppose the manufacturer gets his wish and all controls are instantly relaxed. No more priorities, no more material allotments, no more gasoline, coffee or sugar rationing. You will recall that we did that once before when, almost with the single stroke of a pen, we returned instantly to what we called normalcy—but without very happy results.

* From an address before the Washington Building Congress, Washington, D. C.

COMPLEX SITUATION

The situation this time is far more complex and involved than it was then. Our army this time is already much larger than it was in the first World War. Back in 1917 and '18 relatively little of our industry was converted to war production. In this war, conversion has been pressed to an extreme limit. There is scarcely a town in the country in which there is not a factory or two working almost exclusively on war goods. New factories have been built and old factories have expanded. I have read estimates that within another year no less than 20 million people will be working exclusively on war goods.

What happens if, at the end of the war, every one of these factories should close down? And suppose the Army and Navy were both demobilized at the same time? That would leave 20 million workers out of jobs, and to that horde of job-seekers would be added some millions of young men back from the wars and trying to reestablish themselves in civil life.

Our ability to handle just such post-war problems will depend very largely upon the kind of planning for them that we do now. Some people seem to imagine that the planning job can be left wholly to government—that somebody here in Washington presently will bob up with a hand-tailored plan that will set everything aright, and that everybody else can just sit back and do nothing until he gets his instructions from Washington.

That isn't my idea of the final and happiest solution. In my opinion the planning job in a democracy is one that all of us will have to take a hand in. Every State and city will have to have some sort of prospectus of "where do we go from here?" and every business man certainly knows that if he expects to survive he also must have some post-war goals at which to shoot.

As a matter of fact, I know that already a great deal of advance planning is now going on in business concerns. Almost every company has in its personnel some executive who went through the last post-war readjustment and who is very busy trying to figure out how a terrific let-down can be avoided this time when the war contracts stop coming in.

With the best of luck, and assuming that an immediate demand for goods and services of all kinds denied during the war will be instantly released, it will naturally be some months before industry can retool to provide the goods and services, and the retooling process does not employ much labor. Wartime shortages cannot instantly be converted into abundance. Shipping that will be needed to bring men and materials home from foreign battlefields cannot at the same time be used to bring coffee and bananas from South and Central America and naturally rubber from Malaya. If all rationing and all material allocations and all price restrictions are lifted immediately, we should expect to see prices rising to such fantastic heights as we never have known in this country before. So it seems to me that any plans we make must give some consideration to the desirability of continuing for some months, or even years, many of our war-time controls. Would it not also be better to keep at least some of the factories at work on war goods for some time after the peace, even if such goods may never be needed, than to close them all down at once? Would it be better to disband the Army quickly, or should we plan to demobilize a regiment or a division at a time as jobs are found for the men in civilian life? These are practical questions that we can hardly afford to duck.

PRIVATE ENTERPRISE

President Witherow of the NAM tells us, "The task of economic reconstruction after the war must be that of private enterprise." He adds that, "private capital can and will do the job if the government would declare that private capital will be encouraged to provide the motive power for post-war reconstruction."

I am not quite sure that I know what that means, but with the events of the '30's still clearly in mind, I am just a little bit skeptical anyway. I still think that there will be a job

for government to do, and that government owes some responsibility for helping to provide jobs when industry cannot provide them. What else is government for but to serve the people?

I hope it will not be necessary hereafter for government to make vast expenditures merely for work relief, but if it should be necessary, I think we have learned enough from past experiences to make sure that the job will be well done and that we will come closer to getting our money's worth than we did the last time.

Public works are perhaps the most useful of all projects in taking up the employment slack because they, directly and indirectly, provide jobs for the largest number of people, but a useful program cannot be improvised over-night. Land must be acquired, sometimes by the tedious process of eminent domain. Sometimes legal obstacles must be overcome. Financing arrangements must be made. Perhaps bond issues voted. Finally, blueprints must be drawn and specifications written. Many months or even years must elapse between the determination to build and the actual start of construction.

As I see it, the type of planning for public works which we now need is one in which the preliminaries will be gotten out of the way before the war ends; the site will be acquired, the legal conditions will be met, the plans for financing will be made, the blueprints will be drawn and the specifications written. And then, in the hour of need, we can pull the blueprints out of the cupboard, hand them to the contractor, lead him out to the site and say, "You begin digging here at 7 o'clock tomorrow morning." Thus, each project can be started at a time when the jobs it will create are most needed, and when it can best be financed. Projects can be speeded up or slowed down as the necessities of the employment situation dictate. It is in such over-all nation-wide planning for post-war public works that I hope the Federal Works Agency may be permitted to participate.

"I do not profess to be a prophet, but I think some of the outlines of "the shape of things to come," so far as the private building industry is concerned, are fairly clear.

IN THE OFFING

First, I should expect to see immediately after the war a very considerable increase in public works construction in which private contractors will participate. We need, for example, more and better highways, and the Public Roads Administration, by virtue of a special appropriation of 10 million dollars for the purpose, is at work on plans. Among the projects that appear to be within the realm of early post-war realization is a new high-speed highway running across New York State from New York City to Buffalo. Similar developments are being projected in the West.

We shall need millions of new homes to replace the obsolete, to take care of a growing population, and to compensate for the construction now being deferred.

Millions of families after the war will demand better homes than they formerly lived in. Soldiers who have enjoyed better living conditions in the Army than they ever did in the places from which they came, will not again be satisfied to go out to the pump or up to the spring for water, or to take their baths in the creek.

There will be a wealth of new materials on the market. We will come out of the war with an enormously increased productive capacity. Steel, for example, should be plentiful. Much more aluminum will be available. Heretofore, aluminum has been used in building largely for decorative purposes. Hereafter it may come rather close to competing on a price basis with steel for many structural uses. Plastics will be on the market in many varieties and great abundance. I read recently of experiments designed to make window screens out of plastics, which is some indication of the direction in which the wind is blowing. The Necessity Mother of War-Time invention has been busy in developing substitutes for many types of critical building materials—and even substitutes for substitutes—and it may be that many of these substitutes will turn out to be more desirable than the genuine

article. No doubt hundreds of corporations throughout the country are at work on new products we have not yet heard about that will be offered to the public when the war contracts stop coming, and some of these new products will be in the nature of building materials.

I expect to see a further development of mass production techniques applied to large scale building operations. When the Federal Works Agency was responsible for war housing we used some of these techniques to very good advantage. We were restricted by law to an average cost of less than $4,000 per housing unit, and at the time we were required to pay the wage rates prevailing in the communities in which we operated. On some of the projects we fabricated on the site parts of houses in wholesale quantities. We worked out a division of labor so that, for example, one worker might not do anything all day long but install a certain type of kitchen fixture. As soon as he had finished with one kitchen he moved on to the next, where he found the equipment he needed laid out and waiting for him.

I expect to see labor standards maintained at present levels, or even improved. I think labor, however, will have some adjustments of its own to make in order to clear up jurisdictional differences arising from work on new types of materials.

All in all, I see many bright opportunities for the building industry after the war, provided it remains flexible enough to adapt itself to somewhat changed conditions and new methods, and provided we plan wisely enough to get us over the hump of what otherwise might be an extremely serious post-war depression. I consider planning for the future only second in importance to the winning of the war itself, and the planning job that needs doing offers a challenge to the best intelligence of all of us.

CAMOUFLAGE

(Continued from Page 31)

Responsibility of the executives and management of American industry is clear. They must see that America's equity in their business is protected. Too often after reading the morning paper about how clever the Japs or the Nazis have been in concealing and protecting their centers of production, we mistakenly condemn our own Army Command or civilian defense officials for lack of foresight in protecting ours.

Camouflage is like a dike. Its purpose is to keep the river of destruction away. Cairo, Illinois, does not resent the cost involved in building her huge levees, because every spring she sees the water level above her housetops held back by only twenty yards of dirt and concrete.

Cairo didn't build her first levee until she had been desolated by flood at least twice. Let's not wait to start thinking and acting camouflage until we have heard and felt enemy bombs. Then it might be too late.

It is as necessary to protect the production capacity of our plants as it is to protect our shores against invasion. There are people vitally interested in helping you solve these problems in architectural, structural, paint, and material field of American industry. Invite them to help you.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

DAMP AIR ELIMINATOR — The Tamms Silica Company, 228 N. La Salle Street, Chicago, makers of Dri-air chemical powder for eliminating humidity, condensation, rust and warping has developed two new units made of non-essential materials. One of these, known as a commercial tripod unit, is designed for warehouse, factory and general store use. The other is for household, store and office use. Either outfit is adequate for removing excess moisture from 1,000 to 1,200 cu. ft. of air.

GYPSUM BOARD SIDING—A new board called "Triple-Sealed Sheetrock Siding," is claimed to cut cost of duration buildings up to 30%. Made of gypsum, the board builds, sheathes, sides, braces and decorates in one operation. It is fireproof and weatherproof. Used for years for inside walls, with the perfection of an effective process for sealing edges, ends and surfaces, this siding is now practical for duration building. It has been developed after 20 months testing by the United States Gypsum Co., 300 W. Adams Street, Chicago.

ODOR ABSORBER—A new, non-chemical material has been developed which absorbs paint and varnish odors. Makes it possible to work or sleep in rooms recently painted without the discomfort from the smell of fresh paint. The material manufactured by Tamms Silica Co., Chicago, Ill., is known as Nox-Odor. No larger than a tin of canned food and all that is necessary is to open at both ends and place in room. Available in two sizes, it is also used for the inside of refrigerators and coolers.

PLASTIC SPRAY GUNS — A new black plastic gun, weighing a quarter of a pound less than the pre-war aluminum model that it replaces, has been developed by Eclipse Air Brush Co., Inc., 390 Park Ave., Newark, N. J. Stronger, lighter in weight and chemical resistant are advantages claimed. These guns have been in use for several months in war plants. Priority is still required.

STATIC-CONDUCTIVE LINOLEUM — Designed to overcome the grave hazard caused by static electricity in the presence of vapors from combustible substances and dust from explosives or any substance that combines with oxygen, is the new product made by Congoleum-Nairn, Inc., Kearny, N. J. Produced especially for the use on floors and tables in powder and loading plants, it is also valuable for areas where solvent vapors or dust constitute fire hazards and for hospital operating rooms where explosive mixtures of ether and air may occur. Meets specifications Ordnance Department Safety Bulletin.

NON-METAL SINK — One of the new products being placed on the market is a line of sinks that contain no cast iron or pressed steel. Selected clays fired at a high temperature with a layer of vitreous china glaze produces a homogenous, durable, light uniform body that withstands thermal shock and does not craze or dent. Complete information on "Perma-Gloss Sinks" may be had by writing O. S. Tyson & Co., 230 Park Avenue, New York, N. Y.

WAR PLANT HEATER—America's war plants call for a new type of heating and ventilating unit, states a new folder just released by the Young Radiator Co., Racine, Wis. The Young "Vertivent" heater and ventilator was designed particularly for war production plants in answer to many requests for this type of equipment.

INTER-COMMUNICATION SYSTEM—A new innovation features "Conference Traffic Control." This enables any number of stations to hold a private conference without interruption or eavesdropping from other stations outside the conference group. Eight page descriptive folder may be had by writing Talk-A-Phone Mfg. Co., 1217 W. Van Buren Street, Chicago, Ill.

PLASTIC PARTS—A new folder, "Plastic Parts for War Production," is available to companies confronted with material shortages or delayed deliveries. This may be a help in solving your part problems. Write Creative Plastics Co., 963 Kent Ave., Brooklyn, N. Y.

CEMENT WORK — The Master Builders Company of Cleveland have recently placed on the market a cement dispersing an air entrainment agent, which, when added to a paving mix is claimed to improve all the essential qualities of concrete—transverse strength, resistance to wear, and freedom from scaling. According to the bulletin issued by the company, it appears that this is accomplished with little or no increase in cost. A booklet covering this subject is available from the Master Builders Company at 7016 Euclid Avenue, Cleveland, Ohio.

HONOLULU TODAY

Architect and Engineer readers, especially those familiar with the extensive lumber and building material business of Lewers & Cooke, Ltd., of Honolulu, will enjoy reading the following excerpts from an open letter to their friends on the mainland. The author, F. D. Lowrey, is President of the company. He recites some interesting highlights of life in Honolulu since Pearl Harbor:

TO OUR FRIENDS ON THE MAINLAND:

In some ways Honolulu today is not so very different from Honolulu prior to December 7th; in other ways it is quite different. When I was out last evening the palms, eucalyptus and flowering trees were etched against the starlit sky as in other days. Our customary symphony concert season, although suspended in December, was finally completed in September by performances given on Sunday afternoons, but many of the musicians were in uniform. Our climate remains gentle, and our friendliness with each other is evidenced at every turn.

On the other hand, the City of Honolulu is filled with newcomers, mostly service men, although our civilian population has also increased. Everywhere there are men in uniform—and they are not on parade; barbed wire entanglements and defense posts surround principal buildings; splinter shelters fill our parks and available spaces downtown, while practically every private home has a small splinter shelter of its own.

We maintain blackout from 7:00 p.m. to 6:45 a.m. (War Time), and it is a real blackout, no half-way measures—no street lights, no electric signs, and no lights in homes that are visible from outside. Citizen pedestrians (not aliens) may be on the streets until 10:00 p.m., and automobiles may move until 8:00 p.m. provided their lights are properly prepared to give off no light visible from above, but to serve only as a guide to the "other fellow."

These are some of the outward visible changes, but there have been other changes too. Everywhere one senses an increased feeling of determination to see this thing through to a victory as quickly as possible. There are changes almost daily in business methods and relationships; but of course you are having that situation on the mainland also.

To get to some of the details which we hope may be of special interest:

On the morning of December 7th I was at breakfast with Mrs. Lowrey and our daughter, Mrs. Hamlin, when there came a telephone call that an explosion had occurred on the top floor of the Lewers & Cooke Building, which had set off our fire alarm gong. Knowing that there were a number of men in the building, I started down immediately. On the way down I noticed that there seemed to be an unusual amount of firing but thought it was only extra strenuous maneuvers of which we had been having many.

On arrival I found the street floor partially flooded with water which was coming through the ceiling and was beginning to flow into the basement. Mr. Paris, whom most of you know, had arrived just ahead of me and had directed the shutting off of the water. An investigation showed that an anti-aircraft shell had gone through the roof and exploded on the third floor, cutting the fire prevention sprinkler system. Fortunately, no one was hurt. While there was some damage caused by the shell fragments, much more was caused by water. The loss, amounting to several thousand dollars, was covered by War Damage insurance which we had taken out four months earlier. A similar shell hit our lumber yard, and flying shrapnel fell on our warehouses, but no serious damage was caused at either place. We rapidly called in approximately 100 employees and by nightfall had removed most of the debris and restored a semblance of order. It was mid-morning before we realized that we had undergone a Japanese attack, and even then we could not believe it.

After about 9:00 a.m. on December 7th, and for several days thereafter, things happened fast. Martial Law was declared; blackout regulations were promulgated; civilian police and fire departments were augmented; physicians and nurses were called into service; the Office of Civilian Defense was mobilized; Red Cross and First Aid stations were fully manned; curfew was declared; liquor stores were closed; schools, both public and private, were closed; censorship was established on mail, cable and wireless messages; practically all of the structural material in town was requisitioned by the military.

Rumors flew thick and fast, many of which you no doubt heard on the mainland, including such rumors as the landing of parachute troops and sabotage stories. Most of them were not true, and all of the serious ones were shown by the report of the Tolan Committee of Congress to be without any confirmation whatever.

Through all of this the civilian population remained calm. There was not a hint of panic in any section, and people went about the business of cleaning up in an orderly manner.

It was indeed fortunate that on December 7th Lewers & Cooke had on hand one of the largest inventories in its 90 years of existence. Before noon on that day orders began rolling in from all branches of the services. Our crews worked day and night, and by April 1 our inventory had been reduced by 70%. Shipping was quite badly disorganized during January, February and March, and what materials did come in were emergency supplies for the Army and Navy. About February the Office of the Military Governor set up a priorities system for shipping, known as the Materials and Supplies Division, and by April materials were moving in as orderly a manner as could be expected under the difficulties of the convoy system. By this time many of our shelves were bare, and our lumber yard, except for the sills, resembled a baseball field on an off day.

For years back our sales policy has been based on substantial amounts of business from the Army and Navy, but much the larger share of our business has come from civilian requirements of individuals and businesses. Now, and for some time to come, there will be practically no building of private homes and very little business building—construction will be limited to those projects which have definite military importance. We will probably see less construction for private interests than you on the mainland because of transportation difficulties and because of our greater need of labor for war activities. Very properly, the Army and Navy have first call on materials and labor. The Office of Civilian Defense is granted the next call. Of course the utilities and basic industries are still operating, but they are keeping their requirements to a minimum. There is very little material or labor left available for private use. All essential materials are controlled by the Office of the Military Governor. In September over 80% of our sales of materials and services were made directly to the Army, the Navy, the O.C.D. or to contractors working for them. Other sales were really a part of war activity but not made directly to these agencies.

Military law, which was declared on December 7th, has operated very well in general. The Military Governor called in several prominent civilians to advise and help him with the preparation of an organization to meet the emergency. Recently, the Military Governor and the civilian Governor have agreed on the restoration of limited authority to the civilian courts. Depending wholly on the course of the war, we feel sure that there will be a gradual restoration of other civilian rights, but most of us agree that very definite military control is still needed. Under military law every person on the Island, citizen and alien alike, over six years of age, has been registered, fingerprinted, immunized and furnished with a gas mask and identification card. This, you will see, was quite an undertaking in itself. We have our own currency, which is the regular currency overprinted with the word "Hawaii," and its use is restricted to the Islands. All bonds and stock certificates, privately owned, are turned over to certain financial institutions

for safekeeping. Gasoline is rationed at the basic rate of 10 gallons per car per month, and tires are limited to very essential uses. For those who want them, liquor permits are issued rationing a limited supply each week. (At the present time dealers' stocks in Honolulu are exhausted).

We have naturally had to reorganize the business somewhat, closing out some lines entirely because the manufacturers cannot supply us; closing out others because there is no market for them in a war zone. This has enabled us to lease parts of our properties to the Army and Navy and occasionally, as an accommodation, we have stored supplies belonging to the Federal Surplus Commodities Corporation. We have had to reduce our usual quality of service, especially delivery, and we sometimes apologize for the quality of service which we give customers, but we cannot do better with the staff available.

Just what the future holds, no man can foresee. Nelson signalled the British fleet at Trafalgar, "England expects every man to do his duty." We know that our country expects the same of us, civilians as well as those in the armed services. In that spirit we will carry on until peace shall come and Hawaii once again be the Paradise of the Pacific.

Best wishes to all.

Cordially,

F. D. LOWREY, President.

Honolulu, Hawaii, U. S. A.

SHOULD ARCHITECTS ADVERTISE?

(Joseph C. Goddeyne, Architect, Detroit)

Architects have waited entirely too long watching the contractor who gives "complete services" take business that righteously belongs to us. Their architectural services are in many instances based on the twelve (12) years experience clause in the registration act or building concerns employing designers who find it easy to get an official legal seal, which is all the law requires, and is usually accepted without question by all city building codes,—all of which is exceedingly regrettable.

I have constantly heard how unethical it is to advertise. On the other hand it has been repeated that public speaking, business training, active membership in social clubs, etc., etc., are so necessary in the profession. We recognize that these attributes are so essential yet we try to accomplish the ends surreptitiously.

The big fellow doesn't need it nor will he subscribe in any sufficient sum to get the information we wish before the public. The rest of us haven't the funds. The need is so great that only a rich exchequer would stand it. But let's not stop on this account, and sit and continue to just talk about it.

Let each of us, in his own locality, promise to spend a certain amount of money for direct advertising, or agree to write informative articles under our signature for the press.

"CONSTRUCTION GOES TO WAR"

The story of the men who built naval bases all over the world for American fighting ships, laid out airfields from which sky attacks are launched, constructed huge industrial plants and army cantonments, is told in a series of bi-monthly transcribed programs now presented by 50 of the nation's major radio stations and two regional networks.

Entitled "Construction Goes to War," the quarter-hour programs are written, directed and narrated by Hardy Burt, commentator on industry and the war. Burt's weekly transcribed series for the U. S. Chamber of Commerce is broadcast by 173 stations under the title, "Action on the Home Front."

"Construction Goes to War" is a dramatized narration produced in the Nation's capital. A short message from a top-ranking government spokesman concludes each program. Featured thus far in these "minute-messages" have been Lieutenant General Brehon B. Somervell, Commanding General, Services of Supply, U. S. Army, and Rear Admiral Ben Moreal, chief of the Navy's Bureau of Yards and Docks.

The Nation's thirty billion dollar war construction program has ranged from Army camp streets to a highway to Alaska, from giant drydocks to naval bases in the Carribean. A specific phase of wartime construction is dramatized in each broadcast.

Naval building projects were described in the initial program in the series, with Burt interviewing a deep-sea diver who helped build a tremendous dry dock under 70 feet of water.

Dramatizing the Army construction program, another broadcast revealed that runways built for military airports are the equivalent of a concrete highway extending from Denver to Tokio; that the airports built for the Army would completely cover the State of Rhode Island, over-lapping considerably into bordering states.

Importance of speed in wartime construction is stressed in the series by pointing out that cantonments had to be built before America's five million man army could be trained, factories erected before munitions could be produced.

Latest program in the series dramatized the building of the 1,800 mile road to American bases in Alaska. A feature of the broadcast was an interview with a nationally-known writer who recently traversed the entire length of the "wilderness road" gathering story material.

The programs are produced as a public service presentation by the Associated General Contractors of America, Washington, D. C.

HOUSE OF TOMORROW

A post-war world in which chemical discoveries will make the present era resemble a "horse and buggy" age is predicted by Theodore G. Joslin, public relations director of the E. I. duPont de Nemours & Company. He declared:

"We will have glass that is unbreakable and glass that will float, wood that won't burn, and laminations of plastic and wood that will compete with structural metals.

"Lighting will be automatic, governed by electric 'eyes' sensitive to outside variations in the daylight

. . . The inner walls will be adjustable, so that several combinations of rooms can be arranged . . . One-half the fuel will heat it. Plastic surfaces will be good for a lifetime of wear. The electric bills will be smaller. To mention just one detail pointing the way: Electric lamps that lasted 1500 hours in 1939 now last 2500 hours, give 12 per cent more light and cost from 12 to 17 per cent less.

"Sealed cooling systems, proved on large scale by aviation, may end in the postwar car the nuisance of adding water to radiators. Weights may be half what they are, saving from 1500 to 2000 pounds of useless load. The power output per cubic inch of piston displacement may double, treble or even quadruple. Fuels may yield 50 miles to the gallon."

STRUCTURAL ENGINEERS ACTIVE

On January 5 the Structural Engineers Association of Northern California held its first meeting of the year at which the new president, James Bertrand Wells, and the vice-president, M. C. Poulsen, were installed. James Bertrand Wells, Professor of Civil Engineering at Stanford University, is prominently engaged in the direction of war training courses as a part of engineering training sponsored by the U. S. Office of Engineering. The vice-president is Chief Engineer for the Port Costa Brick Company, 401 Berry Street, San Francisco, Calif.

The meeting of January 5th was attended by about one hundred structural engineers, practically all engaged in the planning of defense plants, ships, buildings, and other structures constructed for and by the United States armed forces. Principal speakers of the evening were Professor Harmer E. Davis of the University of California and Mr. William W. Moore, Consulting Foundation Engineer of San Francisco, who discussed engineering problems encountered in the taking of soil samples for the determining of safe bearing values of soils to support structures.

President Wells also announced the appointment by the Board of Directors of the committee chairmen for the year 1943 which are as follows:

Public Relations: John J. Gould, Consulting Structural Engineer, 929 Financial Center Building, San Francisco, Calif.

Program: Professor Harmer E. Davis, University of California, Berkeley, Calif.

Legislative: Harold B. Hammill, Consulting Structural Engineer, 381 Bush Street, San Francisco, Calif.

Professional Guidance and Welfare: A. V. Saph, Jr., Consulting Structural Engineer, 431 Rialto Building, San Francisco, Calif.

Membership and Attendance: W. Adrian, Consulting Structural Engineer, 417 Market Street, San Francisco, Calif.

Consulting Practice: H. J. Brunnier, Consulting Structural Engineer, 612 Sharon Building, San Francisco, Calif.

Emergency and Civilian Defense: Harold M. Engle, Consulting Structural Engineer, 110 Sutter Street, San Francisco, Calif.

Structural Engineering Research: M. V. Pregnoff, Member, Hall & Pregnoff, Consulting Engineers, 350 California Street, San Francisco, Calif.

Advisory: M. C. Poulsen, Chief Engineer, Port Costa Brick Company, 401 Berry Street, San Francisco, Calif.

Association News Bulletin: William H. Popert, Columbia Steel Company, Editor.

Building Industry Conference Board: Delegate—L. H. Nishkian, Consulting Structural Engineer, 155 Sansome Street, San Francisco, Calif.

Other members of the Board of Directors are:

Theo. P. Dresser, Jr., Chief Engineer, Abbot Hanks Testing Laboratories, 624 Sacramento Street, San Francisco, Calif.

Sidney S. Gorman, Assistant District Engineer, Shipbuilding Division, Bethlehem Steel Company, Alameda, Calif.

Mac D. Perkins, Consulting Structural Engineer, 110 Sutter Street, San Francisco, Calif.

* * *

William H. Popert, Columbia Steel Company, has resumed editorship of the "Main Street News," official publication of the Structural Engineers of Northern California. The heading says "Daily." How comes we see it only once a month?

* * *

Sidney S. Gorman is now located at the Alameda plant of the Bethlehem shipyard, Webster and Tynan Streets, Alameda. He is in charge of all construction work for the yard.

* * *

L. H. Nishkian has returned from the East where he visited his son, Byron, who is an Ensign with the C.B.'s (or Sea Bees), i.e., the Construction Battalion of the Navy. L. H. has completed his Ordnance Depot for the Army Engineers at Salt Lake City.

* * *

Robins Fleming died recently in New York. Mr. Fleming was a pioneer in the development of design for wind resistance. He lived to be 85 years old.

ARCHITECTS' AUXILIARY MEETING

The January meeting of the San Francisco Auxiliary, State Association of California Architects, was held at the Women's City Club, San Francisco, on January 6. Luncheon was served at 12:30, followed by a business meeting, Mrs. Harold H. Weeks, president, presiding.

Guest speaker was Miss Marjorie Glass, past president of the Professional Career Women. Subject: "California Wines."

Mrs. A. Appleton, chairman of the War Work committee, announced a Christmas gift of cigarettes, books and puzzles, to the convalescents at Mare Island, by the Auxiliary members through their Victory Fund.

War work plans for the Architects' Auxiliary during 1943 were also presented by Mrs. Appleton.

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

A $14,000,000 CONTRACT

In the last month housing has occupied the attention of Army architects and engineers as well as civilian builders. General contracts for barracks near Mills Field and housing facilities for an Ordnance Company were awarded to H. E. Rahlmann and Jere Strizek. Army housing included facilities at a dog training center. A cafeteria, a recreation building, low pressure chamber buildings, camouflage work, and five comparatively large jobs designated simply as "buildings" also were undertaken for the Army.

The Navy let a $14,000,000 contract to Guy F. Atkinson Co. and Geo. Pollock Co. for additional facilities at San Pedro. One 500-bed hospital addition is under way and another contemplated.

Douglas D. Stone of San Francisco has finished the drawings for the Vallejo hospital, to cost nearly $2,000,000 and now is working on a $320,000 hospital to be built by the city of Pittsburg. There is to be an addition to the Solano County Hospital, a $77,000 job, with drawings by Harry J. Devine of Sacramento.

* * *

The men in the shipyard drafting rooms had a busy month. At Richmond a $50,000 administration and engineering building has been started, also a firehouse and a storage building for the field hospital. Revised drawings are in progress for an additional utility building.

Marinship plans a cafe; the first bids were rejected. That shipyard awarded Heyman Bros. a contract for a storage building. Bethlehem-Alameda are putting up a service building and remodeling a field office building. Pacific Bridge announces that a general contract has been awarded to Fred J. Early, Jr., for a $100,000 cafeteria.

* * *

NEW ALAMEDA PROJECT

War housing continues to expand. A new Alameda project, consisting of 500 apartment units, has been designed by Carl F. Gromme, Francis E. Lloyd and Hervey Clark for employees of Pacific Bridge. The project is sponsored by the Alameda Housing Authority. The same group of architects are doing preliminary drawings on a 40-unit housing project for Westvaco, near Livermore.

Henry Kaiser is going ahead with plans for the additional 4,000 apartment units that he has been promised if the housing survey shows that Richmond needs them. The only new development at Vallejo is that a negotiated contract finally has been signed with N. H. Sjoberg & Son for the five commercial buildings, maintenance building and firehouse, which have been contemplated but delayed for several months. W. W. Wurster and Franklin and Kump have been associated in designing these buildings.

* * *

South San Francisco, one of the neglected housing jams, at last has been given authority to build 415 family dwelling units, 310 units for couples, and 128 dormitory units. The architects are Albert F. Roller and James H. Mitchell, 1 Montgomery Street, San Francisco.

IN MARIN COUNTY

In Marin County, Frederick H. Meyer and Roland I. Stringham have been given two new jobs beside the housing at Hamilton Field. They are to design a small housing project (120 units) near Tiburon, and a camp for 250 trailers at Alto.

Russell G. DeLappe, who did the projects at Benicia and Riverbank, is now at work on 200 dwelling units for the Housing Authority of Napa. Architect Francis Joseph McCarthy is designing dormitories, apartments and dwellings for a project in San Luis Obispo County (Camp Roberts) under sponsorship of the Federal Public Housing Authority. The Defense Plant Corporation has been given federal funds for construction of a small housing project at Dos Palos. No architect has yet been appointed.

An interesting development is the financing of a dormitory, remodeled from a business college building, by the Shipyard and Marine Shop Laborers' Union in Oakland. Miller & Warnecke are guiding this $20,000 job. Architect Paul Hammarberg has designed a 12-unit apartment building for H. Krusi of Oakland, and William Mooser of San Francisco has remodeled a rooming house for Der Back Mon and Der Deep Hong in Chinatown.

Charles E. Butner is at work on another guayule rubber camp—shelters, and utility and administration buildings to be constructed near Woodland.

* * *

There seems to be less lag now between the construction of housing and that of schools. Will G. Corlett, having finished drawings for the high school addition at Napa, has designed a 30-classroom temporary grammar school for Richmond. Harold H. Weeks is the architect on

SCHOOLS COMING BACK

a new grammar school (8 classrooms) and a 5-room school addition for Benicia. El Cerrito is to have a temporary high school, done by Architects Dragon & Schmidts, and in Marin County work is going forward on a new Sausalito grammar school designed by Carl F. Gromme. A Federal grant has been approved for an addition to the Tolenas Grammar School near Fairfield. The architect has not been announced.

A few of the architects and engineers are busy on industrial work. Alben J. Froberg is designing several buildings for the Pacific Steel Casting Co. of Berkeley. John B. Anthony has completed drawings for a $30,000 factory for the Ralph N. Brodie Co. of Oakland, and R. F. Keefer the drawings for a $22,000 plate shop building for the Hurley Marine Works.

Architect John H. Christie of the Southern Pacific Company has a remodeling job on his hands—the S. P. station at the Oakland Pier. Harry Thomsen, Jr., and Engineer W. Adrian have been associated on a $15,000 strengthening of a retaining wall for the Taylor-Spotswood Company.

Some civilian defense work is being undertaken by municipal architects and engineers—construction such as the auxiliary firehouses in San Francisco and Oakland's 11 equipment depots.

* * *

WHAT! NO ARCHITECTS?

At the end of the list it seems worthwhile to mention some jobs to which no architects have been assigned, but might be logically. The Di Giorgio Farms, Inc., of Arvin soon are to start construction on several vegetable dehydrating plants. The Sebastopol Fruit Growers' Association plans a $15,000 packing building, and in Monterey, Marinefone, Inc., are dickering for a site on which to build a new factory. At Winters the Union High School District is planning a $100,000 high school to replace the one that recently burned.

Obviously it would be to the public's advantage, as well as the architects, if more professional men were involved in the assembly-line homes being put up by some commercial builders. Firms that are doing work continuously, houses by the dozen, score, or even hundreds, include:

DeLuxe Homes, Inc., 1 Drumm Street, San Francisco
Lucky Homes, Inc., 1330 Davis Street, San Leandro
Sterling Homes, 111 E. 14th Street, San Leandro
O. K. Holt, 3957 Army Street, San Francisco
Standard Homes, Inc., 1 E. 14th Street, San Leandro
J. L. Binet, 1416 Q Street, Sacramento

AN ARCHITECT SKETCHES HIS OWN HOME

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

GREEN LIGHT

Most architects and engineers, nowadays, are having to watch their steps very closely. The going is rough, and the road ahead not too certain for any individual, though the path to national victory may be a bit more clear than it was a year ago. So when we on the West Coast lift up our eyes and see what seems to be a green light far in the distance, it may really be a "GO" signal to better times ahead.

A reason why we do not believe that we are seeing a mirage, or an aurora borealis is the statement of the census takers that California has a population of 7,660,000 as of January 1st, 1943. That figure does not include the military personnel in the State, or the Japanese population. That 7,660,000 is an increase of 750,000 persons above the number resident in the state on the date of the national census in 1940, which was two years and nine months ago. These figures mean that the population, hereabouts, is increasing even faster than it did in the first three years of the nineteen-twenties, and three times as fast as in the first three years of the nineteen-thirties. You will remember that in those latter three years we were receiving a very numerous Joad family from the region once labeled on our old geographies "The Great American Desert," and which later became familiar as the "Dust Bowl."

An increase in population means, first of all, that the increase must be housed. The newcomers will not return, in any large numbers, to their former homes. Many will seek better living accommodations than the present war housing makes possible. A general shifting of population within the western area is indicated. This means not only more dwelling units, but also more commercial structures, more schools and churches, and the rehabilitation of existing structures, all to take care of the dispersal from the war slums. Some of our Federal officials even promise that the temporary war housing structures may be torn down! And one must not forget that the baby crop is again on the increase. The Far West has been prodigal, in times past, in provision for its children in schools and recreation centers. The new comers will not be less liberal.

When we add together the accumulated demands of normal growth and change, which have been tightly sealed for the duration, and the business and housing space required by the new residents, we must conclude that there is work to be done in the post-war period. The Green Light is flashing down the road.

Planning

The officers of the State Association of California Architects are fully aware that a vigorous sapling will yield the best fruit in years to come only if it is carefully cultivated and trained in its growth. Their plans for the coming year, therefore, are to clear the way for the use of the profession so that progress for peace may be started now. They have faith that the public welfare will best be served by having

work properly planned by the men who have spent their lives learning and practicing the processes of planning.

In particular, the State Legislature is now in session, and there are items of vital interest to architects which should be acted upon at this session. Of paramount importance to both the public at large and to the architects is the authority of sub-divisions of the State to expend money for plans of projects, the actual construction of which will be deferred until the winning of the war.

School, county, and other boards must not be held back in expenditures for the preparation of plans. It is vitally necessary that carefully considered and comprehensive planning be done now to take care of the inevitable post-war crisis. Unless plans are ready "when the lights go on again all over the world" the result will be frantic haste to start the dirt flying. There will be no time to wait for the proper preparation of plans. The result will be extravagance and waste, ill considered projects poorly conceived, and poorly worked out. The country can ill afford to add the waste of unpreparedness for peace to the wastes of war.

We hope and pray that by the time the legislature convenes two years from now the crisis of peace will be upon us. "Too little and too late" must not happen to intelligent planning. It must be made possible now, in time of war, for our civil administrators to plan for peace, in the same way that war chiefs must plan for hostilities long before the first gun is fired.

End of the War

Our crystal ball is too milky for us to name the year and month of the ending of the war. But there are definite signs that the high tide of Axis success may have begun to ebb. With the slackening of the demand for the talents of the planners for the structures of war, there is created a pool of talent for the planning for peace. A major effort must be made to have the civil administrators dip into that pool so that there will be no "Pearl Harbor" of peace.

Resolutions

The final session of the recent Convention of the State Association of California Architects received resolutions which were referred to the Resolutions Committee, composed of Ernest E. Weihe, chairman; Wm. Barber, Loy Chamberlain, M. D. Reynolds and Geo. S. Wilson. The committee conducted a postcard vote of the Association membership on the resolutions offered and received an almost unanimous approval. The resolutions were as follows:

RESOLUTION No. 1.

RESOLVED THAT: Article V, Section b, of the By-Laws of The State Association of California Architects be amended to read as follows:

"The Advisory Council of each Section shall convene in annual meeting as provided in Article II, Section i, of these By-Laws. Voting by District, the Advisors shall nominate the Officers and Directors of their respective Sections for the ensuing year. Absent Advisors may nominate by written proxy. The Section Secretary shall be provided with the list of nominees and shall then, not less than fifteen (15) days prior to the Annual Convention, mail a ballot form with self-addressed return envelope to each member of the Section. This form shall contain an equal number of blank spaces where additional names may be written in. The ballot forms so returned by mail or presented at the Convention shall be counted at the Convention and the Officers and Directors so elected shall take office at the conclusion of the Convention.

RESOLUTION No. 2.

RESOLVED THAT: The State Association of California Architects favors the continuance of study of the matter of grading the quality of workmanship in the various building trades with the object that ultimately, in normal times, a code or system of designation of quality of workmanship may be established to serve in the determination of the quality of work performed under contract or otherwise.

RESOLUTION No. 3.

RESOLVED THAT: A sincere expression of appreciation be extended to the Producers' Council Club of Northern California for their participation in the Fifteenth Annual Convention of The State Association of California Architects.

RESOLUTION No. 4.

RESOLVED THAT: All Governmental Agencies and Housing Authorities be urged to avail themselves, through local Architects, of information already existing concerning local conditions pertaining to building matters, instead of pursuing the practice of establishing independent and separate research agencies in various localities; all with the object of expediting work and avoiding repetition of effort.

RESOLUTION No. 5.

RESOLVED THAT: The recent rulings of the Attorney General of the State of California in matters concerning hearings for disciplinary action held by the State Board of Architectural Examiners be published in trade and professional journals, and that The State Association of California Architects keep on file copies of same for future reference by interested parties.

Captain of Engineers

Wayne Hertzka, Ex-President of the State Association, did not join the Navy to see the world, but is evidently getting around. We don't know where he is, but a Christmas card received from him had, as background, a map of England and Ireland. At last word from him he was a Captain of Engineers.

Southern Section

At the December meeting of the Southern Section, State Association of California Architects, Dr. Floyd L. Ruch of the University of Southern California, gave a talk on "Propaganda Methods of the Axis." Dinner preceded the entertainment hour.

Lieut.-Col. T. George Hazenbusch, camouflage officer of the Pacific Division, United States Army, was guest of honor at the meeting.

Announcement of the induction of Richard White, investigator for the State Board of Architectural Examiners, into the armed forces was reported by President Hagedohm. Citing the work done by White in bringing the architects' problems before the last session of the Legislature, the report said he had done more to create respect for the profession than any other man.

SPECIAL NOTE—War conditions make these prices and wage scales subject to change without notice.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

ll prices and wages quoted are for San ncisco and the Bay District. There may be ht fluctuation of prices in the interior and thern part of the state. Freight cartage, least, must be added in figuring country k.

d—1½% amount of contract.

Government work ¾%.

ckwork—

Common, $40 to $45 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $15.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

lding Paper—

ply per 1000 ft. roll	$3.50
ply per 1000 ft. roll	5.00
ply per 1000 ft. roll	6.25
rownskin, Standard, 500 ft. roll	5.00
salkraft, 500 ft. roll	5.00
ash cord com. No. 7	$1.20 per 100 ft.
ash cord com. No. 8	1.50 per 100 ft.
ash cord spot No. 7	1.90 per 100 ft.
ash cord spot No. 8	2.25 per 100 ft.

ash weights, cast iron, $50.00 ton.
ails, $3.50 base.
ash weights, $45.00 per ton.

ncrete Aggregates—

GRAVEL (all sizes) $1.45 per ton at bunker; delivered to any point in S. F. County $1.85.

	Bunker	Delivered
op sand	$1.45	$1.85
oncrete mix	1.45	1.85
rushed rock, ¼ to ¾	1.60	2.00
rushed rock, ¾ to 1½	1.60	2.00
oofing gravel	1.60	2.00
ity gravel	1.45	1.85
iver sand	1.50	1.90

ank sand—$1.00 per cubic yard at bunker or delivered.

ND—	Bunker	Delivered
iver sand	$1.50	$1.85
apis (Nos. 2 & 4)	2.00	2.40
lympia Nos. 1 & 2	1.80	2.20
ealdsburg plaster sand	$1.80 and $2.20	
el Monte white	50c per sack	

ommon cement (all brands, paper sacks) carload lots $2.52 per bbl. f.o.b. car; delivered, $2.80; less than carloads delivered, 70c per sack.

Cash discount on carload lots, 10c a barrel, 10th Prox.; cash discount less than carload lots, 2%.

as White, averas White, dusa White — 1 to 100 sacks, $2.00 sack, warehouse or delivery.

Forms, Labors average $40.00 per M.

Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.

4-inch concrete basement floor .... 12½c to 14c per sq. ft.

Rat-proofing 7½c

Concrete Steps........ $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.

Membrane waterproofing—4 layers of saturated felt, $4.50 per square.

Hot coating work, $2.00 per square.

Medusa Waterproofing, 15c per lb., San Francisco Warehouse.

Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet.

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.

Teams, $12.00 per day.

Trucks, $22 to $27.50 per day.

Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft. In large quantities, 18c per sq. ft. laid.

Mosaic Floors—80c per sq. ft.

Duraflex Floor—23c to 30c sq. ft.

Rubber Tile—50c to 75c per sq. ft.

Terazzo Floors—45c to 60c per sq. ft.

Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	5/16x2" Sq.Ed.
Clr. Qtd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Qtd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.

Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—

Double strength window glass, 20c per square foot.

Plate 80c per square foot (unglazed) in place, $1.00.

Art, $1.00 up per square foot.

Wire (for skylights), 40c per sq. foot.

Obscure glass, 30c to 50c square foot.

Glass bricks, $2.50 per sq. ft. in place.

Note—if not stipulated add extra for setting.

Heating—

Average, $1.90 per sq. ft. of radiation, according to conditions.

Warm air (gravity) average $48 per register.

Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$43.00 per M
No. 2 common	41.00 per M
Select O. P. common	46.00 per M
2x4 No. 3 form lumber	32.00 per M
1x4 No. 2 flooring VG	90.00 per M
1x4 No. 3 flooring VG	85.00 per M
1x6 No. 2 flooring VG	96.00 per M
1¼x4 and 6, No. 2 flooring	95.00 per M
Slash grain—	
1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	48.00 per M
Lath	7.50 per M
Shingles (add cartage to price quoted)—	
Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.45 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plyscord" sheathing (unsanded)	
5/16" 3-ply and 48"x96"	$39.75 per M
"Plywall" (wallboard grade)—	
¼" 3-ply 48"x96"	$43.70 per M
"Plyform" (concrete form grade)—	
⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding—	
7/16" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.

O. P. $100 per 1000. R. W. rustic $120.00 per 1000 (delivered).

Double hung box window frames, average with trim, $6.50 and up, each.

Complete door unit, $10.00.

Screen doors, $3.50 each.

Patent screen windows, 25c a sq. ft.

Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.

Dining room cases, $8.00 per lineal foot.

Rough and finish about 75c per sq. ft.

Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.

For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, 65c per gal., in 5 gal. cans, and 55c per gal. in drums.
Raw Linseed Oil—95c gal. in light drums.
Boiled Linseed Oil—98c gal. in drums and $1.01 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11 3/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11 3/4c
500 lbs. and less than 1 ton	12c
Less than 500 lb. lots	12 1/2c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12 3/4c
500 lbs. and less than 1 ton	13c
Less than 500 lb. lots	13 1/2c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.50
2 coats, lime mortar hard finish, wood lath	.85
2 coats, hard wall plaster, wood lath	.72
3 coats, metal lath and plaster	1.25
Keene cement on metal lath	1.30
Ceilings with 3/4 hot roll channels metal lath (lathed only)	.90
Ceilings with 3/4 hot roll channels metal lath plastered	1.80
Single partition 3/4 channel lath 1 side (lath only	.85
Single partition 3/4 channel lath 2 inches thick plastered	$2.90
4-inch double partition 3/4 channel lath 2 sides (lath only)	1.70
4-inch double partition 3/4 channel lath 2 sides plastered	3.30
Thermax single partition; 1" channels; 2 1/4" overall partition width. Plastered both sides	2.50
Thermax double partition; 1" channels; 4 3/4" overall partition width. Plastered both sides	3.40
3 coats over 1" Thermax nailed to one side wood studs or joists	1.25
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000.	
2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.21
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.24

3/4-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $19.50 ton.

Plasterers Wage Scale	$1.67 per hour
Lathers Wage Scale	1.60 per hour
Hod Carriers Wage Scale	1.40 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4 1/2" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure ..... 9.00 Square
4/2 #1-24" Royal Shingles, 7 1/2" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 10
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardw $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except defense work)

$150 ton (erected), this quotation is average for comparatively small q tities. Light truss work higher. F beams and column work in large q tities $140 per ton.

Steel Reinforcing (None available except defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in pl
Sandstone, average Blue, $4.00. Bo $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. n place.

Store Fronts—

Copper sash bars for store fronts, cor center and around sides, will aver $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Deal

Asphalt Tile—18c to 28c per sq. ft. stalled.

Wall Tile—

Glazed Terra Cotta Wall Units (single tile) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq.
4 x 6 x 12	1.15 sq.
2 x 8 x 16	1.10 sq.
4 x 8 x 16	1.30 sq.

Venetian Blinds—

40c per square foot and up. Installa extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNI

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stock
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37 1/2	$1.12 1/2	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37 1/2	1.37 1/2	1.25	1.37 1/2	1.25	1.25	1.37 1/2	1.25	1.25
CEMENT FINISHERS	1.37 1/2	1.37 1/2	1.25	1.25	1.25	1.50	.....	1.25	1.75
ELECTRICIANS	1.50	1.50	1.50	1.37 1/2	1.50	1.50	1.50	1.50	1.37
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37 1/2	1.25	1.50	1.37 1/2	1.62 1/2	1.37 1/2	1.37 1/2	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62 1/2	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12 1/2	1.25	1.12 1/2	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31 1/4	1.37 1/2	1.31 1/4	1.37 1/2	1.31 1/4	1.25	1.31 1/4	.....
Reinf. Rodmen	1.50	1.31 1/4	1.31 1/4	1.31 1/4	1.31 1/4	1.60	1.31 1/4	1.31 1/4	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37
LABORERS: Building	.85	.82 1/2	.82 1/2	.81 1/4	.85	.81 1/4	81 1/4	.81 1/4	.80
Concrete	.87 1/2	.93 3/4	.90	.81 1/4	.92 1/2	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43 3/4	1.25	1.25	1.31 1/4	1.37 1/2	1.25	1.31 1/4	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12 1/2	1.12 1/2	1.15-5/8	1.12 1/2	.....	.....	.....
PAINTERS	** 1.37 1/2	** 1.50	** 1.28-4/7	** 1.37 1/2	1.25	** 1.35-5/7	** 1.42-6/7	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.66-2/3	* 1.66-2/3	* 1.75	* 1.66-2/3	1.75	* 2.00	* 2.00	* 1.75	* 1.83 1
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18 3/4	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52 1/2	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	1.37
ROOFERS	1.37 1/2	1.37 1/2	1.12 1/2	1.25	1.25	1.37 1/2	1.25	1.25	1.25
SHEET METAL WORKERS	1.37 1/2	1.37 1/2	1.43 3/4	1.37 1/2	1.50	1.50	1.37 1/2	1.25	1.37
SPRINKLER FITTERS	1.50	1.37 1/2	.....	1.25	.....	1.62 1/2	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56 1/4	1.62 1/2	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37 1/2	1.37 1/2	1.37 1/2	1.37 1/2	1.50	1.50	1.37 1/2	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

1943 U. S. STEEL OUTLOOK

United States Steel Corporation faces the new year with determination to do its part in expanding "the battle of production" to meet the growing requirements of materials and equipment needed for complete victory. While American industry can well be proud of the production miracle performed during the first year of our participation in the world conflict, there should be no feeling of complacency. As evidenced by their accomplishments during 1942, both management and workers realize that the magnificent courage of our armed forces must be matched on the home front by an even greater application to the job of full production. Our country's over-all war expenditures next year may reach a total of around $90 billion, compared with approximately $53 billion in 1942.

While producing the vital weapons for victory is presently the all-absorbing and essential objective, American businessmen should be aware that after victory will come another challenging test—the solution of the many problems and re-adjustments of the post-war era. To the extent that an intensified prosecution of the war will permit, careful thought should now be given to the transition from a war to a peacetime economy which will be in the public interest and not destructive of our established American system of free private enterprise.

United States Steel Corporation is justly proud of the notable production records of its subsidiary companies during 1942—accomplishments which have won for many of these companies official recognition by the War and Navy Departments and the Maritime Commission, and which reflect great credit upon the zeal and patriotism of both workers and management.

Outstanding among more than one thousand new records was the production by United States Steel subsidiaries of approximately 30 million tons of steel ingots during 1942, as compared with a little less than 29 million tons in 1941, and 23 million tons in 1940. Practically all of United States Steel's vast mountain of steel made in 1942 went into direct or indirect war effort.

United States Steel Corporation, either at the request of the Government or on its own initiative, is rapidly completing the largest expansion of plant facilities in its history, involving an aggregate expenditure of around $740 million. The Corporation's share of this alone is $305 million—the remainder being for the account of the Government. Most of the new plants are expected to be in operation by the middle of the new year. The facilities of the steel industry, including these units and numerous new plants which are being built by other steel companies, should insure the great flow of steel necessary for victory.

WAR HOUSING WEEK

War Housing Center managers from ten critical housing areas in California and two in Arizona met early this month with Donald Kirby, Regional Director of the Homes Use Service, to discuss preparations for the "War Housing Week" proclaimed for January 24 to 30.

Robert Dier, Regional Conversion Director, recently returned from Washington, D. C., will instruct the housing officials in the latest phases of home and building lease and conversion plans to provide additional war housing for war workers and their families.

Dier said that machinery for speeding up the vital program has been set in motion through cooperation of the War Production Board. The WPB has issued a blanket preference rating of AA-3 to permit deliveries of material for use in NHA construction.

Also NHA has given momentum to private incentive by allowing real estate brokers to collect commissions for handling details of housing conversion leases between the government and owners of private dwellings, and by stepping up conversion expenditure permits to include $2,500 a unit as well as permitting landowners to lease a part of a building as well as the whole.

Kirby pointed out that during the "War Housing Week," proclaimed in San Francisco by Mayor Rossi and to be observed throughout California, the public will be informed of the critical housing shortage and asked to support the program of renting guest rooms, apartments and homes to war workers, of privately financing living facilitity additions to existing structures; of leasing stores, old homes and housing space to the government for conversion to war housing and of encouraging out-migration of non-essential pensioners and others to communities providing adequate housing.

LEGION OF HONOR ADDITIONS

Through the generosity of H. K. S. Williams, Mrs. Alma Spreckels Awl and other Westerners, the California Palace of the Legion of Honor, in San Francisco, starts the New Year with many new and substantial additions to its permanent collections.

To the Mildred Anna Williams collection have been added the following: "Portrait of Master James Hatch," by Sir William Beechey (1753-1839); "French Village," by Jean Charles Cazin (1840-1901); "The Mendicant," by Thomas Couture (1815-1879); "Still Life," by William Claez Heda (1594-1680/2); "Portrait of a Man," by Bartholmeus van der Helst (1613-1670); "Girl Reading," by Jean Jacques Henner (1829-1905); "The White Cuckatoo," by Melchior Hendecoster (1636-1695); "Portrait of the Artist's Daughter, Marguerite," by Henry Howard (1769-1847); "The Pancakes," by Joseph Israels (1824-1911); "Portrait of a Man," by Nicolaes Maes (1632-1693); and "Portrait of a Woman," by Nicolaes Maes (1632-1693).

Mr. Williams also presented to the California Palace of the Legion of Honor the following works to broaden the scope of the collection's group of paintings by American artists: "Beach Scene," by Alfred T. Bricher (1857-1908); "Portarit of Harriet Hubbard Ayer," by William M. Chase (1849-1916); "Lake George," by Louis Eilshemus (1864-1941); "Girl and Calf," by George Fuller (1822-1884); "Paper Mill Creek," by Thomas Hill (1829-1908); "Landscape," by George Inness (1825-1894); "Moonlight," by George Inness (1825-1894); "Visit to Grandpa," by Charles Nahl (1818-1875); "The Blue Veil," by Edmund Tarbell (1862-1908); "Spring, Central Park," by Manuel Tolegian (b. 1912); "An Old Saint," by Harry Watrous (1857-1942); "Muse of Music," by J. Alden Weir (1852-1919); "Cogitation," by Thomas Waterman Wood (1823-1903); and "Landscape," by Alexander Wyant (1836-1892).

A particularly noteworthy gift of the year, comprising eight bronzes and two marbles by Auguste Rodin (1840-1917), was presented by Mrs. Alma Spreckels Awl. In donating these important pieces, Mrs. Awl has completed presentation to the Museum of her entire Rodin Collection. The museum is now the possessor of one of the most representative collections of the work of this great sculptor to be found anywhere.

The new works are—Bronzes: "Torso," "Bust of Victor Hugo," "Bust of Victor Hugo" (small study), "The Mighty Hand," "Wounded Lion," "Fugit Amor," "Faun and Nymph," "Man with the Broken Nose" (small study); Marbles: "Hand of Victor Hugo," and "Small Seated Female."

Other donations to the Museum included "Mother and Children," attributed to Carlo Cignani (1628-1719), the gift of Mrs. George P. Dyer; a group of watercolors, drawings and prints by Wassily Kandinsky (b. 1866); Alexei Jawlenski (b. 1864); Arthur B. Davies (1862-1928); Boris Deutsch (b. 1895); and Pamela Bianco (b. 1898), given by Mrs. J. L. Wolf in memory of Miss Rachel Abel; "Snow at Uzerche," by Abel Warshawsky (b. 1883), the gift of Mr. Kenneth Slaughter; a Norwegian chalice, given by Mrs. Richard P. McCullough; and, from the estate of the late Albert M. Bender, a cash bequest of one thousand dollars. Books were presented to the Museum library by Mrs. Alma Spreckels Awl, Mr. Alfred Frankenstein, Mrs. Richard P. McCullough and Mr. H. K. S. Williams.

SOUTHERN CALIFORNIA CHAPTER

Southern California Chapter held its annual social meeting at the Jonathan Club, Los Angeles, December 15th. Especially honored were the wives of architects now serving in the Army, Navy and Marines.

John C. Austin welcomed new members into the Chapter and presented an associate membership to Harvey Barton Smith, and a Junior Associate Certificate to John Edward Lautner, Jr. Other new members, not present, were also named and welcomed: Associate

Member Norman Luther Low (now in Hawaii), and Jr. Associates Lee B. Kline, Denver Markwith, Jr., and Henry L. Sylvestri. Mr. Austin who holds the longest active membership in the Southern California Chapter, reviewed the growth and achievements of the group during the past 50 years, and stated that the near future holds the greatest opportunity so far for the practice of architecture in this area.

The Certificate of Fellowship in the American Institute of Architects recently awarded to Robert H. Orr, was presented by Pierpont Davis. Mrs. Orr received the certificate in the absence of her husband.

The guest speaker of the evening was Richard Atkinson, past-president of the L. A. Adventurers' Club, who talked on "Russia and the World Today."

He spent many years in Russia, and was the last foreigner to leave the Russian-German front. Mr. Atkinson reviewed the development of the people of the Soviet Union, making a clear explanation of his belief in their future, and in their ability to conquer Germany. He painted a vivid and withal encouraging picture of Russia, a socialistic, not communistic state, and commended the increase in education, and their scientific progress during the past year.

LEGION OF HONOR FEBRUARY EVENTS

The California Palace of the Legion of Honor has announced the following schedule of exhibitions and special events for February:

"Our Leading Watercolorists" (Circulated by the Museum of Modern Art): opening February 13.

"An Exhibition of Modern Glass": opening February 16.

"Henry Eichheim Memorial Exhibition": opening February 9.

"Soldiers of Production": through February.

"Watercolors by Charlotte Berend": opening February 16.

"Stage Designs by Robert Edmond Jones": through February 14.

"Masks by Wladyslaw Benda": through February 14.

"American Artists, Past and Present": through February 14.

"South American Colonial Silver": from the collections of Mr. and Mrs. Robert Woods Bliss and Mr. and Mrs. Fernando Berkemeyer; through February 14.

Junior Museum

"Models of Aircraft": opening February 6.

"Paper Dolls of Today and Yesterday": opening February 6.

PAINT RACKETEERS IN THE SOUTH

Racketeering under the guise of war necessity was today charged against some paint substitute applicators in Southern California by the Contractors' State License Board and the Los Angeles Better Business Bureau in a joint indictment of high pressure so-called "contractors."

The argument that no new homes are available and that new asbestos treated "plastics" superesede paints and refinish buildings for a lifetime, is being effectively used, it is charged, by salesmen numbering in the hundreds in Southern California alone. Allen Miller, Registrar of Contractors, and F. B. Jennings, merchandise manager of the Better Business Bureau, jointly state: "We are alarmed by the volume of business and the business methods used by selling organizations practising variations of the racketeering methods developed in Southern California's modernization campaigns of a few years past.

"Free jobs are promised to owners who think they are getting a cheap price for a model job, whereas they actually sign contracts and get no guarantees of rebates to meet their payments. The price is often terrifically high, and a number of the jobs are peeling or discoloring according to owners' complaints."

Investigations of a number of contractors using the new materials are under way by the State License Board and laboratory tests of the products are being sought.

NOW IT'S MAJOR FRYE

From First Lieutenant to Captain and now to Major is the meteoric rise of another Southern California Chapter member (associate), Chas. C. Frye, son-in-law of John C. Austin, F.A.I.A.

FOR VICTORY TODAY AND SOUND BUSINESS TOMORROW

Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Pay-roll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

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This Space Is a Contribution to America's All-Out War Program by

ARCHITECT AND ENGINEER

CONCRETE CONSTRUCTION

National emergency specifications for the design of reinforced concrete buildings became effective January 1.

The date was set in an amendment to a directive, issued October 5, which placed the deadline for compliance on December 5 (WPB-1972). However, there was a delay in printing the specifications in a booklet which became available only recently in sufficient quantities for general distribution.

Agencies handling contracts were urged, nevertheless, to put the emergency specifications into immediate effect wherever possible.

Booklets are available at WPB field offices.

MIDWEST POWER CONFERENCE

The Midwest Power Conference arranged by Illinois Institute of Technology will not be a war casualty.

Stanton E. Winston, director of the conference, a professor of mechanical engineering at Illinois Tech., has revealed that plans are now being made to hold the 1943 conference as usual. As evidence of this fact, Mr. Winston has also announced that a keynote speaker and a speaker for the "All-Engineers' Dinner" have already been secured.

C. W. Kellogg, president of Edison Electric Institute, New York City, will be the keynote speaker. Colonel L. Walsh, war chairman of the American Society of Mechanical Engineers, will be the speaker at the "All-Engineers' Dinner," the annual social highlight of the conference. His topic will be "Logistics, the Science of Survival."

Dates for the 1943 Midwest Power Conference will be Thursday and Friday, April 9 and 10. Place, as usual, will probably be the Palmer House, Chicago.

STRUCTURAL STEEL

The efforts of the War Production Board to conserve the use of steel for more critical war purposes have shown their effect in the monthly booking reports of fabricated structural steel received by the American Institute of Steel Construction. New business booked during November

amounted to but 45,972 tons, the lowest on record since the termination of World War I in 1921. Current operations, however, based upon orders previously booked hold up fairly well, the backlog of the industry being 566,581 tons on December 1.

New orders booked during November were but little over one-third of the volume booked during the same month of 1941. Shipments of fabricated structural steel during November amounted to 127,052, representing a decline of thirty per cent from the volume shipped during the same month last year.

ERA OF PREFABRICATED HOUSES

The prefabricated home developed by American industry to meet the unprecedented housing demands of a warring nation foreshadows a new era of peace-time housing.

That is the opinion of Norman Bel Geddes, famous designer, who visualizes streamlined homes rolling from post war assembly lines like automobiles and combining low cost sturdiness with heretofore unknown comforts and beauty.

Based on production lessons being learned today under the pressure of war, the prefabricated house of tomorrow will incorporate dozens of revolutionary ideas and designs for greater beauty and streamlined utility, the designer prophesied.

That prefabricated homes can be produced on an assembly line basis is being demonstrated daily by several of the nation's leading industries.

According to Mr. Bel Geddes and other designers, the prefabricated house "has been one of the most important answers to our government's serious housing shortage problem."

"The lessons learned by these industries under the strain of war-time production will stand many of them in good stead in the peace-time production of the prefabricated home of tomorrow," Mr. Bel Geddes said.

FIRE BOMBS

What kind of bombs may the enemy drop on our cities? Will it be intensive types such as magnesium

and thermit? Scatter types such as solidified oil or phosphorus? Fire bombs with delayed explosive attachments? Combinations of these? Or perhaps even newer types?

Until the late summer of 1942, the fire bomb most commonly dropped was the small 2.2 pound magnesium incendiary which sometimes contained an explosive charge. A single bomber could carry as many as 2000 of these tiny bombs, and dropped in a concentrated area they could start hundreds of fires simultaneously. More recently, the enemy has used several new types of incendiary bombs, some of which contain delayed and heavier explosive charges. O.C.D. Director James M. Landis declared: "These new explosive incendiaries are a good deal more dangerous than the type previously used."

For further information communicate with Randolph Feltus, Chief, Editorial Section, Office of Civilian Defense, Washington, D.C.

82,000 WAR HOUSING UNITS

More than 82,000 public dwelling units to house war workers have been authorized for construction in California, Arizona and Nevada since the war housing program began in 1941.

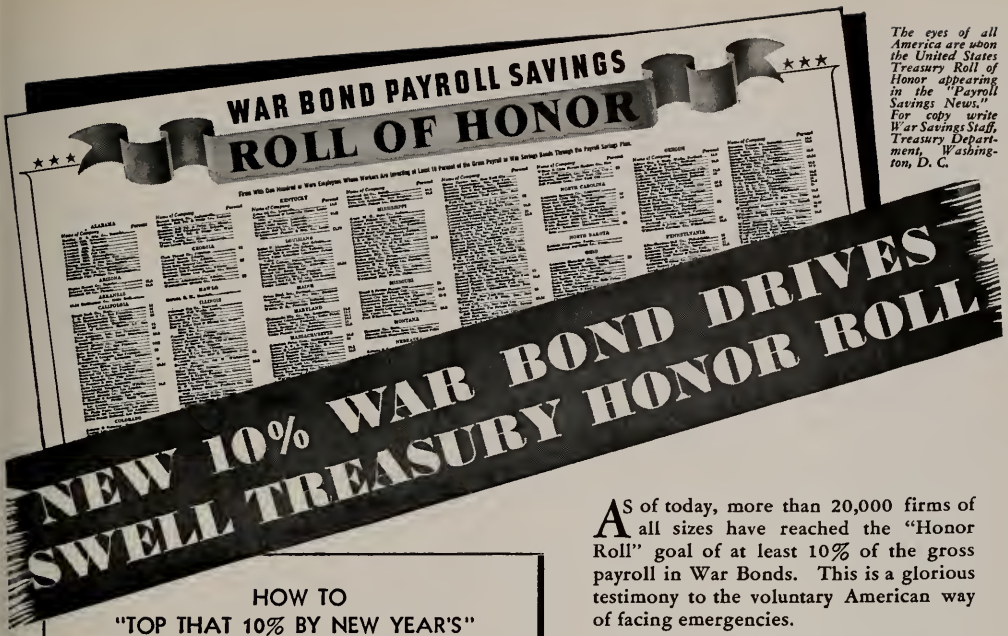
In making this anouncement, Eugene Weston, Jr., regional representative of the National Housing Agency said that 90 per cent of this war housing is authorized for construction in California, divided largely between San Francisco, Oakland metropolitan district, Los Angeles and San Diego.

"At the present rate of construction," Weston declared, "approximately 200 public units are completed every day in California alone. These are being constructed by public funds and do not include the hundreds now being built with private funds."

Weston pointed out that prospective builders of war housing may now get for the asking a manual combining in handy form the rules and regulations governing this type of private construction and suggestions for speeding building applications.

Index To Advertisers

*Indicates Alternate Months



The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

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War Savings Bonds

THIS SPACE IS A CONTRIBUTION TO AMERICA'S ALL-OUT WAR EFFORT BY

ARCHITECT & ENGINEER

at war

there is work to be done

Working view of Aliso Village, the largest mass housing project of the Housing Authority of the City of Los Angeles

AT WAR *there is work to be done by everyone* . . . hard work that is vitally necessary to the process of winning as tough a war as we ever have fought. In addition to other war construction we have been called upon to help provide mass housing for the men and women who produce the implements of war . . . Aliso Village, now nearly completed, is one of these.

R. E. CAMPBELL

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ARCHITECT AND ENGINEER

FEBRUARY, 1943

WAR DORMITORIES IN TRANSITION—VALLEJO, SAUSALITO

RESISTANCE OF REINFORCED CONCRETE STRUCTURES TO AIR ATTACK

NEXT MONTH—"Wings Over Architecture"—Will Tremendous Growth of Aviation Affect Post-War Planning?

★ ★ ★

Here's how an
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ALL-OUT EFFORT

Foundations . . . floors . . . walls . . . ceilings . . . runways . . . all effectively employed Golden Gate Portland Cement in the construction of the new plant of the Chemurgic Corporation . . . another example of how skillful architectural planning linked with sound construction is helping to promote the Common Cause.

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General Contractors: Fred J. Early, Jr., Co.

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FOR SOUND CONSTRUCTION

ARCHITECT AND ENGINEER

Vol. 152 February, 1943 Number 2

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NEXT MONTH

"Wings Over Architecture and Construction," describes a new phase of our post-war planning likely to develop upon return of a million or more airplane pilots and mechanics who, by virtue of their expert training, are unfitted for other pursuits.

Quoting from Mr. H. G. Maas' article, "it does not require an aviation zealot to read in the signs of the times, portents of coming changes in the world's transportation." The writer predicts a vastly improved commercial use of the plane. How far the government will go in popularizing the industry is of course problematical but it is safe to say our boys will be taken care of along lines for which they are best fitted. Hotels are going to be built near international airports and plane landings will be closer in which will save time transporting passengers from passenger stations to airports. Building designs will provide autogyro landings on office buildings. Produce and freight deliveries will see some notable changes with airports and warehouses at convenient points.

You will find Mr. Maas' article intriguing, informative, progressive.

"Valencia Gardens," San Francisco's latest housing project to be completed, will be described by Sally Carrighar whose previous housing articles in *Architect and Engineer* have produced much favorable comment. One of the interesting points brought out by Miss Carrighar in her Valencia article is the fact that the ground site is almost exactly the same size as the site of the University girls' dormitory (*Architect and Engineer* for December) which latter building contains approximately 80 rooms while the total number of rooms at Valencia is 937.

HAWS Angle Stream Fountain Head Model No. 3M

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RUNNING FIRE—

by W. C. AMBROSE, pinch-hitting for MARK DANIELS

Mark is absent, so the fire dies down to a quiet smoke.

• *TIME PASSES ON*

The time comes in a man's life when, as he walks along Montgomery Street, in San Francisco, even a slight ripple of interest in the glance from one of the opposite sex causes him to fumble his tie to discover what is wrong . . . or to wonder what sort of smear adorns his cheek—at the same time mentally noting: "It was not always thus!"

The age of discretion comes to most men with the silver in their hair, but for an architect that age hardly fits the cynic's definition of "too old to have a good time, and too young to die." For when the architect has arrived at the age (I mean mental age) when quality is a more important factor in a French dinner than quantity, he has also passed the time when he hailed each new stunt design in the architectural journals as a masterpiece of modernism, and a "significant contribution in dynamic design" whatever that may mean. He even yawns a little when he sees the word "significant" applied to anything and wonders "significant of what?" Did any of the caption boys ever tell what the design is significant of? Of course we may have our own ideas.

• *REMINISCENT*

The questioning smile of the older architect is not per se (one must use a little Latin, even if incorrectly) the proof of one disgruntled with the times. He remembers his enthusiastic acclaim of the "bath" motive of the Pennsylvania station, the merit of which was that it "accused" a large inclosed space—"form follows function!" And the successive triumphs of the "Merry Widow cornice," followed by the absolute proof that roof overhangs are sinful and ugly, and their resurrection when the architect began to fondle the cantilever and call her "beautiful!"

His nostalgic eye sees again the soaring grace and lace of the gothic-detailed skyscraper—"only vertical lines can express the steel frame" and "following nature's formula in building with the spreading base, the clean shaft of the tree, and its foliated cover." He has since learned that play of light and shade and complexity within a pattern are vulgar and over dressed, that no shadow should be less than five hundred feet long and that the appearance of a building from less than a mile away is a matter of indifference.

• *FOR THE QUIZ KIDS*

By the way, what does a palace on piles which have been cut off eight feet from the ground, with a horizontal slash of glass brick three feet in height and two hundred feet long at right angles to a vertical pile of more glass bricks stretched so high that their brick envelope has become a tower—what does that "accuse?" But why be academic, and who knows what "accuse" means, now-a-days? And who cares?

• *FUNCTIONAL ARCHITECTURE*

We were young once and thought that a Monterey colonial house was a pretty nice place in which to live, economical, with privacy, etc., etc. But that was before we found out the joys of bringing the outdoors indoors, and indoors outdoors and vice versa ad-infinitum. (We really think the Van Kannel people have something!)

And in those days we did not know the fun of finding in the magazines how Mr. Saarinen plants a pool skew-ways alongside his museum and wins a national competition with it, and then watching all the little Saarinens planting pools skew-ways alongside their buildings and calling them significant. Maybe they were. We even noticed that Mr. Saarinen Pygmalianized his idea and we saw how it emerged as a small lake alongside a church. We thought it strange until we noticed that the lake was between the Sunday school room and the church, and that the church was Baptist. Really functional, that was.

• *THE SHED ROOF*

Just now it is the shed roof. Yes, the same that the boys used to pile wood under and play ante-over around. Some few years ago we understand that certain architects were close to dueling because one claimed the other had filched a new motive that he had discovered—the shed roof. Last month Brazil held the spotlight in the magazines, and there on the strand was a shed roof to end all shed roofs. It's kind of too bad, too, for in the office we had one a-borning which we thought well of.

We architects do have fun!

NEW SOVIET POSTERS AND CARTOONS

Representing another of our allies, the De Young Museum is showing through the month a new group of Anti-Nazi posters which have only recently been sent to this country by the U.S.S.R. These original works, combining the talents of artist and poet working together, are larger than the ones which were previously displayed at the Park museum, and show a new vigor and optimism since the turning of the German tide last year. The De Young is extremely fortunate to be able to show, alongside with these posters, a series of war cartoons which have just arrived in this country from the Soviet Union and which are being shown here for the first time outside of Russia. Three artists working together who sign themselves Kukrinisky are responsible for many of these extremely forceful cartoons; others are done by individual artists. The entire exhibition of posters and cartoons is being lent by the American-Russian Institute of San Francisco.

THE DILIGENT DAUGHTER AND THE GOOD-FOR-NOTHING SON

Painting by Bonito

This truly representative of the neglected phase of Italian art, was acquired through the M. H. deYoung Endowment Fund. The picture is being admired by art lovers at the deYoung Museum, Golden Gate Park, San Francisco.

PRUDISH BOSTONIANS BAN NUDIST SHOW NOW AT MUSEUM OF ART

For all the efforts of critics during this century, some public spirited citizens have never been able to shake off the notion that art is somehow mixed with morals. And, if they are in the minority, there are nevertheless still critics who connect art with the good, the true, and the beautiful. But these critics, who hold the persistent classical ideal that both art and artist must represent the noble life, object to certain artistic productions for philosophical reasons. The official censor more often employs his blue pencil for psychological reasons, because he detects a forbidden appeal to human nature. To exercise his duties, he must be capable of experiencing the impulses of an elder; and yet control these impulses, and ultimately those of others, for the protection of the Susannas of his time. He must be abundantly equipped with the psychological apparatus of a normal citizen, but empowered with an equal, if not greater, "social sense." Whenever he performs his duty he puts himself, and not merely the object of his criticism, to the test.

Once in a while exhibitions of art address themselves to these psychological critics as well as to critics of a more philosophical nature. On these occasions judgments are of such a debatable character that the exhibition is passed, with explicit objections, to public view. They therefore provide admirable opportunities for the public itself to judge not merely the questioned aspects of the exhibition, but also the value and caliber of the official censors.

* * *

This month such an opportunity presents itself in the form of a show called Contemporary American Figure Painters which is on view at the San Francisco Museum of Art. San Franciscans can adopt an especially detached point of view because the censors so tested live on the other side of the continent. Many of the pictures in the exhibition were published in a recent issue of Life magazine, in what is called "full-color." The issue was banned in Boston, although the exhibition itself has already been circulated through many American cities. Presumably the Boston censors objected to the fact that some of the contemporary American artists painted nude figures, but it is conceivable that they objected to the **ways** in which the nudes were painted. In fact, it would be more according to precedent in these matters if the second objection were the one held here. For the judges of this sort of thing usually subscribe to some part of classical theory, and reserve certain classical types of representation in the nude for acceptance. This attitude may be held because the classical types do not stimulate objectionable reactions in the official witnesses, that they do not possess what R. H. Wilenski calls elements of "caressability"; or because they belong to the categories established by classical theory and consequently carry with them associations of dignity and respectability. In either case the censorship would obtain on the grounds cited by Paul Whiteman in his description of jazz, that "it isn't what is played, but the way it is played."

If one were to assess the abilities and opinions of the Boston censors, the first step might take the form of a close scrutiny of the features of the exhibition. An exposure of the capacities of a given censorship occurs, of course, in terms of what is exposed in the censored object. Account should be taken of the questioned disclosures, and of the

AN EVER CHANGING WORLD

THE COVE

Painting by William H. Givler now on exhibition at the San Francisco Museum of Art.

Despite war conditions the galleries are well patronized, particularly evenings when both galleries and library are open. Men in the armed service are always welcome.

attitudes in which these appear. At this point the normal responses, if any, could be compared with what is codified as undesirable in some moral system. This method should supply the necessary data for a considered judgment of the censors' opinion.

An examination of the current show will reveal at least one representation of a completely unclothed figure, as well as a number which, in manner of dress, resemble photographs of Congo natives that were taken by the Denis-Roosevelt Expedition. The response to these representations is perhaps a more individual matter, although the word "normal" is a collective qualification. The earnest investigator might be advised to organize representative groups of the public which would confront the pictures directly, and to collate the individual responses within the groups. In the same manner it would be possible to formulate a generally acceptable moral credo.

It is interesting to note, parenthetically, that official censors usually attend to the most obvious kinds of representation, and ignore subtler forms. Few shows of Surrealist art, which avowedly transgresses conventional moral taboos, have been attacked for this reason. Can it be that the insinuations of the Surrealists do not penetrate the sensibilities of public censors? Or is one to assume that Surrealist imagery is not considered a moral heresy by official guardians of that estate?

In any case the present show does not offer evidence of a Surrealist order. The nudes are customary. They were painted by American artists of well established reputation. By no means all of them contributed pictures of nudes, but a list of a few of the artists whose work is included in the exhibition should give a hint of the aesthetic, if not the moral, character of the presentation. These are: Henry Varnum Poor, Guy Pene du Bois, Waldo Pierce, James Chapin, Raphael Soyer, and Leon Kroll.

AN IMAGE OF FREEDOM—A COLLECTION OF THE NATION'S WINNING PHOTOGRAPHS

A short time ago the Museum of Modern Art in New York held a contest in which photographers were asked to submit work which collectively would compose a picture of America, an image of freedom. The winning photographs, by the nation's leading photographers, are now on view at the San Francisco Museum of Art under the title Image of Freedom. The idea behind the show is expressed in various ways. Some chose to represent freedom by portraying in landscape the vast natural resources of the country. Others felt that the key to freedom is to be found in the betterment of living conditions by a beneficent government. To others, freedom of expression seemed most important: freedom to protest, to live the way one wants to, to enjoy leisure hours without regimentation. As David McAlpin, Chairman of the Committee on Photography, writes, "The picture represents what a group of citizens feel to be worth defending and preserving for the future."

AMERICAN ARTISTS SHOW "SERIGRAPHS" AT THE DE YOUNG MUSEUM

"Serigraph," the name now given to prints made through the silk screen process, may be seen at the De Young during this month. The exhibition has been organized by the Contemporary Arts Center of New York and presents some excellent examples of the works of American artists in that special field. It is only during the past few years that the silk screen print has been widely used commercially in this country; through exhibits such as this the possibilities of this method as a color print medium in the fine arts are made apparent.

(Turn to Next Page)

SPLENDID DISPLAY OF FRENCH 18TH CENTURY ART

Exquisite objects of French 18th century art are on display at the De Young. They are from the collection of Edward Anthony Montgomery, San Franciscan, who has spent the greater part of his life in Paris and the south of France and who managed to bring with him from occupied France these few fine items from the many he had acquired. Included are two drawings by Lavreince, two terra cotta models for a bronze fountain and many beautiful pieces of Louis XV and Louis XVI vermeille and silver. Among this latter group is a dessert set still in its velvet-lined leather box which came from the court of Maria Theresa and an entire Regence set, silver with gold plate.

CHINATOWN ARTISTS' CLUB HOLDS EXHIBITION AT DE YOUNGS

Following their first successful exhibition held at the De Young last year, the members of the Chinatown Artists' Club are now offering their second annual exhibition of oils and watercolors. Membership to this group entails three previous showings in recognized exhibitions, and the club boasts Dong Kingman as President, Chee Chin S. Cheung Lee, Vice President; Hu Wai Kee and Sui Chan, Secretaries, and David P. Chun, Treasurer.

Works by all officers is being shown, along with those of Peter Lowe, Nellie Tom, Jade Fon and William Lee. The club has fittingly chosen this month of the Chinese New Year to hold its annual show.

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FRANKENSTEIN, MacAGY DEBATE AT S. F. MUSEUM OF ART FEBRUARY 28

Any number of special pressures affect the form of our thought, and sometimes confine it to our detriment. There is the succession of events, for example, which seem to have separated the arts from the mainstream of community life. There is the concept "the arts" which would group music, literature, and the visual arts on a common basis. To what extent music can be legitimately related to the visual arts will be the subject of a discussion between Alfred Frankenstein, music and art critic of the San Francisco Chronicle, and Douglas MacAgy, Curator of the San Francisco Museum of Art, at the Museum on Sunday afternoon, February 28, at 3:00 o'clock.

WORK OF VIENNESE ARTIST REMAINS ON VIEW AT DE YOUNG

That excellent exhibition of works by the Viennese artist, Victor Tischler, is still on view at the de Young Museum, Golden Gate Park. Mr. Tischler, recently here from France and now living in the southern part of the state, has brought many and varied contributions to his first American showing.

85 WAYS TO MAKE A BETTER HOME

...whether you plan to build, remodel or buy

A BOOKFUL OF NEW, WORKABLE IDEAS FOR POST-WAR HOMES

THE end of this war may introduce one of the biggest home-building booms the nation has ever known.

Architects must be ready—a year or more ahead of time. That's why we are bringing out this *New Idea* book now. It features 85 *practical* ways to make homes better with steel.

This is *not* a visionary book, featuring imaginary uses of steel, but one which gives useable information about new steel products which will be obtainable after the war. Many of these products will bring lower building costs because they take advantage of mass production methods.

If we are to develop low-cost, high-quality housing, it will be necessary for architects, builders and suppliers to co-operate in every way possible. In this new book, we have urged prospective home owners to use the services of reliable architects and builders for best building results. Send the coupon today and we'll put you on the list for a copy.

Reserve your copy today!

United States Steel Corporation Subsidiaries
621 Carnegie Building, Pittsburgh, Pa.

Gentlemen:

Please send me a copy of your forthcoming book, "85 Ways to make a Better Home."

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UNITED STATES STEEL

GOOD ELECTRICAL WIRING . . . A "MUST" IN FUTURE HOMES

☆

Today's acute housing problems are making people more than ever "home conscious" and millions are dreaming of the day when they will live in a home of their own—a home with electrical conveniences lacking in present living quarters.

When the war is over and they start cashing in war bonds and buying homes, they are going to be far more critical of those architectural home plans than ever before.

Architects themselves tell us that whatever the home of the future looks like, its electrical service will be one of the prime items of consideration, because the home owners demand it. Experience has proved that nothing so thoroughly irritates a client as to move into a new home and find insufficient electrical outlets, or badly placed outlets and switches, or poor lighting.

Electrical living is the future way of living, and although he may have a specialist draw the actual layouts, the architect is responsible for the proper planning of electrical wiring service.

Keep abreast of advances in the electrical industry now and be prepared for exacting demands just ahead.

NORTHERN CALIFORNIA
ELECTRICAL BUREAU
1355 Market Street
San Francisco

☆

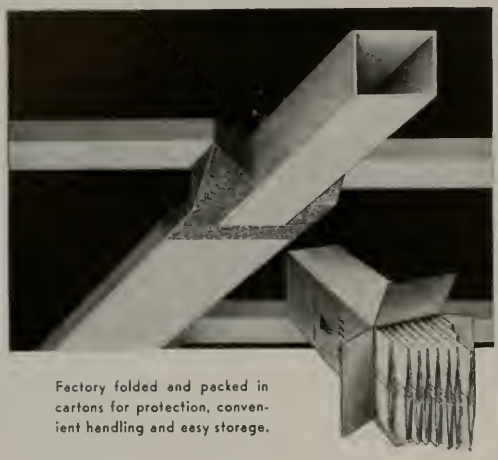
$600,000,000 FOR PUBLIC WORKS

A huge $600,000,000 public works program to offset post-war unemployment in California is proposed by Senator Chris Jesperson of Atascadero.

The Senator urges adequate planning now to absorb the shock of unemployment without draining the state's general fund and avoiding a return to boondoggling of the past decade. He said specific bills were being prepared to cover construction of new highways, airports and schools.

SAL-MO SUPPLY DUCT

Non-metallic Supply and Return Duct Material for Warm Air Heating, Ventilating and Air Conditioning Systems.



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Approved and Listed by UNDERWRITERS' LABORATORIES, INC.

THIS non-metallic conduit saves metal in making supply and return duct lines for warm air heating, ventilating and air conditioning systems. It permits many installations that would otherwise be impossible because of the shortage in critical metals.

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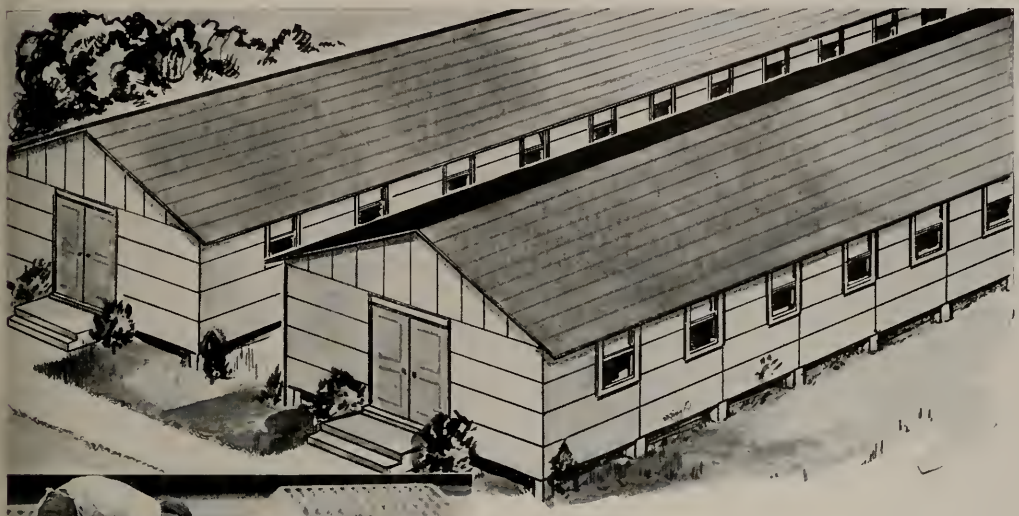
TWO NEW TRIPLE-PURPOSE PRODUCTS HELP SPEED CONSTRUCTION OF WAR HOUSING AND DORMITORIES

. . . Now Specified by the Government



Celo-Roof Units Go On Fast . . . Combine Roofing, Decking and Insulation

CELO-ROOF units are made from ¾" cane board encased in 90 pound mineral surfaced roofing. Heavy butts form deep shadow lines. Interlocking wood nailing strip on under surface of each unit eliminates need for shingle lath or sheathing boards. Size: 7'11 15/16" long by 15½" wide. Exposure 13 inches. Available in red, green, or black.

Celo-Siding and Celo-Roof Combine Strength, Insulation, and Good Appearance!

CELO-SIDING is a granule-surfaced siding made from cane fibre board, coated on all sides with an asphalt compound, then extra-coated on the exterior surface. Crushed mineral granules are then firmly pressed into this exterior surface to form a beautiful, permanent finish in brown, buff, red, or green.

Celo-Siding is ⅞" thick and 2'x 8' or 4'x 8' in size. 2'x 8' size has T&G joints on long edges. 4'x 8' size has square edges all around. Each suitable for horizontal or vertical application. All joints can be sealed with a caulking compound. *Thus one material serves for sheathing, siding, exterior finish, and insulation.*

Write for Specification Details and Samples on Both These New Products!

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BUILDING PRODUCTS

The word Celotex is a brand name identifying a group of products marketed by The Celotex Corporation.

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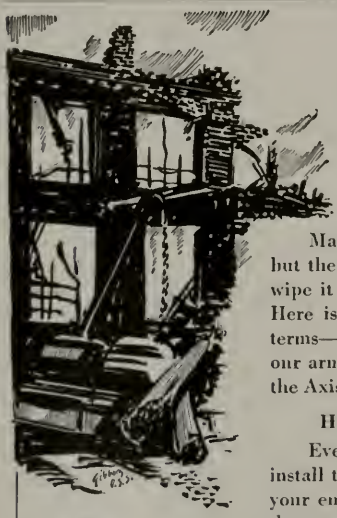
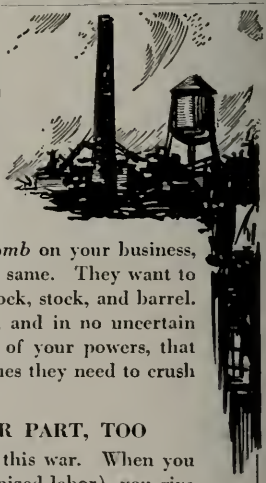
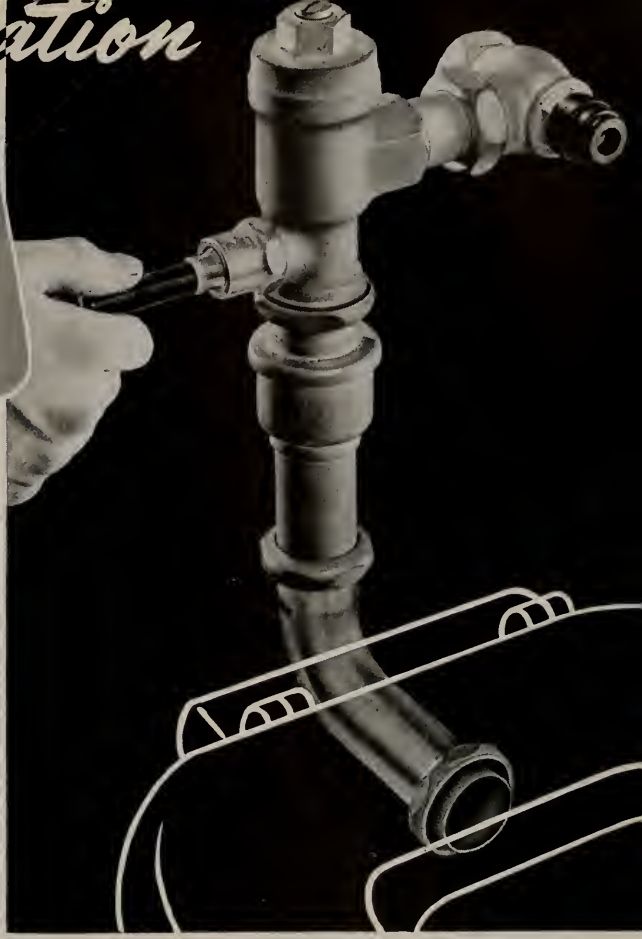




-for the Duration

THE "V" MODEL Watrous FLUSH VALVE



Conserves critical war materials . . . Meets War Department Spec. PE-623 Built to give lasting, reliable service

• • • —

WAR projects must have flush valves that are highly dependable . . . long-lived . . . water-saving. Yet the critical materials used in the manufacture of such valves must be held to the minimum.

To meet this need, Imperial developed and is concentrating its production for the duration on Watrous "V" Flush Valves. These valves save brass, bronze and other extremely critical metals required for the war. They conform to War Department Specification PE-623 and are approved for use on government projects.

These "V" model valves retain, however, Watrous proved design and excellence of workmanship, and they will give lasting, economical service.

As will be noted from the illustration at right, Watrous "V" Flush Valves are similar in general appearance and features to the well known Watrous "Jewel" Flush Valve. The alternate materials used in place of brass and bronze in these valves have been selected with extreme care to the end that efficiency and dependability will be retained.

It is important to note that all vital working parts of the valve remain brass, a vital point in assuring long, trouble-free service.

For detailed information on Watrous "V" Flush Valves and the combinations to use to comply with War Department Specifications, write for Bulletin 858-W, or see the 1943 Sweet's Catalog File, Section 27, Catalog No. 39.

THE IMPERIAL BRASS MFG. CO.
1237 West Harrison Street, Chicago, Illinois

"V" Model retains Watrous proved design and excellence of workmanship

Like all Watrous Flush Valves, the "V" model offers a water-saver adjustment. This enables valve to be regulated to MINIMUM water requirements of fixture by a slight turn of the adjusting screw.

• • • —

Advantages of Watrous system of "Single-Step-Servicing" are fully embodied in this valve. Under this system complete operating unit may readily be lifted out. This makes possible quick, convenient replacement of worn washers, etc., if ever necessary.

• • • —

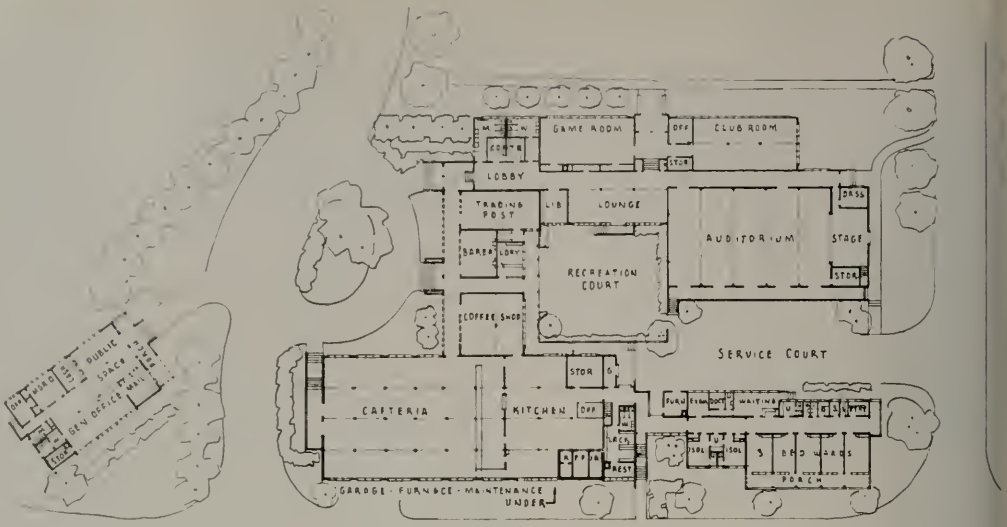
Valve is shown complete with vacuum breaker which provides positive protection against back-siphonage.

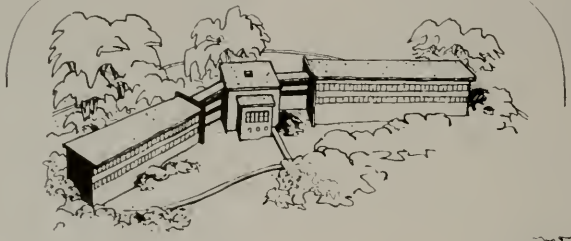
QUICK REFERENCE CHART

Showing Watrous 'V' Flush Valve combinations which correspond to various Item Nos. in War Dept. Spec. PE-623

War Dept. Spec. No.	Watrous Combination to Use	War Dept. Spec. No.	Watrous Combination to Use
Item P-1	WD-933-WVB	Item P-6A	WD-932-VB
Item P-2	WD-949	Item P-30	WD-939-VB
Item P-3	WD-949	Item P-31	WD-939-VB
Item P-4	WD-949-VBF	Item P-32	WD-941
Item P-6	WD-932-VB		

Watrous Flush Valves





Plans, War Dormitories at Sousalito, California, accommodating 1200 workers and sponsored by the Federal Public Housing Authority.

Designed by the F.P.H.A. Regional Architects . . . in cooperation with Blanchard, Maher & Ward Architects.

VALLEJO: Grouping of Dormitories conforms to convex hillside.

DORMITORIES IN TRANSITION

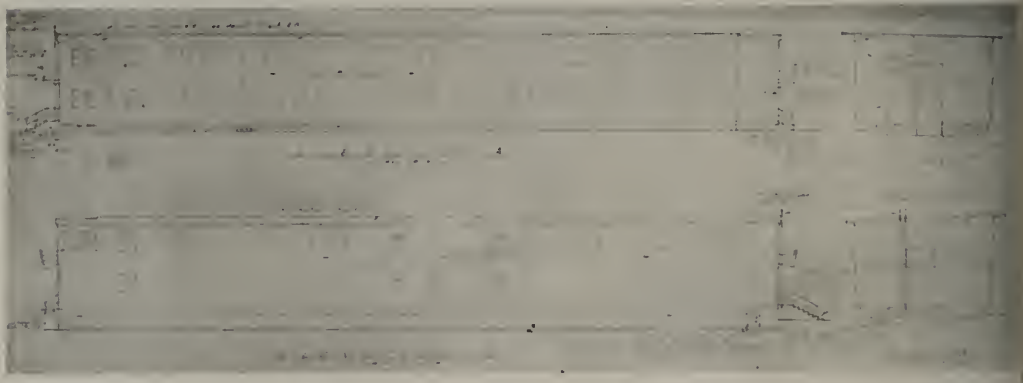
by SALLY CARRIGHAR (photos by the author)

The first single men's dormitories built by a Federal agency were close to the minimum in housing. Their light construction (they were almost completely demountable) and their thinness of design could be explained as practical necessities. But the dormitories also expressed the general impression about their tenants: that a worker without a family is probably a sub-standard human being, as ready as the buildings to vanish overnight.

The change in that attitude is one of the war's surprising by-products. For the first time anywhere, unattached adults have been recognized as entitled to suitable, adequate housing of their own. A roof is no longer considered enough. That a single worker, as well as a family, should have a **home** is now the official policy. The NHA has come to see him as one who may even have a hobby, read books, entertain visitors, like to play games with his friends—one with a right to privacy, fire protection, regular provision for his meals, nursing when he is sick—a normal person with all the normal needs and some extra ones due to his single status.

To develop answers to the housing needs of these people has required a unique architectural experiment. It has been all the more interesting because it was carried on at this time. Almost all types of war housing have been architectural laboratories, in which assembly-line construction, so long advocated,

VALLEJO: Administration Building (left) and Restaurant and Cafeteria (right).



VALLEJO: Elevations of Dormitory Buildings.

VALLEJO: Latest five of the 38 Dormitory Buildings.

VALLEJO: "Duration Dormitory," almost wholly prefabricated.

VALLEJO: A lounge in each dormitory, no community recreation building yet.

VALLEJO

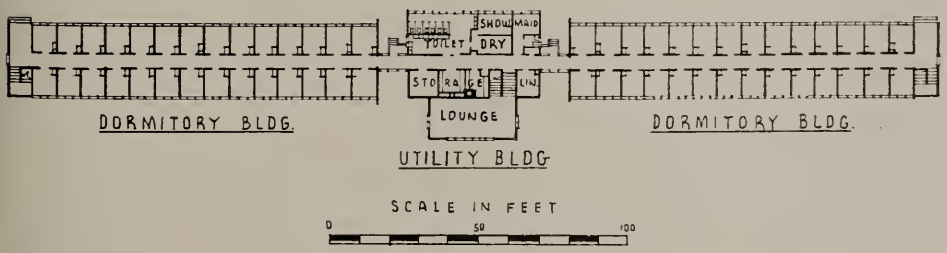
Upper picture—
Interior of restaurant, cafeteria side.

Center—
Interior administration building.

Lower—
Plumbing, typical lavatory.

SAUSALITO: Community Buildings grouped at apex of triangular plot.

PLAN DIAGRAM SHOWING HOW BUILDING GROUPS CONFORM TO GRADES



SAUSALITO: Section and Plans of Utility and Dormitory Buildings.

SAUSALITO: "Morale Activities Building."

has had its proving. But the experiments may have been least inhibited in the case of dormitories because nearly everything about them is so new.

In 1939, the construction of housing for single shipyard workers was assigned to the Farm Security Administration. The agricultural agency recently has been relieved of this job and the dormitories have been turned over to the Federal Public Housing Authority. A comparison between the FSA dormitories at Vallejo and the FPHA dormitories at Sausalito shows a transition that might have taken years to achieve in peacetime. Actually the transition is not as abrupt as it seems because the FHPA inherited much experience from the FSA, and the FSA carried on the early unrewarded struggles for some changes in policy that came only with the regime of the FPHA.

LIBRARY: "Morale Activities Building"
(Infirmary across court).

The simplest kind of box design was designated for the first FSA dormitories—the plan in which numerous little rooms are strung along the sides of a narrow hall. The buildings are two stories high, with stairways and entrances at the ends and lavatories in the center. One room is reserved as a lounge, another for tenants' storage. Those were the only concessions to livability; even an office for the manager was not considered necessary.

PREFABRICATION GETS A REAL TEST

It was the job of the district architects of the FSA to adapt such plans to local sites and to cope with the ebb of materials. On the face of it the assignment didn't seem very exciting, yet it was to Vernon De Mars, District Architect of the dormitories for the Mare Island workers at Vallejo. With speed and economy the chief requirements, Mr. De Mars saw in this project a chance to give some radical

SAUSALITO: Cafe Wing, Community Building.

building methods like prefabrication a significant test.

The type of construction chosen was the stressed-skin type developed by the Government's Forest Products Laboratory. This method, in which coverings serve also as supporting elements, never had been used in two-story buildings or on so extensive a job. The structural unit here was a double plywood panel, 4 x 8 ft., its two sheets glued to $\frac{3}{4}$ x $2\frac{5}{8}$ in. studding. The unusual length and height of the dormitories required extra strength and precision in the panels which, slight as they seem, actually support the second floor loads. To meet these demands new refinements were developed in the manufacture of the panels.

The first Vallejo dormitories were made almost completely of these panels. Workmen fitted them together, now to form floors, now partitions, now ceilings and exterior walls. The method of joining the panels was clever. In each panel, the inner framework between the plywood sheets was set back $1\frac{1}{2}$ in. from the edge of the sheets. When two panels were to be joined, the edges were brought together, fitting over a wooden spline which filled the

GAME ROOM

GYMNASIUM

SAUSALITO: Dormitory of permanent construction.
(Nate fire-wall separating wing from utilities section.)

space left inside by the framework set-backs. Screws or double-headed scaffold nails (for demountability) were inserted near the edge of the plywood sheets and into the spline.

Windows were contained in single panels which were precut during fabrication. After the panels were erected, the windows—of the frameless projecting type, delivered with hardware complete—were screwed in place. Door frames and ventilating grills were installed in the panels during fabrication, and the frames were adjusted to prefit doors.

In the first dormitories each room had its individual gas heater; in later buildings warm air from a central oil-burning furnace was carried to the rooms through overhead ducts in the ceilings of the corridors. Prefabrication did not extend to the electrical and plumbing installations, which were made during construction, nor to the application of finishes. The

SAUSALITO: A lounge in each dormitory beside the community recreation facilities.

PLUMBING: Typical lavatory.

finish on the exterior panels, incidentally, was a specially compounded stucco-texture paint, important in that it had to protect the plywood surface and also to have elasticity in order not to check.

To soothe excited real estate people it had been specified in the beginning that it must be possible to remove the buildings by pulling out a few nails, and even that the land must not be defaced. Therefore any excavations were prohibited. The dormitories rest on concrete piers 18 in. square, with skirtings of vertical redwood planks of different heights determined by the slope. The skirtings are raised 6 in. to allow for the run-off. Girder-underpinnings support the plywood panel floors.

STRESSED-SKIN CONSTRUCTION LOOKS GOOD

The signs we take for granted that a structure is built to last are lacking in the dormitories, naturally, and one misses them. Yet this stressed-skin construction has a fresh, incisive quality, especially the exterior, that is as satisfying as a sharp clean sketch on the drafting board. In fact the buildings have a two-dimensional feeling, a little unreal. Their colors are one of the best things about them. Grading from white to a warm earth-tone, with bright trim, they give sparkle to a barren landscape.

On the inside the buildings have less appeal. They are cramped, and the lacquered plywood drinks up what little light there is in the close-walled rooms. The contribution to happy living may not have been great in the Vallejo dormitories, but the contribution to architectural theory has been valuable. For here you have a vision made real: an almost wholly prefabricated building. You may have it in two days' time, as the FSA did with one of the later dormitories. This is highly efficient construction, the result of the utmost care in planning. The FSA was fortunate in securing contractors, Fred J. Early, Jr., and Oliver M. Rousseau, who were experienced in large scale construction, and one (Rousseau) who had been prefabricating row dwellings and was accustomed to carrying out one operation at a time on the 24 houses that line a city block.

Summing up his experience on the Vallejo dormitories, Mr. De Mars says,

"It is yet to be proved whether prefabrication saves money. Unquestionably it saves time." The crisis in materials prevented the results at Vallejo from proving much conclusively, but some useful facts developed.

The earliest buildings were noisy. All of a piece when screwed together, "they reverberated like a big violin case," says Mr. De Mars. Even after panel floors were abandoned, the need for sound-proofing in the walls remained. Heat insulation also appears to be advisable. Insulating materials could, of course, easily be incorporated in the panels.

Dimensions of the panels might be reconsidered in future stressed-skin construction. Where all surfaces are multiples of the panels and the panel-sizes therefore determine the building's proportions, the most sensitive attention should be given to this detail. The 4 x 8 ft. size may be ideal for those who make the mathematical calculations, but aesthetically it is not pleasing. The simpler a room the more important to have its proportions soothing to the eye and the spirit. Perhaps the prefabrication experts should go and measure some beautiful old buildings—almost any of the original adobes would do—and then divide the areas they find into workable panel sizes. It is almost certain they would not turn out to be 4 x 8.

SAUSALITO PROFITS BY VALLEJO'S MISTAKES

But the Vallejo dormitories, and some like them in other places, were put up so quickly and with so little precedent that a few mistakes were inevitable. The dormitories just completed at Sausalito by the Federal Public Housing Authority and Blanchard, Maher & Ward, architects, show three ways in which policies have been altered: 1) the basic design is better, 2) a more permanent type of construction has been adopted, 3) the program for each dormitory project has been much enlarged. The last change, especially, must be somewhat based on experience gained by the FSA in operating the original dormitories.

Although strips of rooms still border hallways, the effect is not so depressing in the FPHA dormitories because the wings are shorter and the corridors have been lightened with cream colored paint. One FSA dormitory accommodates 78 persons; one wing in the Sausalito dormitories of the FPHA only 57.

In the new structures a square, central utility building serves two dormitory wings, being connected with them by covered bridges. The three sections of one of these units need not be on the same plane nor even at the same elevation; the contour of the site determines the angles at which the sections are joined. Although this flexible arrangement seems an improvement over the previous type, Langdon W. Post, Arthur B. Gallion and other regional executives of the FPHA favor the self-contained unit, but a much smaller unit than those at Vallejo, a one-story unit to accommodate possibly only 35 persons. These would be more adaptable to the operation of projects housing both men and women in which the numbers of the two groups fluctuate.

Even in the case of the FSA dormitories, complete demountability had been abandoned for a policy of "building for the duration" and using elements that would provide good salvage. By contrast the FPHA is putting up dormitories which are for the duration in their present condition, but are heavy enough structurally so that they could be made permanent later, and at little expense. For instance, interior walls are sheet rock. But the exterior walls are of redwood siding and the floors in the first stories are concrete. Roofs are asphalt and gravel. The buildings in some future FPHA dormitories will have exterior walls of mineral-treated gypsum board. This will be a temporary surface, but one that will make a good backing for redwood siding if it should sometime be installed.

More permanent, too, and of better quality, now that cost is no longer paramount, are details like doors, windows and plumbing in the FPHA dormitories. Shower rooms in the FSA buildings remind one of the showers in a bath house at the beach, but those at Sausalito have tile floors, and there are large, slat-floored dressing rooms, separated from the showers by a chemical pool to check the spread of athlete's foot.

Very careful attention has been given to the factor of fire protection in order to avoid tragedies like those in the Vancouver and Bremerton dormitories. Experience at Vallejo also has shown the need—has shown that the war workers are inclined to come home tired and often a little dazed and then to start smoking in bed. Already several small fires have occurred at Sausalito since the dormitories were opened in November.

SAUSALITO OFFERS COMMUNITY FACILITIES

Each wing has three exits for its 54 occupants, one at the end, one at the bridge to the utility building, and one in the center. A conspicuous provision for safety is the redwood fire-wall at the bridge end of each wing, separating it from the area where the heating apparatus is housed. The wall extends 2 ft. 6 in. in each direction beyond the wing itself. An unavoidable hazard has been the use of plywood ducts to carry the warm air of the heating system. A more fire-resistant non-metal substitute, gypsum board, is now used and thermostats have been installed which stop the fans and close metal dampers, thus shutting off the warm air from the ducts when a dangerous temperature is reached. Double-hung or horizontal sliding windows will be favored as being easier to jump out of than the awning type.

In each of the new dormitories there is a spacious lounge—14 x 28 ft.—with windows on three sides. It is half way between the first and second floors in the central building; the stairway rises in one corner of it. The furniture has style. It is leather and craft-worked wood, strong, masculine, comfortable.

The maids' linen rooms are in the utility building, also a room for tenants' storage, a laundry tub for tenants' use, and a warm drying room where they can hang their clothes when they have been working in the rain.

These details and others show much more consideration for the tenants' comfort than was evident in the early dormitories, but the most revolutionary policy is the inclusion now of extensive community buildings in every dormitory project.

The Farm Security Administration fought for and finally got permission to build an administration and maintenance building and a cafeteria in each project. They have worked up plans for a recreation building, which is advocated by the Navy, but for which priorities have not yet been forthcoming. The FPHA,

however, has succeeded in getting community buildings recognized as an integral part of the dormitory plan. These buildings, finished and operating at Sausalito, include a large lounge, a gymnasium 48 x 98 ft., a game room fully equipped for pool, billiards, ping-pong, etc., a chapel, a library, cafe and cafeteria, and a 17-bed infirmary. The infirmary connects with the kitchens to facilitate tray service and includes a veranda onto which beds may be wheeled. The medical care, outgrowth of the FSA health program for migrant camps, is charged for in the rent.

All these facilities seem excellently planned and operated at Sausalito. Together they constitute the "home element" which single people seldom have been able to provide for themselves in any previous type of housing. Already the value of the community facilities have proved themselves, for there has been none of the "trouble" at Sausalito that has occurred at other dormitories where men of miscellaneous race, temperament and background live together.

But what is most unique at Sausalito is not the bare fact of such new facilities being provided—it is the spirit in which the whole thing is being done. There is a sensitive humanness, a sort of courtesy in planning, everywhere evident. It is found in such obvious things as the chemical shower pool, the inviting quality of recreation rooms, and the early provision for planting, so that hedges, shrubbery and new trees had a good start before the project was occupied. It is found in the very adequate service, the staff including maids, a janitor for every dormitory, extra cleaning men, gardeners, watchmen and other maintenance people who keep everything well cared for, well scrubbed, aired and trimmed.

It is possible to go on and read the same considerate attitude in the architecture too, for not only is good taste much in evidence but there is harmony of line and mass in individual buildings and in the plot plan that makes the project subtlely comforting. It has exactly the quality that is wrapped up in the word **home.**

SLEEPING ROOMS MUCH TOO SMALL

One exception must be noted because it is important. The sleeping rooms are distressingly small—8 x 9.6 ft.—and whatever Washington edicts, whatever statistics may be waved to explain the dimensions, such rooms are psychologically stifling. Each has three windows, but they are so high that they give no sense of space unless one is standing. Subtract a closet, a chest of drawers, a chair and a bed from an area 8 x 9.6 ft. and you haven't space for even two people to sit and talk (anyway there aren't two chairs); you haven't even room for one to relax and compose himself. As proof that the men want to be able to enjoy their own rooms as well as the community facilities, there is the fact that some have tried to improvise curtains.

In the future may not the FPHA go further in making permanent projects luxurious? The cost would be liquidated just as fast as if twice as much money were spent and rents twice as high were charged. And why should a worker earning, say, $90 a week spend only $5.60 for his living quarters including medical service?

Is it not possible that the Federal Public Housing Authority has thought so long in terms of people with sub-standard incomes that they find it hard to be really generous with the creature comforts? However, they are moving in that direction. The fact is that the Sausalito dormitories are **pleasant.** Perhaps the FPHA will sometime come to think of a room-and-private-bath as a not impossible luxury for the man or woman able and eager to pay for it.

If the FPHA continues to go along with as much open-mindedness and imagination as it has shown so far, dormitories for groups of single men and women may become one of the most important kinds of housing it ever has provided. For these people are an architecturally forgotten class. Always before this time unattached adults have had to live in a makeshift way, in accommodations primarily planned for families or else in such transient quarters as hotels. As a result they constantly, if unconsciously, combat the implication that they are outsiders, odd ones.

What might be done for their morale if they had companionship with each other, in a type of housing planned specifically for them, is a fascinating sociological prospect.

"KEEP ARCHITECTURE ALIVE"...

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Key Note
of a letter to the editor by

PAUL ROBINSON HUNTER, A.I.A.
Los Angeles

☆

Vividly expressing the sentiment of hundreds of architects now engaged in war work and who will be called upon to rebuild America when this war has been won

And that shall be the mission of this magazine for the duration, aided by support of its loyal advertisers

BUY MORE WAR STAMPS FOR VICTORY

RESISTANCE OF CONCRETE STRUCTURES TO AIR ATTACK

By JAS B. WELLS, C.E.

ONE of the many problems presented by modern aerial warfare is the effect of bombing on reinforced concrete structures and methods of design to best resist such attack. Most of the material which has been published on this subject is the result of observations made in England, although some tests have been made by the U. S. War Department. The results of these tests and observations are available in bulletin form. It is also quite possible that much confidential information has been accumulated both by the British and the American governments which is not available to the public at the present time. The writer will attempt to summarize the most important points which have been presented in various publications which have come to his notice during the past few months.

In general, it might be stated that the two principal forces which a structure is called on to resist when subjected to air attack are, first, the force of the atmospheric blast and suction set up by the explosion and, second, the force or impact of flying fragments of material from the bomb case and other fragments which may be set in motion by the explosion. Both of these are present when the structure suffers a direct hit or a near hit. Another effect of near hits is the ground vibration which may seriously disturb foundations.

When an explosion occurs a tremendous amount of energy is liberated in an extremely short period of time. This energy largely is absorbed by air displacement, by actual movement of material or by setting up stresses in objects which stand in the path of this energy wave.

Quoting from Wartime Building Bulletin No. 17, Department of Scientific and Industrial Research, London, "The extent to which the air movements are restricted and the pressure wave reflected by the masses of material is most important. For example, in the case of a skeleton framework, the degree of restriction is small and there is evidence to show that it would usually suffer little damage as the result of an explosion in or near it. Under these conditions, however, the effects of the explosion would be felt to some extent over a wide area, since they would not be restricted or localized.

"On the other hand, when an explosion occurs within a building there is considerable resistance to the movement of the expanding

JAMES B. WELLS *is Professor of Civil Engineering at Stanford University. Rated as one of the foremost structural engineers in the country, Professor Wells was recently honored by election to the presidency of the Structural Engineers Association of Northern California. His discussion of reinforced concrete structures and their resistance to air attack is particularly timely. Since original publication of the article in Building Standards Monthly in October new material has been reviewed by the author and in all cases where reinforced concrete is discussed, the importance of continuity is emphasized. To quote Professor Wells: "It is becoming increasingly apparent that structures of any material designed or strengthened to resist the forces generated by bomb explosions should incorporate the principles of continuity to the greatest extent possible."*

PROFESSOR JAMES B. WELLS

Photo Kee Coleman

gases and to the air blast outside the zone of expansion. Reflections from floors and roofs will increase this effect. The floor above the explosion is subjected to an intense pressure from beneath, which usually results in a violent upward movement of the area of floor affected. Similarly, the floor immediately below the explosion is subjected to a severe downward pressure, the effects of which will vary according to the strength of the floor and other local factors.

"The amount and type of destruction depends on the resilience or ability to absorb energy of the various parts of the structure. In considering the distribution of damage the question of the attachment of the floors and roof slabs to the framework is of first importance, since experience has shown that it is the pressure upon the floors and roof that is largely responsible for the damage to the framework.

"It may seem at first sight that the attachment should be weak, so that the energy of an explosion may be absorbed by bodily movement of the floor slabs above, thereby leaving the frame undamaged. It has been found, however, that where the attachment of the slabs to the beam is weak, they have become detached from the beam system and collapsed to the floor below. Such collapse may become cumulative down the building.

"It will be realized that, in the case of a reinforced concrete multi-storied building, the survival of the framework at the expense of the destruction of floors, wall panels, and contents of the building is of very doubtful value, and in order to satisfy the standards of performance given above it is considered essential that the area of floor destroyed shall be a minimum.

MONOLITHIC CONCRETE CONSTRUCTION

"It appears that a monolithic reinforced concrete structure of modern design which complies with the standard of the Code of Practice will ensure that the various members will normally possess the requisite degree of attachment, one to the other. The more extensive failures noted in those cases where both the design and construction of the work was of a much lower standard than would be tolerated today confirms this view. The general impression obtained as a result of the investigation was one of satisfaction at the remarkable manner in which the better designed and newer structures withstood direct hits from large bombs.

"In many cases of damage, members were found to be acting in a manner completely different from that for which they were designed, and by so doing they undoubtedly prevented the collapse that would otherwise have occurred. This was due in part to the monolithic nature of the work and to the fact that the reinforcement frequently was effective under the most unexpected conditions. This desirable state of affairs even extended to work destroyed, where very heavy sections were observed to be suspended by one or more bars, thus preventing the damage that would otherwise have resulted from their collapse as debris.

"In a few cases extensive collapse had taken place. Structures that were only partially framed suffered badly, as did those in which actual stability depended on a single support. The term 'actual' is used here to distinguish those cases where, for example, a column may theoretically be a vital member but where in practice, walling or other support might prevent collapse in the event of destruction of the column. There appears to be no doubt that some types of construction permitted prior to the last war are liable to extensive collapse from one or more serious explosions, particularly where the structure may be indifferently built and heavily loaded.

"Flat slab (or mushroom) construction seems to withstand damage from explosions remarkably well, with the exception that the external edge support frequently is weak. In normal beam and slab construction the external face of a building comprising columns and beams, with the addition frequently of substantial walling, often has an inherent strength of its own that enables it to suffer considerable damage without collapse. With flat slab construction, however, this is not generally the case, and consequently serious collapse of an outside bay may occur."

In a bulletin entitled "Report of Bomb Tests on Materials and Structures," published by the U. S. War Department, there is mentioned a

phenomenon which probably vitally affects the resistance of reinforced concrete to explosions. In describing the damage due to impact of sand-filled bombs on reinforced concrete structures, it is stated that the reinforcing bars generally were not broken and suggests that the concrete and steel act separately in resisting the penetration of bombs. The explanation given is that the shock wave travels at different velocities in the concrete and steel, which tends to destroy the bond between these two materials. From this it may be assumed that splices in bars which carry tensile stresses will be ineffective due to bond failure, and that welding, the liberal use of hooks or other mechanical devices should be used to minimize such failure.

Concerning the design of individual members, structures usually may be divided into three general elements—columns, beams, and slabs. The damage to columns usually is due to lateral loading or tensile failures which may occur when an explosion takes place inside the structure and tends to force a portion of the building upward.

VULNERABILITY OF EXTERIOR COLUMNS

Isolated columns appear to suffer damage from lateral pressure only when in the immediate neighborhood of the explosion. The damage to any construction in this immediate neighborhood of explosion is likely to be quite severe. Apparently the transmission of shock along reinforced concrete columns does not cause damage beyond the column connection to the floors immediately below and above the explosion. Columns which stand at some distance from the immediate shattering zone may be seriously damaged due to lateral pressure being transmitted to them through connected slabs and walls. External columns are particularly vulnerable to such damage as they may be affected through explosions occurring either inside or outside the building.

A solution which has been proposed to minimize this danger to exterior columns is to inset the columns from the external wall. By doing this the pressure on the wall panels will not be transmitted directly to the columns or, in other words, the columns are isolated and will not be called upon to resist such a large amount of lateral pressure. An argument against this type of construction is that such a procedure would vitally weaken the outside wall of the building. In general, for multi-story buildings, it seems to the writer that the best method would be to securely tie the wall panels to the columns on the theory that in case one column were destroyed, the wall and floor construction might possibly span over the area of damage.

For one-story buildings the column inset from the wall panels seems to have a very distinct advantage. There does not seem to be any serious disadvantage as these columns merely support the roof. When an explosion occurs inside the building, naturally there is a tendency for the floors above the area of explosion to rise. This produces a tensile stress in the columns and also shearing stresses between the beams and columns. In general, failure of the column occurs due to slipping of the longitudinal bars at the laps. This may occur at the base or top of the column or at both places, and if the column is close to the point of explosion, intermediate cracking may occur. It would appear from this fact and from the results of the bomb tests mentioned before, that it would be desirable to increase the lap of the bars, or weld the main column bars together in order to resist, as far as possible, this tendency toward tension failure.

It also has been recommended that the main column bars should be made as heavy as practicable with the idea that heavy bars might possibly carry considerable load without buckling, although the concrete might be shattered. Exterior columns should be tied to floor beams and spandrel beams securely in order that they may not be displaced due to internal or external explosions.

Quoting again from Building Bulletin No. 17* regarding beams and slabs, "It was frequently observed that beams received considerable damage without failing in their essential duty of supporting the loads transmitted to them from the slabs. In some cases this was true even when the central portion of a beam span was shattered. Even if the slab over is damaged it may remain effective as the requisite

* Other publications found particularly valuable in writing this article include: "Civil Protection," Samuely and Hamann (London); "Aerial Bombardment Protection," Wessman and Rose; "Report on Bomb Tests of Materials and Structures," United States Office of Civilian Defense, Washington, D. C.

compression member, and the tensile rods, though bared of concrete, may still take the tensile force. Alternatively, if the damage is such as to demolish a portion of the beam, the remainder may act by cantilever action and give sufficient support to prevent any but very local deformation.

"In the event of an interior column being destroyed, the collapse of the area of floor or roof directly over rarely takes place owing to the very considerable cantilevering action in the beams spanning on to the damaged column. In the design of beams this fact should be borne in mind and the arrangement of the reinforcement made accordingly.

"In upward bending, beams may possess much greater strength than is apparent at first sight. Provided the slab does not become detached from the beam its tensile value, together with that of any top reinforcement provided in the beam, is available to resist the tension in reverse bending. For these conditions, to an extent depending on the arrangement of the bottom reinforcement, continuity or reverse cantilever action also will operate. Without the introduction of any special measures such as welding, this reverse cantilever action can be made effective by carrying a proportion of the bottom bars beyond the support and into the adjoining span.

"In many beams that had been very seriously overloaded, either by upward or downward pressure, there was evidence of local shear damage near the supports. The concrete cover sometimes was entirely removed up to a distance from the supports about equal to the depth of the beam and the reinforcement exposed. It was also noted that the resistance to shear in reverse bending was more efficient in those cases where vertical stirrups were employed than where bent-up bars were used.

TYPES OF SLAB CONSTRUCTION

"It would be expected that the most satisfactory types of slab for resisting the effects of an explosion are those that can most readily adapt themselves without excessive deformation to conditions of support, or lack of support, different from those for which they were designed. On this basis solid slabs spanning in two directions appear best, and experience has tended to confirm this. It is desirable, therefore, that in the design of slabs, liberal distribution reinforcement should be provided and insofar as it may be practicable, a square mesh arrangement should be adopted. For normal slabs the spacing of the reinforcement preferably should be of the order of the slab thickness.

"If no top reinforcement is provided across the span, the resistance of slabs to upward bending is dependent largely on the tensile strength of the concrete. With regard to this it was noticed that construction joints arranged more or less centrally in a panel were a source of weakness. In a number of cases slabs appeared to have lifted by the opening of the central joint and then subsequently to have sagged "V" fashion. Collapse following this type of failure may be very destructive. It would therefore appear desirable either to provide suitable transverse top reinforcement at all such joints or to move these joints near to the support where the normal negative reinforcement is situated. In such cases the joints should be joggled or rebated.

"With regard to bottom slab reinforcement, the same remarks apply as were made about the reverse bending of beams, i.e., the bottom rods should be well anchored at the beam support. This is done most easily be carrying alternate bars through the beam into the next span and stopping the other short; alternatively, the bars may be bent up and carried over the support. With these arrangements only one-half of the bars will be anchored, but they will be effective up to the yield point stress for the condition in question.

"Slabs should be adequately tied to the beams. In general this will be done by the beam stirrups, provided they are anchored to the top beam steel (situated in the slab thickness). If ordinarily no such top steel would be required, light reinforcement should be provided for this purpose.

BEHAVIOR OF HOLLOW TILE FLOORS

"Hollow tile floors appear to have behaved quite well under the effects of explosions, contrary to what might have been expected. Possibly this may be because they are usually stiffer than the equivalent solid span (span for span) and are thus able effectively to cantilever sur-

prising distances after partial destruction.

"To prevent as far as possible concrete in the shattering zone causing damage as debris, the reinforcement should be well distributed throughout the work and care should be taken to see that there are no considerable masses of concrete unreinforced or so lightly reinforced that the reinforcement will be negligible in effect.

"The remarks given above about the provision of distribution reinforcement in slabs apply equally to walls. In addition, with heavier type of wall, lateral reinforcement tying the internal and external meshes of bars together appears to be an advantage. This lateral reinforcement may comprise zigzag rods arranged horizontally and embracing the outer layer of bars on each face. Alternatively the ordinary type of link can be used."

Apparently the damage from ground shock has not been nearly as severe as damage from explosions above ground, except in cases where craters are formed close to the footings of buildings. It would appear that if all footings were tied together, somewhat as recommended for earthquake resistant design, an improvement would result which might, to some extent, minimize the danger of footings being displaced. On the other hand, such a practice would tend to throw stresses into interior footings which otherwise might be unaffected. The problem of designing to resist air attack is a very large one and it does not appear that at the present time we are justified in going beyond first class design and construction, except in very special cases where the additional expense is warranted. On the whole, it seems to the writer that reinforced concrete has made a very creditable showing when one considers all of the uncertain factors involved.

POST WAR PLANNING WITH BUILDING PRODUCTS

By F. VAUX WILSON, V. P. Homasote Co.

Each industrial and commercial firm in the United States has a responsibility today to develop its own postwar production and marketing programs to maintain full employment after the war.

F. VAUX WILSON, JR.

President Roosevelt gave the green light to postwar planning in his message to Congress on January 7. He said it is a job for all of us to study sympathetically. Primarily, it is an obligation, and indeed an opportunity, for private enterprise to demonstrate its ability to continue high productivity and full employment when the war is over. The two major national business organizations — the Chamber of Commerce of the United States and the National Association of Manufacturers, both have committees at work. Recently, the objectives of the Committee for Economic Development have been announced. This Committee, organized and supported by business men, has gone to work to aid national, community and company preparation for the postwar. Its extensive research staff will study the policies of Government and business. It should provide valuable information and assistance to all of us.

National manufacturers of building materials and equipment who comprise the Producers' Council, have an important part to contribute to these postwar preparations. Not only must a high level of employment be attained in the years following the war, but it must be maintained. A continued high level of construction activity might be one of the most potent reasons of sustaining high general productivity and employment. It is for this reason that the Producers' Council has assumed the obligation of the building products manufacturing industry to the postwar program. But it is vital that every major interest in the construction industry—designers (architects and engineers); constructors (general contractors, specialized con-

* A talk before the Northern California Chapter, Producers' Council.

tractors and home builders); dealers and distributors; construction labor and financing agencies, as well as manufacturers, shall carefully study their respective parts in the program and join with the other construction interests in common phases of the problem.

I wish to emphasize the importance of each manufacturer carrying on studies to develop the fullest possibilities of production and employment in the postwar. If the minimum goal to achieve, as pointed out by the Committee For Economic Development, is a national output which is more than 35% above that of 1940, a record peacetime year, it is clear that private business can meet its responsibilities only if the thousands of individual enterprises develop their own production and marketing programs. The primary purpose of the Council's program is to give every aid and possible assistance to the individual company and manufacturing trade group. The Council's program will furnish basic analyses of the postwar construction market into which the manufacturer of building products must fit his production. The Council's Committee on Construction Forecasts is busily at work preparing a preliminary forecast of needed postwar construction of all types. The estimate will be available by summer, and thereafter it will be refined and revised periodically as surveys and specific proposals for construction programs develop in various fields.

The longer the war lasts the more certain it is that the unsatisfied demand for goods and services will create a tremendous immediate market, awaiting only resumption of peacetime production. While the immediate demand may be more predominantly for consumer goods, the entire construction industry should share generously in this market, through the demand for better living accommodations and through the growing volume of postponed major building projects. Preliminary estimates of such deferred construction run as high as 2 billion dollars. But plans and specifications should be prepared now—and architects and engineers are available and should be put to work on these preparations.

The long-term construction market is contingent upon continued development of a sustained demand for construction of all types. This requires thorough planning of construction activities with development and promotion of markets. Manufacturers of building products previously have not had the opportunity to join together in development and promotion of markets which the Council's program now gives them.

Market analyses will point out what types of construction can reasonably be expanded—which types can be expected to develop automatically; and which will require support in order that required volume be sustained. How to support or sustain these construction programs is the concern of the several postwar working committees established under the Council's program, particularly the Marketing Committee, Industry and Consumers' Relations and Government Relations to Construction. The adequacy of financing will be analyzed by the Finance Committee and technical phases studied by the Technical Committee.

The Council's local Chapters in principal marketing centers will have a prominent part in the postwar program. Long experience of manufacturers' local representatives in promoting quality building products with architects, engineers and contractors, qualifies them to advise the national postwar Marketing Committee on important phases of product promotion in the postwar.

The Producers' Council initiated its postwar program in advance of the general industry movement. It was first discussed in May 1941, and a decision to proceed was reached a month or so before Pearl Harbor. With the advent of war the program was speeded up. At the Council's meeting in Detroit, last June, the general objectives and organization were agreed upon. At this meeting the great possibilities in the postwar housing market were thoroughly analyzed. Participation in the postwar program has been thrown open to all building products manufacturers and trade associations of these manufacturers, regardless of membership in the Council. At the same time, the other branches of the construction industry have been invited to appoint liaison representatives to the general committee and to the working committees.

OPPORTUNITY FOR AN ARCHITECT?

In one manufacturing plant, now running three shifts on war sub-contracts, there is a well-paid man who has no title and who seems to do very little except stroll around the busy plant or sit in his cubbyhole office. He is known only as "Mr. Osgood."

Mr. Osgood is, to his enemies, a visionary, a day-dreamer. To his boss he is a Godsend, for he has the imagination, coupled with sound sense, to do the thinking about the business which the boss used to do in easier times, but which has been forced out of his schedule by frequent trips to Washington and by an enormous new mass of detail, much of which has to have his attention.

Up to this writing, Mr. Osgood has discovered two new applications of the company product, one of which is important, and both of which will be aggressively pushed after the war. In addition, he has thought out several minor changes of machine location which have proved helpful, and has developed a new packing-shipping technique which not only gets the product out of the plant far faster, but also saves enough money to almost equal the Osgood salary.

There are, in these days of hasty organization and get-it-done-at-any-cost, hundreds of plants which could use a "Mr. Osgood" to tremendous advantage. There are hundreds, probably thousands, of businesses whose heads still have no idea to what purpose they can put their expanded plants after the war. Furthermore, many expansions have been made so hastily in the determination to get the war job done, that appalling inefficiencies of layout and method have crept in, and the boss hasn't the time to straighten them out.

To be successful, of course, the day dreamer must be practical as well as imaginative. He must get along with people. He must know that he can't move a half-dozen big machines around to save a few dollars a week. He must be, in other words, a pretty practical dreamer, yet he still must have highly developed imaginative qualities.

Perhaps there are more men with those qualifications in architecture than in any other profession, for the one thing which architecture seems to demand for success is the rare ability to couple high imagination with common sense, with the demands of the job, and with the cost-and-return angle.

Perhaps here is an opportunity for a few architects to help do an important job, and at the same time enjoy an experience which cannot but be highly valuable in after-war days when they are back at their profession. It will, obviously, take imagination to develop the right approach to the manufacturer, for he is very busy, he is often constitutionally against paying people for thinking instead of working, and he is sometimes married to techniques and standards developed by his grandfather when a dollar a day was good wages and there was little need for speed.

But it can be done in plants of the right size. The giant corporations spend millions on research and for efficiency studies of all sorts—probably a far larger part of their income than would be involved in the paying of "Mr. Osgood's" salary by the smaller plant.

All this may not be the answer for many architects, yet it might be worth a few minutes thought.—The Von Duprin Magazine.

JUNIOR HIGHWAY ENGINEER WANTED

Although civilian use of the highways has been greatly restricted, construction and maintenance activities continue, says the California State Personnel Board in announcing an examination for Junior Highway Engineer. Typical duties include inspection of street and highway construction, supervision of survey parties, field testing and sampling of road construction materials. Appointment will be made on a permanent civil service basis, with a salary range of $185-$225.

Applications must be filed by March 10, 1943. Forms may be obtained from State Personnel Board offices in Sacramento, Los Angeles, and San Francisco.

NEW OFFICERS OF ARCHITECTS' AUXILIARY

On January 20, the Alameda County Architects' Auxiliary held their first meeting of the year at the Hotel Claremont, Berkeley. Following luncheon, a business meeting was held, Mrs. Irwin Johnson, president, presiding.

The war was brought close home to the members when announcement was made of the torpedoing of the U.S.S. Walke. As a Christmas project the Auxiliary had sent eight magazine subscriptions to the enlisted men on the U.S.S. Walke, not knowing that it had already been lost. Because of this unfortunate tragedy of war the subscriptions were transferred to the new submarine Hobby.

The new officers for the year are as follows: President, Mrs. Stafford Jory; Vice President, Mrs. Lefler Miller; Recording Secretary, Mrs. Loy Chamberlain; Corresponding Secretary, Mrs. Clarence Mayhew; Treasurer, Mrs. Howard Burnett; Membership Chairman, Mrs. John Donovan; Legislative, Mrs. Chester Treichel; Publicity, Mrs. P. H. Hammarberg; Education, Mrs. Irwin Johnson.

Various programs were discussed and the Auxiliary is looking forward to a very active year under the leadership of these officers.

Mrs. Irwin Johnson, the retiring president, has earned the sincere affection of all the members by her untiring work and efficient leadership for the past two years.

JAMES S. DEAN—ARCHITECT—PATRIOT

James S. Dean, formerly associated with his brother, Charles, as Dean and Dean, Architects, and for the past 13 years City Manager of Sacramento, recently resigned to accept a less lucrative position as Deputy Director of the California State Department of Finance. Dean's boss will be John H. Hassler, formerly City Manager of Oakland.

THE DRAFTSMAN

All day he leans above his desk, his eyes
Intent on line and curve. The shining cloth
Accepts the pattern of his mind, implies
The delicate precision of a moth
With summer's hour, as slowly thought assumes
The shape of beauty. Sunlight filters through
The quiet windows of the drafting rooms,
Slips down the sky, and rest is overdue.
Yet lovingly he lingers still upon
The task enriching him twofold: the pride
Of artistry—as bright as that which shone
In Raphael's soul—burns in his own beside
That other fire in whose warmth, tirelessly,
He spends himself to build for liberty.

—Kathleen Sutton.

"SEABEE" ENGINEERS WANTED

The Navy needs engineers and superintendents right now to command "Seabee" battalions constructing naval bases, according to Captain C. E. Arnold, Director of the Office of Naval Officer Procurement in San Francisco.

The Navy is building airfields and roads and bridges, water and sanitary systems, storage facilities and living quarters all over the world, and these naval bases must be finished before the enemy can be attacked and victory won.

Only experienced construction men with the "know how" can push the work on these bases. The Naval Reserve is offering commissions and warrant to field engineers and superintendents from 19 to 50 years of age. Draftsmen are not needed. Men under 30 must have college degrees for commission, but full college education may be waived in the cases of some older men with outstanding supervisory experience.

The need is urgent. Obtain full information or apply at once at the Office of Naval Officer Procurement, 703 Market Street, San Francisco.

NEVADA POST WAR BUILDING

City Engineer James Glynn of Reno, Nevada, and A. M. MacKenzie, engineer for the National Resources Planning Board of the Federal government, have submitted to officials of Reno, Sparks and Washoe County a six-year improvement plan for Reno, calling for an expenditure of more than $3,000,000.

All of the projects are post war improvements, including storm sewers, reconstruction of downtown streets, diversion of canals, new city hall and fire-house, bridges and river improvement.

FUNDS FOR WAR VETERANS HOME

Legislation designed to give veterans of the present war the same consideration given those of the last war in building or purchasing homes and farms has been introduced in the California State Legislature.

Assemblyman Chester Gannon, Sacramento, has a bill which would set up a $30,000,000 fund to finance loans at a low interest rate and with a 20-year term.

NEW HOMES AUTHORIZED FOR S. F.

New homes — one thousand of them have been authorized for private construction in San Francisco on the recommendation of Eugene Weston, Jr., regional representative of the National Housing Agency.

The approval by Washington covers private construction of new homes in San Francisco. These new houses are the first authorized in San Francisco since last March.

Weston said that, in addition, a very substantial quota for private and public conversions also had been authorized for San Francisco.

Entirely apart from these authorizations, it was learned that very sizable additions to Bay area housing, both in new construction and private and public conversions, have been recommended.

"This is good news indeed," commented Fred E. Palmer, manager of the San Francisco War Housing Center, "because builders in San Francisco have been claiming the need for new private housing in this area."

N. C. STRUCTURAL ENGINEERS

The Structural Engineers Association of Northern California will hold regular meetings this year every other month instead of monthly. The next regular meeting will be held in March.

Association affairs of interest include informal discussions of post-war conditions with the subject tentatively set for an open forum at a later date; promotion of Jack H. Oldenburg, member, to Ensign in the Navy; illness of A. A. Brown; hospitalization of M. V. Pregnoff for a three weeks period; a new "Sea Bee" in the person of John L. Hunter; membership increase by the acceptance of applications from Harry A. Cobden and J. J. Polivka, both of Berkeley, and Chas. C. MacClosky of San Francisco.

M. C. Poulsen has been appointed vice-chairman of the Northern California District Committee of the American Society for Testing Materials, and Theo. P. Dresser, Jr., has been reappointed permanent secretary of the same committee.

LABORATORIES ACCREDITED BY O.P.A.

Two California laboratories were among a list of eight for the entire nation which have been added to the government's accredited list for testing upholstered furniture and bedding containing substitutes for metal springs, it was announced at OPA regional headquarters in San Francisco.

The two firms mentioned in the announcement were R. W. Hunt & Co., 251 Kearny St., San Francisco, and the Twining Laboratories, 2527 Fresno St., Fresno.

Officials of OPA explained that when a manufacturer applies for price approval of articles using spring substitutes other than solid filling construction, he must enclose a report from a properly accredited testing laboratory showing the performance of his product under the standard tests provided.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

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THE STATE ASSOCIATION

Some one once made the observation that the least government that a people can get along with is the best government. Judged by the standard of scarcity, the architectural profession in California is an extremely well governed body of men. Few demands are made by their Institute and by their State Association upon the architect's time, and measured by the standards of the less skilled occupations, the architect's unions are extremely modest in their demands on the pocketbooks. (Calm down, brothers, the U.S.A. is a Union").

A minimum of organization has its good points. There come times, however, when, without the aid of organization, the members of the profession are powerless to protect themselves. The architects' organizations are the first step in an armament program, and peace at any price has proven to mean annihilation. The sessions of the State Legislature usually present openings for those who would gain for themselves at the expense of the architect and of the public which he serves. This year is no exception, for, among the two thousand or more measures now pending at Sacramento there are some bills which may prove disastrous if not combatted with organized force and skill, vigorously and promptly applied. Some of the bills now in the hopper will, if passed, wreck the legal protection now enjoyed by the public against incompetence in the preparation of plans and specifications for building.

Even the most unsophisticated of men must know by now that, in political affairs, the individual protest counts for little. Our whole democratic process depends upon the expression of the opinion of the many. So in times such as these the State Association is invaluable. It is organization which makes vocal the ideas and the ideals of the profession, and gives a medium of expression for the friends of skill, quality, and competence in building.

During ordinary months the activities of the officers, executive board, and advisors are largely concerned with positive movements looking toward the safety and planned betterment of the community, with the dissemination of architectural education, and with the minor, though important, easing of the contacts within the profession. During times of danger the State Association becomes the militant force to protect our existence and to guard our boundaries.

The maintenance of an effective State Association requires vigor, enthusiasm for the profession, time, and money. Somehow, there are always a few who are willing to carry the torch. But the torch bearers are always plagued by a scarcity of oil to light the torch into more than feeble flame. A recent suggestion proposes the payment of dues by salaried members of the profession and the payment of a small percentage of their professional fees by the members in active practice. The suggestion is worthy of a thought.

The officers of the State Association are making effective the small bit of government entrusted to them to the limit of their means. They may need the help of every architect and his friends in the next few weeks. The architects are urged to keep in touch with their officers and advisors for the latest

developments in the status of their affairs, and to make sure by their personal efforts that the Legislature passes no bill lowering the professional standards of those to whom is entrusted the building of our homes and our communities.

Blanchard

President Norman K. Blanchard of the State Association of California Architects, Northern Section, whose picture appears on this page, was born a Yankee, but early saw the error of his ways, and removed to California. He graduated from the University of California in the School of Architecture in 1922, and then went on to take his 'Master' and "Graduate in Architecture" degrees. His scholastic career was marked by the winning of top honors including the School and the A.I.A. medals for excellence of design.

NORMAN K. BLANCHARD

President Blanchard's professional career has included such varied types of work as rebuilding in Santa Barbara after their 1925 earthquake, experience in San Francisco on public buildings and hospitals, numerous mountain structures for the National Park and Forest Services, schools, churches, Exposition buildings, farm groups, and in recent months Naval shore works and large scale housing.

When Wayne Hertzka, then President of the State Association, entered the Army last year, Norman Blanchard, who was Vice-President, stepped up to the President's chair, and was elected to the Presidency again last fall. His activities with the Association have been marked by a vigorous campaign to make known the architect to the general public.

Dean

Word has come from Sacramento of the appointment of James S. Dean to the post of Executive Director of the California State War Council. This announcement follows the appointment of Mr. Dean to a post in the executive staff of Governor Warren which was made shortly after the inauguration of the new governor.

The architects of the state can well welcome the inclusion of Mr. Dean in important offices of the state administration. Following a successful career in which he and his brother did much to lift the standard of architecture in communities away from the larger cities of the state, he was appointed City Manager of Sacramento, in which work he has made an outstanding success. His advancement to wider fields lends strength to the state administration.

A JOB—SENIOR ENGINEERING AID

Permanent appointments as Senior Engineering Aid will be made following an examination by the California State Personnel Board. Principal requirements include completion of the junior year in college with a major in civil engineering or completion of the twelfth grade with one year of engineering experience. Additional desirable qualifications are experience in construction work and some knowledge of soils, geology, and engineering office procedure. Salary range in this classification is $155-$195 a month. Applications must be filed by March 5 and forms may be obtained from the State Personnel Board offices in Sacramento, San Francisco, and Los Angeles.

EDWARD LANGLEY SCHOLARSHIPS FOR 1943

Proposals of candidates for the Edward Langley Scholarships for 1943 must be filed with the A.I.A., 1741 New York Avenue, Washington, D. C., before March 31. Awards will be announced in May or June. The scholarships are awarded annually for advanced work in architecture through study, travel or research and are open to all residents of the United States and Canada engaged in the profession of architecture (including draftsmen, specification writers, supervisors and executives, teachers and students).

DOUGLAS D. STONE

Douglas D. Stone, architect of San Francisco, has been elected chairman of the San Francisco City Planning Commission, succeeding Charles H. King. Stone has been a member of the board for practically two years and has performed a creditable job. The Architect and Engineer naturally takes satisfaction in Stone's promotion because its editor was among those to recommend his appointment. Carlton H. Wall has been chosen vice chairman of the Commission.

WAR HOUSING BY ROUSSEAU

Arthur M. Rousseau, prominent contractor of San Francisco, states that during 1942 he supervised about $10,000,000 of dormitory war apartment, cafeteria, barracks, and administration building construction for various Government agencies in Richmond, Benicia, Vallejo, Watsonville and other cities.

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

C. W. (CHUCK) KRAFT

Thumbnail of C. W. Kraft, new President of the local chapter. . . . "Chuck" was born in Buffalo and started "shuffling" westward . . . arrived on the Coast in 1936 and became President and General Manager of The Kraftile Company . . . is the father of three boys and one girl, lives in Piedmont and putters in the garden when at home.

Other new officers recently installed, are Vice-President, Horace L. Pickett, National Lead; Secretary, Chet Cook, Sisalkraft; Treasurer, Ed. Stein, Pittsburgh Plate Glass. Look for thumbnails on these "characters" in future issues.

Thanks to Architect & Engineer from the executive committee for giving the Council this new medium of bringing news of the local and national Council activities to Council members and their friends. This monthly feature in Architect & Engineer, supplants the news bulletin which was one of the past administration's outstanding contributions to a most successful year. Because the Council's activities are so closely linked with those of architects and engineers, it is felt that by presenting Council news here, a closer cooperation will be possible.

1943 Council Plans will center on Post-War planning. Close cooperation between the Council and architectural and construction groups will be the endeavor through this vital year. An effort will be made to increase local representation of all National Council members. The monthly luncheon meetings, so successful last year, will be continued. Likewise, short talks by members on wartime and Post-War uses of their products will be headlined. "Council members voice plenty of confidence in the Post-War picture and the part the architect will play in it," said President Kraft in a recent press release.

Gano Baker, immediate past President of the Council, was the featured speaker at a recent meeting of the American Society of Military Engineers in San Francisco. Baker explained the wide scope and aims of the Council nationally and locally.

Next month, the Monday luncheon meetings will be resumed, the March meeting is scheduled for Monday the first. The place, room "A," Palace Hotel; the time, 12 noon. Vice-President Horace L. Pickett, in charge of the program, announces two 12 minute talks, speakers to be named later. Members are urged to come and bring an architect or engineer friend. We again invite architects to come uninvited if they wish. Many did last year in response to notices mailed them, and without waiting for a personal invitation from a member.

Military Information about members and friends in the Service. Architect Les Hurd, now Colonel Hurd, Chemical Warfare Services, Washington, D. C., is supervising construction of war chemical plants. Les' activities for the Army included a recent trip to England. Despite this busy life, Les finds time to write occasionally and ask that he be remembered to his friends here. . . . From William W. Wurster only this, "Gone to Cambridge for a year," and if that's not keeping a secret well, we've something to learn. . . . William Herbert writes he is with Army Engineers at Port Townsend, Washington. . . . Gardner Dailey is in Washington, D. C., but we have no details. . . . Paul DeWitt is at Fort MacArthur, San Pedro, and asks as do so many other former members that we keep him on the mailing list.

"Surplus, $1,000,225.08," says John Donovan, the architect, who spoke at the annual meeting and installation of new officers on January 12. John made the remark in reply to old-timer Fred Scott, who reported a Council cash reserve of $255.08. The million dollars was added by Donovan, who fixed that amount as the value of Architect-Council relationships built up through the activities of the local chapter during past years. Louie Saylor's report of the cash reserve was received by Fred in amazement, because in Fred's time an unspent surplus was a thing to be dreamed of and not a reality in the local chapter.

NATIONAL DIRECTOR ADDRESSES COUNCIL ON "POST-WAR PLANNING WITH BUILDING PRODUCTS"

F. Vaux Wilson, Vice-President of the Homasote Co., and national Vice President of the Producers' Council, addressed the local chapter February 4. See page 31 for his address in full.

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

Architects in Northern California seem to be "getting by" despite a deal of moaning when the Government first started to clamp down on private building. Those of the profession who have not been able to make a connection in essential building construction have found employment in the shipyards and other channels. And then, too, not a few are in the Army or Navy, most of them wearing chevrons. Let's take a run through Architects' Reports (a service published daily by Architect and Engineer for the building industry) and see just what the local fellows are doing:

SCHOOLS AND EDUCATIONAL BUILDINGS

Fire damage to the Winters High School has brought a commission to Messrs. Dragon and Schmidts of Berkeley for rebuilding the structure. Preliminary plans for improvements totalling $30,000 are well in hand. . . . Messrs. Franklin and Kump, 251 Kearny Street, San Francisco, have started sketches for a grammar school at Birds Flat, Lassen County. A Federal grant has been requested for the $120,000 structure.

The Housing Authority of the City of Richmond has commissioned Frederick H. Reimers to plan a 10 classroom grammar school and a commercial building in connection with the Harbor Gate project at Stege, Contra Costa County. Construction of the two buildings has started. . . . Additions are being made to the Boeing School of Aeronautics at the Oakland Municipal Airport, from plans by W. D. Peugh of San Francisco.

Franklin and Kump loom again with a $20,000 grammar school at San Pablo and a lunch room addition to the Hayward Union High School. . . . Contracts have been let from the office of Carl F. Gromme, San Rafael, for an $85,000 grammar school at Sausalito. This is for the Marin County Housing Authority and is part of the Waldo project. . . . Additions to the Marine training school, near San Mateo, are being made with no named architect announced. Cost of improvements will exceed $100,000.

PUBLIC HOUSING FOR CONGESTED AREAS

Bids have been taken for two dormitories and an administration building for the Pittsburg Housing Authority from plans by E. Geoffrey Bangs, Keith O. Narbett and E. T. Spencer, all of San Francisco. . . . At Marysville the local Housing Authority is sponsoring two housing projects of a total of 100 units, from plans by Herbert E. Goodpastor of Sacramento. . . . Two market buildings are projected for Richmond with plans under way by the Maritime Commission's engineers. . . . Federal funds have been allotted for a 200 unit trailer camp in Alameda. No architect. . . . Maritime Commission has let a contract for 4,000 war apartment units in Richmond to Robert McCarthy, 1050 Kirkham Street, San Francisco.

At Las Vegas, Nev., 300 temporary dwelling units have been started from plans by Blanchard & Maher and Ward, San Francisco architects . . . the same architects have other temporary dwelling units for Bishop, Toiyable Gabbs Valley and Luning, Nev. . . . Preliminary drawings are in progress by Messrs. A. F. Roller and J. H. Mitchell for 524 dwelling units and 128 dormitory units at Millbrae . . . also the same architects have plans under way for 200 dwelling units in South San Francisco.

ARMY AND NAVY AND MISCELLANEOUS JOBS

A lot of construction work is being done by both war branches with locations and types of buildings withheld for military reasons. Owner's engineering departments appear to take care of most of the work but in many cases architects are members of the drafting staff. . . . There is a small amount of private housinig going on in the Bay region where the owners have convinced the government that the improvements are essential to winning the war.

A. A. Cantin and Jas. H. Mitchell each have apartment houses which are needed in congested zones. . . . Albert Froberg of Oakland has a foundry for the Pacific Steel Casting Co. in Berkeley and W. D. Peugh is building a new hangar and shop for the United Air Transport Corp. at San Bruno.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $23, $25 per 1000 laid, (according to class of work).

Face, $90 to $100 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.00 lin. ft.

Brick Veneer on frame buildings, $1.00 sq. ft.

Common f.o.b. cars, $16.00 at yard. Cartage extra.

Face, f.o.b. cars, $40.00 to $60.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅞x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.9C per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—

"Plyscord" sheathing (unsanded)	
⅜" 3-ply and 48"x96"	$39.75 per M
"Piwall" (wallboard grade)—	
¼" 3-ply 48"x96"	$43.70 per M
"Plyform" (concrete form grade)—	
⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding—	
⅜" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hot roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hot roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior— Yard

2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4 lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft
4 x 6 x 12	1.15 sq. ft
2 x 8 x 16	1.10 sq. ft
4 x 8 x 16	1.30 sq. ft

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1942 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

*6-hour day **7-hour day

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockto
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.75	* 2.00	* 1.79-1/6	* 1.75	* 1.75
BRICKLAYERS' HODCARRIERS	* 1.35	* 1.25	* 1.05	* 1.25	* 1.05	* 1.35	* 1.35	* 1.40	* 1.14
CARPENTERS	1.37½	1.37½	1.25	1.37½	1.25	1.25	1.37½	1.25	1.25
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	* 1.75	* 1.75	* 1.50	* 1.75	* 1.60	* 1.75	* 1.75	* 1.50	* 1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	** 1.50	** 1.50	** 1.28-4/7	** 1.50	1.25	** 1.50	** 1.50	** 1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	* 1.75	* 1.83	* 1.75	* 1.83	1.75	* 2.00	* 2.00	* 1.75	* 1.83-1.
PLASTERERS' HODCARRIERS	* 1.50	* 1.45	* 1.40	* 1.40	* 1.18¾	* 1.35	* 1.75	* 1.40	* 1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	* 1.50	* 1.75	1.50	* 1.75	* 1.75	* 1.50	1.75	* 1.75	* 1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

PLASTERCEPTOR—The J. A. Zurn Mfg. Co., Erie, Pa., has developed a wartime model of a Plaster Interceptor which employs vitreous china for the body and a removable sediment container. Metal is now used only for the two pipe connections, strainers and cover fastener. The vitreous china employed is fired at a much higher temperature and for a longer period than when intended for less exacting service. Such units are used wherever solids are likely to get into drainage lines.

LUMARITH—A product of the Celanese Celluloid Corporation, division of the Celanese Corporation of America, replacing more critical materials for curves and other mathematical instruments. These necessities for the designing of war products are made by American Blue Print Co., 304 Madison Ave., New York City.

"COLORTHRU" is a new finish coat for masonry that needs no priming or undercoat. One coat applied to brick, stucco, cement, etc., penetrates, waterproofs and preserves. Leaflet on this modern product may be had by writing Colorthru Chemicals, 20 East 45th St., New York City.

FUEL CONTROLS—"Selecting Controls for Fuel Conservation" is the title of a new manual prepared to accomplish two aims: (1) To explain in simple terms as they apply to different types of firing, the fundamental rules and formulae which govern the proper burning of fuel and the utilization of heat so created; (2) to offer suggestions for the selection of equipment with which the most efficient use of fuel can be attained. Illustrated with plan drawings and containing a division on oil burning, this manual will be sent upon request by The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio.

RUSTBUSTER — An entirely new type anti-rust, anti-corrosion agent offers interesting results and savings when added to steam and water line applications. This chemical and its uses would seem the answer to many corrosion problems that necessitate maintenance costs and part replacements, both of which get more difficult each day. Advantages of internal protection are claimed by the Cannon Chemical Co., Everett, Mass.

CONVERSION LIGHTING—A new folder designed for plant superintendents and operating executives on the subject of "Relighting With Fluorescent in Wartime." The folder reviews WPB's booklet, "Plant Efficiency" and describes method of obtaining suitable priority. Non-metallic fluorescent lighting units are illustrated and described. Edwin F. Guth Co., 2516 Washington Blvd., St. Louis, Mo.

FLOORING — "Floors That Endure," a 12 page catalog from the Tile-Tex Co., Chicago Heights, Ill., describes Tile-Tex resilient flooring. The complete range of marbelized colors is shown in actual colors, as are some of the Tile-Tex installations in homes and public buildings.

FENCES — Data sheet (2 pages, Sec. III, File 3-D-10) on industrial fences presents information on two standard types, one constructed of random-width redwood boards, the other 12" boards with battens and fence cap. For each style, a complete materials list is presented for various heights. Sketches show construction details. California Redwood Association, 405 Montgomery Street, San Francisco.

CEMESTO BOARD—Detail Sheets S-1, S-2, and S-3, covering the industrial application of Cemesto board to steel mill buildings and, by nailing, to light weight steel buildings. The Celotex Corp., 120 S. La Salle Street, Chicago.

INSULATION—A 28 page catalog on Fir-Tex insulating board which may be used for building material, a structural sheathing, an insulating base for plaster, and as a decorative interior finish. Illustrations in color show typical installations in home, office, and industrial buildings, Fir-Tex Insulating Board Co., Portland, Ore.

WOOD LINK MATTING—The development of substitute materials in the manufacturing of matting became a vital necessity when rubber and other materials were put on the critical list if the advantages of matting were to continue available. This has resulted in the development of Flexible Wood Link Matting, constructed of wood links. It comes in natural wood color and is moderately priced. American Mat Corporation, 1799 Adams St., Toledo, Ohio.

NEW PROCEDURE FOR INDUSTRIAL, HOTEL, LOFT CONSTRUCTION

A revision of procedure to be followed by operators of office or loft buildings, apartment houses, hotels, industrial plants and other substantial buildings in filing a single application for blanket authorization to cover small miscellaneous construction work for a period up to six months is now effective, according to a bulletin by the War Production Board.

This authorization makes it possible for the operators and WPB to avoid handling numerous applications for construction jobs which are necessary in larger buildings. Before the original procedure was instituted last September, operators had to receive individual authorizations when the cost for all such work reached the limits set in the stop-construction order, L-41.

Under the new plan all miscellaneous construction jobs, except those estimated to cost $10,000 or more may be included in a single application for blanket authorization. The previous limit was $5,000. A separate PD-200 application must be submitted for each structure or project estimated to cost $10,000 or more for which authority to begin construction is required. The revised procedure also provides for the filing of all applications covering miscellaneous construction jobs, not requiring priority assistance with the War Production Board, Construction Division, Empire State Building, New York City. Applications covering miscellaneous industrial construction jobs requiring priority assistance must be filed with the War Production Board, Washington, D. C.

Applications covering miscellaneous jobs must describe all proposed construction work within the stated period of time in terms of specific jobs, dollar value of each job, as well as quantities of materials to be used.

Where it is impossible for the applicant to forecast the proposed jobs accurately, an application of a more general nature will be accepted. However, the estimated total cost of the proposed construction and a preliminary materials list must be included.

Items on which priorities assistance will be required must be indicated regardless of whether or not they are required to be included in the estimated cost. Where possible, schedule of deliveries of specific quantities of materials must be shown. Commitments for purchase of materials may be made immediately upon approval of the application.

Necessity for filing applications on Form PD-1A is eliminated by the revised procedures.

Where applications of a general type are filed and authorizations are issued, applicants must file within two weeks after the expiration of the term of the authorization, a report on the work done, the cost, and the materials consumed. Form PD-200 must be used for all such applications and reports. In reporting on the work done, the form must be accompanied by a lettering indicating the serial number and date on which the application was approved.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco Architectural Club held its regular monthly meeting February 3 at the Builders' Exchange. Following a brief business session the meeting was turned into an interesting discussion on the pros and cons of prefabrication. Refreshments were served after adjournment.

Members in military service include Lieutenants Richard Audsley and Joseph Scoma, U. S. Army; Lieutenant Commander C. J. Sly and Ensign Jack Oldenberg, U. S. Navy, and Warrant Officer Otto Hintermann, U. S. Coast Guard.

The club officers for 1943 are as follows: President, Fred Barss; Vice President, Clement Mullins; Secretary, Leo Daly; Treasurer, John Arndt; Directors, John Garth, Robert Paige, and Christian Wilder; Trustees, Ira Springer, Leland Hyde, and Edmund Rybicki.

THE AMERICAN HOME OF TOMORROW

Lawrence Whiting, president of the American Furniture Mart in Chicago, recently addressed the San Francisco furniture dealers, asserting among other things that the biggest business in America—outside of war—is furnishing homes and after the war it will be the biggest.

"Of some 3500 furniture factories," he said, "about 27 per cent are working exclusively for the war. The other 73 per cent have not been called upon.

"There will be no serious shortage of furniture because most of the military needs now have been supplied. There will be shortages of materials and the industry is supplying alternatives that are splendid.

"After the war, the furniture industry will supply America's greatest demand—furnishing of the home."

The American home of tomorrow will be delivered complete—the house and the furnishings. Homes that used to cost around $7500 will cost about $4000, complete with everything.

"It is unbelievable, but the industry today is producing 47 ply 'beaver board.' That means 47 layers of wood and it is only possible because of new developments in the industry. Such plywood is stronger than steel and amazing things are being done in the making of propellers and other airplane parts."

Colonel Whiting asserts that manufacturers "who do not keep abreast of modern developments or who close shop now" will find themselves "out in the cold" after the war.

"You will find that big companies which now are converted to war industry will go into this field—the biggest in America.

"Manufacturers who have not the foresight to see the future will be driven out of business."

"New homes and new furnishings will have as many varieties in style as clothing has—or had."

RELIEF SOUGHT FOR HOUSING SHORTAGE

The W. P. Fuller Company, nationally known paint dealers, have taken the initiative in a bill-board campaign in California, Oregon, Washington, Arizona and Utah, in an endeavor to relieve the critical housing shortage in these states.

A special war message, written and printed by Fuller, is being read today in almost every way production center in the Far West. In billboard form (illustrated elsewhere in this issue) it carries 4 straightforward lines of type with colors and design reduced to the utmost simplicity to emphasize the importance of these words:

Put a roof over a Warworker's family!
RENT YOUR SPARE SPACE NOW FOR CASH!
REMODELING MATERIALS AVAILABLE!
Call WAR HOUSING CENTER *SU. 6867 Immediately
*Phone number changes by cities.

Thousands of dollars are buying billboard space for this message in cities where housing conditions are hurting war production, from Oakland to Ogden, from San Diego to Seattle. In these areas the National Housing Agency has established War Housing Centers to handle leasing, conversion, priorities, etc. Fuller has made its tie-in especially effective by featuring the local Housing Center's telephone number, and urging people to "call immediately."

Fuller has worked closely with the National Housing Agency to insure complete coordination with local War Housing Centers. In town "A," for example, the Housing Center was not officially set up until after Fuller's poster had gone to press. Advised of this in advance, Fuller ordered extra paper printed and held for instructions. As this article is being written the lease is under negotiation for Housing Center headquarters in town "A." Shortly, a telephone number will be assigned; Fuller will rush printing of that number for "sniping" on the completed design; and posters will appear in town "A" just in time to coincide with the local Center's initial publicity campaign.

Likewise, in towns "B" and "C." There, the decision to set up War Housing Centers is awaiting official action in Washington. Answers are expected momentarily; and Fuller is ready—with poster paper held at the printer's until the word comes through and 'phone numbers are supplied. Then, as fast as presses and trains can go, the posters will be "up" in "B" and "C."

Thus, one western industry contributes what it can to help in the battle of production.

PORTLAND 1943 A.I.A. OFFICERS

Oregon Chapter, A.I.A., has named the following officers to serve the current year:

President, Pietro Belluschi; Vice President, Francis B. Jacobberger; Secretary, Margaret Fritsch; Treasurer, Thayne Logan; Trustee, Roi L. Morin; Trustee, Clarence Wick.

Above officers were elected at the annual meeting January 19.

PREDICTS BUILDING BOOM

A boom in housing in the post-war period was forecast by L. M. Cassidy, vice president of the Johns-Manville Sales Corporation at the recent War-time Conference of the National Retail Dry Goods Association in New York City.

"It will afford you widespread markets for the sale of rugs, curtains, appliances, furniture, household supplies and many other items too numerous to mention," he told the Nation's retailers.

"Beyond that, bear in mind that the building industry is the third largest in the American economy. A future boom in the industry will bring with it widespread employment and spending power which will favorably affect our entire national economy.

"Despite the pickup of home construction that started in 1937, prior to the war, we did not have a single year since 1929 that was equal to the home construction in that year. The year 1941 came close to matching 1929. In the 10-year period of the '30's we averaged only 300,000 new home units a year, compared to the 712,000 annually in the period of the '20,'s," Cassidy emphasized.

"We are experiencing a significant change in our population which is favorably going to affect our home building market. A mistaken impression still prevails that because the total population of our country has slowed down from an increase of 16,500,000 in the decade of the '20's to about 9,000,000 in the decade of the '40's that home building will be adversely affected.

"While this eventually is going to pose a problem to the industry, fortunately it is one that we shall not meet until about 1955. A strange paradox is involved.

"While the rate of growth of our total population has declined, the number of people in that important age group of 25 to 44 is still growing faster than at any time in our history and will continue to do so until about 1950, when the increase in that age group will begin to slow down but it will not actually decline in numbers until about 1955, fully 12 years hence.

"There is another phase of the population factor that should not be overlooked in considering future housing requirements, and that is possible shifts in large numbers of our population. Home building in important volume takes place where people move to and not where they move from, or where they may stay put.

"In many instances, industry that was located during the war as temporary is going to become permanent. People under war conditions have been satisfied to live in trailers, rooming houses and other temporary forms of housing, but when the war is over more permanent housing is going to be required to house them in those areas. Faster transportation, expanded highway facilities, decentralization of some of our industries—all will contribute to the sizable shifts in population.

"In total it is conservative to estimate that at a minimum we will have from two to three times as many homes built in the 10-year period following the war as were constructed in the 10 years prior to the war."

BROKEN GLASS ON HIGHWAYS

An alarming increase in amounts of broken glass and jagged fragments of bottles on main traveled highways, particularly strategic roads in the vicinity of defense plants and army encampments, has aroused in the mind of State Director of Public Works C. H. Purcell a suspicion that deliberate sabotage may be involved.

With the urgent need for conservation of tires, undermanned crews of the Division of Highways are working overtime to meet the new emergency of sweeping glass off the roadways, according to T. H. Dennis, Maintenance Engineer.

Similar deplorable conditions are reported in the San Diego, San Luis Obispo, Monterey and San Francisco Bay Area and other districts.

"The Division of Highways," Purcell said, "is doing everything possible, handicapped as it is by a shortage of manpower, to cope with the situation, but we must have the full cooperation of the Army, Navy, defense plants and the citizens of California.

"It may be necessary to ask the Legislature to increase the penalty for throwing on any street or highway any glass, nails or other substance which might injure tires. Section 601 of the Vehicle Code makes such acts unlawful.

HOUSING RESTRICTIONS EASED

A revision of war housing construction standards, easing in some respects the restrictions on design and material consumption, has been announced jointly by the WPB and the National Housing Agency. The standards were originally established October 28, 1942.

The principal changes, which are of particular interest to private builders, included:

Increase of 10-15 per cent in permitted floor area.

Removal of ban on use of softwood lumber for finished and sub-flooring.

Expansion of areas in which wood frame construction may be used. Elimination of heating provisions, since the major requirements formerly included have been incorporated in the current war housing critical list.

The relaxation of the restrictions on the use of lumber does not mean that the critical character of the softwood lumber situation has improved, War Production Board officials explained, but rather that there is an indication of an increase of side cuts in logging areas where no facilities are available for storage. Moreover, the primary need of the armed forces is for timber, and the development of side cuts in logging areas without a ready market may hamper timber production.

In prescribing the maximum floor areas for dwelling units of various sizes in the original standards, WPB and NHA officials acted to insure that the maximum number of such units would be produced from the limited visible supply of critical material. In increasing the floor areas, the revised standards will make it easier for builders to operate within the restrictions imposed on war housing construction, and better-planned, more livable homes are expected to result.

The use of softwood finished flooring or softwood sub-flooring has been

(Turn to Third Cover)

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*Indicates Alternate Months

HOUSING RESTRICTIONS

(Continued from Page 47)

prohibited since the war housing standards were set up in October.

In those states within reasonable reach of the Pacific Northwest and Southeastern lumber producing areas, the use of lumber for war housing construction within certain limitations will be permitted.

All war housing, including public and private, and large and small projects are affected alike by the revised standards, and builders whose plans and specifications fail to conform will be denied priority assistance.

Copies of the new standards are available at all field offices of WPB and FHA.

WAR LABOR BOARD

Under a decentralization plan aimed to localize and speed up control and adjustment of wages and salaries, the National War Labor Board has reconstituted its Tenth Regional Advisory Council as a Regional War Labor Board, at the same time giving it wide powers of action and decision.

Thomas Fair Neblett, since December 1, 1942, the Acting Regional Director, becomes chairman and serving with him will be Dr. Paul A. Dodd, University of California, Los Angeles; Arthur C. Miller, Regional Attorney for the Federal Security Agency, San Francisco; Judge M. C. Sloss, San Francisco; and Marion R. Kirkwood, Dean of Law, Stanford University.

The four industry and four labor members of the former Advisory Council also became members of the Regional Board, and alternates to serve in cases of absence are to be appointed by the National Board. A quorum of the Regional War Labor Board will be six members in equal tripartite composition.

The Industry-Labor members are: **Industry**—George O. Bahrs, General Counsel, San Francisco Employers' Council; Keith Middleton, Vice President, Waterfront Employers Association of the Pacific Coast, Seattle, Washington; Paul Shoup, President Merchants and Manufacturers Association, Los Angeles; and Wm. B. Tyler, Vice President, California & Hawaiian Sugar Corp., San Francisco. **Labor**—E. E. Benedict, International Secretary, International Woodworkers of America, CIO, Portland, Oregon; D. V. Flanagan, Acting Western Representative, AFL, San Francisco; Lew Michener, Regional Director, United Automobile and Aircraft Workers of America, CIO, Los Angeles; and John F. Shelley, President, San Francisco Labor Council, AFL, San Francisco.

Still further streamlining the work of the War Labor Board, a Regional Wage Stabilization Director and a Director of a Disputes Division will be named.

The procedure under which a dispute case will be brought to the War Labor Board is the same as in the past.

ALTERATIONS FOR WAR WORKERS

Liberalization of the contract under which the Government leases private housing and buildings through its Homes Use Service program for conversion into additional accommodations for war workers and their families, is announced.

Designed to give still further benefits to property owners willing to cooperate, the lease alterations are expected to iron out difficulties encountered during the first few weeks of the program and permit the fullest use of existing structures in crowded areas.

Under the revised procedures, the Government will be obligated to complete any conversion project it starts, or to restore the building to its original condition. Moreover, if the property owner should desire further alterations than those deemed sufficient by the Government, he will be permitted to use his own funds for the purpose, participating in the same conversion project.

If the Government takes over mortgage payments on a property and the mortgage is paid up during the life of the lease, the Government from that date on will add the amount of the mortgage payment to the monthly rental it pays the property owner.

If the Government exercises its option to extend the lease beyond the basic seven-year period, during which conversion costs will have been amortized, the property owner will be paid the money which previously was used to amortize these costs.

The overall cost of conversion in the future will be limited to $2,500 per unit produced, instead of $400 per room—a modification which will permit many projects which would have to be rejected under the Government's original regulations. Reasonable economy and speed of construction will control exercise of this provision.

TIPS FROM A SUBCONTRACTOR

Two years ago, one of the many small, ambitious manufacturing firms in an Eastern city was grinding out aluminum frying pans, egg poachers, radio dials and control devices.

Today it has converted its machines 100 per cent to production of percussion caps, struts, flap hinges and other bits and pieces for aircraft.

Two years ago the two young owners of this firm were well satisfied with the progress made by their company, formed in 1937. But then came the collapse of the French and the beginning of a defense program.

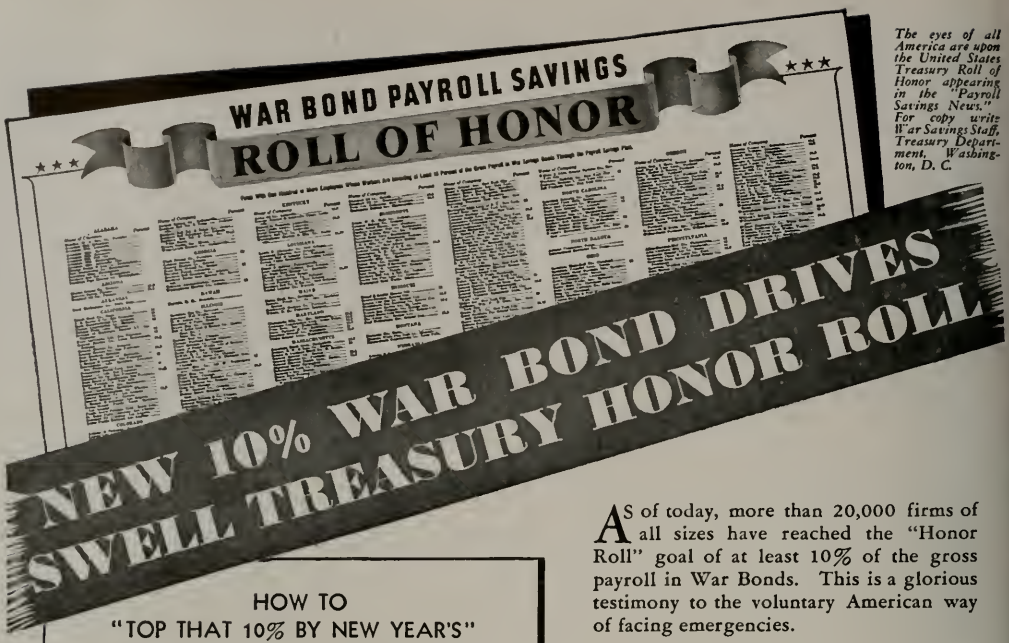
It was clear that America would need tens of thousands of aircraft. Planes meant aluminum. Would there be enough aluminum for both radio devices and aircraft? That was the question they asked themselves one hot afternoon in their crowded office as they reviewed their orders. Would they get enough material to keep their score or so of workers employed?

As one said the other day, "We had two ideas that we talked over. One was that there wouldn't be enough aluminum for firms like ours and the other was that we ought to help our country."

They knew they could not make complete planes or tanks in their small plant, but they had not been making complete radios, either. They had been producing parts on a subcontract basis. Why not go after war work in the same manner? Checking lists of plane manufacturers in the East, they started out at once to see what business they could get. It wasn't easy. Subcontracts were not to be had for the asking. But by fall it was clear that their idea was a good one.

The defense program, which first seemed to threaten this small firm, has in fact meant a great increase in business. The 1941 production of $220,000 worth of war material was double the 1940 figure, which was largely civilian. At present there is a backlog of $300,000 in orders and the firm is ready to take on additional work.

ARCHITECT AND ENGINEER



The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

War Savings Bonds

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THE ARCHITECT AND ENGINEER

ARCHITECT AND ENGINEER

Estoblished 1915

VOL. 152 MARCH, 1943 NUMBER 3

ILLUSTRATIONS

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RUNNING FIRE — by MARK DANIELS

(Was Clem. Ambrose pinch hitting last month or hitting in the clinch? Perhaps it was not self abnegation that prompted him to say that "Running Fire" would cool to a mild smoke from his pen, for his words have scorched a few of our moderns. Watch the smoke.)

• *ARCHITECTURAL MORALE*

That's what Louis La Beaume calls it, and he may be right. If he is not it is about the only change I would suggest in his delightful article, in the January issue of "Technology Review," which he titles "The Decay of Architectural Morale." Of course if architecture can be moral or otherwise it can have a morale. Or can it? Anyhow, Mr. La Beaume has very definite ideas **about** the present day morale of the architects.

The burden of his song is that the morale of the architects is all shot, and they themselves did the shooting. They were becoming an institution; then they swelled with pride, the pride that goes before a fall. The fall took the form of a Pied Piper, a sort of new tune played by the so-called modernist and functionalist; we followed them and now look at us.

"The morale of the architectural profession is pretty bad," he says. "To speak bluntly it is pitiable," and, "the efficiency boys have got his (the architect's) goat, and he longs, how he longs, to be an engineer. He wants to change muses."

Of the pre-Piper period, when architects held a place in the community of men, the architect did not see himself as a "deletante or long-haired aesthete, but as a man of taste and sound, practical judgment." That was before we had learned to conceive a house as a mere machine for living, "before it bore a resemblance to a ship, a tank, or a body by Fisher."

Then, says Mr. La Beaume, we began to hear of Behrens & Mendelsohn, the Bauhaus group, and a very vocal French engineer, who called himself Le Corbusier "(the mean, old Pipers) and at last Frank Lloyd came out of his silence, and soon the pack was in full cry." Now, "the architect hangs his head in shame at the mention of beauty—We'd been thinking of beauty, of majesty or dignity—instead of only function. That was shattering. No wonder we were unnerved." And so came about our downfall.

Only the difficulty you might encounter in getting this copy of "Techology Review," justifies my presumption in trying to review Mr. La Beaume's article. If you do, it may step on your toes, but you'll like it and laugh over it.

• *BIRD DIARY*

7:05 a. m. Personally I don't believe a bit of that chirping about birds in Liberia flying backwards to keep the sand out of their eyes. When I finish breakfast I'm going to try it.

7:09 a. m. I knew it was all baloney. And that reminds me, I don't see what those robbins find so good in the worms they're always chirping about, especially that early one. Must be a hold-over from the days they had teeth.

7:11 a.m. Their song, if you call it that, is primitive to say the least.

7:12 a. m. The bigger they are, the worse the song. Peacocks, for instance. I've seen an ostrich but I've never heard one. All beef and no voice.

7:13 a. m. I'm waiting to see one of those Pteradactyls. I'll bet they're all size and no song, like the rest of those clumsy overgrown birds.

7:14 a. m. Just worked out another Opus. It goes like this: O-o'O-ooo — —

• *ONE CHARM*

It should be a relief to spend an evening with a good architectural journal and get away from war and its tightening tentacles. If you can, just stretch out before the fire and read about the pre-fabs in Sausalito and Vallejo, the new designs for workers' temporary dormitories, the housing plans for the Japs in Manzanar and similar interesting articles so free from war. To read about the absence of inspiration, majesty and beauty is really too depressing.

• *DIDO'S HOME*

The site of old Carthage and the ruins of what were elements of her grandeur a thousand years ago is but a short run out of Tunis. Baron Erlanger lived where he had a good view of the bay and two other villas that he owned and rented. When I was there he was engaged on a musical composition of length and finishing a four volume history of music, all of which probably made my intrusion more welcome for he had been working uninterruptedly for weeks. In turn, I brought away a memory of delight that has left an aura over my picture of the ruins of Carthage as a place of peaceful beauty. May it soon be so again.

• *MOTHER OF THE REPEATED MOTIF*

That's what history is. We find, in the history of architecture a precedent for every intelligent motif that has been employed in good architecture. We also find repetitions of similar movements. So why get all hot and hiccuppy over this belabored and tortured movement called "modern," or "functional," or "efficiency," or whatnot. It has happened before and will happen again.

From these movements, good sometimes, though not always, comes. They are usually the result of overdoing some particular style until architects revolt from the monotony of some school and its prescriptions, as happened, in a small way, right here in California, when we became nauseated with the dripping, drooling, drivel of jigsaw ornament on our mid-Victorians.

In the sixteenth century Baroque spread over Europe as a revolt from the renaissance rules that had been clamped on by Vignola, and who can say that it did not do some good. It was adopted by the Jesuits, largely as a sign that they were forward-looking after the defeat of the Reformation, and it resulted in that florid style that prevaded the Latin American ecclesiastical architecture that we go to paint and photograph. Bits of Roccoco, which is really Baroque with a little rouge, lip stick, and a lace 'kerchief up its sleeve, still are used by our interior decorators and some architects.

So why worry about this modern movement. Perhaps it, too, will be adopted by some religion or, perhaps, the Nazis. As a matter of fact, the Nazis seem to have adopted it already.

HOT JAZZ AT THE S. F. ART MUSEUM

Much has been written about the wartime concerts in the National Gallery at London, and as everyone knows, music is playing its part in the museums and galleries in this country. Indeed, museums, which only a few years ago operated within close limits, are now extending their activities in many ways. They confine themselves less to the visual arts, and incorporate those other activities which are called "the arts" into their regular programs.

But this kind of extension is not particularly new at the San Francisco Museum of Art. From its start the San Francisco Museum has included music, dances, and even literary discussions in its monthly programs. These ventures have proved to be interesting to a fairly wide public which has at all times encouraged them with polite applause. After all, each established "art" is a respectable affair, and what could be more logical and laudable than to have them all presented in an institution devoted to art?

Yet one would be short-sighted indeed to overlook the fact that certain arts flourish far beyond the walls of studios, museums, and concert halls, while the guardians and entrepreneurs of Culture leave them unconsidered. In fact, such activities are often so unclassified by our savants that the term "art" escapes them. One of these activities, perhaps the most popular art of Twentieth Century America, is jazz.

It would not surprise us that there are many connoisseurs of this art. A distinguished connoisseur is Mr. Rudi Blesh of San Francisco. Last month Mr. Blesh gave a notable lecture on "Hot Jazz and Its Origin" at the San Francisco Museum of Art. Mr. Blesh is now conducting a series of concerts of hot jazz in a kind of spring festival at the Museum. The first free concert was given by a selected group of musicians who made up an authentic ensemble of the original New Orleans type. Great pains are being taken to present an accurate picture of the early instrumental and vocal groups which have set the course of popular music. The series offers examples of ragtime, the blues, boogie-woogie, and other manifestations of jazz in its highest and purest forms. Salient features of jazz are briefly indicated by Rudi Blesh, but the balance of each program is made up of music. The musical personnel of these concerts is composed of many local men, and of several important figures imported for the occasion. The first concert was presented on the 14th, the next will be given Sunday afternoon, March 28, at 3:00 o'clock. There will be other concerts in April, including something special, which will be announced in good time.

"RHYTHM" AT THE SAN FRANCISCO MUSEUM OF ART *Photograph by Grant Duggins*

Hot jazz is improvised; it cannot be passed on by means of sheet music. It can be heard in two ways: by means of recordings and through actual presentation. Few men today can play the authentic forms of early jazz. The free concert series at the San Francisco Museum therefore offer a rare opportunity to experience the music which has formed the tradition of popular music in America.

* * * —D.T.M.

SOME GOOD MARCH SHOWINGS AT THE DE YOUNG MUSEUM

De Young Museum exhibitions on view during March lay emphasis on the decorative arts, with the "gentler" sex playing an important role. Three shows are being held over through the month: The Serigraph Prints by American Artists which the Contemporary Art Center is circulating are products of the silk screen process, a print medium which has only recently come into its own. The other two "hold-overs" are the excellent decorative art exhibits of 18th century art (the Meissen and Sevres porcelain) and the French art objects from the collection of Edward-Anthony Montgomery.

As far as new shows are concerned, here is where the women take over. A comprehensive exhibition of Graphic Art, including about thirty of the country's leading feminine print makers and sponsored by the National Association of Women Artists, is on view through the 28th. All processes including the "black and white" mediums will be displayed, the subject content being for the most part landscape and still life.

Encompassing practically the entire European continent are the exquisite laces in the collection of Mrs. Walter Pulitzer. This exhibit, Three Centuries of European Laces, opened March 5th, to be shown through the month.

Completing the March calendar is a most interesting showing of original work by the Golden Gate Weavers, a group of Bay Area women who for the past five years have devoted a great deal of time and effort toward the production of textiles which are usable in the home—upholstering, draperies, table linens and clothing. Since the advent of the war, these weavers have added their part by weaving stretcher blankets, afghans and rugs for Army and Navy hospitals. Also, from the proceeds of other articles sold, much needed military articles are purchased for the war effort.

In some cases using traditional patterns, in others digressing widely and experimenting with color and texture, the Golden Gate Weavers have, during their brief existence as a group, accomplished excellent results in this, one of the earliest of crafts. The exhibition of their work will remain through the month.

* * *

DICK TRACY TO LEAD COMIC STRIP SHOW AT DE YOUNG'S

The lowly comic strip is to come into its own when the De Young Museum devotes the walls of its galleries to favorites of the funnies, beginning the 15th of April. The American Institute of Graphic Arts, organizer of the show, has given it the name, "The Comic Strip: Its Ancient and Honorable Lineage and Present Significance," a somewhat exhausting title for a show starring Maggie and Jiggs, Mut and Jeff, the Little King, Katzenjammer Kids and Dick Tracy. However, that is just what the show is—exhaustive. For by tracing back to the earliest evidences of the comic character, character which, incidentally, is a direct line to the prehistoric writings of the caveman, the history of narrative illustration from the first crude beginnings to the latest adventures of Superman and Terry and the Pirates is vividly shown.

The comics are as traditional a part of the American scene as hot dogs and hamburgers. To "oldsters" who have wondered at the attraction of Boob McNutt and Barney Google to the perennial juveniles of the nation, this show should give the reason.

MERRY COMPANY Gasparo Traversi (ca. 1725-1769)

Gasparo Traversi, together with Giuseppe Bonito (whose painting "The Diligent Daughter and the Good-for-Nothing Son" was reproduced last month) was the chief genre painter of the Neapolitan School of the 18th century. Depicting the life of the common people was fashionable at that time among painters throughout Europe. But, while most of them seldom venture beyond a pleasant and amiable presentation of their subjects, Traversi enters more deeply into human analysis. He depicts types rather than individuals, and his humor is not free from sarcasm and even bitter malice. Combining masterly draftsmanship with a fine color sense, Traversi is one of the most interesting artistic personalities in the entire Italian 18th century. "Merry Company" is one of two of this master's paintings donated to the De Young Museum by the late Collis P. Huntington.

* * *

SPECIAL EXHIBITIONS AT DE YOUNG'S

Serigraph Prints, by American artists, lent by the Contemporary Arts Center through March.

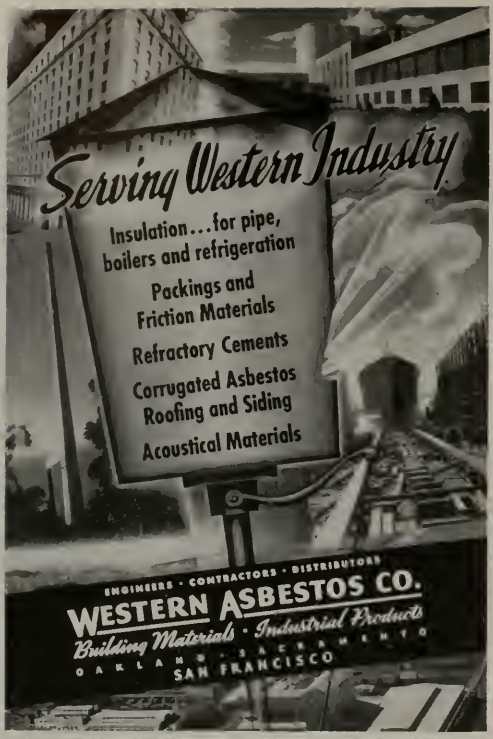
Graphic Art, by the National Association of Women Artists, to March 28th.

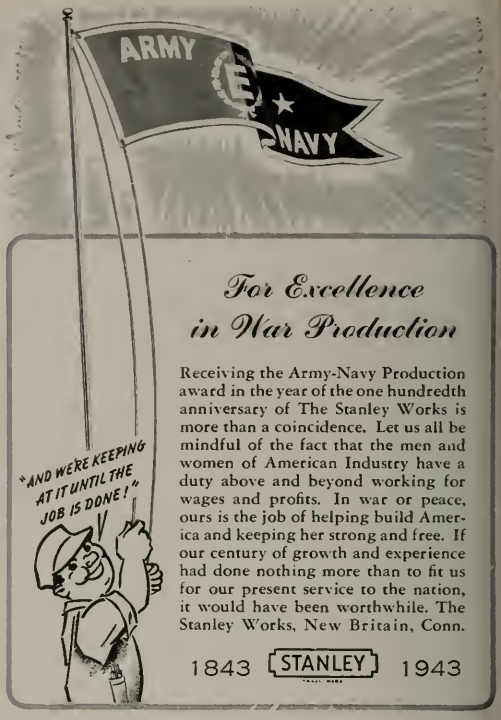
French 18th Century Art, from the collection of Edward-Anthony Montgomery, through March.

Three Centuries of European Laces, the collection of Mrs. Walter Pulitzer, through March.

Textiles, by the Golden Gate Weavers, through March.

Idealism and Naturalism in the Art of Ancient Greece, through March 10th. This is the second in a series of educational exhibitions reviewing the history of art.





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The architect's testing time comes after a client has lived in the new home for a while. It is when the owners begin to find flaws of imperfect planning, such as faults in planning the electrical service

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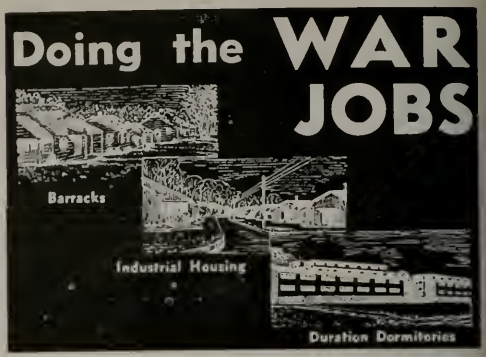

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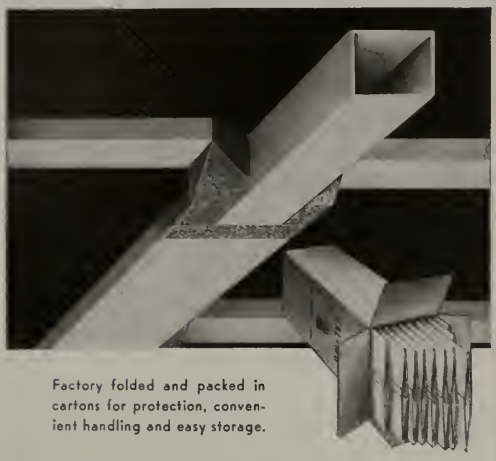

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The photograph pictured above shows the take-off of inaugural flight of autogiro airmail service, from roof of Philadelphia Postoffice Building. Five daily round trips are made between the post office and Camden Airport, six miles distant, where connections are made with trunkline planes.

(Photo courtesy Eastern Air Lines)

Left — Loading the Flagship Michigan for transcontinental mail delivery.

(Photo courtesy American Airlines, Inc.)

GLOBE GIRDLING AIRWAYS

The United States News, weekly Washington, D.C. publication predicts "a big boom in air transportation, with expansion of air lines all over the world," that promises to become a reality soon after the war ends.

• • •

Many Americans are expecting that a large share in the world's expanded air transportation will fall to the United States. And that share is counted on to help swing this country into a postwar period of industrial and business activity.

• • •

Vice-President Wallace recently gave a preview of what's coming. He envisions a whole new network of world air lines. No place in the world will be more than 50 hours distant by air from any other place.

• • •

In the American Magazine, Mr. Wallace proposes the establishment of a United Nations Investment Corp. to operate a network of globe-circling airways after the war.

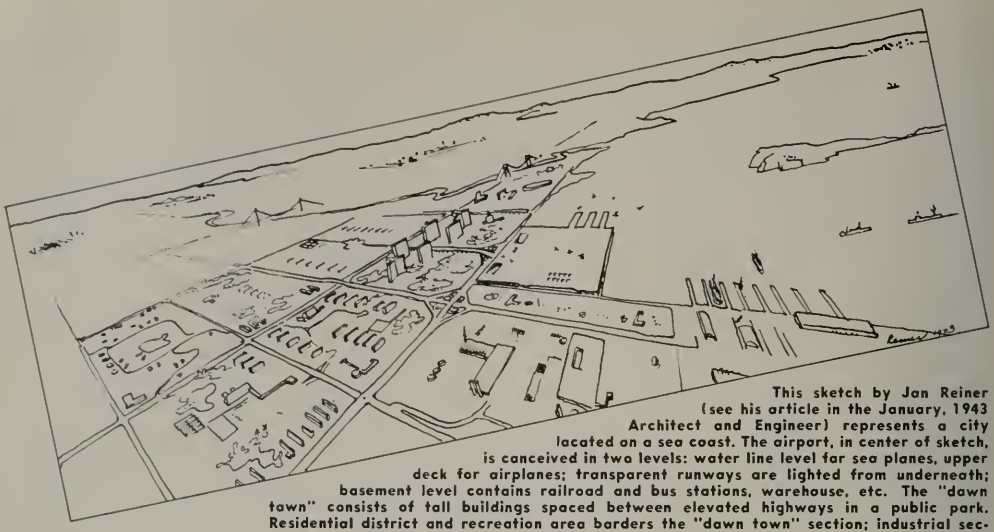
It does not require an aviation zealot to read in the signs of the times, portents of coming changes in the world's transportation. Changes that could affect the American scene as did the gradual supplanting of once-important forms of transportation; the covered wagon, the pony express, the stagecoach, the canal boat, the horse-drawn wagon, the horse-car, the carriage, and the sailing vessel. War censorship imposes vital restraints upon aviation information published, otherwise we might have more to say.

But trickling through censorship are encouraging official communiques; carefully worded releases like the report of satisfaction of the Senate Committee in session behind closed doors, investigating aircraft production. Like the reports that the Army is operating huge air freight movements to Russia's and China's life lines; to our valiant fighting men in Australia, Ireland, Britain, Iceland, and the Persian Gulf. Of considerable concern to architects and engineers right now is the subject of coming transportation changes likely to set aside many long-accepted principles of industrial building design and location. Residential and city planning of the future may be subjected to influences as strong as those accompanying the automobile age. Schoolhouse planning, too, is due for some radical changes.

GROWTH OF THE AIRPLANE INDUSTRY SECOND TO AUTOMOBILE

Expansion of the airplane industry may be second only to growth of the automobile. It can be told here, and without divulging a military secret, that the new planes are enlargements and developments of proved air liners originally built for the country's scheduled airways. Consolidated's 33-ton, four-engined flying boat Coronado is in mass production and ferrying men and supplies across both oceans. Variations of the Douglas DC-3, the Lockheed Lodestar, the Boeing Stratoliner, the Curtis Condor, and the Martin PBN-3 are among the heavyweights that are now, or soon will be flying soldiers, equipment, food, mail and supplies. Their courses are vital lines of supply and intercommunication for our military and naval forces all over the world.

The Army Ferrying Command reports that its record in crossing the Atlantic is 400 minutes: that's six hours and forty minutes! The pilot could have had luncheon in New York



This sketch by Jan Reiner (see his article in the January, 1943 Architect and Engineer) represents a city located on a sea coast. The airport, in center of sketch, is conceived in two levels: water line level for sea planes, upper deck for airplanes; transparent runways are lighted from underneath; basement level contains railroad and bus stations, warehouse, etc. The "dawn town" consists of tall buildings spaced between elevated highways in a public park. Residential district and recreation area borders the "dawn town" section; industrial section in foreground.

and dinner in London. The communique did not disclose the type of plane used. But, very likely, it was not one of the big freight and passenger planes which are probably flying the stratosphere from New York to London in twelve hours, many times a day. From Los Angeles to New York in eight and one-half hours; to any capital in the Western Hemisphere in sixteen hours, is the astounding pace of the giant Lockheed Constellation.

Compare this with the time of ocean freight vessels traveling at ten miles an hour in convoys and requiring twelve days, or longer, to cross the Atlantic. Compare those flights with the voyage of a crawling freighter requiring two months to make the 12,000 miles from New York to the Persian Gulf. With time out for repairs, loading and unloading, only two and a half round trips can be made each year! The airplane makes a complete round trip to the Persian Gulf in one week!

Startling statements are published on Glenn L. Martin's 70-ton flying boat Mars. (Its large-scale production to frustrate the U-boat is being considered.) This flying cargo ship, or battleship, can carry 150 men. Its range is secret, but Mr. Martin said it could strike anywhere in the world from our bases. Grover Loening, noted aviation engineer and consultant, in an address, stated that only 8300 similar super-aircraft could handle tonnage equal to the capacity of the entire merchant marine of the world; that construction costs of such swift aircraft per ton-mile of capacity are only 30 per cent higher than those of slow freight vessels.

125,000 PLANES 1943 GOAL

We can begin to identify the form of some of the shadows cast by coming events. Soon we shall see aviation development that only our great-grandchildren could have seen had there been no Hitler. From the President's speeches, we can guess that after the war we shall probably have around 300,000 young men trained as expert pilots; a million others, competent airplane mechanics. We shall probably have over 100,000 top-notch planes on hand; our aircraft manufacturing plants will beggar the imagination in their vast size. Production of planes equalled the 1942 quota of 5,000 a month and the current year's figure is over 10,000 a month. Aviation executives say that without doubt the 1943 goal of 125,000 planes will be attained.

Let us compare these "astronomical" figures with the 1940 statistics of the Civil Aeronautics

Authority. Prepare for a jolt. In the year 1940 the United States scheduled air lines operating over domestic and foreign routes employed a total of 2,278 pilots and co-pilots. They also had 5,409 mechanics and ground crewmen on their payrolls. They operated a combined total of 440 planes, about two days' present plane production. A quick comparison of these figures with those of current war air expansion will give you your own private peak into the future.

With a potential 300,000 expert pilots and a million airplane mechanics, these war-trained men, skilled in global flying, will probably start an invasion of their own. It will be an invasion of the freight and passenger business of the railroads, the motor trucks and busses, and the steamships. The extent of the invasion, with collateral changes in other businesses, will be influenced by: costs and profits, airplane engineering improvements, and the future policy of the Government.

Some cost figures, given me by the Industrial Research Division of the Lockheed Aircraft Corp., are enlightening. On giant new airplanes, which may not be named, they estimate costs in cargo operation at approximately 8 cents a ton-mile. Average overhead and operating charges, according to air line practice, are included. These planes could be used as "locomotives" to pull gliders, as gliders are used by the Germans in flying men and freight to Crete, North Africa, and the Russian front. With such gliders, costs could probably be cut to around 5 cents a ton-mile.

The rates of the railroads on carload freight are based on a rough average of 1 cent a ton-mile; 4 cents on less-than-carload freight. Steamship lines charge a rough average of half a cent a ton-mile.

You might say, "Well, that counts the airplane out as serious freight competition." But, does it? There would still be a vast field for trans-oceanic delivery twenty-five times as fast as ships and nine times as costly; for land freight transportation making deliveries in hours instead of days and only a little more costly than present less-than-carload rail rates. The present average Railway Express Agency rate is based roughly on 10 cents a ton-mile for rail-express deliveries, substantially higher than new air costs. Giant cargo planes could probably outbid railroads in handling all first class mail.

The ton-mile cost of the leading air lines for 1941 was over 50 cents, using smaller pre-war ships. If operating costs of 5 to 8 cents per ton-mile on the new air giants are correct, the sudden drop is prophetic. May we not expect even further drastic cuts? Engineering reasons for cost reductions are military secrets. It is permissible to explain that cost reductions derive in part from the increased **pay load** of the big planes.

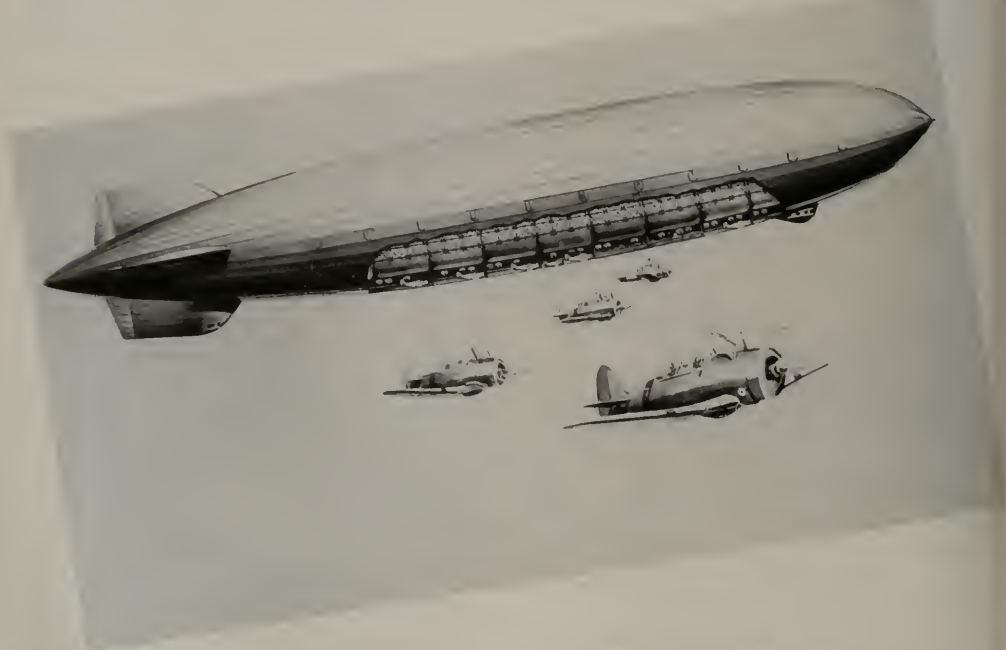
REAL COMPETITION FOR THE RAILROADS

The giant plane, with interior cabin space comparable to a fifteen-room house, can probably carry passengers cheaper than can the railroad and almost as cheap as the motor coach. It can compete with first class rates per passenger-mile charged by steamship lines. (Even with the smaller pre-war planes still used by American Airlines, Inc. for domestic civilian travel, its passenger rate from Los Angeles to New York is $149.95; the rate on the Santa Fe "Chief" is $141.24, including Pullman but without meals.)

The decade of the 1930s brought much airplane engineering progress. Safety records of scheduled air lines bettered those of passenger trains, private automobiles, and bus lines. Low-drag engine cowling, higher-lift wing sections, and 100-octane gasoline doubled loads and speeds. Great is the progress now being made by aviation research engineers profiting by use of planes in combat. Father Time is concentrating many normal years of aviation progress into a few war years.

Only time will disclose the future aviation policies of the Government which will determine rate of progress of the industry. Probably no one person is in a better position to give expert opinion on post-war aviation than Eddie Rickenbacker who has been quoted with offering this advice: The United States should plan now protection for post-war air transport to assure the Nation a ranking place in commercial aviation. Post-war aviation will be a thousand-fold its present operation, "he estimated, adding that "Air transport will be used for all travel beyond a distance of 100 miles, for all

CLOSE-UP OF AIRSHIP "MACON"
Long ranging rigid airships having ample carrying capacity, may also take part in post-war transportation, offering more speed than the steamship, more comfort than the airplane, and being able to cover distances impossible to the plane.



A device used in the Akron and the Macan of housing airplanes aboard ship, landing or releasing them without slowing up, may also be utilized in post-war travel to pick up or discharge passengers at intermediate points without a landing. Note the hook on the top of the plane which engages the trapeze of the airship, reversing the process of the airplane carrier's planes which have a retractable hook on the bottom of the plane.

first class mail and for light express." Rickenbacker has suggested that the Treasury Department or some Government agency provide capital now to enable American aviation in the future to "match anything other countries undertake."

Upon the architect and construction engineer, the air age will make large demands. But, even with the war impetus, traffic conversion to air doubtless will be gradual. Horses were still common on the streets long after the arrival of the automobile age. Some industries will feel the impact of air cargo before others. But those receiving and shipping by plane will no longer be able to remain in the congested cities. They will have to be near landing fields for delivery and pick-up by gliders—the future box car of the air. Private landing fields, and fields used in common with other industries can be expected. Since the plane requires no costly tracks or road, location of industry may be very flexible when served by air. Inaccessible areas with cheap labor and power will be made available; present industrial decentralization will continue rapidly.

INTERNATIONAL AIRPORTS WITH HUGE WAREHOUSES

Great new international airports with warehouse facilities will spring up in locations determined by future developments. Since a good natural harbor means nothing to a plane, other requirements for international airport locations will decide their selection. Among them are proximity to production centers and to the great circle routes that will be flown by air traffic: shortened global courses to Europe, Asia, and South America, impassable to ocean shipping because of ice or land areas. Mountains, seas, jungles, deserts, ice, are no barriers to a plane. The sea plane needs only a shallow lagoon for landing; the land plane, no water at all. Much new construction will be needed for these airports and warehouses.

It will be inevitable for hotels to be built near the international airports of the future, to accommodate world travelers of many races. Business of hotels in serving travelers by air may be as important as that of hotels now serving motorists.

Building design will probably provide for landing of autogyros on roofs. Between the roofs of the New York and Philadelphia Post Offices, Eastern Airlines operated regular autogyro mail delivery. Likewise, in the air age, deliveries and persons arriving by autogyro, will probably be received on specially designed roofs. The autogyro looks like a big electric fan and can poise itself over one spot like a humming bird. It will be the airplane of congested cities, probably supplanting bus lines and street cars that serve the suburbs.

Developments in autogyros are enshrouded in military secrecy. I do not feel that I am unduly enthusiastic in offering the forecast that an important post-war use for mushroomed aviation factories will be in production of autogyros at prices comparable to those of the medium-priced automobile of today. Changes in the places where men work and in the speed they travel to their work, imply changes in where they will live. The trend will doubtless be farther than ever away from the big, congested city. Entirely new communities will spring up, probably small decentralized, but requiring all the service, merchandising, and utility enterprises of present communities. Homes may also be built in secluded natural beauty spots: in the mountains, at the seashore, in the woods, on small farms—wherever the family autogyro can be landed. Autogyro bus lines may serve those commuting to industrial plants and cities. New industrial areas in hitherto inaccessible spots would require small-home communities for medium or low-income groups. Design of such homes will present interesting architectural possibilities.

ARCHITECT FORESEES MANY CHANGES

In addition to interviewing railway and aviation executives to secure factual data for a discussion of the possible impact of aviation on architecture, it was my privilege to talk it over with Mr. John C. Austin, well known Los Angeles architect. He, himself, has lived through changes in the American scene brought by passing of older forms of transportation and coming of new. In addition to taking his part as a practicing architect and civic leader, in the development of Los Angeles from a town of 60,000 to its present size, he has, himself, seen the sailing vessel give way to the steamer,

the horse and buggy to the automobile. He can speak with real authority of the effects of transportation changes upon architecture and construction.

Mr. Austin—a man who often flies to save business time—enthusiastically envisions the opportunities for service to mankind that the air age will bring to the architect. As new manufacturing and population centers are created—airports their centers—Mr. Austin feels that the architect must be called in to contribute his skill and experience, not only as a designer of building, but as a city planner. In the new communities, the result of airplanes becoming as common as automobiles, old conditions must not be made to fit the new facilities—the costly blunder of the period now ending with World War II.

Since the airplane makes it possible for man to enjoy much more of God's great sunshine and fresh air, the new aviation-created communities must have careful, well integrated planning. There must be shopping centers; manufacturing areas; spaces for utilities, churches, parks, playgrounds; freeways for land traffic; parking areas for planes and automobiles; and railway stations, tracks, and yards for heavier freight that probably will always go by rail. There must be protection against the sordid overcrowding forced by greed-motivated real estate operators bent upon pyramiding real estate values. When a community reaches a certain size, no more people should be crowded into it to encroach upon each other's human dignity and enjoyment of Nature's gifts. The swift transportation of the plane no longer makes necessary or excuses such living conditions.

To compete with more livable new communities, Mr. Austin thinks that obsolete centers of population designed for the horse and buggy period, must do a great deal of modernizing. Present belated planning of cities, putting patches on garments badly designed and worn out, will continue from necessity. Efforts to provide free-ways for surface traffic; parking, unloading, and landing places for automobiles and autogyros; slum clearances; and other efforts at costly city planning of older cities already built up, must go on. Older buildings, he says, can be remodeled to provide roofs for landing autogyros, since load requirements, in his opinion would not preclude such possibilities in many cases. There will be a prodigious amount of construction work required and architects should be extremely busy.

Mr. Austin feels that the effect of the air age on architectural design is especially difficult to predict. He reminds us that Gothic, Renaissance, and so-called Modern, are styles developed by the inventions of their eras. He recalls Ruskin's advice, "Ornament construction but never construct ornament," and hopes that it will be remembered. When the war is over we shall have millions of young men thoroughly aviation-minded, trained in flying, and keenly aware of its advantages. To house the private planes of the millions who will, themselves, be flying, and to design the homes of persons flying for pleasure and to their work, will indeed mean some new ventures to architecture and engineering.

Why bother about the future of architecture and construction, or the future of any civilian activity, you may ask, while we are in the midst of a grim war for survival? A war we **could** lose if we do not, each one of us, give our country all-out assistance. We look to the future for just this reason: We know what we are fighting for is worth our sacrifices; we can fight with stouter hearts if we give some thought to what the world **could be,** what it probably **will be,** and what we shall have to **make it** when the present tragic war is won. President Roosevelt and Prime Minister Churchill were thinking along this line when they formulated the Atlantic Charter with its four freedoms.

EDITOR'S NOTE: *All research data and statements in connection with Mr. Maas' article have been checked by Robert Nibley, Manager, Industrial Research Department, Lockheed Aircraft Corp., Burbank, California; John A. Smith, Superintendent Air Mail, Air Express and Air Freight, American Airlines, Inc., Los Angeles; and Stuart Faulkner, American Airlines, Inc.*

The Railway Express Agency cooperated through its Chief Engineer, C. G. Peterson of its New York office, and General Manager B. L. Crawford, Los Angeles.

In fact, all information has been painstakingly authenticated. Some of the data is available for publication for the first time.

The Code of Wartime Practices for the American Press has been carefully observed.

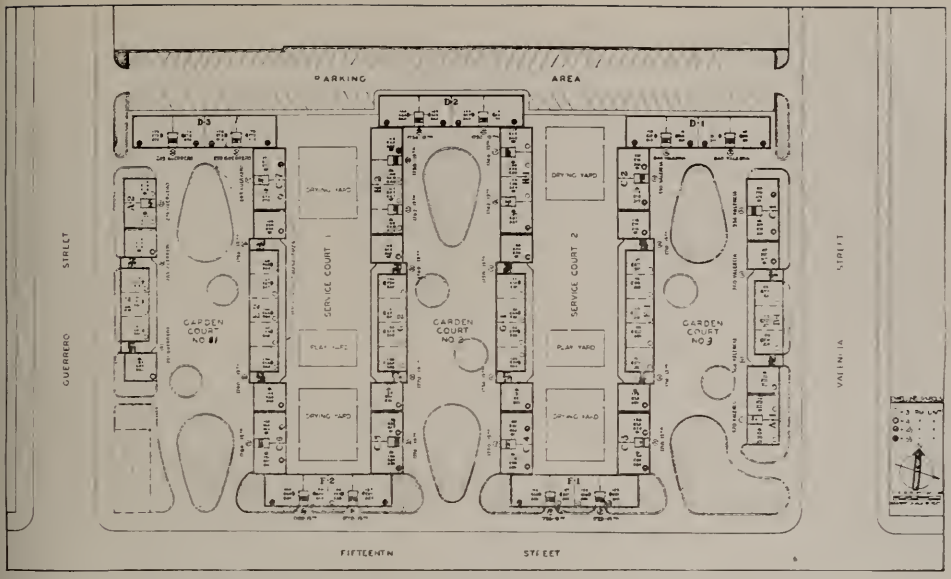
Photo by A. Cobbledick

One of the brick terraced courts in Valencia Gardens, latest war housing project to be completed in San Francisco

Architects: William W. Wurster and Harry A. Thomsen, Jr.

VALENCIA STREET FRONTAGE, LOOKING TOWARDS FIFTEENTH STREET, SAN FRANCISCO
Note parking area at the right

VALENCIA AND FIFTEENTH STREETS, SHOWING LANDSCAPING AND ARRANGEMENT OF COURTS



PLOT PLAN OF VALENCIA GARDENS The site was formerly the San Francisco baseball grounds

VALENCIA GARDENS—A PRELUDE TO MASS HOUSING

by SALLY CARRIGHAR

On the pre-war day when plans for San Francisco's Valencia Gardens project were begun, it seemed inspiring and dramatic to be putting a roof over 246 families. Now the housing agencies take in their stride single commissions for 3,000 dwelling units. Valencia Gardens is in a minor class, both as to size and cost.

But the project is not minor in importance. Although of permanent, not "duration" construction, and originally intended to house a group with incomes lower than those of war workers, Valencia Gardens furnishes many answers to problems that arise in war housing. Even as few as 246 units constitute mass housing, and economy was a large factor in putting up Valencia, as it is in the present projects. The architects of Valencia Gardens had one advantage that no architect has today: they had plenty of time. They were able to let their imaginations play for weeks with situations that builders today must grasp in hours. Naturally a richer comprehension resulted, with consequences that any architect is free to study.

Does anyone consider it anything but a misfortune, fundamentally, to share one's roof with 3,000, or 245, other families? Such crowding seems necessary under modern conditions, but the discomfort is modified by the way the situation is accepted. Complete acceptance means putting up undifferentiated rows or blocks of dwelling units, with the only distinguishing feature the number on the door. At the other happier extreme is Valencia Gardens, whose architects did not "accept" mass living at all. They put unlimited and ingenious effort into creating the effect of individuality for

Valencia's tenants, and did it within the requirements of minimum cost. They found many devices for evoking an illusion of separateness, ranging from the plot plan to the color of the living room walls.

The plot is a rectangle, with its long-side frontage on Fifteenth Street. The rectangle is divided laterally by six blocks of apartments, forming five courts. Every other one is an entrance court, open on the street side. Alternating are utility courts, open on the rear towards the parking strip. Although the courts are relatively spacious, they are intimate enough to give the feeling of a small neighborhood. No tenant ever gets a view of the entire project, either from a window or in approaching his door.

GLASS BRICKS LOOSE DECORATIVE VALUE

There are no long, straight facades. In each lateral building, one block of apartments is faced with balconies, and offset so that the outer edge of the balconies is on a line with the exterior walls of the adjoining sections. Areaways through these lateral buildings, leading from court to court, provide breaks, as do the panels of glass bricks above the areaways. The glass bricks are purely functional, serving to lighten the stairways, say the architects, who consider that cheap uses have deprived glass bricks of decorative value. Those at Valencia do relieve the weight of the concrete walls, however, and probably few of the tenants will squirm because these bricks have become characteristic of cocktail bars and cat and dog hospitals.

There will be comment on the fact that the concrete has been given colored brush coats in a high key, and that several colors have been used, so that buildings around a court include facades in terra cotta, yellow, blue-green, and neutral. Some critics may be offended by the unconventionality of this arrangement, but perhaps they would have chosen it if they could have compared it with the monotony of encircling concrete walls in a single shade. Although the courts have been kept small, intentionally, and the surrounding buildings are three stories high, there is no effect of being imprisoned because of the variety of the outlook. The areas of different color are tied together with a base strip of dark green which also serves to hide smudging.

No more than six apartments are served by any stairway or balcony-corridor—another scheme for breaking up the effect of mass. And in each of these groups of six, the interior plaster walls of the living rooms are painted differently, so that neighbors will not enter another's apartment and gain the impression that it is identical with their own. The colors of these interior walls are pleasingly harmonized with the exteriors, being in softer tones of green, yellow, apricot, and neutral.

The balconies were planned primarily for circulation and are not wide enough to provide much chance for outdoor living. But vertical fins do furnish a degree of privacy. Another small but thoughful plan for destroying an institution atmosphere was the placing of the management offices in a remote and inconspicuous part of the project.

These features of Valencia Gardens are likely to ease the strain of mass living to a very real extent. Yet their value would be classed as intangible. Other, more practical problems of dwellings in multiple unilts have also been met in interesting ways.

STRICTLY A WAR PROJECT FOR THE MOMENT

It should be made clear that Valencia Gardens represents an original attempt at slum-clearance. It is a subsidized project; that is, with the rents based on the tenants' ability to pay. The apartments are being let now on that basis, but for the present only to war workers or the families of service men—not to the San Franciscans whose homes were demolished to make room for the project. Rents, including utilities, are figured at 20 per cent of the income of a family with two children or less; 16-2 3 per cent of the income of larger families. The size of the apartment assigned to a family depends solely on the number who will live in it, not on what is paid for it.

The plot approximates five acres, with the buildings occupying about one-fourth of the area. The 246 units contain 937$\frac{1}{2}$ rooms. The largest apartments have 5$\frac{1}{2}$ rooms, meaning a living room, 3 bedrooms, bath, and a large kitchen called 1$\frac{1}{2}$ rooms because presumably there is space for a dining table in it. No dining space is divided off, however.

COURT VIEW OF VALENCIA GARDENS, LOOKING EAST

Since the land cost $230,000 and the general contract was let for $845,000, the cost per room, considering extras, has come to a little over $1,000.

Fireproof reinforced concrete construction was specified; also minimum dimensions for the rooms. Jugging these elements and their limited budget adroitly, the architects have designed highly livable quarters. The arrangement of rooms in individual units has the suggestion of a bungalow rather than an apartment. Each unit has exposures on two sides. Neither bath nor kitchen is uncomfortably small, and each bedroom can well accommodate two. There is a closet for each bedroom, recessed shelves for linens, another recess for storing broom, dust mop, etc., and also there is a coat closet with hat compartments.

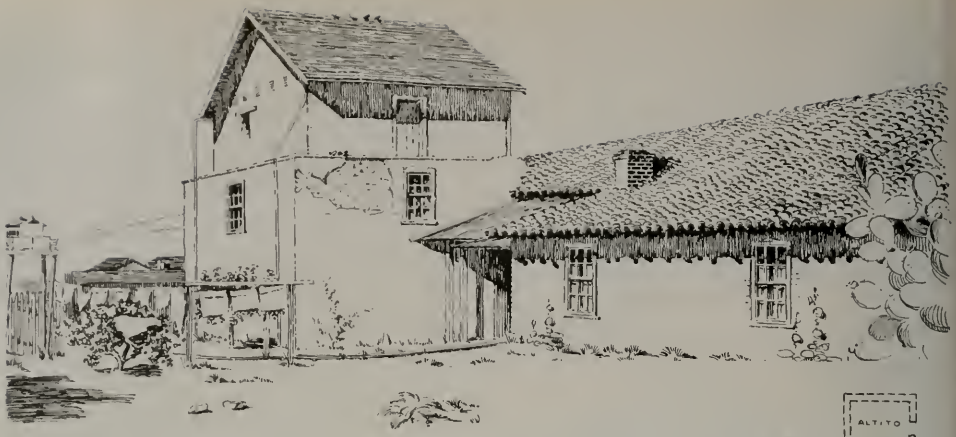
STREAMLINED LIVING FOR ADAPTABLE TENANTS

An unconventional omission is the lack of back entrances. Nor is there any closet or pantry off the kitchen. Where will tenants put drying umbrellas, roller skates, empty milk bottles, the magazines for the Red Cross—all the oddments, admittedly not beautiful, that usually find a harbor on the back porch? It is explained that in the Potrero project, also lacking back entrances, tenants "just get rid of such things." If literally true, the tenants show remarkable adaptability. At best, one's first weeks in these projects must be a strenuous lesson in streamlined living.

A pantry would solve the problem, but there seems not even adequate cupboard space in the Valencia kitchens. The protest that "A tenant can't expect everything at these rents" is no answer, because sufficient space for dishes and pans is considered essential by every class of tenant, and most Valencia housewives probably would trade the floor-length windows in the living room (however reluctantly) for additional shelving in the kitchen. A four-burner-and-oven stove is provided. There is no refrigeration, but the cooler is ventilated, with wire shelves, and for most families is no doubt large enough.

In two other details the apartments fail of being practical. The asphalt tile floors are **black** (red in bath and kitchen); let any housewife visualize what they will look like after the children have streamed in from play. What

(Turn to Page 32)



"ALTITO" OF DE LA GUERRA ADOBE
Pen and Ink Drawing by Clarence Cullimore, Architect.

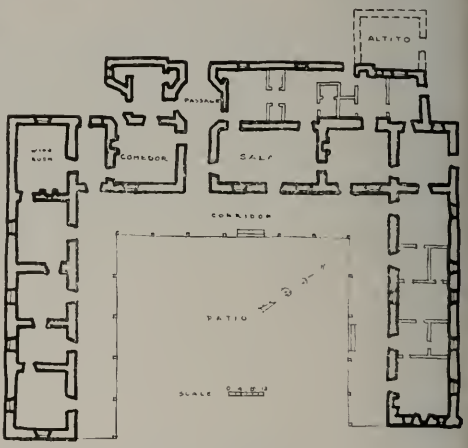
HISTORIC DE LA GUERRA ADOBE

by CLARENCE CULLIMORE

Adobe architecture belongs to the landscape and the people of California. It grew out of her red clay hills and black bottom lands. These adobes, springing from the soil, appropriate to the climate and colored by the background of early Spanish dons, flowered in the picturesque houses of those first settlers.

In the quaint, sleepy, little village of Santa Barbara, about thirty-five years after the founding of its Presidio Real, the de la Guerra house was begun. Don Jose Antonio Julian de la Guerra y Noreiga is, as is indicated by the double surname, descended from the de la Guerra line on his paternal side and maternally from the Noreiga family. As both are said to be of noble tradition, Don Jose was indeed a "blue blood." He first came to Santa Barbara as a lieutenant stationed at the presidio. Through his marriage to Dona Maria, the only daughter of the presidio's third comandante, Raimundo Carrillo, Don Jose founded in California, one of the oldest and most prominent families of the state. A modern scion of the Carrillo strain is the popular moving-picture artist, Leo Carrillo.

The de la Guerra home, the foremost of the historic old adobe houses in Santa Barbara, was begun in about 1819, but was not entirely completed until 1826. Its hospitable walls were the scene of many social, military, and political gatherings that have played a part in the early history of California. It still holds the memory of the beloved comandante and his kindly, charming wife, who won the esteem of all who knew her. Here, Richard Henry Dana relates, in "Two Years Before the Mast," that affairs of state and events of social gaiety took place.



FLOOR PLAN, CASA DE LA GUERRA

The floor plan was built around three sides of an ample patio, after the Spanish and Mexican mode typical of many of Southern California's early adobes. Although part of its timber portions were brought from the north, others were constructed of California sycamore native to the Santa Barbara area. Its tile roof

THE DE LA GUERRA ADOBE IN 1890
(Covered with clapboards)

was one of the few, outside of the mission, in the channel village. Most of the houses were small and flat-roofed, with layers of kelp and earth placed on top. As a cap for these flat roofs, the asphalt seepage from Goleta was made use of. The asphalt was boiled with sand and then spread on while hot, affording a good protection from the rain.

More than fifty years ago, the walls of this adobe were covered with clapboards. As a matter of protection against the weather, many adobes were treated in this manner. In 1919, the original porches were widened and the posts replaced. The simplicity and genuine earthy quality of this early structure has been retained by its modern restorers.

The late James Osborn Craig and Carleton M. Winslow, architect, were the builders responsible for the restoration.

The roof which was once carried on brick piers, twenty inches square in cross-section, and later by built-up, milled, square, wooden columns, is now supported by massive, solid, wooden posts which prove more stable under earthquake conditions.

A part of the building that faced the rear yard has been raised. This was the altito, a three-story, tower-like portion of the structure. The accompanying sketch shows this element of the building as it appeared in the middle of the last century. The altito then stood at the easterly corner of the present inner patio, a few yards from "El Paseo" restaurant and the art shops that comprise "A street in Spain." It was on the second floor of this tower that Don Jose de la Guerra housed his library. On the third floor he kept his money and accounts.

THE DE LA GUERRA ADOBE
(Northwest Side as it appears today)

There are stories told about his sons, who on occasion felt it necessary to augment their allowances with coins from his money chest, obtaining them by the use of a bamboo pole inserted through a crack in the door. The pole was equipped with a pad covered with tar attached to its far end. The coins adhered readily to the sticky substance while withdrawn from the chest and through the crack.

Aside from an historic aura and fitness to the Santa Barbara environment, this adobe's long service in supplying the domestic and community needs of the social orders through which it has passed give to it a real claim to distinction. Its simplicity of line and an absence of unnecessary ornamentation combine with a genuineness that is intrinsic to adobe construction to make the old de la Guerra homestead one of the most prized heirlooms of early California.

POST-WAR PLANNING AS IT AFFECTS

by TALBOT F. HAMLIN, A.I.A.*

Today all planning is merely a means to an end. From the human point of view it is the end which is important rather than the means, and I believe I am justified in thinking that the decisions we make in the next few years with regard to planning matters are going to determine irrevocably the ends and aims of American life. If we want democracy we must plan for it, and democracy of necessity must be economic as well as political.

There are any number of questions, affecting the actual physical planning of our land, which cry out for answers in terms of this fact. What kind of cities and towns and countryside do we want? Are we to plan a world made for speculators—or for creators and producers? Are we to produce for the many—or for the few? Are we developing cities to sell—or to live in? Housing to shelter robots—or individual human beings? What is to be the deciding criterion? Is it to be money and profit alone—or is it to be the growing enrichment of human consciousness?

These may seem vague questions pertaining perhaps more to the pulpit than to the planner's office, and yet the design of every building, every zoning ordinance, every arrangement of traffic or transit is going to be affected by our answers to these questions. We cannot escape them. We may answer them ignorantly or carelessly, but the plans we make will embody our answers, and the communities of the future will make the quality of these answers clear. Our children will know, even if we don't, which way we decided.

And, if we do not make these answers definitely, there are lots of agencies which will make them for us. There are hundreds of pressure groups, the country over, who know what they want and are planning to get it. There are associations of financiers and businessmen interested in profits. There are born speculators who are willing to sacrifice health and security for beauty for the sake of **perhaps** making a profit, and in their effort willing to force this sacrifice of efficiency and beauty and pleasantness upon the rest of the world. There are misled real estate boards who can see no other answer to the economics of land and its use than the old mad squabbles which brought with them the bankruptcies and the confusion of the blight of 1929.

All of these people realize the v a l u e of planning, if the planning is **their** way. Unless those who believe that planning has a higher end than power for a few, and life a nobler purpose than luxury for a few, combine to see that the future is planned **their** way, they will find rapidly enough that the opportunity for improvement has gone and the old reactionary forces have seized the power of planning to force American life back into a still wilder, more intense, more dangerous and devastating competition on the one hand, or else into that industrial feudalism—in which the many not only work for, but seemingly exist for, the few—which is the apparent aim of many industrial bodies.

But planning, many say, is itself undemocratic—dangerous to the individual, dangerous to initiative. These people correlate planning with laissez-faire economy, blind to the fact that in our own day the dangers of the individual consciouness and to individual initiative come less from governmental regimentation than from economic pressures. Monotony of work and squalor of surroundings are not the best schools for rich individuality. In the old days of an expanding economy, when all the West was there for the discontented to open, the frontier was a school of self-respect and rich living. Today we have as our representatives of the frontier life the city bum and the hobo. It was not government, or planning by government, w h i c h forced the change.

I should say, therefore, that governmental planning to prevent these tragedies, or to

* Part of a lecture delivered before the Detroit Chapter, A. I. A. Mr. Hamlin is librarian at Columbia University.

mitigate them, is a service to democracy rather than the reverse, even if it entails restrictions—even severe restrictions—on certain types of economic effort.

The planning we are interested in, if we accept this premise, is the physical planning of cities and towns. It involves, first of all, an evaluation of our present achievements. What really are our towns like?

May I sketch a typical town? It is a small town, with one or two little industries, perhaps a market center for the surrounding countryside. The town first declares itself to us, as we approach it, by signboards flanking the highway or the railroad, telling us in enormous flaring letters where to eat or sleep or buy goods. As we get closer the signs multiply, and all sorts of sheds and ugly half-temporary structures line the way between — hot-dog stands, garages, and service stations, innocent usually of even a half hearted effort at design. At one side a junk yard is filled with a chaotic confusion of old rusting automobile bodies, fenders, wheels. Across the way the ruins of a fine old mansion stand, with broken, hanging blinds and a front yard filled with tin cans and shattered bottles and weeds. An old car drawn up at the steps, newspapers wadded into broken panes, and raw new boards nailed across an old leak reveal that the house is still inhabited—probably by several families.

We come to Main Street, wide, treeless, asphalted, lined solid on each side by cars parked diagonally, their rounded tops glittering like the carapaces of vast beetles. The buildings to right and left vary from one to five stories in height. They are of all vintages, frowning, bracketed cornices and large, widely spaced, arched windows proclaim the solemn dignity of the late 1850's. Yellow brick structures, soiled and streaked, decorated with "Renaissance" terra cotta, date from the early years of this country. Red brick pseudo-Colonial and "modernistic" white terra cotta eye each other suspiciously in their arrogant pride of newness. Near the center of town, where the latest standardized "Colonial" post office is built, the fronts of two movie theatres, gaudy with posters and gilt, yawn with gaping maws to swallow their periodic crowds. Wherever a building shoulders itself above its neighbors, its sides are plastered with signs in order that he who runs may read where to buy this, that, or the other—radios, automobiles, improved lots, clothing, food, or houses.

To the right, down by the hurrying river and the mills, lie the slums—shacks and old houses, subdivided and crowded and dingy, unkempt, confused, with the dreary drabness which Burchfield has so poignantly painted. On the hillside to the left live those who are better off, in houses aggressively neat, which in style and form and color fight each other as relentlessly as the shops downtown. The newest and biggest are all supposedly Colonial, as though an unconscious protest against the sprawling jumble of the town life could find its only expression in a tired antiquarianism.

Is this the best America can do? The picture is, I believe not overdrawn. Almost all of you must be thinking of opposite examples. Is this the best school of rich living which our democracy can furnish?

Or take the bigger cities: take Detroit. In all humility I realize that I am an outsider, knowing Detroit only as a visitor. Yet Detroit is a particularly appropriate example, for more than any other city in America Detroit represents the triumph of modern industrialism. It was here that mass production achieved its first noteworthy successes; here that mass production, based on a magnificent industry, has dictated the development for a third of a century. Here if anywhere should the needs of the future be clearest and the qualities of today most strikingly presented.

What do I as a visitor find? Is it too much to say that the first impression is confusion?

Parking lots and vacant lots surround buildings which cost millions; skyscrapers shoulder themselves above their neighbors apparently without regard for them; areas of down-at-heels, characterless dwellings—almost slums—abut the most expensive and lavish structures. There are, to be sure, remnants of the great old city plan developed by Judge Woodward a hundred and thirty-five years ago—a plan perhaps absurd functionally in its emphasis on radiating lines and polygons, but at least a plan with some system. These remnants are the one element of charm in the city of today.

Outside this center I find the same jumble extending for miles, until it finally ravels off at the edges, with shacks, ill-considered and ugly real estate developments, and plain litter, into the surrounding farmland. Factories group themselves, apparently accidentally, here and there. In it all there is scarcely anything that could be called a real neighborhood, that is, an area with some pattern of centralized culture expressed in an adequate combination of recreational, educational, and business buildings. There is a vast sense of homelessness, of characterlessness, about it. One might almost say that triumphant modern industry has, in Detroit, succeeded in housing its employees less well and certainly less beautifully than did the industrial tycoons of Lawrence, Massachusetts, or Manchester, New Hampshire, over a century ago.

Nor are the employees or the poor the only sufferers. Where can the professional man or the employer find in this amorphous mass a real home? If he lives in Detroit proper, where can he or his children go for recreation, for pleasant views, for rest from the surrounding monotony? Belle Isle Park is beautiful, with its great trees and playground and the river slipping by, but for much of Detroit it is miles away—too far for any but exceptional use. No wonder those who can afford it have gone outside, to build their homes among the ridges and valleys and lakes of Bloomfield Hills or along the shore of Grosse Pointe. In doing so they have lost touch with the city on which they live, unconscious of its problems and its possibilities.

Have I been unjust? It is not Detroit alone that I have pictured here. It is any number of industrial cities throughout our country. The results are apparent to all who read the newspapers. Intensification of race feeling, leading even to riots (was there not one here?); violence in industrial labor relationships; individual crime—these are but some of the effects of bad planning or lack of planning. For chaos breeds barbarism.

Fortunately Detroit has now a brilliant and effective City Planning Commission. The future can be bright if the Commission receives the support it deserves. Too often in American history the City Plan Commissions has been one of almost constant struggle for existence. They are kept to the most routine tasks, starved with insufficient appropriations, frustrated in their plans because of the lack of popular support. That has been the recent history in New York, for example, but it is true in many other places.

As architects, it seems to me that all of us must do everything we can to rally support to City Plan Commissions, and be in the forefront of the movement to educate the people in the enormous potentialities for good which such a Commission, adequately staffed and properly supported, may produce. The record of local chapters of the American Institute of Architects has not been too brilliant in this respect. Nor have individual architects, it seems to me, realized sufficiently the opportunity to assist in the great and necessary work of planning, not only by their own technical contributions, but also by their knowing, sympathetic, and disinterested support of forward-looking plans and devoted Commissions.

Not long ago as a speaker here told you, I believe, that architects were not prepared to plan the cities of the future. I must take issue with him on almost every point. If architects are not prepared to take the leadership in planning, who is?—the engineer, the economist, the sociologist, the landscape architect? All of these have their contributions to make; but the good architect is, above all others, by training and experience, the man whose work partakes of something of the work of all these specialists. Like the engineer, he must think

in structure and the possible mechanical expressions of his ideal. Like the economist, he must know something of values, of money and credit, and their ways and limitations. Like the sociologist, he must know something about the way people live and work. Like the landscape architect, he should be able to see things in terms of site, in a large way.

And the architect's contribution is especially necessary in this whole planning problem. For the architect is trained to create aesthetically at the same time he creates in material things, and the aesthetic element is, I deem it, the element in city planning which today tends most frequently to underestimate. In our reaction against the "City Beautiful" conceptions of many of the American city planning projects of 1908 to 1914, we have attempted perhaps to go too far the other way. We have come to realize that no city development is possible without a rigidly realistic framework developing into an organic and living whole. We have come to see that beauty in a city must be the result of all sorts of other planning adequacies; must flower from a consideration of traffic and transit, of decent housing, adequate water supply and sewage disposal schemes; and cannot be created out of confusion merely by waving a magic wand. We have come to see that piecemeal beautifications are often merely temporary and fall rapidly into undistinguished decay, and that no monumental civic center or great avenue can be more than an incident in the totality of effect of a great city.

All of this is, of course, a tremendous advance and will, I hope, prevent our plans from ever becoming the mere pretty pictures of what the past produced. We know now that the old civic center conceptions were often ridiculously incongruous and impossible from any traffic point of view, and that the great plazas and radiating streets which characterized some of them would in reality have become merely additional death points in an automobile world. One cannot well notice the beauty of a building when he is trying to see six traffic signs at once or to walk across a traffic-laden 200-foot boulevard.

These things we know today; but the reaction against the dreams of the past has often gone so far as to blind the eyes even of many city planners to the extraordinary importance of beauty in any city or town. Instead of thinking in terms of vistas we think in terms of traffic lanes; yet the things seen are there, to make their unconscious impression of disorder or system, of attractiveness or disgust. We think in terms of densities of population and forget sometimes that there are slums of low density — you have them here in Detroit, as well as slums of high density—and that what makes the slum or blighted area may sometimes lie merely in this intangible quality of beauty. We destroy beauties unthinkingly to produce a modern and systematic ugliness and monotony.

That is why the architect must take a leading part in city planning, either directly as professional, or indirectly as supporter, critic, inspirer. If we let the engineers have their way, we shall get a city which works but which may be as cold and heartless and hateful and inhuman as the inside of an ant hill. Might we not say, perhaps, that the ant hill with its perfect systemization of life and work and location is the engineers' ideal of a city? If we give the economists charge of city planning, we cannot know what we shall get unless we know whether the economists in charge are more devoted to capitalistic profits or socialistic cooperation; in the one case we may get much what we have today, with perhaps a few less bankruptcies in blighted areas, and in the other we may get an unworkable utopia. In neither case do we get the average life of the average human being as the criterion by which to measure the result.

The architect, on the other hand, is, or should be, trained from the beginning to think of buildings in terms of people. His is, in the highest sense, a profession even more humanistic than that of the doctor, for he must think of people well as well as of people sick. The architect realizes that man does not live by bread alone, or by transit systems or six-lane highways, or by sanitary sewage plants. The architect knows that man likes convenience, but likes pleasant things to look at too.

He knows that a man needs variety in his life, and needs sometimes that kind of combined bigness and beauty in experience which shall lift him out of his individual limitations if only for a moment, and give him some intuition of a larger cosmos.

What is it that makes people love a town? What makes us, when we travel, seek out Salem or Nantucket, or Florence or Paris? Isn't it because in those places we find harmony, a consistent patterning, a series of beautifully related shapes and colors, which somehow inspire us with values greater than that of their mere bricks and wood and stone? And I am not pharisaical enough to feel that this sensitiveness to beauty, this innate love of the patterned and the serene, is limited to any class or any income group. I believe it is as wide as humanity, where it has not been killed by starvation or deadened by lack of use, or cheapened and vitiated by the false stimulus of cheap advertising and cheap entertainment.

Certainly our forefathers, when they settled these fertile western fields, felt and realized that need and had that sensitiveness. The greens, commons, or squares of numberless Ohio villages, the quiet, well-designed houses, the dignified courthouses, the white churches of myriad towns, as far west as the Mississippi, show the ideal these people had. They built themselves houses they and their children could love, situated in towns which at the beginning were harmonious, planned—and consciously planned—to give the sense of a real community.They built academies and colleges to feed their minds, just as they plowed their fields to feed their bodies. They were whole people, and they realized that a whole people demands beauty. They loved their communities —loved them because they were beautiful, and beautified them because they loved them —and out of that love and respect was born the political democracy of this country.

I submit that, until we can today produce towns and communities as lovely, as inspiring, as harmonious and serene as those, much of our talk about progress becomes meaningless. And the city planner who plans without regard, or with but passing regard, for the beauty which will result from his plans is denying the future a part of its birthright.

For the city or town exists not for itself but for the individuals who live in it. It must not be A town but THEIR town. It must be in human scale, however large; it must be designed so that any individual can find within easy distance all that he needs (recreation, business, education, residence); and it must all be designed so that serenity and graciousness are as much a part of it as the pipes under its streets. It must be a town humanized, with trees and green a common incident along its streets. It must be a town so integrated and so organic as to prevent piecemeal, fly-by-night, jerry-built, speculative construction. It must be a town that people will love as well as tolerate—and that means children and old people as well as the energetic workers in the prime of life. Surely this much we are entitled to ask, when we consider the wealth of material and labor our post-war work will command, and the enormous means for realization of our desires which scientific and industrial techniques, if properly directed, make possible.

I think this whole matter is a challenge to all architects, and a test of the depth of their professionalism. If doctors had remained content for generations in the past with the mere high-priced care of wealthy patients, the medical profession would be a long way from where it is today. If all lawyers had spent their time in the unmitigated service of the wealthiest people, statesmanship would have died out in America more completely than it has. If architecture is a profession, it seems to me an integral part of this conception that the architect as a profesional man must be as much interested in the community at large as he is in the pursuit or execution of his own private jobs. And if he is thus devoted, of the profession exists to guard and assist the community as a whole over the entire field of building construction then, of course, planning and housing must become today the profession's almost primary interest.

How can the architect make this interest effective? For the architects fortunate enough to have the inspiring opportunities that a direct connection with city planning or the design of large-scale housing brings, the prob-

lem is merely one of bringing to their jobs the skill and the devotion their importance suggests. But most architects are not in this class. Yet to lose their influence would be disastrous. First of all, they must learn to know their communities. They must know what the problems are, what the possibilities are. They must be able to lead and direct public opinion in the criticism of matters of city-planning, zoning, and housing import brought before public hearings. They should be happy, if opportunity offers, to become members of local planning commissions. They can take the lead in community improvement associations and similar societies. Above all, they must make themselves the educators of the public.

The great stumbling block of the planning movement today is not lack of technical knowledge or idealism on the part of the planners; it is the fact that they command so little public support. There is such a pitifully small number of people passionately interested in the problem—a few city planners, some architects, many doctors, a few engineers and economists who have not been bought, a few technicians, some rabbis and clergymen, a small group of devoted politicians. Against them there stand ranged much tremendous power of organized wealth, all the organizations of those to whom profits are more important than people, and—above all—all the inertia of parroting minds who judge ignorantly or carelessly.

The only hope of a really creative planning movement lies in a change of this picture—lies in building up behind the efforts of the planners such a wide knowledge of what planning has done and can do that the demand for intelligent, imaginative, and human planning will become irresistible. To start an education of the masses is a task for which the architectural profession is particularly well suited. It can and must, through lectures and talks, through association meetings and committee work, through the schools and colleges, spread abroad among the people as a whole the knowledge of what planning—intelligent planning, human planning—can do for them; how it can effect their homes, their work places, the pleasantness and richness of their entire life. And the architects are also in a particularly good position to start the education of the great investing bodies whose money will go into the new structures of post-war America—the life insurance companies, the savings banks, the building-and-loan and mortgage associations.

Many architects have close contacts with such bodies already, and no greater stroke for realistic and at the same time human planning can be made than the conversion to it of these great and naturally for the most part reactionary forces. As someone said, they only know that they cannot be criticized for doing nothing—and especialy nothing new. They must be shown a fact which is a commonplace to all of us, that the majority of our cities and great sections of our rural areas are in possession of a business which no longer pays dividends, because its obsolete machinery can no longer meet the demands imposed upon it. Such communities **must** plan, **must** spend, **must** modernize themselves or die. Blighted city areas, deserted farms, increasing farm tenancy on a basis of submarginal living—these all are signs which even a bank president should be able to read. And the reading of these signs right will bring a revolution in investment, will bring from the investing bodies themselves an overwhelming demand for intelligent planning.

And there are other things architects can do. They must decide—and it a difficult decision—whether they are professional servants of the whole community, or more technical assistants to profit-making wealth. They must realize that as architects, in designing buildings or groups, they are frequently the only people who stand between those who will live in or use the buildings and unmerciful exploitation by greedy owners. They must realize that, if they wish to vindicate the position of architecture as a profession in post-war America, they must do it on the only possible true professional basis—service to the community as a whole.

VALENCIA GARDENS

(Continued from Page 23)

seems another unfortunate choice is the placing of the garbage chutes in the entrance-ways beside the front doors. It would be an advantage if every architect could live for a while among very miscellaneous people, to learn some of their inevitable habits. He could learn that humanity is incorrigibly careless about getting coffee grounds and cigarette stubs into garbage chutes. Some tenants will not "wrap all refuse" as admonished by the lettering on the chute (a not very delicate thought to greet one at every home-coming); and suit-boxes, bunches of withered flowers and other articles too large for the chute are certain to be left below on the floor. By recessing the chutes one foot, and placing a door in front of them, some truly distressing results could have been avoided.

SOCIAL NEEDS OF TENANTS NOT OVERLOOKED

But the inviting quality of the project far outweighs the few omissions. One can imagine that a new way of life will open up for many of the tenants. Imagine a harassed father of five who now finds himself with a craft room to which he can escape from the rough-and-tumble. And the mother who can leave her toddlers safely in a fenced play-yard. After stumbling for years over wheel-toys, she now has a room where they can be left locked at the foot of the stairs. The laundries could have been made lighter and more cheerful, but they probably will please a woman who has been washing in pails or a sink. One can hear the sociable conversations that will be carried on across the wash-tubs. In each utility court are two vine-enclosed drying yards with seemingly miles of lines.

There has been considerable planning for the social needs of Valencia neighbors. The idea, apparently, was that a family wants separation from hundreds of neighbors, but contact with a few. Benches around the grass plots in the utility courts, and low brick walls around the plots in the entrance courts will surely invite tenants to sit down and get acquainted, beneath their trees. The arrangement of curving walks and planting give many little areas with some seclusion. No provision for such intimate outdoor sitting places has been made in most of the war housing projects. In that, as in many ways, Valencia Gardens can furnish hints for lightening the burden of surplus neighbors.

William W. Wurster and Harry A. Thomsen, Jr., were associated as architects of Valencia Gardens. Thomas Church designed the landscaping. The Meyer Construction Company were general contractors, and the project was sponsored by the Housing Authority of the City and County of San Francisco.

WORLD'S MOST UNIQUE PRODUCTION LINE

These streamlined control cars for U. S. Navy blimps are flowing in daily increasing numbers down a long production line in one of the Goodyear Aircraft Corporation plants in Akron—the only production line of

its kind in the world. Shown here is just a portion of the production line with a section at the end (upper right hand corner) where each car's exterior is sprayed with the Navy's battle gray, after which it leaves through the big doors for another place where the completed cars are assembled to their big cigar-shaped bags.

Construction at the beginning of this production line starts with the cars in an inverted position. Halfway through the line, the cars are turned up in their flying positions, as here, for attaching the motors to the outriggers and for other final touches.

OLD TIMERS MAKE MERRY

"Old Timer's Night" was celebrated by the members of the Structural Engineers Association of Northern California at the Engineers Club, San Francisco, March 2. Among the "old timers" who reminisced were H. J. Brunnier, Gus Saph and Clem Wiskocil. A fine dinner preceded the talk-fest.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

EDUCATION FOR ARCHITECTURE

The Executive Committee of the State Association of California Architects has recently invited the School of Architecture of the University of California to have a member of the faculty of the school sit with them in their monthly meetings. "So-what!"

Well, the first answer to the "So-whats" is that from time immemorial, or thereabouts, a certain section of the practicing architects has complained that the schools are out of touch with the actual work going on in the world; the schoolmen counter with the assertion that the office men do not know what the school is doing—that the schools are being panned for making "history plates," which practice was abandoned in most schools twenty years ago; and neither side to the controversy does much of anything to correct an unfortunate disagreement. ('School," as used here, refers to the school in Seattle, Berkeley, Los Angeles, or wherever there is a school.)

Of course, there has long been a suspicion in both the faculty camp and in the less financially able architectural office sanctums that a part of the frigidity of feeling was occasioned by the fact that, before the schools were well established, a promising youngster was taken into the office as an office boy—when paid exceptionally poorly he was dignified as an "apprentice"—and after spending four or five years learning the boss's ideosyncracies he could turn out a set of plans about as well-drawn as the boss was capable of, and he did it without any back-talk about the boss's design being "cheesey." Now that the bright young man spends those four or five years in college he (sometimes) comes into an office as ignorant of a spandrel section as he is of a specification. But he does know that, though the "Old Man" is a bear as an estimator, his design efforts are distinctly "stinko." And sometimes the impertinent young ass can't wipe away his expression of disgust before the boss has noticed it.

So, you see, differences of opinion are not confined to the subject as to which horse is the better stretch runner.

What is the actual situation? By specific instances, it might be proven that there are darned-fool theorists in the school faculties whose only touch with reality has become lost in the haze of long ago when they first started cashing checks drawn against the regents. And it might be possible to find an architect who is a "business man" exclusively—in the worst connotation of the word "business." But in our limited experience we seem to remember some of the boys fresh out of school who, with but a few months of drafting room training, were taking the most difficult assignments in the office and making them look easy.

Let's get back to our faculty representative at the Executive Committee meetings. May it not be a slight step forward to let the faculty man know that when he discourages draftsmanship, and there are such in some of the

schools, that he is off the beam; and may it not be at least slightly possible to do a little adult education among the architects to let them know that boys are turning out working drawings in the school, and good ones, too. At the same time most of the boys are learning to become far better architects than they could be if they were spending weeks acquiring proficiency in setting bricks, etc., etc., through all of the trades. In fact, we know one architect who wouldn't mind, if he had a son studying architecture, were that mythical son required to draw a "history plate" at least once in his college career. A horrible thought, isn't it!

Perhaps the academic boys who hitch their wagons to the stars can sit on a hillside for an hour or so with those who grub in the fertile valleys of business. Both may even get a better view of their beloved "frozen music."—W. C. A.

L. A. Members Serve Uncle Sam

Outstanding feature of the January meeting of the Southern Section, State Association of California Architects, was the exhibit of OCD camouflage models. Prepared at the University of Southern California under the direction of Dean A. C. Weatherhead, the models represented industrial centers, rural areas and residential districts. The models were divided into four sections, on which the various teams studying protective concealment placed camouflage. Members of the teams were present to explain the work.

The Association service flag was dedicated by John C. Austin. Reminding the gathering that the twenty-six men already representing the Southern Section in the armed forces are only the forerunners of many more to be called, he said that no attempt had been made to compile a roster according to rank. The twenty-six stars in the flag represent men in grades from private to brigadier-general. They are: Pvt. A. Q. Jones, Pvt. C. H. Rawlings, Marine Lieut. H. J. Bissner, Navy Lieut. A. Frick, Pvt. J. W. Wright, Navy Lieut. Harold Hawes, Maj. Chas. E. Fry, Capt. J. Robert Harris, Pvt. Howard P. Hess, Lieut. Wm. D. Holdredge, Capt. Robt. Inslee, Lieut.-Col. Gordon, Kaufman, Maj. Richard King, Marine Lieut. Ben O'Conner, Maj. Donald Parkinson, Maj. H. O. Sexsmith, Capt. E. Allan Sheet, Lieut. Savo Milan Stoshitch, Brig.-Gen. Henry Carlton Newton, Capt. R. M. Crosby, Maj. Glenn Elwood Smith, Capt. Erwood Eiden, Capt. Harold Spielman, Capt. B. C. Turner, Lieut. Wm. S. McCay, and Frank Wynkoop.

Presided over by President Walter Hagedohm, the meeting was well attended.

H.O.L.C.

The current proposal in Congress to bring an end to the Home Owners Loan Corporation does not strike a responsive chord with the western architects and engineers. The operations of the H.O.L.C. in this district have been more or less of a model as to how a governmental agency may be conducted without being antagonistic to private enterprise. The individual projects of the H.O.L.C. have generally been of small scale, though the total volume of work under that jurisdiction has been enormous. When need has arisen for the use of specialized or professional service, the H.O.L.C. has not hesitated to employ men in private practice. The individual jobs have been small, as they now are in the remodeling work for war housing. The fee scale has been modest in keeping with the nature of the work. But there is abundant testimony that few, if any, of the governmental agencies have handled their work in a manner as business-like as has the Home Owners' Loan Corporation.

Homing

The last few weeks have marked the return of two prominent Bay District architects from sojourns in Utah where they have been engaged on large-scale Federal construction projects. Both Harry Michelsen of the firm of Day and Michelsen, architects, and Edward J. Maher of the firm of Blanchard, Maher and Ward, architects, have mingled with the Mormons while in charge of design and supervision for their firms of multi-million-dollar war plants.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco Architectural Club held its monthly meeting March 3 at the Builders' Exchange.

Lieutenant Dick Andsley, past president, honored the club with his presence and told the boys all about army life. Also, Abe Granish, former club treasurer, put in his appearance, and the members gave both a warm welcome.

Guest speaker was Jan Reiner, Czechoslovakian architect, who discussed "Architecture Today and Tomorrow" and showed slides of modern American and European buildings and housing projects. He pointed out that through new uses of steel, concrete, glass, wood and plastics, post-war architecture will develop. He said, "After victory, this country should be ready to furnish not only food, but also shelters for the millions of homeless people throughout the world. Prefabrication of homes is the best way to accomplish this."

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

George Quamby, Detroit Steel Products and Dan Anzini of G. E., were interesting and informative in their talks of March 1 at the regular noon meeting. "Believe it or not," said George, "stock sizes in steel window frames may still be obtained without a priority extension and at reduced prices." Wartime activities of other companies were the subject of the speeches given by both men.

Next meeting, April 15, Monday at noon. As usual, Room A, Palace Hotel. The speakers, Ed Banta of H. H. Robertson Co. and Allen Turner of Masonite Co. These speakers will continue the current series of discussions on the part their companies are playing in wartime activities, giving special emphasis to new products developed for use in the emergency or to replace vital materials that have gone to war.

Welcomed to new membership was Norman Brown of Bell & Gosset Co., Chicago. Brown's headquarters are at 637 Minna St. New Council representative from G. E. is Dan Anzini, known to the industry through his many years of service with G. E. Other new representatives: Hal Heakin for International Nickel, Ed Cathcart for Johns-Mansville, R. S. Peele for The Peele Co. and Clyde Wood for Westinghouse Electric & Mfg. Co.

The Council announces with sincere regret, the passing of Ben Blair, one of the founders of the local chapter. Ben died February 22 after a prolonged illness.
Due to changes in his company, American Radiator and Standard Sanitary Corp., Ben had to drop out of the Council several years ago. It was under strong protest that Ben left the Council and even then he remained a staunch friend and supporter. We will all miss Ben.

President Chuck Kraft reports keen interest back East in the activities of the local chapter. Chuck lunched with Jim Follin, Managing Director of the National Council in Washington, D. C. He also met with National President F. J. Plimpton of Vermont Marble, Samson of International Nickel, Tibbetts of National Lead, Byington of Johns-Manville, Tree of Carrier Corp., and Bebb of Otis Elevator, at a luncheon in New York. Old ties are being strengthened.

HORACE L. PICKETT

Horace L. Pickett, new Vice-President of the local chapter is Central Division Sales Manager for National Lead Co. Born and raised a Hoosier, Horace started a teaching career which was interrupted by World War I. Worked for Goodyear in Akron and Los Angeles, joined National Lead in 1923. Has been identified with sales, sales management and sales promotion during his tenure with National Lead.

Pardonable Pride may well be shown by the local chapter in the fact that we are held up as a shining example to the other twenty local chapters as a result of our 12 years of consistent effort in Council activities.

Architectural Organizations have just named the following Liaison Officers to work with the Northern California Chapter for the current year; Northern California Chapter, A.I.A., Wilbur D. Peugh and his alternate, John Davis Young. The Northern Section of the State Association of California Architects has named J. Francis Ward.

Les Hurd sends, "My Love" to the local chapter members. After a full day of "reconnaisance," President Chuck Kraft finally located Col. Hurd "somewhere in Washington," and gave Chuck this touching message, "Give them my love, that's all I want," and then added, "Some day I'll return and tell them how much I think of the Northern California Chapter. They're a swell bunch of fellows." Les is doing a tremendous job in the construction end of the Chemical Warfare Services, and believe Chuck Kraft who says that at least some of those boys in Washington are burning the midnight oil and Les Hurd is one of them.

William Hague, Secretary of the Central California Chapter of Associated General Contractors, announces a new radio program sponsored by A.G.C. The program is built around the facilities of the construction industry. See local newspapers for details.

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

SAN FRANCISCO ARCHITECTS GET MORE HOUSING JOBS

More San Francisco Bay Area architects have been commissioned to prepare plans for apartment units to relieve the housing congestion. Those named include Eldridge T. Spencer and William C. Ambrose, who will design 1050 and 700 war apartment units, respectively, for Hunters' Point; E. Geoffrey Bangs and Howard Moise, 605 Market Street, 500 dormitory units, also at Hunters' Point; Hervey P. Clark and Francis E. Lloyd, 1005 war apartment family units and 700 war apartment single units, respectively, at Hunters' Point and in the same locality 500 dormitory units by W. P. Day and Harry M. Michelsen.

Working drawings are in progress in the office of Albert F. Roller, 1 Montgomery Street, San Francisco, for 720 dwelling units in South San Francisco for the South San Francisco Housing Authority. Part of this project was originally scheduled for Millbrae.

The U. S. Maritime Commission has let additional contracts to Robert McCarthy for 4,000 war apartment units in Richmond from plans by the Engineering Department of the Richmond Shipbuilding Company.

SITE SELECTED FOR NEW OAKLAND DORMITORIES

Site has been selected at 26 and Linden Street (the old McClymonds School) for a 300-unit dormitory building from plans by John J. Donovan, 950 Parker Street, Oakland. The Housing Authority of the City of Oakland is sponsoring this project as it is also the 500-unit trailer camp from drawings by E. Geoffrey Bangs.

Another trailer camp is projected for Alameda with the drawings in the hands of Andrew T. Haas and C. I. Warnecke, Oakland architects.

At Stockton, San Joaquin County, Peter L. Sala, 2130 North Commerce Street, that city, has completed plans for 200 family units and 50 dormitory units, estimated to cost $400,000. Bids have been taken and construction is expected to go forward at once.

Another East Bay job, ready to start, is at Pittsburg, where two dormitory buildings and an administration building will be erected near the Columbia steel plant, from plans by Messrs. Bangs, Narbett and Spencer.

NEEDED HOUSING PLANNED FOR SAN MIGUEL

The Government is going to spend a lot of money in new construction work at San Miguel, where there are some 5,000 administrative employees who are at present inadequately housed. Some 200 war dwelling units are planned, besides a trailer camp, maintenance and other buildings. Francis J. McCarthy, 507 Montgomery Street, is the architect.

Charles E. Bigger of Bakersfield has let contracts for three dormitory and dwelling projects at Muroc and estimated to cost in excess of $400,000.

HOME OWNERS' LOAN EMPLOYS MANY ARCHITECTS

The Home Owners' Loan Corp. is letting out quite a number of remodeling jobs, including apartment houses and private dwellings. The improvements will provide additional accommodations for war workers in the San Francisco congested area. Architects engaged in this work include Harry A. Thomsen, Jr., W. G. Merchant, F. H. Reimers, Hyman & Appleton, James H. Mitchell, Albert R. Williams, William Mooser, Francis J. McCarthy, H. T. Johnson and O. A. Jenkins.

The U. S. Bureau of Yards and Docks has let a contract to Barrett & Hilp for $3,875,300 for additional facilities at Hunters' Point and Architect W. D. Peugh has let a contract to the McNeil Construction Company, 5860 Avalon Boulevard, Los Angeles, for a Navy Battalion Replacement Center near Pleasanton for $10,275,000.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San rancisco and the Bay District. There may be ight fluctuation of prices in the interior and outhern part of the state. Freight cartage, t least, must be added in figuring country ork.

ond—1½% amount of contract.
Government work ¾%.

rickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

uilding Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

AND—

	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

tias White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2800; direct automatic, about $2700.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅜x2" Sq.Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place. $1.00.
Art. $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
⅜" 3-ply and 48"x96" ..... $39.75 per M
"Plywall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
⅜" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart..$ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hot roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hot roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $60.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.5
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place
Sandstone, average Blue, $4.00. Boise $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft
4 x 6 x 12	1.15 sq. ft
2 x 8 x 16	1.10 sq. ft
4 x 8 x 16	1.30 sq. ft

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.71½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

L. A. CHAPTER AND POST-WAR PLANNING

The February meeting of Southern California Chapter, A.I.A., was given over to a report by President Samuel E. Lunden of his recent trip East during which he made a special effort to obtain first hand information on post-war planning. Lunden said that Denver had actually prepared a long range plan, that city having been used by the government, which supplied the money, as a "sort of guinea pig" to prove the value of the work. Indications that Los Angeles might also obtain Federal funds for its program were seen in Lunden's statement that the National Resources Planning Board in Washington has expressed interest in long range post-war planning. Officials have intimated that additional Federal allocations may be made, he said. Other cities reported by Mr. Lunden as planning for the future include New York, where a new zoo and an aquarium are to be built.

Promising more detailed information at the next meeting, Reginald Johnson told the gathering of Town Hall's post-war planning program. He said application would be made to the Haines Foundation for funds with which to finance the work. Meetings are scheduled to start in about a month, the exact date to be announced later.

Announcement of a new committee, the Regional Planning Committee of the Southern California Chapter, American Institute of Architects, was made. Under the leadership of Vice-President Herbert Powell, it is designed to coordinate the efforts of those engaged in long range planning.

Business transacted at the February meeting included the circulation of a petition seeking the nomination of Raymond J. Ashton, F. A. I. A., of Salt Lake City, Utah, as national president, and brief reports by William H. Harrison and Walter C. Wurdeman, secretary and treasurer, respectively, of the Southern California organization.

ENGINEERS AND ARCHITECTS ASSOCIATION

Engineers and Architects Association of Southern Califonia held a rousing meeting and dinner at the Cabrillo Hotel, in Los Angeles, February 25. Dr. Ralph Phillips told "When Japan Attacks," and "March of the Movies," proved a film spectacle extraordinary. Commodore J. Stuart Blackton was an added speaker, and Gertrude Kreig, the Southern Nightingale in "The Gay Nineties," delighted in person.

Engineers and Architects Association is a live organization these troubled days, due to an efficient, hustling executive board headed by Paul H. Ehlers, president, and Lynn Hirsh, secretary.

SYRACUSE UNIVERSITY COMPETITION

Syracuse University announces first year scholarships in architecture, one for $400 and four for $200, in drawing and preparatory school record. Contestants must send to the College of Fine Arts not later than July 1, a portfolio containing 20 examples of their work in free hand and mechanical drawing, together with three letters of recommendation. Applications for entrance to the competition must send a $5 matriculation fee. Address applications to Dean H. L. Butler, College of Fine Arts, Syracuse, N. Y., on or before June 25.

ABOUT PREFABRICATED HOUSES

With post war planning "just around the corner" the architect must be ever mindful of new trends and far reaching changes in building materials. Not the least important will be the subject of prefabrication, a rapid and economical method of building that war housing has demonstrated to be a success. For those who may wish to better inform themselves on the subject of Prefabricated Housing, the following sources of information should prove helpful:

Articles in Business Week, published in New York, include "Housing for War," "Dormitories," T. V. A. Houses, "Six Houses a Day," "Housing in Slices," and "28 Minute Houses."

Technical Bulletin, No. 2, Central Housing Committee, Washington, D. C.

Nations Business, Washington, D. C., January, 1942, article by R. L. Ven Boskirk on "Assembly Line Houses."

"Prefabrication," by Clarence A. Perry, published by Russell Sage Foundation, New York.

The American Builder and Building Age, 105 W. Adams Street, Chicago, has published many good articles on the subject of which the following are representative: "Lumber Panel Houses for $1,119"; "Pierce Foundation Houses for Martin Workmen," "Prefabricated Houses Finally Arrive," "Census Shows Increase in Fabricated Houses," "Army and Navy Try Out Demountable Houses."

Architectural Forum, "Prefabrication Gets Its Chance," "Private Enterprise Prefabricates 600 Houses for Bomber Builder Martin With Walls of Single New Material," "Prefabricators Put on a Show," "1,000 Houses a Day at $1,200 each."

Architectural Record, September, 1941, "Prefabrication Needs the Architect," "Labor Problems in Prefab." "The American Home," "Low Cost Homes," "Your Home Is Being Loaded This Morning."

House and Garden, February, 1942, "Houses for Defense."

Readers' Digest, August, 1940, "Houses Off the Assembly Line."

A very complete compilation of articles and biography on "Prefabrication," has been published by Newell-Emmett Company, 40 East 34th Street, New York.

THE PITT RIVER BRIDGE, HIGHEST DOUBLE-DECKED STE

The recently completed Pit River Bridge in Siskiyou County, California, marks the completion by the United States Bureau of Reclamation of a $7,245,000 project—the relocation of U. S. Highway 99 around Shasta Dam Reservoir. The project included the Pit River Bridge, highest double deck highway and railroad structure in the world, cost of the bridge alone exceeding $5,000,000.

THE MIGRATORY ARCHITECT . . . MORE CHANGES IN ADDRESSES, DUE TO THE WAR

J. D. Annand has moved from 1123 N. W. Glisan Street, Portland, Ore., to 414 Central Building, Portland, Oregon.

Reddick H. Bickel has moved from 557 Market Street, San Francisco, to the Hobart Building, 582 Market Street, same city.

Harold E. Burket from 740 East Main Street, Ventura, to 1735 Monita Drive, same city.

Mario F. Corbett from 576 Erskine, Pacific Palisades, to care of McNeil Construction Company, Engineering Department, Pleasanton.

Ernest R. DeChene from 424 - 60th Street, Oakland, to 716 Arlington Avenue, Berkeley.

Russell Guerne deLappe announces architectural offices for the duration at 564 Market Street, San Francisco.

Charles H. Franklin from 1244 "O" Street, Fresno, to care of Army, Presidio of San Francisco.

John Cooper Funk, old address, Box 1027, Flagstaff, Arizona; new address, 1085 South San Antonio, Pomona.

Henry H. Gutterson has moved from 111 O'Farrell Street, San Francisco, to 26 O'Farrell Street, same city.

Hiram J. Hamer from 4250 Rodeo Road, Los Angeles, to 8473 Beverly Boulevard, same city.

Otis E. Hancock from 407 Marion Building, Seattle, Washington, to 10743 - 17th, N. E., Seattle, Washington.

F. D. Harrington from 2335 Charlton Street, Los Angeles, to 5022 Cliff Place, San Diego.

Howard S. Hazen from 2491 El Caninito, Oakland, to 4165 MacArthur Boulevard, Oakland.

A. R. Hutchason from 1204 Architects' Building, Los Angeles, to 126 North Norton, Los Angeles.

Arthur D. Janssen from Route 1, Box 73, Redwood City, to 58 Austin Avenue, Atherton, via Menlo Park Post Office.

Reginald D. Johnson from 3717 South Sycamore, Los Angeles, to 5300 Rodeo Road, same city.

Howard E. Jones has moved from 201 Citizens National Bank Building, San Bernardino, to 571 - 16th, same city.

Norman W. Kelch from 1201 Enfield Road, Austin, Texas, to 151 East Basic Road, Box 1150 BML, Las Vegas, Nevada.

H. Roy Kelly from 1102 Architects' Building, Los Angeles, to 1227 North Sweetzer, same city.

Richard F. King, from 801 W. M. Garland Building, Los Angeles, to 2730 Peck, San Pedro, California.

Gerald Marsac from 8576 Wilshire Boulevard, Beverly Hills, to Rural 1-M-40, Globe, Arizona.

Frank V. Mayo from 931 North El Dorado Street, Stockton, to 3119 North American Street, Stockton.

Armand Monaco from Pershing Square Building, Los Angeles, to 3021 Waverly Drive, Los Angeles.

Morrow & Morrow from de Young Building, San Francisco, to 6175 Hillegass Avenue, Oakland.

TRUCTURE OF ITS TYPE IN WORLD—OPENED TO TRAFFIC

The lower deck of the bridge has a double track for use of the transcontinental railroad trains. Above the train deck and atop the cantilevered trusses is a four lane highway for automobile traffic. The steel bridge is 3,587 feet long and 500 feet above river bed. Two of its concrete piers are the highest in the world, exceeding 350 feet. The old bridge, still in use, is seen in the background.

Courtesy California Highways and Public Works

Keith O. Narbett has moved his offices from Richmond to 564 Market Street, San Francisco.

David A. Ogilvie has moved from 1060 Marcheta Street, Altadena, to 217 Belmont Street, Long Beach.

Paul C. Pape from 2153 North Highland Avenue, Los Angeles, to 1903 Dracena Drive, same city.

E. Charles Parke from Rowell Building, Fresno, to Fuller Building, San Bernardino.

George J. Paulus from 903 Bryant Street, Palo Alto, to 2540 Bryant Street, Palo Alto.

E. M. Pierce from 1101 Architects' Building, Los Angeles, to 3570 Locksley Drive, Pasadena.

Theodore Pletsch from 170 East California Street, Pasadena, to 2482 North Roosevelt, Altadena.

Rudolph A. Pooley from 623 East Cypress Street, Santa Maria, to 824 South McClelland Street, same city.

George Postle from 501 West Patterson Avenue, Glendale, to 1900 Melwood, same city.

Quintin & Westberg from 317 West Main Street, Alhambra, to 308 South Garfield Avenue, same city.

Ulysses F. Rible from 9297 Wilshire Boulevard, Beverly Hills, to 1689 Comstock, Los Angeles.

Neilson P. Rice from 2430 Live Oak, Huntington Park, to 756 South Broadway, Los Angeles.

George D. Riddle from 400 West 23rd Street, Long Beach, to 1251 South Adams, Glendale.

Jonathan Ring from 1611 Morengo Avenue, South Pasadena, to 1020 Union Street, Apartment 2, San Francisco.

F. L. Roehrig from 1136 North Hill Avenue, Pasadena, to 339 West Palm Avenue, Monrovia.

Theodore G. Ruegg from 4018 - 22nd Street, San Francisco, to 1181 Colusa Avenue, Berkeley.

Chris W. Runge from 815 - 25th Avenue, San Francisco, to Norfolk, Virginia.

Allen Ruoff from 525 South Gramercy Place, Los Angeles, to 614 South San Andrews Place, same city.

Lester G. Scherer from 8555 Sunset Boulevard, Los Angeles, to 4632 Atoll Avenue, same city.

Frederick Scholer from 845 South Gramercy Place, Los Angeles, to 1051 South Cloverdale, same city.

Arlos R. Sedgley from 5404 Sierra Vista, Los Angeles, to 222 South Detroit Street, same city.

Alger H. Shaver, C. E., old address, Box 565, Napa; new address, 41 - 22nd Street, San Francisco.

Whitney R. Smith has moved from 209 Beacon Street, South Pasadena, to 5805 Estelle, San Diego.

Wilton Smith from 11030 - 82nd Street, Edmonton, Alberta, Canada, to care of Bechtel-Price-Callahan, 109th Street and Jasper Avenue, Edmonton, Alberta, Canada.

Gifford E. Sobey from 2270 North Point Street, San Francisco, to 3792 Sacramento Street, San Francisco.

Robert Stanton from Hotel Del Monte, Del Monte, to Pebble Beach.

D. F. Staunton, Jr., from 371 Patrician Way, Pasadena, to 1121 Linda Vista, same city.

S. A. Stepanian from 1063 Gayley, Los Angeles, to 919 Moraga Drive, same city.

McNeal Swasey from 660 South Vermont Street, Los Angeles, to 408 South Spring Street, same city.

Andrew B. Talbot from 3060 Pacific Avenue, San Francisco, to 2714 Pacific Avenue, same city.

Edgar V. Ullrich from 836 Kennebec Court, San Diego, to 7608 Girard Street, La Jolla, California.

Harry K. Vaughn from Suite 414, Chapman Building, Fullerton, to 2172 Front Street, San Diego.

Albert R. Walker from 405 South Hill Street, Los Angeles, to 530 West Sixth Street, same city.

Henry B. Watson from 810½ North Bonnie Brae, Los Angeles, to 1142 West Kensington, same city.

Frederick Westcott from Apartment 202, Mayfair, Spokane, Washington, to 726 Sixth Avenue, same city.

Kenneth S. Wing from 501 Termino Avenue, Long Beach, to 4320 Olive Avenue, same city.

Henry F. Withey from 407 South Western Avenue, Los Angeles, to 15031 Ventura, Van Nuys, California.

W. W. Wurster from 2632B Hyde Street, San Francisco, to 63 Sparks Street, Cambridge, Massachusetts.

Frank Wynkoop from 420 Haberfelde Building, Bakersfield, to 1676 Chester Avenue, same city.

WINNERS OF STEEL BRIDGE COMPETITION

Prizes in the annual students' bridge design competition have been awarded by the American Institute of Steel Construction as follows:

First prize, George W. Russell; second prize, N. Clifford Prall; third prize, Curtis D. Hicks, all of Iowa State College.

The subject of the design for this year's competition was a steel grade separation bridge carrying a highway over a four-track railroad, a navigable canal, and a dual four-lane highway to which there are connections with the overhead crossing.

NEW STATE HIGHWAY ENGINEER

George T. McCoy has begun his duties as State Highway Engineer of California, succeeding C. H. Purcell, who is now Director of the State Department of Public Works. McCoy served ten years as Assistant State Highway Engineer and he has been with the Department in different capacities since 1927. He is a graduate of Columbia University.

KINLEY MEMORIAL FELLOWSHIP

The University of Illinois announces that the Board of Trustees will consider candidates for the Kate Neal Kinley Memorial Fellowship after applications have been filed May 1. Requests for application blanks should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Architecture Building, University of Illinois.

NEW BLACKOUT METHODS

New developments plus experience gained during the past year are helping reduce the hazards of blackouts and dimouts and are making these protective measures more effective, Samuel G. Hibben, noted lighting authority, told a meeting of the American Physical Society at Mellon Institute, Pittsburgh, Pennsylvania. Mr. Hibben, who is director of applied lighting at the Westinghouse Lamp Division, Bloomfield, N. J., predicted a greater reduction in the accident toll during blackouts and dimouts once full advantage is taken of modern lighting and safety devices.

"We have learned much about blackout technique during the past year," he declared. "We know now, for instance, that when the air raid sirens sound, it is neither necessary nor desirable to sit in the dark in an atmosphere of nervous tension. The idea is to blackout the enemy not ourselves. We have learned that it is quite possible to have a complete exterior blackout without sacrificing adequate interior illumination in home or factory.

"In case of air raids or blackouts," he said, "the people should be prepared to carry on vital work without interruption. The average citizen should know how to maintain healthful conditions in his home and how to avoid accidents during the blackout period.

Present day industrial architecture represents the ideal in industrial protection. It provides such important features as windowless construction, shatterproof glass, minimum of skylights, neutral exterior coloring and light interior painting.

"Even in older industrial plants not so equipped, however, it is possible to have such protection by making full use of the most modern lighting and safety devices. The blackouts must be effective, but not at the price of an increasing accident toll.

"One of the most interesting developments in blackout technique had been that of phosphorescent and fluorescent materials," Mr. Hibben pointed out. "Phosphorescent coatings will glow in the dark without light being shined upon them, while fluorescent materials glow when irradiated by ultraviolet light which itself is invisible."

Recommending the use of luminous markers and signs to denote exits, doors and factory aisles, Mr. Hibben also described its use on clothing and automobile exteriors. In addition, he added, phosphorescent coatings may be used to outline door knobs, switches, stairs, railings, paths to air raid shelters and in many other locations.

"Blackout accidents are not necessary," he said. Early in this war, thousands of persons in Great Britain were injured because of blackout accidents in the homes and streets. We want to prevent that from happening here as much as possible — whether or not bombs fall."

LONDON'S WORST HOUSING SHORTAGE

London is suffering from the worst housing shortage since the end of the last war, and property owners and estate agents are hard put to know what to do about it. The shortage results from the fact that London's population, depleted more than two years ago by evacuations, is again rising rapidly as civil servants and office workers flock back wholesale to the city. While they were away in other parts of the country air raids destroyed thousands of homes which would otherwise have been available for them today.

Two solutions of the problem have been proposed by property owners and estate agents to the Ministry of Works and Planning and to the local housing authorities, with the assertion that if the proposals were adopted thousands of people could be accommodated. The proposals are that (1) the Ministry should increase the limitation amount of $400, which is all that is allowed for house repairs under wartime regulations, or should grant more licenses for more extensive renovations, and (2) that the local authorities should give up houses which have been kept reserved for people who have been bombed out of their homes.

The Ministry's and the local authorities' replies to these suggestions have not given much cause for belief that the situation will be alleviated in the near future. The Ministry replied that there was no likelihood of the $400 limit on repairs being raised, but that repairs had been allowed to the utmost extent that labor and materials were available. The value of work sanctioned so far since the limitation was put into effect has totalled 52,000,000 pounds (about $208,000,000) and the value of work refused, 24,000,000 pounds (about $96,000,000). The local authorities pointed out that 35,000 houses in the London area were originally reserved for air raid victims, but that the number had been considerablly scaled down since and was constantly under review.

Some idea of the situation existing may be had from examples of the shortage in four representative sections of London and its suburbs. In Kensington, all flat (apartments) except unwanted old-fashioned ones are either fully occupied or requisitioned. There are no small houses to let but plenty of big houses—and nobody wants big houses. In suburban Dulwich, where Dickens once lived and conceived some of his classic stories, there is nothing to be rented at all. Many empty houses are out of repair but could be restored if more than $400 was allowed to be spent on them. In Wembley the only way to get a house or flat is to know of somebody who is moving out and be on the spot ready to step in immediately. In Bromley, another residential suburb, there are some houses available but no flats. The worst housing situation of all exists in Central London and in the service-flat districts of Kensington and Bayswater.

BAY AREA NEEDS MORE HOUSING

Increased war housing quotas for the provision of housing facilities is necessary in the San Francisco Bay Area.

John B. Blandford, Jr., National Housing Administrator made this announcement as the result of a four day tour of Bay Area war production activities with Eugene Weston, Jr., regional representative of NHA.

According to Blandford, "the San Francisco Bay Area is one of several places in the country which must satisfy an increasing need for housing from now on."

Among the points stressed by Blandford were:

1. House in-migrant war workers with the minimum use of war materials. Blandford pointed out that while in the past over 8,000 pounds of critical materials were used in the construction of many dwellings, today new public housing uses as little as 2,000 pounds per unit. "This even can be reduced," he said, "through conversion of existing dwellings." He explained that a family can be housed through expenditure of as little as $1,000 through converting an existing dwelling into additional housing quarters as against a new public housing unit costing substantially more.

2. Support of realtors and builders and property owners of the conversion program will justify government increase of conversion quotas. Blandford explained that when a conversion quota is set for an area, materials are reserved for the construction. Large quotas are not established which would hold up large amounts of building materials if it appears that building interests and property owners will not take up the program. But, he pointed out, as more property is converted and the need for housing continues, proportionately larger conversion quotas would be allowed the area.

3. The National Housing Agency is making every effort to streamline application procedures and that much has been accomplished already since NHA has been made a claimant agency for materials and through cooperation of FHA, HOLC and other

production agencies affiliated with the NHA.

4. Private builders and contractors and communities may look to a continued building program in post war days. Blandford pointed out that there will be much left to do in construction of low income housing to aid members of the armed forces and industrial workers who must be readjusted to peace time conditions after the war and to promote a resumption of normal activities in the building industry.

Blandford expressed entire satisfaction with the progress already made by city and housing officials throughout the Bay Area. He lauded the efforts of war industries in their cooperation with individual communities during this critical housing period.

"On the other hand," Blandford declared, "there is a big job yet to be done and I sincerely hope that all private and public construction quotas allocated are promptly taken up by the home owners and builders.

"I have utmost confidence in the judgment of the National Housing Regional staff in their recommendations to Washington and I believe that through public and private cooperation with NHA officials, necessary housing needs in this area will be met adequately."

1942 CONSTRUCTION FIGURES

War construction activity in 1942, which reached a total value of $12,145,059,000, more than doubled the 1941 volume and amounted to more than 97 per cent of the program for this year.

Direct military construction during 1942 was three times the volume of the previous year, and factory construction was 2½ times the 1941 total. Housing construction in the war production areas maintained the 1941 level, while construction of privately financed factories declined.

The monthly volume of construction, which reached a peak of $1,406,015,000 in August, declined for the fourth successive month to $973,285,000 in December, a 31 per cent drop from the year's high. The decline in monthly volume from November to December was 13 per cent. As an in-

dication of the trend for 1943, there was a further decline of 8 per cent for January.

As a total, direct military construction in December was 16 per cent under the November figure and the downward trend continued through January. War housing and public works construction dropped from $121,671,000 in November to $121,000,000 in December, a decline of 1 per cent. Privately financed housing and public works construction showed moderate decreases, while government financed war housing showed a gain of 5 per cent.

Activity on government financed industrial expansion, including construction volume and machinery and equipment deliveries combined, which reached a total value of $641,005,000 in November, dropped to $605,458,000 in December, a loss of 6 per cent. The volume of factory construction continued downward, being off 12 per cent from November, while machinery and equipment deliveries showed a gain of 1 per cent. Further increases in machinery and equipment deliveries, and decreases in plant construction, are forecast for the next few months.

LEGAL DECISIONS AFFECTING BUILDERS

(Courtesy Practical Builder)

A contractor had taken a contract to construct two duplexes. The owner insisted on supplying all the required materials since he had already bought and paid for these. One clause of the contract read as follows: "If the said contractor finds that the materials are not supplied as specified herein, he shall notify the owner by registered mail within 24 hours."

A week after starting work the contractor was notified by his foreman that a shipment of brick had not arrived and that they would be held up, for the day at least.

The contractor instructed the foreman to proceed with the work as best he could, promising to get in touch with the owner to straighten out the matter.

The contractor wrote to the owner and claimed the penalty allowed by the contract. Although he instructed his clerk to send the letter by registered mail, this was not done.

The owner received the letter but refused to pay the stipulated penalty contending that it was necessary for the contractor to notify him in exactly the method stipulated in the contract.

When the case was brought up in Supreme Court it was ruled that the owner should pay the penalty; that the method of delivery was immaterial as long as the notice was delivered.

MANUFACTURER WINS OVER CONTRACTOR

A contractor wrote to a manufacturer: "I am bidding on the Ajax Apartments. Enclosed are specifications and list of my requirements. Kindly quote me your lowest prices."

The manufacturer responded promptly and the contractor immediately thereafter submitted his bid, basing his price on the quotations received. Three days afterwards the manufacturer wrote to the contractor, "Owing to the general uncertainty in the supply market, am forced to withdraw my last quotations."

"I bid on the strength of your quotations and my bid has been accepted. I intend to hold you to your offer which you couldn't withdraw when you knew I was bidding on the strength of it," the contractor wrote back to the manufacturer. He sued for damages, but lost.

In deciding in the manufacturer's favor, the court said: "In this case the manufacturer offered to deliver the material in return for the contractor's acceptance, not for his bid, which was a matter of indifference to the manufacturer. That offer (to deliver) could become a promise to deliver only when the equivalent was received —that is, when the contractor promised to take and pay for the material. There is no room in this situation for the doctrine of 'promissory estoppel.'"

THE KAWNEER COMPETITION

The store front competition recently sponsored by the Kawneer Company and Pencil Points has been judged and according to the latter the designs were far from satisfactory from the viewpoint of newness and originality. Most of the drawings submitted were not unlike what the jury had seen before. Pencil Points asks, "What is wrong? Are we being too captious or too exciting when we expect still greater freshness of invention, still more mature imagination? After all, the architect is supposed to be a creator, an originator."

First prize in the competition was awarded to Seymour R. Joseph of New York; second to Gus Larson and Geo. Storz (designers) of Chicago and third prize to Maynard Lyndon of Los Angeles.

Honorable Mentions went to Stanley Sharp and Jedd Reisner of San Francisco; Donald E. Olsen and Alvin Fingado (designers) of Berkeley while W. R. Smith and R. W. Dickinson of Pasadena came in for "special commendation."

Samuel E. Lunden of Los Angeles was a member of the jury.

JOHN D. GALLOWAY, C. E.

John D. Galloway, C. E., prominent California engineer, and identified with some of the most important engineering projects on the Pacific Coast for nearly half a century, died March 10 in Berkeley. He had failed rapidly since the death of his wife some months ago. He was 73.

Mr. Galloway was born in San Jose and was graduated from the Rose Polytechnic Institute in 1889 with a civil engineering bachelor of science degree.

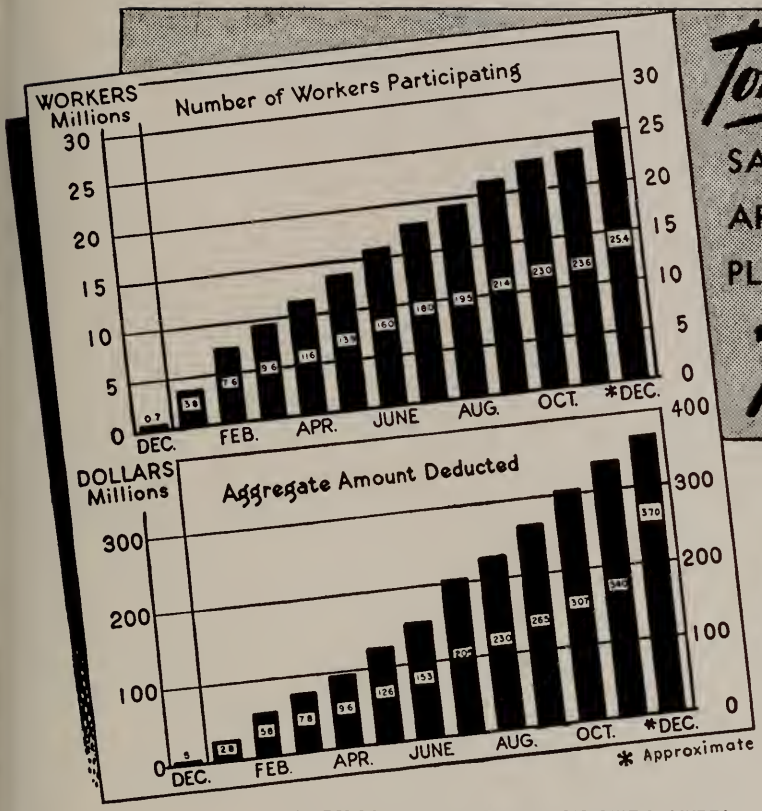
From 1892 to 1896 he was chief engineer for a general contracting firm. Later he was instructor in drawing at the California School of Mechanical Arts. In 1900, he started a private practice which continued to his recent ill health.

He was an Army major in World War I. Among the many projects included in his private practice have been the San Mateo bridge, the stanislaus, Las Plumas and Moccasin hydroelectric plants, the great Shasta Dam and the Coyote Dam. He was one of three engineers named to study several plans to bridge San Francisco Bay.

Mr. Galloway was the only man ever to receive the Thomas Fitch Rowland engineering prize and membership in the American Society of Civil Engineers simultaneously. Other organizations of which he was a member were Astronomical Society of the Pacific, Society of American Military Engineers, Seismological Society of America, California Historical Society, Bohemian Club, Commonwealth Club and the Lick School.

FENESTRA WINDOW COMPETITION

Now the Detroit Steel Products Company has joined the competition sponsors. It is calling for a "better post-war window for (a) hospitals and (b) small houses. Cash awards will total $2,000. Competition closes March 26. An all-Eastern jury will preside.



Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

Save with

War Savings Bonds

This space is a contribution to America's all-out war effort by

THE ARCHITECT AND ENGINEER

Housing Authority of the
City & County of San Francisco
Valencia Gardens Housing Project
Meyer Construction Co., Contractors

Meeting Wartime Needs with Permanent Housing . . .

IN MEETING the requirements of wartime adaptability for all materials used in the Valencia Gardens project Pacific Products — Golden Gate Cement and Empire Hardwall Plaster — also contributed **permanence** to the structure. ☆ For every Pacific Product is designed to outlast the life of the building . . . reducing depreciation and upkeep to a minimum. ☆ Like all building materials, Pacific Products are today being devoted to one purpose only — VICTORY.

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FOR SOUND CONSTRUCTION

ARCHITECT AND ENGINEER

APRIL, 1943

Prefabrication and Good Architecture

U. S. Naval Hospital, Long Beach

Houses for Human Beings

THE CUSTOM PRE-FABRICATED HOUSE IS HERE

TWO OF 200 PRE-FABRICATED DWELLINGS AT BENICIA, CALIFORNIA

The Benicia houses, pictured in this issue, while pre-fabricated, were studied and planned by Architect Russell G. de Lappe with the same careful attention to individual needs and good design as would be given a privately built home. The Benicia project has four distinct types of houses with fourteen different floor plans. Custom-built houses, like these, may be finished in fifteen days, later may be taken down and put up somewhere else with less than 5% loss.

THE BUILDERS WERE **CLAUDE T. LINDSAY,** General Contractor,
824 Taraval Street, San Francisco, and
MARTEL WILSON, Stockton, California

Fabrication by CENTRAL LUMBER COMPANY
1001 East Channel Street, Stockton

ARCHITECT AND ENGINEER

APRIL, 1943

Vol. 153 No. 1

COVER DESIGN: Stephen Brohaus

PHOTOGRAPHY: Roger Sturtevant (Benicia War Housing)
Official U. S. Navy Photographer (Long Beach Hospital)
Highton, Federal Works Agency (Sculpture)

THIS ISSUE

Illustrations

ARCHITECT AND ENGINEER (Established 1905) is published on the 15th of the month by The Architect and Engineer, Inc., 68 Post Street, San Francisco. President, K. P. Kierulff; Vice President, Fred'k W. Jones; Secretary and Business Manager, L. B. Penhorwood; Advertising Manager, V. E. Atkinson, Jr.

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NEXT MONTH

Post-war schools is a subject that is going to demand a great deal of study and thought by architects from this time on. There will unquestionably be some important changes in design and equipment. Already many of our schools give evidence of needs for replacements, modernization, repairs and new facilities. New building methods and the acceptance of substitute materials will have an important bearing on post-war school house planning.

Featured next month in this magazine will be some of the recent schools of Ernest J. Kump and Associates, including the Wasco Union High School, the Exeter Union High School, Ducor Union Elementary School and the Carmel Unified District School. Plans and descriptive matter will accompany a generous collection of excellent photographs, and text matter by J. L. Reid, a member of Mr. Kump's staff, who will discuss post war school planning as he sees it, will round out an issue of exceptional interest.

Another May feature will be a timely article by Cyril Ainsworth on "Correct Lighting Protects Against Sabotage," being an outline of present day requirements for protective lighting of industrial plants.

* In military service—Lieut., U.S.N.R.

ELECTRICAL SERVICE— FIRST ON YOUR LIST

The architect's testing time comes after a client has lived in the new home for a while. It is when the owners begin to find flaws of imperfect planning, such as faults in planning the electrical service

If the home has few or no servants, the owners soon discover if electrical outlets are missing where they are needed, or if outlets or switches are inconveniently placed. Just one or two experiences of having to disconnect the radio or electric clock in order to use the vacuum cleaner or having to crawl under or move a heavy piece of furniture to connect or disconnect a lamp or appliance — and the architect has come under severe criticism.

Whatever the architect's plans of the future call for, one thing is certain, and that is that electrical service will be at the top of the list of important considerations in home planning.

Haphazard placing of outlets and switches, and miserly scattering of outlets, will not be tolerated by those with the discrimination to have an individually built, architecturally designed home.

This is an excellent time to study electrical service planning — to keep an eye on the electrical developments of today. Today's novelties will be standard equipment when you start blueprinting for the new homes of the electrical era.

NORTHERN CALIFORNIA
ELECTRICAL BUREAU
1355 Market Street
San Francisco

RUNNING FIRE — by MARK DANIELS

• *"AFTER US THE DELUGE"*

After years of storming the aesthetic front, the antis have finally taken that salient so heroically defended by the architects during the Mid-Victorian campaign. The antis, and by that I mean that mass of people who are anti anything that might justify the existence of what is now known as an architect, have so swept the field that they are proposing legislation aimed at the all but abolition of the architect as he now practices his profession. If the numerous bills that are now before the California State Legislature relating to the practice of architecture are enacted into law, this long controversy will be swept along in the flood with other deteitus of professional ideals.

When Madame de Pompadour cried out, "Apres nous le deluge!" she, as well as Louis XV, knew that they themselves had moved the key-log. And so may the oncoming surge be laid at the door of the architects themselves for, judging by some of the work, civilization no longer needs such a profession. Further, so much of the work that is called architectural bears such similarity to the work of engineers, ship builders and traffic experts, that the public hardly can be blamed for concluding that either we no longer need architects or we have none.

And so, if this be the state of public opinion all this hubbub at the state Capitol would seem to be superfluous, or a bit late.

• *TWO VIEWS*

The various pictures of what this country is going through and what it looks like today have finally crystalized into two general and opposed ones. Here is a brief of one that lies on my desk:

Cities and towns war-swollen; women, children and war workers huddled by the roadsides in tents; workers driven from place to place seeking shelter; cities, and in fact the whole country, altered by rising factories; revolution, industrial and perhaps otherwise, threatening over night; victory gardens destroying our landscape; cantonments, bomber bases, aircraft, ship building, steel and magnesium plants ruining our country side; speculative builders capitalizing the calamity; every nook and cranny crammed with workers.

Well, that's one picture from a current publication. If it is not yours try this one:

Labor at last taking its hard earned place; children wearing good clothes; hundreds of thousands of small, growing bank accounts; law to protect the workers; no more evictions; no bread lines; the hum of activity on all sides; shops full of people; new, clean houses for workers; dawning industrial peace; better schools filled with happier children; controlled prices; a better distribution of wealth.

How a picture is going to look depends upon where you sit—and—whether you wear dark glasses.

• *FORESIGHT AND HINDSIGHT*

Personally I get a little bit fed up on all these things that could be avoided by "just a little foresight". Certainly, within reasonable limits, forethought and planning can eliminate much waste and trouble, but when it comes to planning for future conditions about which we know nothing and can know nothing it often makes nothing but grief.

In England the roads came before the railroads which obviated most of the death dealing surface crossings that have been so disastrous in the United States, but air transportation may obviate both and no amount of foresight could have helped that. Wireless transmission of power seems to be in the offing. We might plan for it but before it happens we may insulate gravity. If Steinmetz had lived a few years longer we might be a lot closer to that. Ruml nearly put his plan over. Who knows but we may someday live in a taxless age, but I don't think we ought to plan for that either.

• *RATIONED READING*

As evidence that the publishers are doing their best to get into step with the O. P. A. is the fact that some have adopted an eight point agate.

• *THE MESSAGE OF MADAME CHIANG*

The burden of the message that Madame Chiang Kai-shek brought to us was beautiful and general. True, she resorted to an occasional specific statement but the general effect was that of a series of more or less baccalaureate sermons on the principle of true human relations which were not entirely new to most of us. True, they had a sort of Confucian flavor but even those sounded slightly as if they had been learned in this country.

This is not to decry in any way the charm of her song or the fervor with which it was delivered, but in the capacity of an emissary from one country to another some of us hoped to hear more about the country whence she came. The Manchurian question, the attitude of her people toward the Manchukuoan situation, the degree of unity that may exist between the various provinces of China, are subjects upon which all of us would like to be further enlightened. Most of us think that in China there is about the same feeling between the north and south that existed in this country shortly after the Civil War. Neither we, nor any other people, can be told too often that the question of creed or color cannot be allowed to enter too strongly into the considerations of human relations, and that holds doubly true in our relations with China which we have always loved and are learning to respect more each year that passes; but we would also like to know more about China's intimate problems, how she is going to handle the unification of that great polyglot nation, how we can help most effectively, for help we will, now that China's first lady has talked to us in person.

• *BOUQUET*

Editor, Architect and Engineer:

I have been receiving copies of Architect and Engineer and am truly delighted with the magazine. . . . the whole format and content is fascinating, not only to the engineer but to the layman.

I particularly was interested in Sally Carrighar's article, as the FHA is building precisely the same dormitories at Fort McClellan where I am employed as draftsman. The issue circulated freely among those in the office of the Area Engineer and evoked much appreciative comment.

Sincerely yours,
KATHLEEN SUTTON.

Anniston, Alabama

AMERICAN PENWOMEN SPONSOR ARTS AND CRAFTS SHOW

Drawing unusual public interest at the De Young Museum this month is the annual exhibition of arts and crafts by the San Francisco Branch of the League of American Penwomen. In contrast to its former annuals, the League this year carries an equal quantity of "masculine" art having opened its show to the works of artists now in the armed forces. Oils and watercolors form the major portion of work by members of the League, the S. F. Branch of which is headed by Mrs. R. C. Ray. Contributions from soldiers, sailors and marines include everything from rough charcoal drawings and cartoons to examples of all the painting and graphic art mediums.

Through the cooperation of Mr. Charles Cooper who has drawn from the results of the weekly sketching and painting classes at his Arts Personal Contact Bureau, Jean Turner, Art Chairman of the Penwomen, and various service clubs such as the USO and the National Defenders' Club, the works of these service men have been gathered for the show. Awards are being made to exhibiting artists by a jury composed of E. Bruce Douglas, Jules Pages and Captain Paul Williamson.

The two exhibitions—the one devoted exclusively to work of the Penwomen themselves, the other representing artists in the armed forces—will remain on view through April.

DAVID SCOTT, ESQ. OF DUNNIALD,
by George Romney (1734-1802)
A recent acquisition at the de Young Museum

ALBERT M. BENDER MEMORIAL GRANTS AGAIN BEING CONTESTED

The San Francisco Art Association has announced two grants-in-aid from the Albert M. Bender Memorial Fund to be opened to competition on May 1.

The grants are in art and literature. Each is worth $750 for the year 1943-44.

The competition will be confined to persons of at least two years' residence in the San Francisco Bay Area. They are without restriction as to sex, race, color or creed, and for work which it is assumed will be completed within the grant period of one year.

Applications for the grant in art should be limited to the fields of painting and sculpture, said Eldridge T. Spencer, president of the Association.

Works in creative writing may cover a broad field, provided they are not of a reasearch character. Information and application forms may be obtained from the San Francisco Art Association. All entries must be filed by May 1.

Winners of the first awards, in 1942, were Richard E. O'Hanlon, art, and Jeanne McGahey, literature.

ANCIENT GREEK ART AT THE M. H. DE YOUNG MUSEUM

Idealism and Naturalism in the Art of Ancient Greece, the second in the educational exhibition series reviewing the history of art, was on view at the De Young Museum, San Francisco, the first half of the current month. The exhibit, illustrated through photographs and explanatory labels, certain aspects of the life and art of the Greeks and the contributions of this ancient culture to subsequent civilizations.

In conjunction with this exhibit, Miriam Sweeney, Acting Educational Director, gave a gallery talk on Saturday, April 10th. She described the Greek tradition as it has influenced art and taste since the fifth century, B. C.

EARTHQUAKE AND FIRE PHOTOS AT THE LEGION OF HONOR

The California Palace of the Legion of Honor has fallen heir to some 200 of the late Dr. Arnold Genthe's negatives and has reprinted 39 of his San Francisco fire series for showing at the San Francisco Palace this month. As sheer photography these remain among the finest plates of all time, and as documentation of the disaster they are beyond comparison. Their sharpness and definition and power may be due to the fact that Genthe did not have time to make them "pictorial" after the

AN EVER CHANGING WORLD

HOT JAZZ AT THE SAN FRANCISCO MUSEUM OF ART

DRAWING BY JAMES McCRAY

impressionistic fashion of that time. At all events they are works of extraordinary virtuosity.

The Legion is also showing marines by Leon Lundmark, conventional but sometimes not ineffective, and paintings by Martin Baer of Carmel. Baer has painted all over the world, and seems to take special pleasure in subtropical landscapes and in Latin types and characters.

HOT JAZZ SERIES TO TERMINATE WITH CONCERT COUP IN MAY

The series of programs of authentic Hot Jazz at the San Francisco Museum has been drawing record crowds for the past two months. Encouraged, the Museum plans the final coup for May. For this, the world's finest jazz musicians will be assembled for the first time in more than twenty years. The Museum has gone to a great deal of trouble to locate these men, many of whom had sunk into relative obscurity when the commercial forms of Tin Pan Alley took over the stage of popular music. They have been discovered in various parts of the country and will be imported for this historic occasion. Together they will be presented by the Museum in concert, perhaps for the last time in the history of this significant phase of American music. The date of the concert will be advertised.

SUGGESTIONS FOR A "SAFETY TOWN" BY UNIVERSITY OF CALIFORNIA STUDENTS

During April the San Francisco Museum of Art is showing two proposed solutions to two important problems of modern city design. Cities, as Giedion has said, are more than masses of stone. They can be a great deal more than they are today, as everyone knows. But if the huge areas of rubble and blight which have developed as much from prewar neglect as from bombing are to be wiped out, how should we go about it? Let us think now of intelligent replacement.

The Museum shows demonstrate thoughts about replacement; they approach two problems among the many. There has been much comment in the south about Carl Troedsson's "Safety-Town". Troedsson devised two systems of traffic, one for pedestrians, the other for vehicles. All points of the community may be reached by either one, but neither system meets the other. People can walk to business and never see a crowded thoroughfare. Children never need to cross the path of motor traffic. Here playgrounds are located for both young and old, and small neighborhood plazas afford outdoor peace and relaxation. For motorists the right of way is swift, clearly defined and unobstructed by pedestrians and playing children.

At the San Francisco Museum the plans for "Safety-Town" are supplemented in the exhibition by suggestions for ameliorating the problems of the twenty-five foot lot both in individual cases and in street treatment as the speculative building of row houses. These suggestions were prepared by

students of the Department of Architecture at the University of California under Howard Moise.

Both schemes will be on display through May 2.

DR. JERMAYNE MacAGY NAMED LEGION OF HONOR ACTING DIRECTOR

The Board of Trustees of the California Palace of the Legion of Honor have announced the appointment of Dr. Jermayne MacAgy as Acting Director in the absence of Thomas Carr Howe, Jr., now serving as a lieutenant in the United States Navy

Dr. MacAgy became associated with the California Palace of the Legion of Honor as assistant instructor in 1941, coming West from the Cleveland Museum of Art. She is a graduate of Radcliffe College, and later carried on special graduate work at both the Fogg Art Museum and Western Reserve University. One of the youngest women to fill the important post of Museum Director, Dr. MacAgy was born in 1914 in Cleveland, Ohio.

JUNIOR COLLEGE ART SHOW

Another "annual" to appear on the De Young walls this month is the 8th Annual Exhibition of Fine and Applied Arts by students of Northern California Jr. Colleges. Art students from San Mateo, Marin, San Francisco and Salinas are represented. Sponsored by the art section of the Northern California Jr. College Association, of which Miss Donna Davis is chairman, the present showing includes examples of graphic art, photography, ceramics, wood carving, metal craft and jewelry, and textile weaving. In spite of the problems arising from a younger generation training for war, the current Jr. College Annual has managed to maintain its fine selective standard of former years.

Index To Advertisers

*Indicates Alternate Months

The U. S. Navy Hospital, Long Beach, California, Claude Beelman, Architect

AGAIN, HAWS SERVES THE NAVY

At many of the Navy's Training Stations throughout the country HAWS Drinking Fountains are installed to dispense drinking water with utmost sanitation to our fighting men. Where our Navy sends its men to rest and regain their health HAWS serves with the same efficiency. The HAWS angle-stream fountain head assures complete sanitation.

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How steel-framed buildings stand up under bombings

THE bomb exploded right at the corner of this building. Two of the main steel columns were sheared off—but the structure did not collapse. Most of the damage was localized in the first floor. This shows how fully steel-framed buildings resist the wholly unpredictable stresses resulting from bomb blasts —even under direct hits.

The photographs shown here are only two of 47 similar ones received from England which show steel-framed buildings hit by bombs, but not demolished. Note also how the steel window sash has withstood the blast of the bomb, most of it remaining intact.

Here is a quotation from the report of the British Steelwork Assn., which collaborated with the British Government authorities in studying this modern structural problem:

"The fully steel-framed building has suffered only to a very minor extent and has shown remarkable resilience, which has tended to localize the damage. This local damage, in many cases, has been subject to rapid repair."

These results indicate that the American type of skyscraper is a very safe structure. London authorities wish they had more of them.

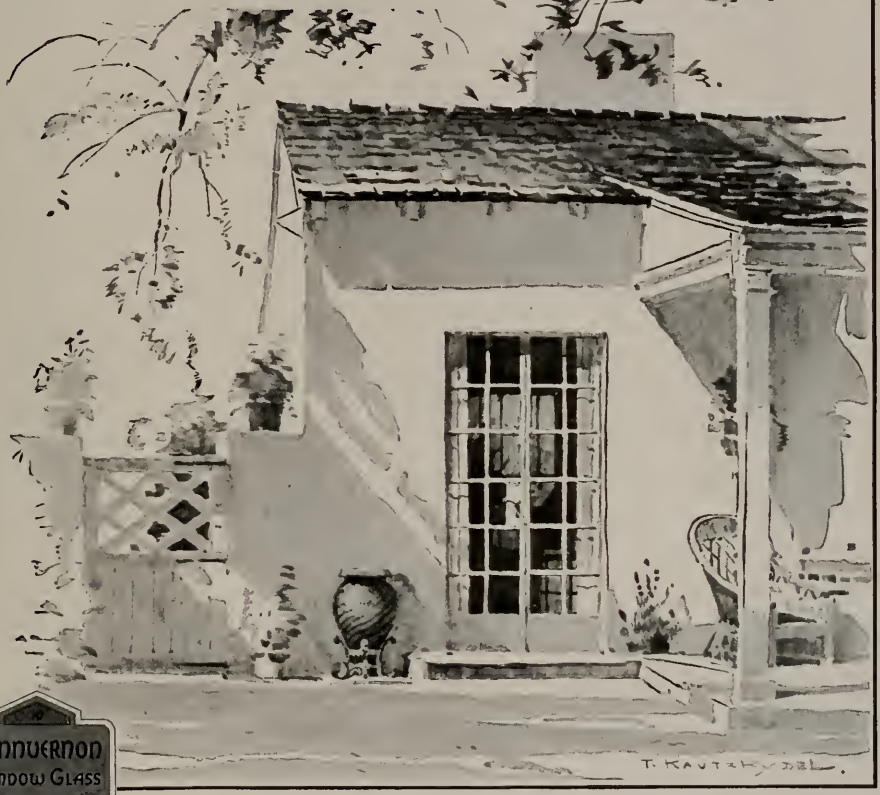
Attention is called to the value of soundly jointed structures which are able to resist both the inward pressure of the explosion and the outward pull of the suction. This is particularly recommended in the case of main beams in single-story factory construction where prevention of "spreading collapse" is desired.

Lessons learned from this war point to a greater use of steel for all types of structures in the future.

1. *Steel-framed structures ha the ability to withstand seve punishment from bombing wit out disintegrating as is the co with plain masonry structure*

2. *Close-up view shows ho bomb struck the corner of t foundation of this steel-fram apartment building. Two ma columns were blasted away b the damage was localized in t first floor.*

USE "PENNVERNON"...
NOT JUST "WINDOW GLASS"



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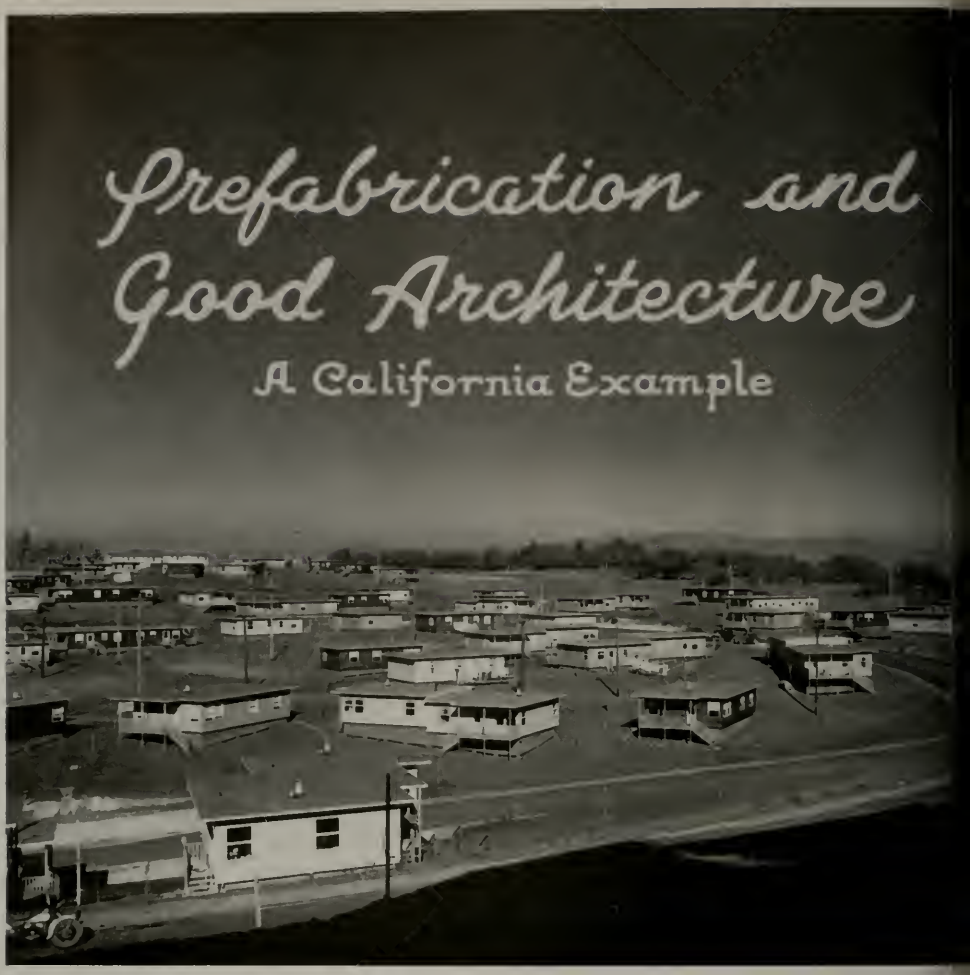
Prefabrication and Good Architecture

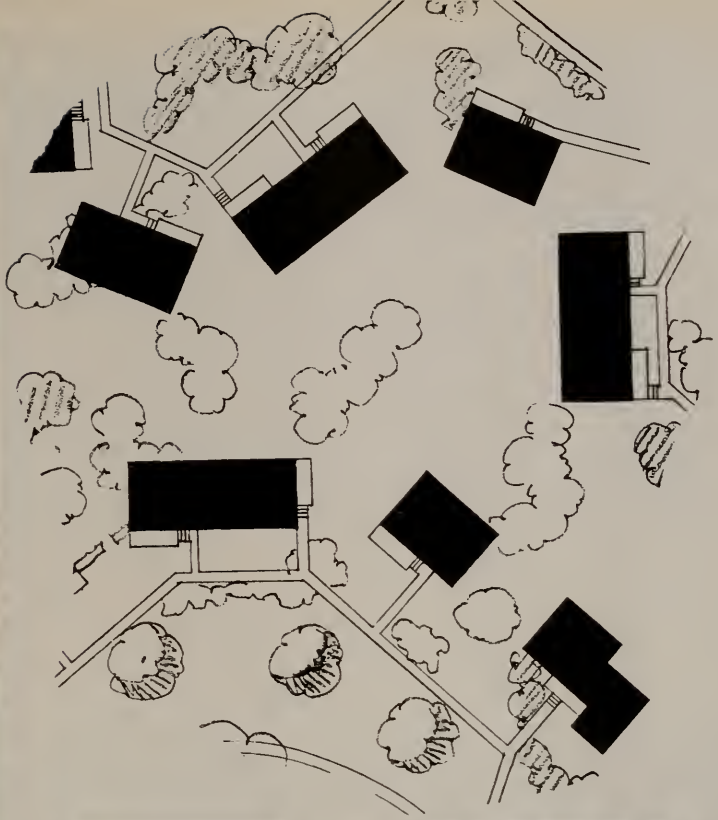
A California Example



By SALLY CARRIGHAR

The other day we were thinking that "prefabrication" can mean a prebuilt cupboard or a mail-order house, and that this type of construction would benefit by a larger vocabulary. Then Mr. Martel Wilson came along with a donation: "custom-built house." As he uses it, the phrase isn't a phony snob-label. It has the literal meaning of "custom-built"—built in a factory **to the customer's specifications.** A custom-built house is an entire house, so completely finished at the factory that it can be put up in half a day at the site—but **your** house, from the Dutch door your wife wanted in the kitchen to the special cupboard for storing your ski equipment. It is a kind of prefabrication that not only tolerates the private architect, but requires his help.

Mr. Wilson and his associates were producing custom-prefabricated houses in Stockton before the war, as early as 1936, long enough to prove that such houses may be finished in 15 days, and from 5 to 10 per cent more economically than houses built on site. (There is another advantage to a custom-built house: it can be taken down at any time and put up somewhere else with a loss of only about 5 per cent of the original cost. To be able to move around and take your house with you may be desirable in the post-war world.) More than 300



FRANCESCA TERRACE, war housing project at Benicia, proves that it is possible to get the economies of mass construction without monotony. Credit to the staff of the Federal Public Housing Authority, to Architect Russell G. deLappe, and to the Central Lumber Company of Stockton, prefabricators with experience in custom-building. All shared the wish to give each of the 200 dwelling units individuality; all contributed ideas for doing it.

Right—An effect of rural freedom was gained by placing many houses away from streets, on walks of redwood planks.

Above—Detail of plot plan.

of the Wilsons' Central Lumber Company houses are scattered around the Sacramento-San Joaquin Valley, undistinguishable from other houses built to architects' plans.

A house-factory like the Central Lumber Company could, of course, turn out duplicate structures if any customer wanted them. A customer that did, Uncle Sam, soon came along. For the present, the Company's true custom-building is over-shadowed by mass production, but even so, in its 200 products at Benicia, certain phases of the custom-built method can be observed. (Turn to Page 19)

FRANCESCA TERRACE -- BENICIA CALIFORNIA
RUSSELL G. de LAPPE -- ARCHITECT

IMAGINATION WENT INTO THE PLOT PLAN. THE SITE, RATHER THAN THE RULER, DETERMINED THE PLACING OF EACH HOUSE, SOMEWHAT COMPLICATING THE PREFABRICATION.

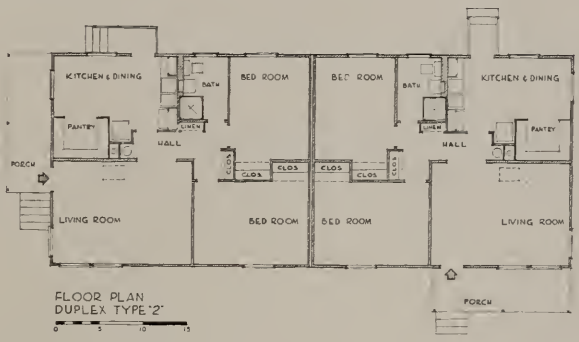
EXTERIORS ARE REDWOOD SIDING, FACTORY-FINISHED, SOME WITH PAINT, SOME WITH PIGMENT STAIN
Russell G. de Lappe, Architect

COMMUNITY CENTER—BUILT AT THE SITE BY CONVENTIONAL CONSTRUCTION
Russell G. de Lappe, Architect

FLOOR PLAN
DUPLEX TYPE "I"

Floor plan shows that usually a porch extends across the front of a Type 1 duplex. The stairway arrangement here, by which the plan was adapted to a steep hill, gives distinction to this house. Even such variations were plant-fabricated.

In the Type 2 duplexes, entrance of one unit is on the side. The simple shifting of a few elements resulted in 14 different floor plans. But arrangements of kitchen and bath are uniform, varying only in size. Note that utilities are adjacent.



CENTRAL PARKING AREAS ARE PROVIDED FOR HOUSES BUILT AWAY FROM STREETS.

Each wall was factory-built as a unit, complete with windows, doors, electric fixtures, interior and exterior finishes. Floor sections were delivered with underpinnings, ceiling sections with roof sheathing.

Uncle Sam's agent was the Federal Public Housing Authority, and the architect on these 200 dwelling units was Russell G. deLappe. The order was not literally for 200 duplicate houses. There are 18 units of 3 rooms, 122 of 4 rooms, 68 of 5 rooms, and 9 of 6 rooms. In order to avoid monotony, the architect specified front entrances in some cases, side entrances in others; some on the left, others on the right. Exterior finishes vary, but that detail didn't call for any difficult adjustment in the manufacture. All living rooms face front, and all houses are identical in the arrangement of the kitchen, bath and back porch, although the size of these elements is determined by the number of bedrooms in the unit. Foundations could not be uniform because the site is hilly and the planners made every concession they could to the irregularities in contour. Altogether, 14 different floor plans were used.

Those were some of the special conditions to be met at Benicia. Bids were thrown open for both the conventional type of construction and for prefabrication. The Central Lumber Company, with Claude T. Lindsay and Martel Wilson as prime contractors, won a negotiated contract for $728,000, a figure that made an average unit at Benicia cost $2,495, or $777 per room excluding grading, streets, landscaping, and gas, electric, sewer and water distribution systems.

Claude T. Lindsay is known in the San Francisco Bay Area as one of its more successful residential contractors and operative builders. Use of his organization at the job site admittedly was a contributing factor in speeding up the Benicia project.

The purchaser of a custom-built house gets whatever kind of construction his architect specifies. Those at Benicia have been built with studding, framed windows, and such conventional exterior surfaces as redwood siding. Martel Wilson has made a hobby of airplane design, and has built some houses for himself in which the aeronautical principles of strength-with-lightness have been applied and thoroughly proven in principle.

A custom-prefabricated house is built in wall, floor and ceiling sections. In the case of a wall, a section includes 2x4 or 2x3 studding, both sides of the wall, and the finishes. Interior walls at Benicia were of white pine plywood covered with a flat oil paint. Papered or painted walls are equally practical and a variety of exterior wall surfaces is available. The foundation for the wall surfaces is Homasote building board, used on both sides of the studding and preferred because it is strong enough to

ALL THE EARMARKS OF A PRIVATELY BUILT DWELLING

be practical in sheets up to 8x14 feet. In some cases additional material is applied over the Homasote board; in others the finish goes on the board itself, which has a texture suggesting fabric and is said to be waterproof.

When a wall section is built at the factory, all its details are incorporated: windows, doors, special features like cupboards—even a jog if there is one. A small closet is built as a detail on a wall. A large one is delivered with separate wall sections of its own.

The floors in one of the custom-built houses are even more conventional in construction than the walls. They are made complete with supporting girders, ready to be laid on the foundations. Most floor sections in the Benicia houses were 4x12 feet. Girders outlined these sections, which had internal support in the form of 2x4's on 16-inch centers, laid on ledger-strips. When the floor sections were erected at the site, adjacent girders simply were bolted together and fixed to the concrete piers.

If a custom-built house has a flat roof, ceiling sections include the roof and its supports. The roof supports in the Benicia houses were 2x4x12's, split diagonally, which gave a 4-inch fall on a 12-foot line. These overhead sections were delivered with roof sheathing and a mineral surface was applied at the site. But many of the custom-built houses have had gabled roofs specified. In such cases, the ceiling is delivered as one unit, and the roof as another. Shingles often are put on at the plant. Tile, however, is laid at the site, after the house is up.

Most trim and all hardware are added during the manufacturing process.

The feature of working where there are central stocks of materials accounts for part of the economy in custom-building a house. It never would occur to anyone wanting a custom-built car that he should order mechanical parts, paint, upholstery, trim, etc., from different firms and then employ an automobile-builder to come to his premises and put these elements together. Even the most special automobile job is produced at a factory. It seems that the same principle may apply in house-building. Apparently a house of even a highly individual design can often be put together most economically at some point where all the materials for production have been concentrated.

The efficient use of labor also helps to hold the cost down. In a plant like the one at Stockton, various parts of a house can be produced simultaneously. No one group of workmen has to wait for others. When all the wall, floor and overhead sections are finished, they are stacked in the order in which they will be assembled, and so delivered. The Benicia houses stand on concrete piers. The piers were precast ahead of the other elements and put in place. There are special efficiencies at the stage of erecting a custom-built house, as well as in fabricating it.

It isn't quite true that a "house factory" can take any plans whatsoever, and 15 days later deliver that structure. At the present stage of prefabrication, some cooperation on the part of the architect is necessary, and probably it always will be. For example, an architect can't order a wall more than 14 feet long without a joint in it, although longer walls can be made and delivered if a seam is specified. The architect must keep in mind the module, as well as his client's choice in kitchen doors.

The module is so closely related to technological methods that it probably will remain a factor of custom-built prefabrication, and may seem the greatest limitation to an architect who likes to design with a free hand. However, it is one of the chief reasons why the Stockton factory claims that it can produce more house for the budget than is possible with site-construction. The houses are fabricated on tables, which are marked off in 3- or in 4-inch modules. "The workmen can throw away their rules, for the tables furnish them with their guides," explains Mr. Wilson. The process makes it necessary for all the dimensions, including details like windows and doors, to be in multiples of 3 or 4 inches. The 3-inch module was the one used in the Benicia houses. Whether it is 3- or 4-inch is determined by the studding—2x3's, or 2x4's. By adapting his plans to these measurements, the architect helps to lower the cost.

No one in the employ of the builder says that all the processes in custom-building have been worked out to 100 per cent satisfaction.

(Turn to Page 22)

HOUSES OF THE FUTURE

By MARY BRADLEY

First woman architect to be appointed to the staff of the British Ministry of Health is Judith Ledeboer, best known for her exhibits in pre-war building trades' exhibitions and during this war for her designs for nursery schools. One of her main tasks is to act as joint secretary of a special committee—comprising architects, engineers, sociologists and builders — which is working for the Ministry of Health on the future design of houses and apartments, key problem of post-war reconstruction.

Tall, serene Miss Ledeboer never intended to be an architect. At Cambridge she graduated in history, and then as teaching or research did not appeal to her she went to the United States where she took an economics degree at Harvard. Still interested more in the practical problems of living, Miss Ledeboer decided she was "not getting down to the drains of the business' and ultimately, in 1930, passed out of the British Architectural Association's school an A.R.I.B.A.

1931 was not an ideal year to begin practice as an architect, but after working for some time in other people's drawing offices, Judith Ledeboer put her own name on her own door and found a steady flow of commissions coming her way.

From her London offices, first in St. James's, then in Bloomsbury, she and her staff worked on flats and cottages, housing estates and reconstructions. She became a Fellow of the Institute of Landscape Architects, worked at the Housing Center (voluntary "ginger" group to improve inexpensive housing) and was three times invited to prepare the feature "New Homes for Old" at the Building Trades' Exhibition at Olympia.

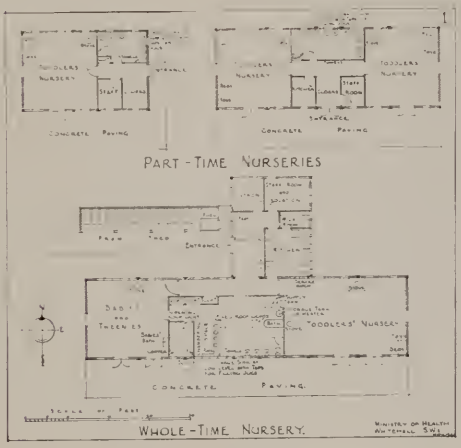
In the 1934 show she took a block of slum property due for demolition and removed it as it stood to Olympia, placing it beside a model home. Exhibits of this kind awakened the British public to what could be done in housing. At the 1936 exhibition she arranged a special feature linking town-planning with housing and followed up in 1938 with an exhibit on rural housing.

That was the last show of its kind, but in 1940, before wartime restrictions came into force, she won with George Fairweather the Royal Institute of British Architects' Wartime Industrial Housing Competition.

Large-scale evacuation of children from danger areas brought her a new type of work. The Nursery Schools' Association decided to build schools for under-fives in areas to which large numbers of children had been evacuated. Billeted on householders in rural areas, these children badly needed freedom and facilities for play under trained nursery school workers.

Miss Ledeboer drew up in collaboration with nursery training experts standard designs for inexpensive, quickly-constructed day nurseries which could be reproduced all over the country. Prefabricated standard units were used, a great economy since so many were already being produced for Service and industrial needs. With very small modifications these same Service units could be assembled into ideal nurseries.

Six nurseries of the type were built, one subsidized by the British War Relief Society of America and another by the Save the Children Federation. Ex-Governor Henry Allen of Kansas inaugurated the latter nursery at Amersham, Buckinghamshire, during a visit to Britain last year. Nurseries were planned to take forty or fifty children.



Judith Ledeboer's designs for this voluntary organization interested the Ministry of Health, who used similar standard prefabricated units in their own plans. A thousand of the Ministry's nurseries are contemplated and many of them are already in use. As in the case of Miss Ledeboer's nurseries, they are transported in sections to be set up on a concrete foundation already prepared. The assembly from detailed instructions takes about three weeks.

Housing design for post-war England is the business of the committee of which Judith Ledeboer is joint secretary, which, although it contains other women housing experts, numbers no other women architects. Her work, as far as she can see in this early stage, is to help lay down basic principles. Practical details naturally will vary with post-war conditions: availability of material, finance, distribution of population, place (if any) of private ownership, and so on.

The future homes of Britain will, if Miss Ledeboer has any say, combine the best elements of British and foreign housing. On the planning side her own feeling is that the American "green belt" scheme might well be adapted to British town planning. She would like to see household equipment of American standards available to the average British housewife, and also some form of central heating. The sleeping porch—practically unknown in England—has already appeared in one of her reconstructions.

Miss Ledeboer is, however, personally convinced that public interest and demand must be the first consideration. Some people will prefer to live in blocks of flats; others will choose garden suburbs. Some will want to live near their work; others will prefer to get right away. There should be no official campaigning for what people "**ought** to like" for economic or other reasons.

Side by side with this policy it will be necessary to show the public what can be done for the money available; how many so-called "essentials" are not really so; and how, by mass production, equipment and fittings can be available that never were before.

A step towards building up this public consciousness has been the book, "Houses We Live In," which Judith Ledeboer edited for the Ministry of Health. Published in May, 1939, it sold 11,000 copies; it showed comparative illustrations of well and ill-planned houses. It was entirely composed of pictures with only caption comment, and seemed on the surface simply a lesson in good and bad design; actually, it showed clearly that economy and suitability tend to produce houses that look good.

It is because of this broad interpretation of its functions that the Ministry has appointed the committee with its experts in design to watch the interests of the people in large-scale housing schemes throughout the country after the war.

PREFABRICATION AND GOOD ARCHITECTURE

(Continued from Page 20)

For one thing, the fabricators are having to develop new degrees of precision in construction methods, and to teach them to the craftsmen. There is no profit in manufacturing houses if sections have to be made over because they didn't fit together perfectly when they arrived at the site. With precision so important, machine methods are favored wherever it is possible to use them. For such machine methods, some materials are more practical than others. The help of architects in visualizing the possibilities would be valuable to the fabricators.

It seems certain that many people will live in prefabricated houses after the war. Then the danger will be that the requirements of machines, rather than the aesthetic needs of human beings, will determine what the houses are like. There will be pressure for the architect, even of custom-built houses, to conform to the machines. But machines can be changed. Maybe architects should design the machines, if that is the only way to secure flexibility and beauty of design in factory-produced houses.

Or perhaps there should be an effort to convert all fabricators to Martel Wilson's creed: that the method should be adjusted to the design, rather than the design to the method, wherever possible. If the future would bring forth only houses as good or better than those at Benicia, there would be nothing much to worry about.

eneral view of Naval Hospital, Long Beach, California. Courtesy Southwest Builder and Contractor

ONG BEACH HAS BEST EQUIPPED NAVAL HOSPITAL IN U. S.

ictures of the recently completed and occupied U. S. Naval Hospital at Long Beach, California, have een released by the Navy and they show a well balanced group of structures, impressively simple in design nd functional to meet the exacting requirements of Uncle Sam and the California State Building code. Accenuated vertical lines relieve the plainness of the exterior walls of the main building.

A five-story reinforced concrete administration building dominates the group which includes a subsistence ing containing mess hall and galley, ship's stores, recreation and assembly hall, library, games room, coffee hop, barber shop and chaplain's office. Extending approximately two stories above the deck of the mess all is an auditorium or assembly hall, equipped with stage and moving picture booth for entertainment. On he top floor are three well lighted and air conditioned operating rooms.

Power plant, laundry, shops and garages are housed in a separate structure in the rear. Other buildings n the grounds are the nurses' quarters and the corps men's quarters.

All of the buildings are Class A reinforced concrete construction except the nurses' building, which is Class B with reinforced concrete frame and exterior walls, wood floors and roof. The corps men's building is Class C, with concrete walls and roof and wood interior.

The Class A buildings are standard structural design with beam and slab floors and roofs, conforming o state regulations for earthquake esistance. Exterior walls were poured gainst plywood forms for exposed urfaces which are divided into square anels by depressed joints formed by leats on the forms. All windows have teel sash, and doors have hollow metal ambs. Integral waterproofing was nixed with concrete in exterior walls. All the buildings have flat roofs covered with tar paper and gravel roofing, exept the nurses' building, which has a itched roof with shingle tiles. The powerhouse and laundry have steel decks.

Main entrance to grounds, U. S. Naval Hospital, Long Beach.

The ward buildings provide a most

U. S. NAVAL HOSPITAL

Long Beach, Califarnia

Claude Beelman, Architect

R. E. Campbell, General Contractor

Above—Administrative unit, showing details of architectural concrete. Ornamentol design cast in waste moulds.

Right—Entrance marquise. Canopy with skylight rests on cylindrical steel blocks set free on granite piers.

Looking through circular glass enclosed stainless steel entrance vestibule in main lobby.

interesting contrast to civilian hospital planning. Each floor is a self-contained hospital unit. The open ward has 28 beds ranged on either side of a central aisle. The floor is terrazzo except for the aisle, which is covered with asphalt tile for quiet movement through the ward. Adjacent to the open ward are four quiet rooms with beds; solarium, doctor's office, nurses' room, laboratory, and other facilities.

With all proportions in scale, the interior of the hospital has a very comfortable appearance throughout. Space is well conserved. Ceiling heights throughout are uniformly 12 feet.

All lighting is indirect, utilizing both incandescent and fluorescent systems. There is a low-pressure steam heating system with cast-iron radiators of the hospital type. Two high-pressure boilers are provided for sterilization. Installations provide for both gas and oil fuel.

DETAIL OF ENTRANCE DOOR

U. S. NAVAL HOSPITAL

Long Beach

Left—Nurses' Building

Below—Corpsmen's Building

There are two electric elevators, serving all floors, in the administration building, both having cabs large enough for a stretcher.

Of unusual interest is the marquise at the main entrance. The canopy rests upon cylindrical blocks of stainless steel which is set free on massive piers of granite, making in effect a slip-joint to prevent damage by seismic movement. The canopy is constructed of structural steel and concrete with a skylight in the center. The entrance doors are stainless steel in modern design.

Claude Beelman of Los Angeles was the architect and R. E. Campbell of Los Angeles and Compton was the general contractor.

Reinforced concrete was the structural material employed, with a few minor exceptions. Approximately 50,000 cubic yards of concrete were placed in the buildings, ground enclosure walls, service roadway, and walks and curbs.

The first concrete was poured on December 6, 1941, and the superstructure of the hospital was completed within five months. The general contractor had the benefit of his own equipment for practically all of the work, including excavation. He set up his own steel-batching plant and steel cement silo on the grounds. Cement was delivered in bulk to the silo and concrete aggregates were supplied at the batching plant. For handling the batches, six trucks carrying three to five batches at a time were available.

Concrete for the buildings was mixed at the point of placement.

The maximum number of workers employed was 1,000. Recognition of the exceptional efforts of the general contractor, R. E. Campbell, to expedite the work, was given in the Navy Department competitive awards on comparable projects for outstanding performance in public works construction. Announcement was made by the Bureau of Yards and Docks, which gave first place to the Naval Hospital and Naval Reserve Aviation Base at Long Beach for the first quarter of 1942—January, February and March. Previous awards had been a third place for December, 1941; second place for January, 1942; and third place for February, 1942. Congratulations were extended by Secretary of the Treasury Morgenthau to the employees of R. E. Campbell for participation in the War Savings Bonds plan, averaging 11.8 per cent of the gross payroll of the organization.

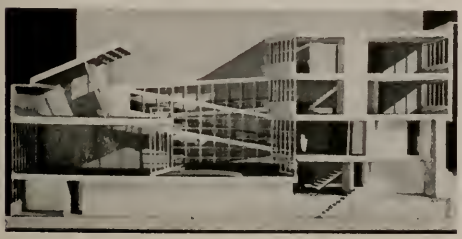
HOUSES FOR HUMAN BEINGS

Fortune Magazine for April presents an inesting and stimulating forecast of post-war housing. If we interpret the authors' meaning correctly, the functionalistic "styling" of the past few decades would be discarded for an "engineering" approach to the problems of home building. The vast technological progress in lighting, air-conditioning and sound-proofing; the rediscovery of old materials in addition to the newly found plastics, plywood and metals, would be combined with an analytical determination of the exact requirements of every foot of space of the modern home. The result: a maximum of healthful, economical efficiency.

The authors see the passing of the old-time architect with the coming of the architect-engineer.

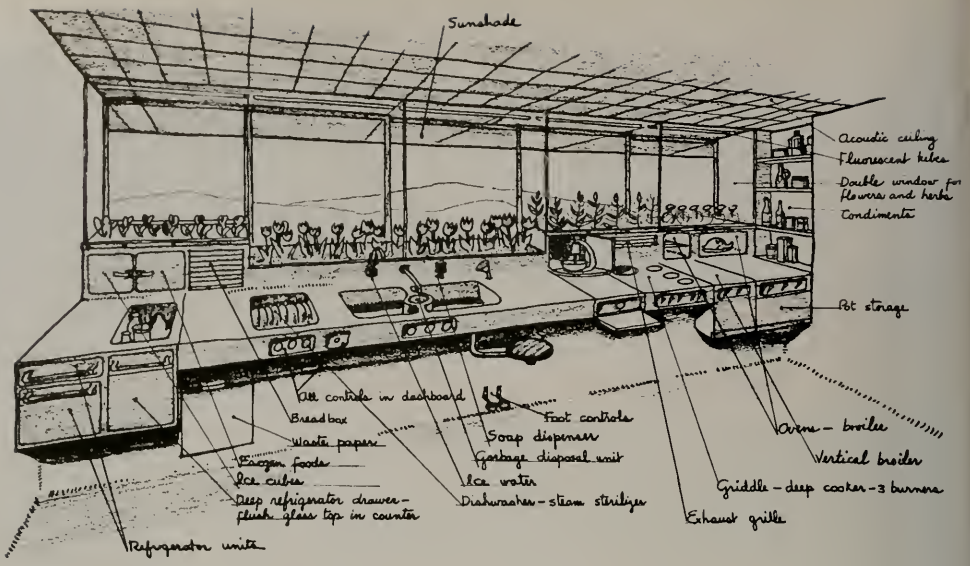
The same magnificent achievements that have characterized our war plant construction are expected to be accomplished in home post war housing. There will be little, if any, dust; no drafts, perfect air and sound conditioning, good lighting.

Fortune shows a picture (reproduced here) of Sherman Fairchild's New York City house—a masterpiece of individual design by Architects William Hamby and George Nelson. Light is achieved by splitting the house, which occupies a 25x100 ft. lot, in two parts and connecting them with long ramps alongside the court. The house is completely sound conditioned. Bath rooms and lavatories are built as units. Front walls are equipped with adjustable exterior blinds. The air-conditioning is supplemented by a dehumidifier and equipped with a Precipitron.



Revolutionary changes in the bath room and kitchen are outlined—such as: shower enclosed in transparent plastic, so as not to steam up the whole room; floor to be warm enough to walk on barefoot; the tub automatically preheated; a shower that will automatically deliver water of the right temperature; a tap that opens by knee or toe pressure against a convenient lever or pedal; electric heaters and sun lamp built into the walls or ceiling; washbasin large enough to bathe the baby and built flush with a counter containing drawers and storage space; properly drained soap dishes, so the soap will never turn to jelly; a mirror that may be pulled close to a man's face with enough light to shave with ease.

For the kitchen, the Fortune article suggests a "food preparation unit" (see illustration). "Nothing like this prefabricated unit exists," say the authors, "but it presents no great technical problems. It could be turned out for much less than the combined cost of its components. Small enough to fit in almost any house, it is



adequate for the needs of all save the most elaborate establishments."

Other home interior innovations mentioned is a sound conditioned telephone booth, now commonplace in industry, and built-in wall strips to hold lamps, desks, cabinets and bookshelves, leaving the floor clear.

Fortune acknowledges much of its source of information to Henry N. Wright and George Nelson, both members of the editorial staff of Architectural Forum.

PENTAGON COMPARED TO BARRACKS

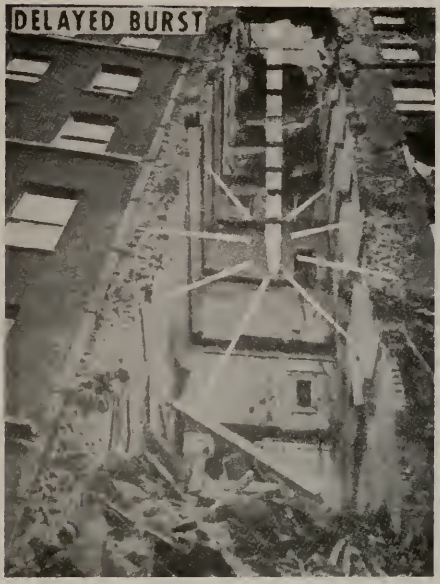
Much has been written about the more than $50,000,000 "mile around" Pentagon, War Department office building recently completed at Arlington, Va. It is a novelty in office buildings with ramps instead of stairs and escalators in place of elevators. Messengers ride the corridors on bicycles. It is a four-story building and looks like an endless barracks. In the ground story is the bus and taxi terminal. It houses 22,000 men and women. It is not likely to be a model for other office buildings and no one has claimed for it any advance in the cause of architecture. — Illinois Society of Architects' Monthly Bulletin.

BRITAIN'S BOMBED BUILDINGS

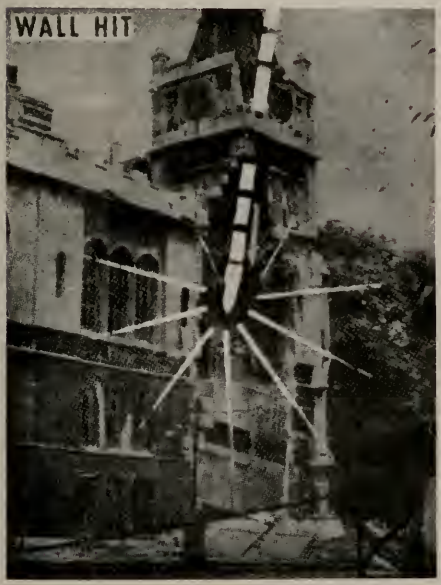
"The public mind, without necessarily deluding itself that air-raid destruction has of itself done much to bring improvement nearer, has universally identified the destruction of the congested centers of our cities with the possibilities of reconstruction. The destruction has been made to symbolize the spectacular end of an era that will not return. From this point of view the ruin, even when looked at as architecture in its own right, represents the apotheosis of the past—the intense experience of these active days crystallized into architectural shape. This is not the place to discuss the question of which damaged monuments should be restored and which demolished. Each case must be decided on its own merits, topographical, social and architectural. But when it is all over, a few of the bomb-wrecked buildings might well be left as permanent ruins—not, one hastens to add, as object-lessons for future war-mongers or for any other moral purpose—but for the sake of the intensely evocative atmosphere they possess in common with all ruins, which gives them an architectural vitality of their own; and frankly for their beauty. To posterity they will as effectively represent the dissolution of our prewar civilization as Fountains Abbey does the dissolution of the monasteries." — From "The Bombed Buildings of Britain" by J. M. Richards.

FOUR PICTURES SHOWING TYPICAL BOMB DAMAGE IN LONDON

With fuse set for contact, bomb exploded the instant it penetrated roof.



Full force of bomb was released, through delayed action, deep inside house.



Bomb, in curving flight, went through side wall and blew up on third floor.

Contact burst on street exerted no earth shock but fragments riddled walls.

SCULPTURE—THE MAN AND THE HORSE

By MICHAEL LANTZ

New Rochelle, N. Y.

Commissioned by the Public Buildings Administration, Section of Fine Arts, 1938.

The four photographs by Highton, official photographer for the Federal Works Agency, show close-ups of one of the two recently unveiled sculptures flanking the Entrance of the Federal Trade Commission Building, Constitution and Pennsylvania Avenues, Washington, D. C.

Rear View

Front View

SMASHING LIGHT BOTTLENECKS

By JEAN FRICKELTON

Smashing light bottlenecks to speed up war production is proving a "must" job before thousands of factories, shipyards and munition plants of the nation today.

With a constant demand for more speed in manufacturing and processing, scientific knowledge of light is helping both management and labor to squeeze the utmost efficiency from working hours—hours that mean lives to our fighting forces.

"Good lighting" is listed in the official Plan Book of the War Production Board as one of nine important suggestions for boosting production, for, in addition to increasing output and decreasing spoilage, good lighting is known to keep up the health and spirits of the workers.

Permitting night work is only one way in which good lighting increases production. Two or three shifts per 24 hours, instead of one, doubles or triples output. Good lighting also cuts the time required to lay out work, to assemble and adjust tools and dies, to make other necessary preparations. It enables men to work more rapidly and confidently, even on precision jobs measured in thousandths of an inch. It eliminates eyestrain and, therefore, increases the capacity of all employees, because eyestrain causes fatigue and slowdowns.

It reduces rejects, spoilage and waste, It reduces accidents.

Following are statements from men in charge of war production operations, in the Bay Region, attesting to the part good lighting plays in their work today:

PETER J. MacDONALD, chief foreman of the machine shop in a large shipbuilding plant—"We installed up-to-the-minute illumination about a year ago and the change was like coming out of a tunnel into bright sunshine. Now we have daylight all around the clock and we get a lot more done in our continuous race against time. We get better and more accurate work, too, and this is mighty important, for in some cases we work to half a thousandth of an inch. Yes, good lighting not only increases production but also safeguards against spoilage."

GEORGE WALLACE, one of the owners of a plant producing pipe bending machinery, fabricating piping and cast steel valves and fittings for the Army, Navy and Maritime Commission—"Good illumination has enabled us to work two shifts instead of one and what is more we can do more in each shift. Besides, the whole place is much safer and cleaner."

EDWARD MOES, shop foreman of this firm—"Our new lighting has made a world of difference. It has increased production between 20 and 25 per cent per shift and has improved the quality of everything we make. And it has greatly reduced eyestrain."

RAY ANSON, manager of a concern producing electrical equipment for the Army, Navy, Maritime Commission and other war industries—"In our plant good illumination has meant two shifts instead of one, because night work was impossible with our old lighting system. It has resulted in more accurate and generally better work. And it has duplicated in our drafting room the benefits it brought to the machine shop."

GUSTAVE WOLF, owner of a plant making screw machine products for the Army and Navy—"Thanks to good lighting, we now operate 24 hours a day; without it we would be limited to one shift. There is no shadow or glare and our men can see perfectly. As a result they work about twice as fast as formerly. Believe it or not, some of our employees are so enthusiastic about the illumination they would rather work at night than by day."

To help speed war production, the following "first aid" recommendations have been suggested by experts to eliminate lighting evils that are handicapping war workers:

Direct Glare . . . It is no new problem to have too much light in a worker's eyes, too little on his work. The first step to effect a cure is to shade lamps properly, put the light where it belongs and in so doing save as much as 60% of light that may otherwise be wasted.

Reflected Glare . . . This is a problem in two phases. It is often more objectionable than di-

rect glare, and frequently more harmful. A change from concentrated light sources to a large-area light source is the first and best cure. Adequate covering to assure diffusion, plus proper placing of offending supplementary units, can help.

Daylight Glare . . . Improper placement of drafting boards, desks, etc., can cause time loss resulting from glare from direct daylight. The cure is to shade the window or, wherever possible, shift working surfaces to put natural light on the working plane instead of in the worker's eyes.

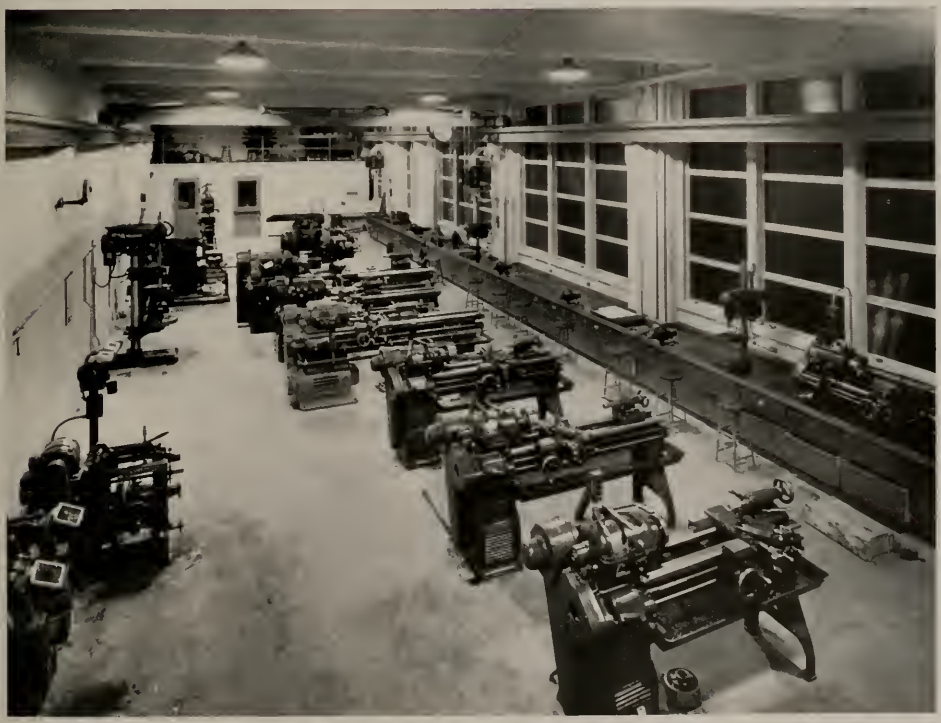
Dirt . . . This is commonest of all lighting bottlenecks and the easiest to cure. Dirty lamps and fixtures or windows frosted with grime can cut lighting levels as much as 50%. A regular soap and water schedule is essential, and for many installations equipment must be taken down for thorough washing.

Reflected Daylight Glare . . . This is natural light that bounces from work plane to eyes. Its only cure is shading the source or providing a high enough indoor intensity to offset as much reflected daylight as possible.

Point-light Source Reflections . . . Light reflected from curved work surfaces is concentrated by a point-light source. It can be minimized by shifting the lamp, shading, diffusing or changing to a long light source.

Shadows : : : Every worker knows the problem of "standing in his own light." Belts, beams, cranes, and tool racks all aggravate this trouble. The complete cure is adequate general lighting. The next best remedy is to increase the number of light sources.

Procedure Chart Lighting . . . Here eyes must change focus constantly, look through the pool of light over the machine at a less highly illuminated procedure, blueprint, or scale table. The cure is to equalize the illumination on machine and chart.



War plant where modern lighting has speeded production.

PEDESTRIAN TUNNEL FROM GARAGE TO HOTEL

When the Union Square Garage was featured in Architect and Engineer last October the tunnel under Powell Street from the garage to the St. Francis Hotel was incomplete so no suitable pictures were available. Recently with completion of the project Pacific Hotel & Restaurant Review (Irvin Keeler owner) showed several photos and a drawing of the tunnel which are reproduced here by courtesy of that publication.

In the tunnel there is a sense of security and convenience. There is no grade.

The garage is operated by a private concessionaire and the bonds making possible its construction were subscribed to by San Francisco and adjoining property owners and business houses. The Crocker Hotel Company owners and operators of the Hotel St. Francis, negotiated with the city and the garage company, resulting in the construction of a modern, well illuminated and safe tunnel connecting the garage and hotel.

On the first floor of the garage is the tunnel entrance to the St. Francis Hotel.

Architect's drawing of St. Francis Hotel-Union Square Garage Tunnel under Powell Street, San Francisco

Albert C. Martin, Sr. (right) and eldest son Abert C. Martin, Jr. (left).

MARTIN, SR., TAKES A PARTNER, MARTIN, JR.

A. C. Martin, one of Southern California's few remaining veteran architects, has taken his son, Albert C. Martin, Jr., into partnership and the firm will hereafter be known as Martin and Martin, architects and engineers. Young Martin received his degree at the University of Southern California following which he traveled abroad for more than six months, visiting by auto important centers in Italy and France, and making a special study of cathedral architecture.

Mr. Martin's younger son, Edward, is serving his country in the Navy construction forces and as a licensed engineer the young Seabee will probably in time become a third member of the Martin organization. Mr. Martin, Sr., designed the Higgins Building which was one of the largest reinforced concrete buildings to be erected in Los Angeles during the decade just before the first World War. Mr. Martin, Sr., was one of the architects associated with John Parkinson and J. C. Austin in planning the present Los Angeles City Hall.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

PROTECT YOURSELF

Serious hardship has been experienced by several architects in recent years on account of peculiarities in the law which can only be changed by constitutional amendment. Specifically, architects have been retained by, and have prepared plans and specifications for school boards and other government agencies, all acting in good faith. Then, when time for payment has arrived there has been no legal means of making payment for the work completed.

The difficulty has arisen from the provisions of the state constitution requiring that obligations of a political subdivision which have been incurred in one budget or accounting period cannot be paid from tax monies received in a subsequent period. An exception is that money received on taxes delinquent in the period in which the contract was made may be used for the payment of obligations incurred during the period when the taxes were due.

The nature of a construction program is frequently such as to not allow the finishing of the work within the fiscal or tax year of the employing agency, and unless certain precautions are taken, difficulty is encountered when the auditor examines the status of the architect's statement for services.

The State Association has obtained legal advice on the problem, and has been advised that an amendment to the state constitution would be required to change the law. Amendments to the constitution may be initiated by action of the State legislature and confirmed by the vote of the people in a general election, or may be put upon the ballot in a general election by means of an initiative petition properly prepared, signed by the proper number of voters, and passed upon in a general election. Each of these methods is cumbersome and expensive in time and money.

The officers and executive committee of the State Association have therefore decided against the effort to amend the constitution at this time. Their legal advisor has informed them that a relatively simple method of protection is open to the architect entering into a contract with a state agency or subdivision. That method is to have a special fund set up by the employing agency to cover the items such as the architect's fees. The fund should be of sufficient size to cover the fees and expenses of the project. Money in such special funds may be carried over from one period to the next one, so that if this procedure is followed, there will be funds available upon which to draw when the payments are due.

The State Association does not presume to provide legal advice for its members. As problems arise, however, which are of general interest to the members, the officers and executive committee are on the alert to warn the members of potential dangers and to be of whatever assistance is possible in solving the problems of the architect's practice.

The Legislature

As noted in a previous issue of the Architect and Engineer, each session of the legislature brings forth proposals which, if enacted into law, would be of disastrous consequences to the protection which the law now provides for persons embarking upon a construction project.

The measures are proposed from various backgrounds. In this legislative session, for instance, some of the measures spring from those who would benefit from a relaxation of the standards which have been set up for the protection of the safety and investment value of new building projects. At least one measure which is being opposed by the State Association legislative committee was introduced with the best of intentions by its authors, but has implications which were not foreseen at the time of its drafting and which might have dangerous repercussions.

To examine the multitude of legislation proposed and to have representatives of the architect's viewpoint present at the hearings on the proposed bills requires a large expenditure of effort and money on the part of the architects. Fortunately, we have usually been able to have a few devoted members who were so impressed by the urgency of the cause that they have given of their time and effort.

To meet the financial necessity, an assessment has been levied upon the membership of the State Association. Indicating the awareness of the necessity, the responses to the notification of the assessment have been gratifying. The architects are putting aside their differences of opinion as to the personal charm of their elected representatives and are rallying to the defense of the profession. The architects must recognize and now do recognize that our professional safety, like our national safety, is directly proportional to the intensity of our will to sacrifice for the common good.

A CORRECTION

Architect and Engineer is glad to give publicity to some objections raised by William W. Wurster to Sally Carrighar's article on Stern Hall, the new girls' dormitory at Berkeley.

The engineering department of the University furnished information that about four and a half acres had been allotted to Stern Hall. Considering the number of girls accommodated, we expressed the opinion that the ground use had not been economical. It seems, however, that the acreage given will be reduced later: other plans have been made for part of it. The University technicians did not explain that fact at first, but it white-washes the architects.

Another misunderstanding: the non-parallel bedroom wings do not spread in order to conform to the site, but for other reasons—to enable the occupants of inside rooms to have a wider outlook, and to prevent direct views into opposite rooms.

There is some time to be an informal lounge; the space is there, on the dining room floor, but at present there is no money for furniture. And books **are** being bought for the empty library shelves.

AH—THE CAMOUFLEUR!

When the amateur camoufleur first tries to practice deceit or protective concealment or obscuration, he finds out that:

1. The Office of Civilian Defense does "not encourage camouflage," only the preparation of plans in case they may be needed.

2. The U. S. Engineer Board says, "No camouflage is better than poor camouflage."

3. The Chief of Engineering says, "No protective concealment, not even tone-down of oil tanks, is permitted without his official O.K."

4. The Army says no camouflage to be done near "military installations" without its permission.

5. The War Production Board is critical of "critical materials" and wants schemes for camouflage first submitted to the Resources Protection Board.

And so on and so on!—Lawrence Corwin.

1943 A. I. A. HANDBOOK

The revised 1943 edition of the A. I. A. Handbook of Architectural Practice is ready for distribution. The book has 204 pages of text, bound in size 8½ x 11 durable, blue linen cloth cover, with title in gold letters. The price is $5.00 per copy except to architectural students who may purchase copies for $4.00, provided orders from students are countersigned by the Deans of their Departments of Architecture.

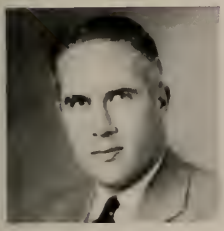
FREE INDIA NOW?

The March meeting of Engineers and Architects Association of Los Angeles was featured by two most interesting talks on "Free India Now?" by Miles Mander of London, radio commentator, lecturer and soldier, and Lal Chand Mehra, Indian born and American educated at the University of California. Music for the evening was in charge of Miss Gertrude Kreig.

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHITECTS



C. A. COOK
Plugs for Sisalkraft

C. A. "Chet" Cook claims Elgin, Illinois, as his home town, where he grew up. University of Illinois was "Chet's" school. He left U. I. during darkest depression days, to "accept positions" (at that time vulgarly called "landing a job") of various sorts, paying all the way from $1 per diem to $6 per week, plus eats. In 1933 Lady Luck discovered "Chet", and he has been with the Sisalkraft Company ever since. "Chet" putters around his Piedmont home whenever he gets the welcome chance. Married, and has two children: a daughter, 3 years old, plus a proud new addition, Donald Reed.

Circle May 13 with red pencil on your calendar . . . that's the scheduled date for our joint meeting with Military Engineers. This night meeting at the Engineer's Club will replace our regular noon session for May. Contribution of our Chapter to the program will be a showing of the unusual movie "Industry Goes To War", produced by Pacific Gas & Electric Company. This is **your** meeting—be there. Guests are welcome and are assured an interesting evening. Just another step in the Council's announced program to spread its influence into different phases of the building market. Vice-President Horace Pickett is in charge of arrangements.

Ed Stein, recently installed Secretary of the local chapter, has been forced to drop out. Ed has been transferred back to Pittsburgh, where he'll take up new duties with his company, Pittsburgh Plate Glass. We wish Ed the best of luck in his new job.

Work done by your executive committee in the past month included naming Harry J. Lemos, P. G. & E. Treasurer in place of Ed Stein. The following committees, set up by President "Chuck" Kraft, met official approval:

Membership: Chairman, Ed Banta, H. H. Robertson Company; Louie Saylor, Vermont Marble Company; Hal Heakin, Pacific Foundry Company.

Program: Chairman, Bob Telfer, Western Asbestos Company; Allen Turner, Masonite Corporation; Frank Baker, W. P. Fuller & Company.

Fellowship: Chairman, Charles Nicholas, Crane Company; Jim Turner, Westinghouse Electric & Mfg. Company; Ed Cathcart, Johns-Manville Sales Corporation.

Post-War Planning: Chairman, Ken Pinney, Armstrong Cork Company, liaison with Marketing Committee; Ray Brown, Gladding McBean & Company, liaison with Technical Committee; Vice Anderson, Otis Elevator Company, liaison with Committee on Finance; Gano Baker, Westinghouse Electric Elevator Company, liaison with Committees on Industrial and Consumer Relations & Government Relations.

This follows the organization of the Post-War Planning Committee of the National Council. As indicated above, Committee members will act as liaison with specified sub-committees of the National Post-War Planning Committee. Members are asked to submit suggestions or findings on each of these major questions to the committeeman charged with that responsibility. Your local committee will discuss these ideas, then the chairman or member to whose assignment the discussion pertains, will communicate them to the National Committee.

Similarly in the case of sifting out local questions, the same manner of gathering facts and ideas is followed. The committee digests material brought to it by our members, and makes recommendations to the Chapter as a whole.

Building Industry Conference Board representative is immediate Past President Gano Baker, with Ray Brown as alternate.

Gano announces that all members are cordially invited to attend Board meetings. Meeting place is the Commercial Club, second Wednesday of the month, at noon. Ask Gano to add your name to the mailing list for notices of these meetings. President this year is Clyde E. Bentley, consulting mechanical and electrical engineer.

Al Evers, Executive Director of the local Housing Authority, discussed SB-37 with your Executive Committee. Favorable action was the result, and Secretary Chet Cook was requested to write urging a "do pass" recommendation on the Government Economy and Ef-

(Turn to Page 45)

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

SLIGHT DROP IN PUBLIC HOUSING

A summary of the month's building activity in the San Francisco Bay region shows a considerable falling off of new public housing except conversions of old structures, stores and garages into apartments for war workers. Some 15 San Francisco and Oakland architects received commissions the past month to "dress up" and convert various pieces of property into living quarters and still more projects of this type are in the offing. There are several large private housing projects and industrial building has taken a new lease on life but with too few architects employed to prepare the plans. Contractors and structural engineers appear to have the cream of the work.

Both the Army and Navy continue to show interest in increased hospital facilities and another large Bay region hotel may be added to the Army's list of sanitariums, according to current rumor.

A 1500 bed hospital on the Grass Valley highway in Placer County is contemplated; drawings are in progress for another 1500 bed army hospital to be built on the Hopkins Estate at Menlo Park. The K. E. Parker Company has been awarded contracts for new units, also aviation facilities at the Navy's Oak Knoll Hospital in Alameda County, and the McNeil Construction Company of Los Angeles, has the contract to construct a battalion replacement center near Pleasanton, from plans by W. D. Peugh, architect, San Francisco. Cost of the Pleasanton project is estimated at $4,450,000.

STEP-UP IN INDUSTRIAL WORK

Largest industrial project reported during the month was a contract to the Austin Company, Ray Building, Oakland, to rebuild that portion of the Albers Milling Company plant in Oakland, recently damaged by fire. Cost of a new warehouse and mill building is estimated at $1,200,000.

At Salinas Ellis H. Spiegl will build a vegetable dehydrating plant, valued at $500,000 and a similar plant, but smaller, is announced for Bakersfield, the latter to be built by the Austin Company of Los Angeles, for the Kern County Dehydrating Company.

Other industrial projects include a one story brick and frame factory at San Leandro for the Nelson Specialty Welding Equipment Company, from plans by Miller and Warnecke, Oakland architects; a frame box factory at Barstow and 16th Streets, San Francisco, for the California Wooden Box Company, Martin J. Rist, Phelan Building, architect; and a one story brick factory on 61st Street, Oakland, for Ralph N. Brodie Company, plans by John B. Anthony, architect.

FIFTEEN ARCHITECTS RECEIVE "CONVERSION" JOBS

New "conversion" jobs include five apartments for war workers on Oxford Street, Berkeley; a residence remodeling in Oakland for war housing and another on College Avenue, Berkeley; apartment remodeling at 2817 Telegraph Avenue, Oakland; apartment remodeling at 1730 Pacific Avenue, San Francisco; one at 4136 - 17th Street, San Francisco; one at 424 Crafton Avenue, San Francisco, and 15 apartments at 6000 Fulton Street, San Francisco. All of these projects have been or are being worked up in the office of Frederick H. Reimers, 233 Post Street, San Francisco, with the Home Owners' Loan Corporation given as the sponsors.

Other architects engaged on conversion work are John S. Gould, F. H. Meyer, Ralph E. Norris (Designer), Harry A. Thomsen, H. T. Johnson, Maalcom D. Reynolds, Robert A. Hutchison, William Mooser, Vincent Buckley, Thomas M. Edwards, L. L. Nusbaum, A. L. Koue, Joseph McCarthy.

CIVILIAN DEFENSE BUILDINGS

Civilian defense building in San Francisco has stepped up considerably with plans completed by City Architect Dodge Reidy for three war council units, ten auxiliary fire houses and two crew gas cleansing stations.

Another war housing project at Vallejo, not heretofore announced, is 1000 houses and 500 dormitory units being planned by David H. Horn, architect, 564 Market Street, San Francisco.

Quite a number of new jobs designated as "housing facilities" are coming out of the office of the U. S. Engineers, 74 New Montgomery Street, San Francisco. In all instances the projects are planned by the government's own engineering staff with standardized spicifications.

The Santa Fe and the Telephone Company have each announced that they will build dormitories for their employees at Richmond.

SPECIAL NOTE—Important Corrections in this issue.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white		84c per sack

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	⅜x2¼" T&G	⅜x2" T&G	⅜x2" Sq. Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.9C per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
¼" 3-ply and 48"x96" ..... $39.75 per M
"Piywall" (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform" (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
¼" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) ½"x8" clear heart.. $ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot. Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Naat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hot roll channeis metal lath (lathed only)	1.10
Ceilings with ¾ hot roll channeis metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hot roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Deuler's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure ..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37¼	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

STEEL REPORT—Just released by Irving S. Olds, Chairman of the Board of Directors of United States Steel Corporation, is their Forty-first Annual Report. This 34 page booklet reviews the wartime contributions of the corporation and its subsidiaries. A factual and pictorial review of operations covering the first war year reveals many interesting innovations and new production records. A copy may be had by writing United States Steel Corp., 71 Broadway, New York, N. Y.

PIANO-TYPE HINGES — A new achievement in the plastics industry are hinges of Tenite, extruded in continuous lengths. They offer advantages for new design possibilities to the makers of lightweight portable equipment. These hinges may be cut to any length desired and the makers claim long wear without chipping or cracking. For further information, write Plastic Process Co., 828 North Highland Ave., Hollywood, Calif.

CARE OF BRUSHES—New instructions in the care of paint varnish and lacquer brushes, now being manufactured from war-created substitutes, have been released by The Osborn Mfg. Co., 5401 Hamilton Ave., Cleveland, Ohio. In a booklet entitled "Care and Conservation of Brushes", this manufacturer of industrial brushes, tells why brush conservation is necessary, selecting the right brush for the right job and the proper way to break in a new brush.

PLYWOOD GARBAGE RECEPTACLE — In the interest of steel conservation, Aberdeen Wood Products Co., Inc., Aberdeen, Washington, have developed a garbage receptacle made of plywood. After months of experimental work, the manufacturer has produced what they believe to be a good and timely product. Descriptive leaflet may be had upon request.

"V" MODEL FLUSH VALVE — To meet the needs for essential wartime construction which will conserve critical war materials and at the same time provide dependable, enduring service, a "V" model Watrous flush valve is being offered by the Imperial Brass Mfg. Co., 1200 Harrison Street, Chicago. This valve conforms to material conservation requirements of War Department Specification PE-623.

LAMINATED ARCHES—A 12 page catalog illustrating the successful use of glued laminated construction over an eight year period, in buildings of over 5,000,000 square feet, has just been published by Unit Structures, Inc., Peshtigo, Wisconsin. This type of construction which has come into prominence during wartime scarcity of steel is illustrated with photographs, drawings and suggestions for practical application. Almost every type and shape of arch and beam, and practically every basic type of construction is shown.

ROOF VENTILATORS — A new line of roof ventilators made of non-critical materials, and named the "NCM" is being introduced by the Swartwout Company. Metal used in these ventilators, for bracing and assembling, amounts to less than 5%. Wherever metal is not vitally necessary "NCM" may be used. Several of the new designs parallel closely the original styles made of steel, and are found to be equally effective in performance. A descriptive catalog (Bulletin 217) can be obtained by addressing the manufacturer at 18511 Euclid Ave., Cleveland, Ohio.

WELDED FABRICATION — The War Production Board's order L-41 requires a certificate to the effect that "the building has been designed to secure the greatest saving of steel through continuity in design and welded fabrication." The Saxe Welded Erection System is described in Bulletin No. 3 for architects, engineers and those interested in the erection of steel buildings. It is claimed the savings obtainable in this type of construction will play an important role in post-war planning. Write J. H. Williams & Co., 400 Vulcan Street, Buffalo, N. Y.

NON-METALLIC PIPE — The resourcefulness of American industry in developing new applications of non-critical materials is illustrated by the announcement of a new line of non-metallic drain and sewer pipe by the Fibre Conduit Company of Orangeburg, N. Y. According to H. J. Robertson, president, the pipe is resistant to moisture, tuberculation, corrosion and most dilut inorganic acids and alkalies. There are two types of this pipe, which is made of cellulose fibre impregnated with coal tar pitch — perforated and non-perforated. Booklet illustrating uses will be sent upon request.

GLASS STALL SHOWER—Recently introduced is a prefabricated glass stall shower, packed as a unit in one box containing all materials and screws necessary for installation. Also included are a recessed china soap and grab, and a natural-finish wood shower curtain rod. The glass is fabricated with holes for plumbing outlets, drilled to specifications submitted with order. A maximum of five or minimum of three pieces of glass form the complete unit. Pittsburgh Plate Glass Co., 2029 Grant Bldg., Pittsburgh, Pa.

STRUCTURAL ENGINEERS IN WAR WORK

Recently the Structural Engineers Association of Northern California held its regular bi-monthly meeting at the Engineers' Club in San Francisco. The principal speakers were H. J. Brunnier and A. V. Saph, consulting structural engineers, and Professor Clement T. Wiskocil, Instructor of Civil Engineering at the University of California. All three speakers being past presidents of the Association, their subjects covered a complete synopsis of past accomplishments and future opportunities.

Founded in 1930, the Association was created to establish mutual confidence and high standards among structural engineers. The Association was active in the defeat of legislation detrimental to the engineering profession and instrumental in the making of building codes and legislation of great benefit to the public. Members spent much time in the preparation of "Appendix A" (Rules and Regulations for the Construction of Public School Buildings) which has been in use since the Long Beach earthquake of 1933 and is today enforced through the State Field Act.

The application of "Appendix A" has proven the underlying principle to be sound, the principle being that work is performed by engineers, architects and contractors in private business, with the State of California exercising authority to check and approve the work. Thus progress through private initiative is assured and at the same time adequate provisions for safety against earthquakes and windstorms are maintained in school building construction.

In a similar fashion provisions of the State Riley Act were sponsored by the engineering profession to furnish the public with minimum protection against earthquake damage in private construction.

In 1934 the licensing of the civil and structural engineering professions was actively supported and sponsored by the Structural Engineers Association as an aid to public welfare and safety.

Only the larger cities maintain a Bureau of Building Inspection where competent engineers check and pass on plans for safety of construction. The Structural Engineers Association is always ready to assist building inspectors from outlying communities, checking plans and specifications and recommending necessary improvements in designs and materials.

The present great national crisis and war effort found the profession ready to do its share in the planning of many projects, whether they be ships, plants, harbors or airports.

To preserve materials without sacrificing safety is always a function of the engineer, but today this is more important than ever. Even with private construction reduced to a minimum, many basic materials such as steel and wood are not produced in sufficient quantities, and as a result the engineer has been called upon to use less of these materials, through refined designs and by using higher working stresses, or by substituting

new materials for those heretofore used as a matter of standard practice.

The Association takes pride in the creditable record made by its members in designing and supervising the construction of many war projects where substantial savings have been effected. Because of this outstanding contribution to the war effort, the Association feels justified in bringing to public attention the necessity of having engineers in private practice work with the Army and Navy on defense projects.

The war effort has been served by the Structural Engineers Association in other ways. Many of the members have, as a public service and without remuneration, assisted in the classifying of buildings for air-raid shelters. The Association, recognizing the acute shortage of structural engineers, has also been instrumental in basic war training courses being conducted at Stanford University as well as at the University of California.

NEW LIGHTING ERA TO FOLLOW THE WAR

Artificial light has passed the stage of purely utilitarian use and is entering an era in which it will appeal to man's senses, create or change his moods, give him greater leisure and a longer, healthier life, according to Samuel G. Hibben, noted lighting authority, speaking before the Producers' Council in Washington, D. C. Mr. Hibben, director of applied lighting at the Westinghouse Lamp Division, declared that new lighting techniques would affect every important field of illumination, including homes, factories and public buildings. American homes in the post-war period will benefit greatly by the advances in lighting techniques of the past few years.

Beautiful displays of artificial light and actual scenes in all their natural beauty will be brought into homes of tomorrow by means of television. It requires no great flight of the imagination to picture television screens the size of an entire wall, bringing not merely the image and voice of the singer or the view of a boxing bout, but also such scenes of vivid beauty as a sunset, a view of one of our national parks or perhaps the sound and sight of heavy surf breaking on a distant shore.

Ultraviolet lamps already in practical use will guard us against disease by killing the bacteria in the air and others will provide us with suntan and health-giving radiation while we sleep.

BRINCKMAN ON THE UP

Friends of A. L. Brinckman, formerly Berkeley building inspector, will be interested to learn of his latest promotion. Brinckman was in Honolulu at the time of the Pearl Harbor outrage. Since identified with government work, he is now Service Superintendent of Construction, Area No. 2, Hickam Field. Brinckman was recently granted leave of absence for the duration by the Structural Engineers Association of Northern California, of which he is a member.

RALPH C. FLEWELLING HONORED

The March meeting of Southern California Chapter, A.I.A., nominated the following delegates to the A.I.A. National Convention scheduled to be held in Cincinnati, Ohio, May 26-28:

Walter Reichardt, Whitney Smith, Sumner Spaulding, Graham Latta, Chas. O. Matcham, Adrian Wilson, Wm. H. Harrison, Floyd Rible, Samuel E. Lunden and George Adams.

Two outstanding features heightened interest in the evening's program, presentation to Ralph C. Flewelling of a Certificate of Fellowship in the American Institute of Architects, and a discussion of some of the entries in the recent store front competition.

Presentation of Mr. Flewelling's certificate was made by Sumner Spaulding. Briefly reviewing some of the work leading to the award, Mr. Spaulding said that Mr. Flewelling was "one of the few who thought first and built afterward."

Mr. Flewelling has been a member of the American Institute of Architects and Southern California Chapter since 1925 and served two years as president of the Chapter. Native of Cambridge, Mass., he attended Wesleyan University at Middletown, Conn., and was graduated from Boston Institute of Technology. He has practiced architecture in Los Angeles since 1925.

The Chapter's Long Range Planning Committee reported through Chairman H. J. Powell, who imparted the information that various other organizations, including the American Legion and Town Hall, have followed the Chapter's lead and now are making post-war plans.

COMPETITIONS

ARC WELDED COMPOSITIONS

The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, has announced a new project—the first $6,750 Annual Engineering Undergraduate Award and Scholarship Program. Its object is to encourage engineering students to study arc welded construction so that their imagination, ability and vision may be given opportunity to extend knowledge of this method and thus aid the war effort and the economic reconstruction in the peace which is to follow.

Any resident engineering undergraduate student registered in any school, college or university in the United States, or any cadet registered in a Military Academy, Naval Academy or Coast Guard Academy is eligible to compete.

SOAP SCULPTURE CONTEST

The Nineteenth Annual Ivory Soap Sculpture Competition, with prizes totaling $1,120 in cash, is announced by the National Soap Sculpture Committee, 80 E. 11th Street, New York. The competition closes May 15. Awards will be made in three classes—advanced amateur, senior, junior, with special group and reproduction prizes. A 24-page illustrated booklet, announcing the competition and showing some of the previous prize winning sculptures, may be had from the committee.

PRODUCERS' COUNCIL

(Continued from Page 37)

ficiency Committee of the State Senate. Copies of this correspondence have been sent to each member and alternate, together with a letter of explanation, and request for similar action from you as individuals. As always, the Northern California Chapter takes an active interest in matters affecting the general good of the industry in all its phases. Support this policy.

Ken Pinney, Past President and active Chapter member, at time of this writing, is on a trip East. Ken expects to use this opportunity to dig into the post-war planning story. We're particularly fortunate in having opportunities to check personally with Council headquarters, since under present conditions close and personal contact is of high importance.

E. J. Gossett, a director of the Producer's Council, and President of Bell and Gossett Company of Chicago, was a recent San Francisco visitor. While here, Mr. Gossett met with the Executive Committee at the March 31st luncheon at the Engineers' Club, for a general discussion and exchange of ideas on Chapter affairs.

PREFABRICATED HOUSES TO STAY

The day of prefabricated demountable houses has arrived, thanks to the purchases by the U. S. Navy and Army. Without the orders of the armed forces of this country in wartime, prefabrication of complete houses would probably have languished. But orders for 75,000 completely equipped prefabricated dwellings for war workers has advanced an industry from the experimental to the stage of mass production.

It is argued that the individually built small house costs approximately $5,000 while a mass production house of similar accommodations can be produced for very much less, making it possible for a family with a $2,500 per year income to own its own home. But this argument had little bearing with the Army and Navy in their purchase of ready made houses. The armed forces sought to avoid creating ghost towns after the war through building permanent homes in localities that, in time of peace, would offer the dwellers no means of livelihood.

So these houses are made collapsible wall by wall, releasing individual floor and roof, loaded onto a truck and moved anywhere dwellers may be found. This thought suggests a nation of nomad workers who, like the Arab, folds his tent and silently steals away, or the gypsy who moves more noisily from town to town.

Prefabrication of building parts is a very old story. Timber joists were cut with a disc saw run by steam power and perhaps even by water power before steam power was introduced. Studding, tongue and groove boards, shingles, complete window frames and sashes, door frames, doors and moldings made in factories, all came before the birth of any living architect today. Hardware was prefabricated. Plumbing goods, valves, etc., and endless other parts of buildings prefabricated were introduced and are introduced constantly by every architect designing houses. So the thought of prefabrication is not a new one. It was accelerated by the automobile and those who constantly pointed to the automobile as a model for house building can say, "I told you so."

The fact remains that everyone financially able to live in a well-founded, well-designed home, willing to tie himself to a fixed locality for a period of years, will always prefer this type of dwelling to one made for a nomadic population. The John B. Pierce Foundation is preparing to publish, in six chapters, the story of the prefabricated house.—Bulletin Illinois Society of Architects.

BAY AREA BUILDING PROGRAM

A program of continuing construction of new war housing is in prospect for the greater San Francisco Bay Area during the remainder of 1943 and spring of 1944, Eugene Weston, Jr., regional representative of the National Housing Agency, said on his return from a conference in Washington, D. C.

Weston revealed that war housing programs prepared, approved or in preparation in the tenth region (California, Nevada, Arizona) during the present fiscal year ending June 30 will total over 134,000 units. In the greater San Francisco Bay Area, the figure will total over 58,500 units.

Included in these quotas is construction to be financed by private funds, permitting private owners to convert their structures into family accommodations. Present indications of the home owners' acceptance of the public conversion program financed through public funds leads Weston to believe that all quotas will be met.

Critical housing conditions are in prospect immediately for Alameda, and, according to Weston, that community will become one of the most crowded in the region.

He pointed out that all of East Bay, including Oakland, will have broadly expanded housing programs. On his trip East he was successful in obtaining approval of one of the largest dormitory projects (4,000 units) in the nation for construction in Richmond.

"San Francisco, too," he asserted, "is showing results of increased need for housing as evidenced by recent approval of over 4,500 dwelling and dormitory units for the naval establishment at Hunters Point and the previously announced 1,000 unit quota for private dwelling construction.

Commenting on future policies to control construction and occupancy of war housing, Weston declared that future planning calls for the following:

1. Rigid certification of in-migrant war workers to war housing in those industries for which the WMC has indicated that local labor is available.

2. Eliminination of worker eligibility for war housing in those industries for which the WMC has indicated that local labor is available.

3. Possibility of extending certification of housing to war workers and families now living under intolerable conditions.

4. Inclusion of dehydrating plants in the list of essential war industries. This will mean that in-migrant workers of dehydrating plants may be included as eligible for war housing programed within the area. Many

such plants (one-third of total in nation) are located in California.

Approval has been granted for the privately-financed conversion of 175 family units in existing structures in the Bay Area, it was revealed by Weston. Location and number of these units follow:

South San Francisco, 25; Richmond, 50; Santa Rosa, 25; Vallejo, 50; and Napa, 25.

San Francisco architects, in considerable numbers, are preparing the plans for these conversion projects.

SAVE-THE-REDWOODS

Urging preservation of the finest Redwood forests in California not yet in public keeping, the Save-the-Redwoods League is emphasizing the importance of rescuing the famous Avenue of the Giants before it is too late. Directly in the path of lumbering operations, the Avenue of the Giants forest along the Redwood Highway in the Eel River region, Humboldt County, is referred to as one of the world's magnificent primeval forests, in the annual report of the League, issued recently.

The State of California, through appropriations made by the Legislature, is co-operating in the preservation program. The Save-the-Redwoods League is making a nationwide appeal to raise the urgently needed funds to aid in the move to acquire the parts of the great forest not yet protected within the State Park System.

Contributions for preservation of the Avenue of the Giants forest are made through the Save-the-Redwoods League, whose treasurer is Dr. Robert G. Sproul, 250 Administration Building, University of California, Berkeley.

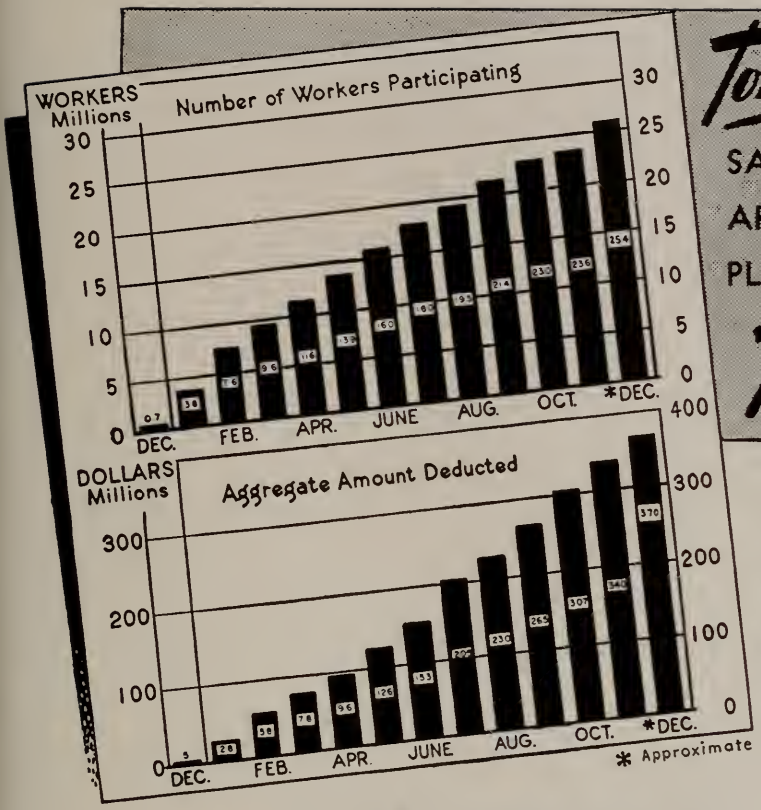
TRENDS IN HOME BUILDING

Dr. Morris Fishbein, head of the National Medical Association, points to the fact that the modern trend in house building is to eliminate the parlor or best room and provide an extra bedroom with plenty of light, heat, space and ventilation.

In Portland, Oregon, the new defense homes project at Vanport City has been dubbed a mistake by C. M. Gartrell, chairman of the Portland Housing Authority. He points out that a national agency's program or theory "often fails to fit a local pattern" and cites the Vanport City as a conspicuous example. This project will ultimately provide housing for 40,000 persons conected with the Kaiser shipyards. Management problems after the war are going to be something to worry about.

* * *

San Francisco's housing congestion is being relieved somewhat by the conversion of old and in some instances unused flats into livable, sanitary apartments for war workers. Many of the local architects have found needed employment in redesigning some of these eyesores. More than 1,000 applications of property owners anxious to have their holdings "converted" have been received and fully 200 units have already been approved. The work is being done under the name of the Home Owners Loan Corporation.



Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

War Savings Bonds

This space is a contribution to America's all-out war effort by

THE ARCHITECT AND ENGINEER

LIGHTNING HOSE RACKS AND REELS

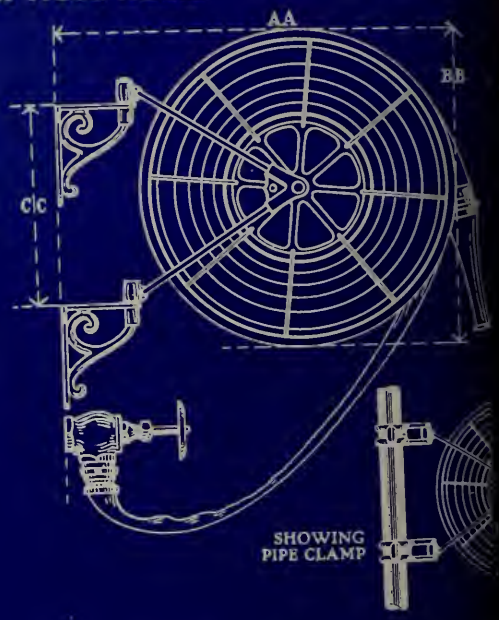
Lightning Tubular Hose Reels

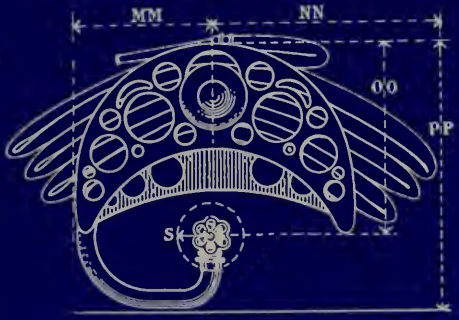
Capacities

Style No.	Size of Hose	Capacity Unlined Linen Hose	Capacity Cotton Rubber Lined Hose	Dimensions AA	BB	CC	Depth
610	1½" or 1½"	150 ft.	50 ft.	28"	23	12¾	7¾"
611	2"	150 ft.	50 ft.	28"	23	12¾	8½"
612	2½"	150 ft.	50 ft.	28"	23	12¾	9¼"
*613	1¼" or 1½"	200 ft.	75 ft.	30"	21	11¾	9¾"
*614	2"	200 ft.	75 ft.	30"	21	11¾	12¾"
*615	2½"	200 ft.	75 ft.	30"	21	11¾	15¼"
*616	1½" or 1¼"	250 ft.	100 ft.	30"	21	11¾	12¾"
*617	2"	250 ft.	100 ft.	30"	21	11¾	15¼"
*618	2½"	300 ft.	100 ft.	32"	23	11½	15¼"

*Made for extra tiers of Hose. Discounts on application

(Dimensions given are for reels only.)





Lightning Saddle Rack

Constructed of cast grey iron, well assembled and recommended for storage of Cotton Rubber Lined Hose.

PLATE 4½

100', 1½", 2" and 2½" Linen Hose

SINGLE JACKET COTTON RUBBER-LINED HOSE

Capacity Feet	Capacity Size	MM	NN	OO	PP	S	Depth Rack	Valve 1	Valve 2	Recess Dimensions Width	Recess Dimensions Height
50'	1½"	13½"	21"	20"	26"	2⅜"	3½"	7⅜"	8⅜"	42"	36"
*75' to 100'	1½"	13½"	21"	20"	26"	2⅜"	7¼"	7⅜"	8⅜"	42"	36"
50'	2"	13½"	21"	20"	28"	3"	4½"	9"	9¾"	42"	38"
*75' to 100'	2"	13½"	21"	20"	28"	3"	9¼"	9"	9¾"	42"	38"
50'	2½"	13½"	21"	20"	30"	3¾"	5½"	10½"	12¼"	42"	42"
*75' to 100'	2½"	13½"	21"	20"	30"	3¾"	11¼"	10½"	12¼"	42"	42"

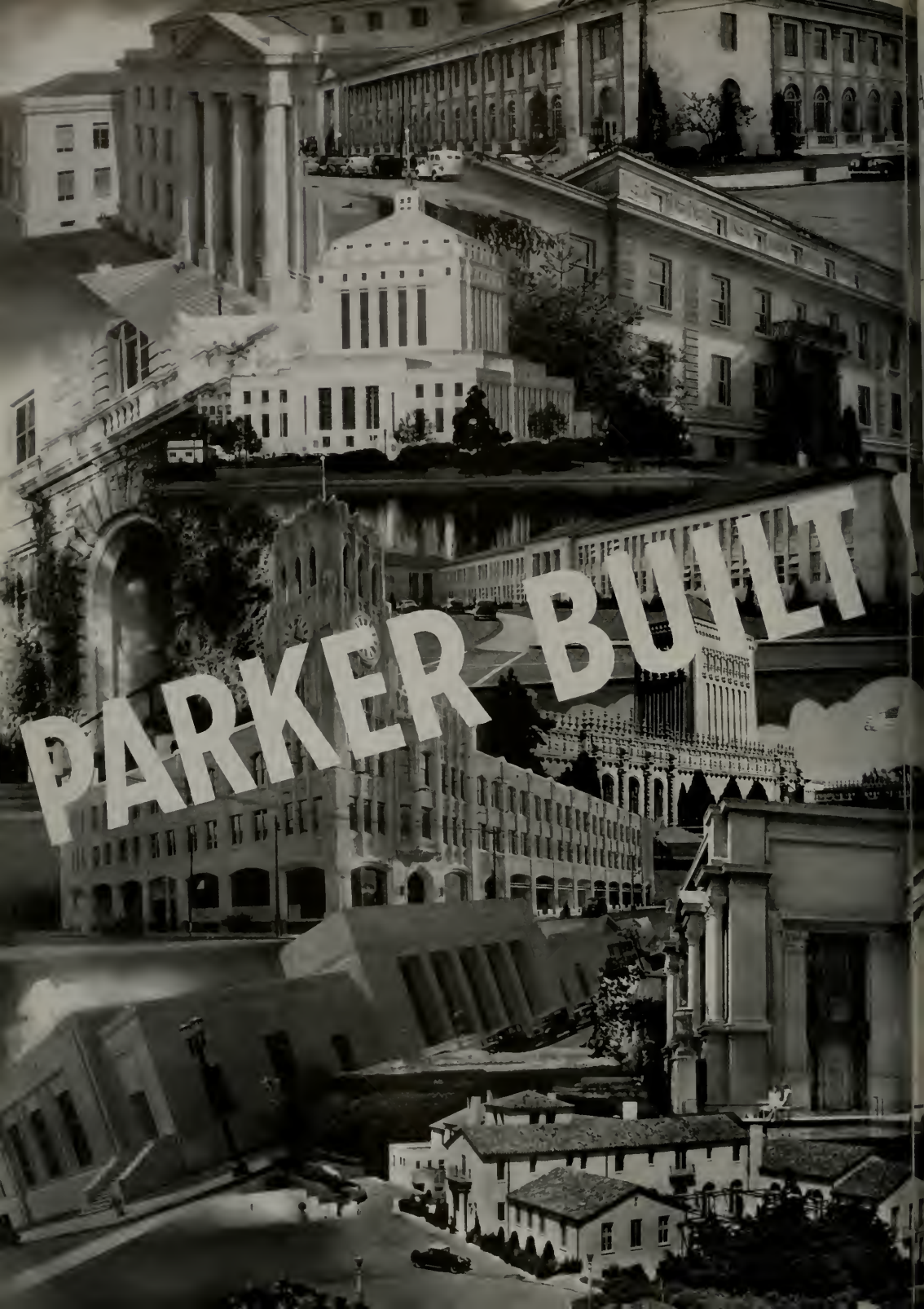
*Made for 2 tiers of hose. Will hold about one-half as much as Double Jacket Hose.

THE AMERICAN RUBBER MANUFACTURING CO.

FACTORIES AND GENERAL OFFICES: OAKLAND, CALIFORNIA

ARCHITECT AND ENGINEER

MAY, 1943


PARKER-BUILT

ARCHITECT AND ENGINEER

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THIS ISSUE

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NEXT MONTH

SOMETHING a little different for ARCHITECT AND ENGINEER readers will be offered them next month, thanks to the cooperation of the San Francisco Museum of Art and the Department of Architecture, University of California, Berkeley. Student drawings of a street treatment of row-houses with a 25-foot lot in speculative buildings and which were exhibited last month at the Museum, will be reproduced together with a companion exhibit to a post-war city planning solution proposed by Carl Troedsson of the University of Southern California. The author calls his solution, "Safety-Town." Separate traffic lanes designed to reach all points in the community, are provided for both pedestrians and vehicles. The student work from the University was executed under the direction of Professor Howard Moise who will contributte the text matter descriptive of the drawings.

Those interested in "conversion" jobs of which there are a great many being done to relieve the war housing congestion, in the San Francisco Bay area, will find Sally Carrighar's article on the subject good reading. A recent example of this type of war work is illustrated with drawings by the architect, F. C. Langhorst.

Acalanes Union High School, Lafayette, California

MEETING THE NEEDS . . . . FOR LIFETIME CONSTRUCTIO

FRANKLIN AND KUMP AND ASSOCIATES, *Architects.* L. S. PELETZ AND SON, *General Contractors, original school.* ELMER J. FREETHY, *General Contractor, additions.*

By combining functional design with beauty that bleds with the country setting Franklin and Kump and Associates have created an architectural masterpiece in this mod high school in Lafayette, California.

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FOR SOUND CONSTRUCTION

RUNNING FIRE — by MARK DANIELS

• *AD ABSURDUM*

When I was confronted, during my wife's absence with the contradictions in the regulations and requirements of food rationing and stamps, I thought I had found the ultimate in absurdities. Also I was deeply shocked to find that my wife could do such a cruel thing to a neophite in mathematics, one who had gone only so far as a degree in engineering and a few years in architecture. It smacked of a childhood spent in sticking pins through bees and butterflies, but it was all forgotten when I read of the situation that confronts the San Francisco Housing Authority. The only problem now is whether to cry or laugh.

After a year or so of Government surveys, so called, it was decided that the lowest possible rent that could be vouchsafed to those of low income would be calculated by placing a maximum income which one might receive and at the same time rent a low cost Federal Housing Unit. These units were well designed and a rental rate was established at one-half to one-third the amount at which equal but inferior accommodations could be secured. In other words if your income was more than the Housing Authority maximum you either had to pay private owners two or three times as much for the same accommodations, or live in greatly inferior quarters for which you would have to pay the same price.

During the three or four years that the Authority has been developing their projects the cost of living and the earning power of labor has risen so that few working men do or can live on the housing maximum, but the government says "You can't live in our house; you make too much money." So, you either go to a hotel (if you can get in one) and pay all your earnings for rent, or sleep in a vacant lot, (probably the latter) while the Authority dwellings remain vacant. Probably you would be better off financially if you accepted a pension and lived in a Government house.

This is a new way to penalize industry and reward indolence. It is a laugh—or is it?

• *UNWELCOME COMPETITION*

Competition may be the life of trade, but during the war let's confine it to commerce. Right now the government is bending every effort toward finding another pay streak in the vanishing mother lode of public financial resources. They propose to raise our income taxes to about double what we expected. They have just opened a cross vein that yielded fifteen billion dollars in war bonds, which we threw in like a white chip toward winning the war, and if the government calls upon us we'll do it again. We have capable men at the head who have studied thoroughly the propositions before they are submitted to us. Fair enough.

But when private organizations take it upon themselves to analyze war conditions and send out subscription blanks on a national scale asking for contributions for the relief of conditions, as if they were sitting in with the government, the competition is getting out of hand. If there are any more pay streaks let the government open them up. Otherwise, let's all pass the hat.

• *IN SEARCH OF PRIVACY*

During her recent visit to San Francisco, Mrs. Roosevelt told this one on herself during an address to 2500 inmates of San Quentin:

"The last time I was in Washington," she said, "Mr. Maverick of the W.P.B. asked me to meet with a group of War Production and prison officials. Shortly after that," she continued, "I went over to Baltimore to check in on the prison production there. I had to get up so early I didn't get to see the President before I left.

"As the President came out of his room to go to his office, he called to my secretary. 'Where's my Missus?' The secretary answered, 'She's in prison.' The president replied, 'I'm not surprised. What's she in for?'"

• *CUSTOM BUILT*

That's a better expression than "Pre-Fab" for it is more dignified and conveys a more accurate picture of what a factory-made house really is. Perhaps the use of some such phrase will go far to take the curse of misapprehension off the present conception of what is meant by the numerous titles that are used.

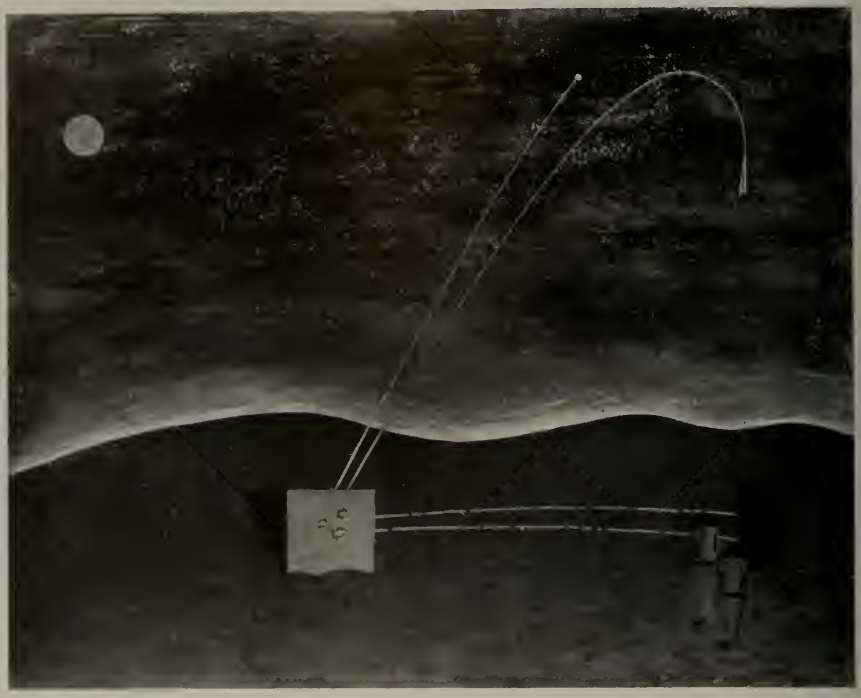
I could never find a sound reason for anticipating the extinction of the architect by the acceptance of factory building. When custom-made clothes started, no doubt the tailors were in a panic, but custom-made clothes are here to stay, and so are the users, but so are the tailors. Things have settled down to a routine. Those who want tailor-mades, pay for them, those who haven't the time or money are satisfied with custom-built and some have to put up with hand-me-downs.

That custom-built houses are here to stay there can be no doubt. They will improve in quality and practicability as the industry grows. We started with architectural hand-me-downs. Now the custom-builts are getting into a stride and we can look for bigger and better houses in that class, but to say that the custom-built house rings the death knell of the architect is absurd. THAT will be rung on an entirely different bell.

• *ANTI-MIRACLE LEGISLATION*

The Little Man came down the passage way unsteadily, although briskly, and stood on the step in an apparent effort to locate an old fashion glass that was not empty. I was sure that he still thought it was Sunday for he carried a small, dog-eared Bible in his hand. I beckoned to him.

"Miracles," he said, as he tossed off the remainder of my old fashion, "were not performed by Christ merely for the purpose of converting skeptics. He always had a great humanitarian purpose to which the conversion of skeptics was incidental. Healing the sick, for instance, and feeding the multitude. For centuries the human animal seemed to be beyond any aid of miracle until this world cataclysm overtook us. Here was a time when a miracle could save a world. With half the nation starving and the other half destined to starve, to feed the multitude with five loaves and two fishes would serve a noble purpose. But I fear this is outside the field of miracles for it would contravene all the O.P.A. regulations for rationing and the issuance of stamps."



RICOCHET by Aldis Leisner

PICTURES OF SAN FRANCISCO FIRE VIEWED WITH MUCH LOCAL INTEREST

Just concluded at the California Palace of the Legion of Honor in Lincoln Park was an exhibition of photographs of the great 1906 fire, taken by the late Arnold Genthe. Fire-fighting apparatus in action, refugees camping in the parks and vacant lots, street scenes, the wreckage of many important public and private buildings and panoramic views of the city during and immediately after the fire—all were included in the show that lasted all too short a period.

GIBSON DRAWINGS RECALL POPULARITY OF THE GIBSON GIRL

The Charles Dana Gibson drawings high lighted the late April and early May attractions at the California Palace of the Legion of Honor. The exhibition embraced most of Gibson's best drawings and a wide selection of his paintings, from as early as 1905 (when he first turned to oils seriously), down to the current year.

Born on September 14, 1867, in Roxbury, Massachusetts, Gibson inherited a tradition of accomplishment from statesmen, clergymen and artists. When his family moved to Flushing, Long Island, the young man soon found his way to the Art Students League of New York, where he studied two years with William Chase, Kenyon Cox, J. Alden Weir and Thomas Eakins. In 1886 he sold his first drawing to John Ames Mitchell, editor of Life Magazine. It was not long before Gibson was producing beautifully drawn satires dealing with New York politics and what might be called a sort of Bohemian life. Gradually he became more and more interested in the social cartoon and New York society in the 90's offered a real opportunity to the artist.

Young women of beauty and distinction began to appear in these drawings, and it was not long

Painting, "THE SOUTH SEAS," by Hamilton A. Wolf

before everyone was talking about the Gibson Girl. Irene Langhorne Gibson, the artist's wife, often served as the model. Probably no other character in American art has ever had the influence of this illustration.

At the height of his success, when Gibson had completely mastered his difficult medium and was able to do just about everything he wanted with pen and ink, he decided to leave the United States and devote himself to the study of painting in Europe. However, the financial crash of 1907 made it imperative for him to return and resume his black and white work. During World War I he was president of the Vigilantes Club, formed by a group of artists pledged to contribute their efforts toward winning the war. The government made him Head of the Division of Pictorial Publicity.

RARE JEWELRY ON DISPLAY AT THE DE YOUNG MUSEUM

At the De Young Museum a most interesting exhibit of Italian, Spanish and German jewelry of the 16th and 17th centuries is presented for public enjoyment. As a general rule pieces of the high quality currently on view can be seen only in state galleries—museums which were inaugurated by the private collections of emperors or kings. It is seldom that one finds more than a few such pieces in one exhibit.

This collection, belonging to Mr. A. M. Adler of New York and on temporary loan to the Museum, contains mostly pendants, the most frequently worn type of jewelry during the Renaissance and Baroque periods. In those days famous artists such as Cellini and Floetner were the designers for such jewelry whose high standard was carried on by the men who executed these designs. Precious stones and pearls, embossed and engraved gold in combination with enamel, form colorful pieces of exquisite craftsmanship. Especially interesting in some of these is the naturalistic portrayal of human and animal figures whose bodies are formed by large Baroque pearls.

In addition to the jewelry, finely carved ivory Madonnas and jewel caskets of the Medieval period, some from sources other than the Adler collection, are shown. The rarest piece in the entire exhibit is a Byzantine enamel crucifix dating back to the 11th century.

ROCOCO TEXTILES ON VIEW AT THE DE YOUNG MUSEUM

A Promenade with Watteau and Longhi is the theme of the present exhibition in the Textile Study Gallery at the de Young Museum. French and Italian culture of the 18th century is illustrated, partly through color prints of famous paintings by the masters of the time and partly through the textiles of the same period.

Luscious brocades and embroideries, costumes and laces depict the fashions of the day, both worldly and ecclesiastical garments, these same embroideries and brocades composing magnificent wall coverings and upholstery materials.

PORTRAIT OF A MAN L. Cranach, The Younger (1515-1686)
This recently acquired picture by the de Young Museum, San Francisco, was painted in 1545.

WORKING MODELS BY LEONARDO EXHIBITED AT THE LEGION PALACE

The First Modern, a unique exhibition at the California Palace of the Legion of Honor, in San Francisco, and which ended May 17, included 17 models of Leonardo's scientific inventions and 30 large charts composed of drawing facsimiles and photographs.

The section of working models proved particularly interesting, since it disclosed how Leonardo anticipated the scientific developments of the 20th Century with plans for tanks, bridges, automobiles, scaling ladders, aeroplanes and so forth, which, given motor power, would parallel actual modern inventions in many cases. These small-scale models followed the diagrams and instructions of Leonardo's notebooks to the finest detail.

EXHIBITIONS

The Sixty-ninth annual exhibition of students' work is now on and will continue to June 25 at the California School of Fine Arts, 800 Chestnut Street, San Francisco. A preview for the press and invited guests was held Sunday afternoon, May 16.

At the San Francisco Museum of Art the San Francisco Art Association is holding its seventh annual water color exhibition. Exhibitors include John Haley, Erle Loran, John Ayres, Irence Lagorio, Chas. Howard, Madge Knight, Geo. Post and others.

Index To Advertisers

*Indicates Alternate Months

Above is the new Patterson Union High School, FRANKLIN & KUMP & Associates, San Francisco, architects.

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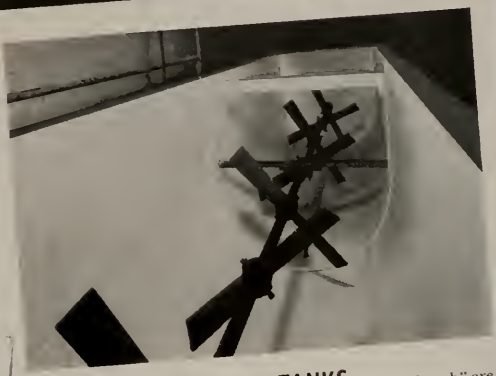

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POST-WAR SCHOOLS

by JOHN LYON REID

Faced by the rapid changes in the field of building construction that confront us today, specific predictions as to the forms of post-war buildings may be ill advised. However, in some fields there existed before the war well defined trends in planning to meet developing needs. These trends constitute a basis upon which a discussion of the post-war buildings may be undertaken.

School design is one. During the decade closed by the beginning of the war the design of school buildings in California gave evidence of growing skill and knowledge by the architectural profession in coping with the varied problems presented. The emphasis of the curriculums in all grades was shifting from learning from books to the coordinated training of head and hand. There was increased need for activity space of all kinds. Audio-visual aids in education were accorded a growing usage. The provision for increasing specialization in studies caused the development of courses in all kinds of shop work, in commercial studies and in the pure and applied sciences, including domestic science and sewing. The participation by the community at large in the life and activities of the school is likewise a trend of greatest significance.

EXETER UNION HIGH SCHOOL, EXETER, CALIF.

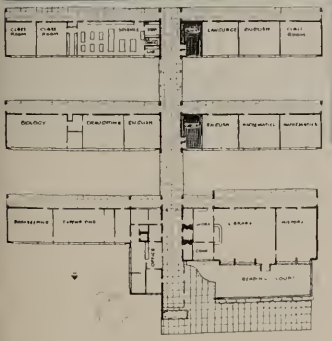
Upper picture is a general view of class room wing from south. Note protection to windows from sun by wide overhanging corridor roof. Other view is a close-up of exterior corridor. Note windows at right, facing north.

John Lyon Reid, author of the accompanying post-war school article, began his architectural career at the age of 14 and with the exception of eight years of teaching, as associate professor of architecture, Massachusetts Institute of Technology, he has specialized in school design. Mr. Reid has been associated with Messrs. Franklin & Kump since 1937.

SIX RECENT SCHOOLS

by FRANKLIN AND KUMP
and Associates
Architects and Engineers

MARK FALK, Consulting Electrical Engineer



EXETER UNION HIGH SCHOOL

Upper right: Detail of entrance to main closed corridor.

Below: Entrance detail; library reading court at right.

Plan at left shows new group only. Original group, including auditorium, cafeteria, shops and art room, not shown in plan.

EXETER UNION HIGH SCHOOL

General view of library is shown in the upper picture;
below is library delivery desk. Seating equipment reused from old buildings.

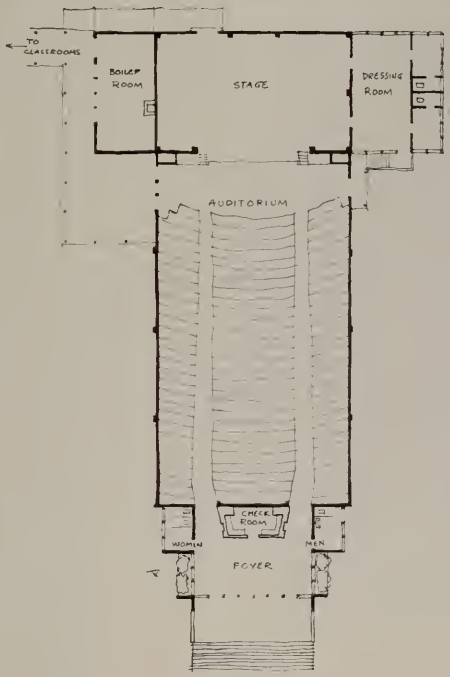
These trends existed before the war, have in some measure been vindicated by the war. Never before has such a high wage premium been paid for coordinated manual and mental skills. It is to be expected that these trends, greatly accelerated by the war will be continued by peace time needs. In addition, there have arisen since the war, new values and new opportunities in the field of education which give us something from which we may draw our conclusions as to the nature of the post-war school.

What may be assumed as the motivating forces in the planning of post-war schools and in their characteristics may be grouped as follows:

1.—The Concept of Education

The school is becoming the learning center of the entire community. Learning is not stopped by graduation. The trade schools for teaching war workers new vocations have been developed by war industries because sufficient facilities are not elsewhere available. In normal times this is a function that will be filled by schools.

PATTERSON UNION HIGH SCHOOL AUDITORIUM
PATTERSON, CALIFORNIA



PATTERSON UNION HIGH SCHOOL AUDITORIUM

Patterson, California

Entrance detail

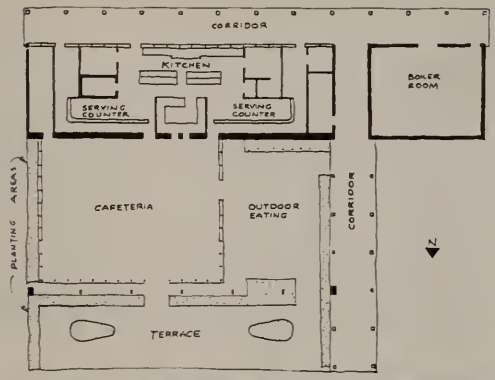
Interior of auditorium, looking toward proscenium. Right: Auditorium, looking toward rear. Space spanned by steel rigid frame arch.

Adult learners and young learners are very much alike in their needs; the meeting of these needs can be accomplished in one center. The library, the museum, and what is ordinarily thought of as the school proper, can all be consolidated, in the smaller communities at least, into one teaching center. And this can be accomplished too, with greater efficiency, less duplication of effort and facilities, and less expense to the public. This center will probably constitute one of the regional centers of higher learning in the form of a junior college or even a high school. The elementary schools may well serve as the neighborhood community and learning center for the more general and less specialized needs. If we are able to master our mounting problems in economics, employment and technology, the development of the machine will inevitably lead to shorter working hours. This means an added responsibility and an increasing opportunity for the schools in the growing available amount of leisure time.

The use of school facilities will be expanded to cover more than learning activities alone. Play and recreation have just as much of an appeal to adults as to children. However, the interest in play, if it is to be sustained, must be carefully organized with reference to community needs and handled by competent administrators. Most of the urban school sites are too restricted in size to permit such a program; schools must have ample outdoor areas planned for intensive play use. The two elementary schools at the Chabot Terrace project in Vallejo each have a site of $12\frac{1}{2}$ acres; the site of the intermediate or Junior High School is $17\frac{1}{2}$ acres.

The function of the school is not only to teach and train in abilities, skills, physical play and development, but also to instruct in proper eating habits. Cafeterias are considered indispensable parts of a complete school plant. A knowledge of food may be taught and put into practice. This will aid both in the development of a healthy body in the child and its maintenance in maturity.

So great is the need for war workers that



RICHLAND ELEMENTARY SCHOOL CAFETERIA SHAFTER, CALIFORNIA
Beneath plan is a view of cafeteria space, looking toward outdoor eating area. Pupils at lunch shown below.

RICHLAND ELEMENTARY SCHOOL CAFETERIA, RICHLAND, CALIFORNIA
Close-up of serving counter. Height of counter lowered for convenience of small children.

Washing area in Richland school. Pupils are required to wash before entering serving line.

Right center: Covered outdoor eating space.

Below: Detail of kitchen. Dishwashing area at left.

ACALANES UNION HIGH SCHOOL, LAFAYETTE, CALIFORNIA
This project embodies complete rural school facilities and is planned for intensive educational and community use.

ACALANES UNION HIGH SCHOOL

View from entrance drive. Cafeteria and outdoor eating unit at right; administration offices, center; class room wings, beyond.

DUCOR UNION ELEMENTARY SCHOOL
DUCOR, CALIFORNIA

Photo shows use of outdoor teaching area.

the employment of women in all trades and industries is common. In the case of mothers with very young children the care of these children while the mothers are at work presents an acute problem. Even if hired help were available, which it is not, it is not possible

Above: Exterior corridor detail. Note continuous corridor windows.

Right: Detail of corridor with office at left.

financially for most of these families to hire help.

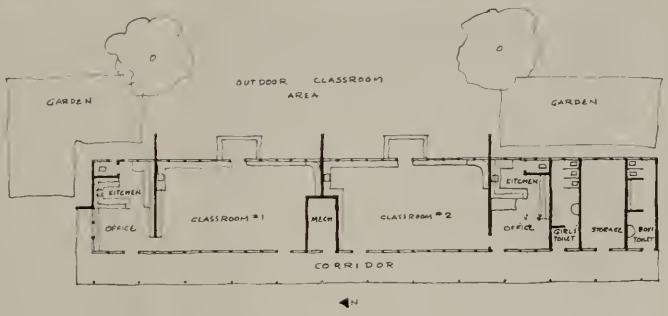
Many school districts in war housing areas are providing nursery schools for the care of these children. Where schools are not able to carry on nursery programs, this need has been met by nursery schools conducted by the industrial organizations for the children of their workers. This trend, i. e., the growing use of the nursery school, is one which may likely be carried over into the post-war period. The advantages of the nursery school accrue to parent and child alike. The early beginning of the formal education of the very young child may prove advantageous in the later years of schooling, and prove a strong factor in the retention in the school system of the nursery.

These expanded activities of the school, to be as effective as possible, mean a year round program of work. The investment represented by a school plant is too heavy a burden to the community to be allowed to remain closed during a quarter of the calendar year.

2.—The Curriculum

The enlargement of our concept of education is having its counterpart in the development of the form and character of the curriculum. This latter as directly affects planning as does the former.

Years ago the curriculum was based on the idea of imparting to the learners the fundamental theories of our knowledge and the cultures. The problem of their application to daily life was secondary, albeit unwittingly.



DUCOR ELEMENTARY SCHOOL

Upper view: class room and activity area. Note built-in lockers and storage space.

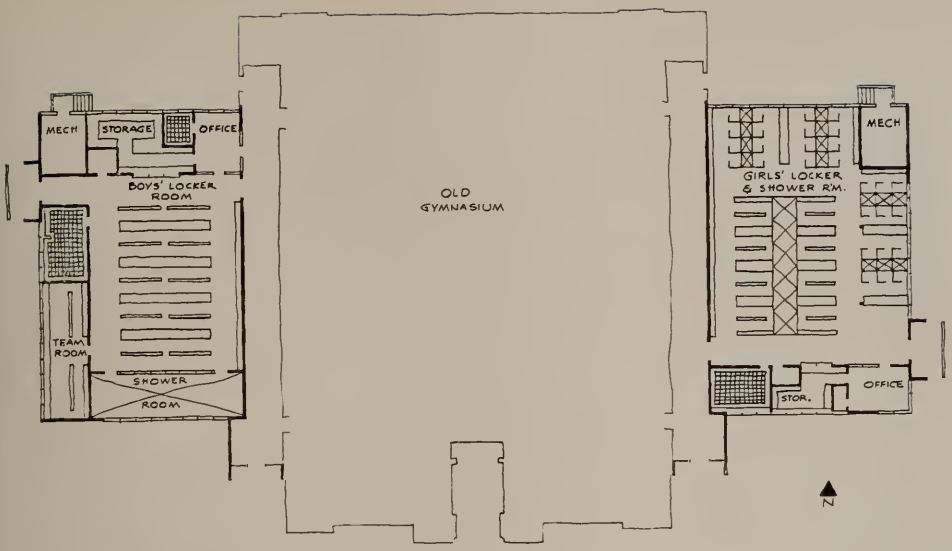
Below: Seating area. Reading nook at left front of room. Note bi-lateral window arrangement.

WASCO UNION HIGH SCHOOL, WASCO CALIFORNIA

Locker and shower room. Air of locker room is exhausted through lockers which removes odors and dries the clothing.

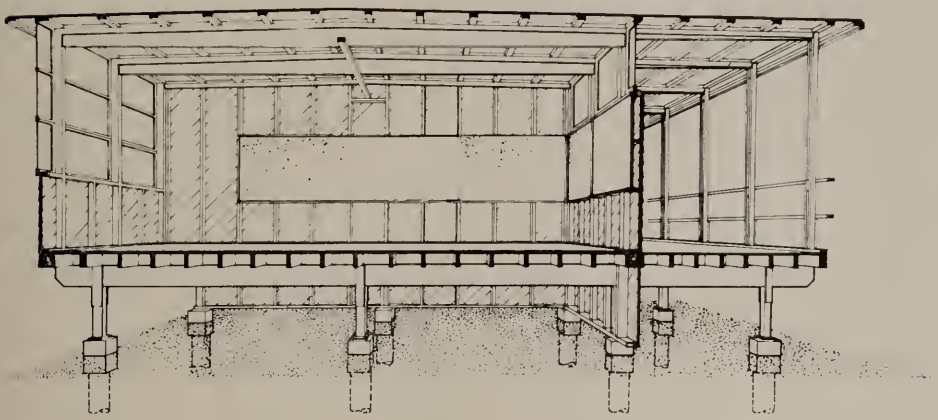
ENTRANCE TO BOYS' LOCKER AND SHOWER ROOM

DETAIL OF BOYS' SHOWER NOTE OVERHEAD PIPES TO HANG TOWELS

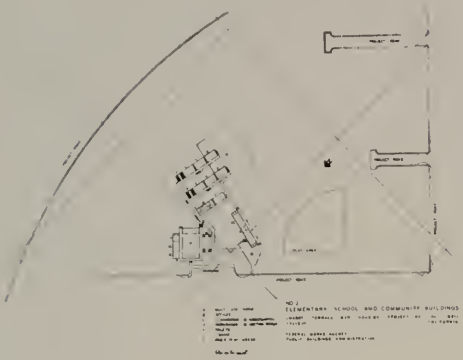


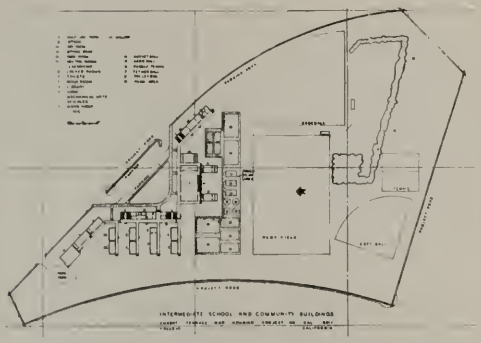
WASCO UNION HIGH SCHOOL, WASCO, CALIFORNIA

Plan shows position of old gymnasium and boys' and girls' new locker rooms and showers.



TYPICAL CLASSROOM
SCHOOL AND COMMUNITY BUILDINGS
CHABOT TERRACE WAR HOUSING PROJECT NO CAL 4211
VALLEJO CALIFORNIA





PLANS FOR EDUCATIONAL AND COMMUNITY FACILITIES FOR CHABOT TERRACE WAR HOUSING PROJECT, NO. CAL. 4211, VALLEJO, BEING BUILT BY PUBLIC BUILDING ADMINISTRATION

These three schools serve a housing project of 3,000 dwellings.

Franklin & Kump & Associates,

Wm. W. Wurster, Architects Associated

Growing importance is attached to equipping our children with the experience and the ability to apply knowledge and theories to the problems of living. This is accomplished, in general, by the integration of the studies with the life of the community, and by affording the child an opportunity to participate in activities that apply the principles he is learning. In elementary schools space is provided in the classroom for an expanded program of activity. Work tables and a large amount of various kinds of storage space for work materials and equipment are needed in addition to the seating area. In the higher grades, the increasing need for specialization as the child matures demands a great range of facilities and space. Neither cooking, sewing, automobile repair nor agriculture can be taught exclusively from a book. The proper relation of facilities and space for theory and for practice are of fundamental importance. The expectation by a graduating student that he be properly equipped and trained to enter life and earn a living is logical. The increasing complexity and specialization of our life must be mirrored in some measure by opportunities afforded in education.

Many schools at present conduct trips for their students to neighboring communities, even to nearby states. This is of immeasurable help in broadening the child's outlook, in making him realize that the community of which he is a member is only a unit of a larger fabric.

The provision in the school plant for activities of the community brings the adult to the school to the mutual advantage of oldster and pupil. The meetings of service clubs, P.T.A., lectures, pictures and even socials have the intangible but none the less valuable function of bringing the community into the school. The proper provision of space and its functional segregation complicates the work of the planner.

Flexibility also is an essential in school planning. This is meant to include provision for future growth of the plant, mechanical and curriculum changes, as well as the means to move partitions readily.

(Turn to Page 32)

POST-WAR CITY PLANNING AND REBUILDING

by JACOB L. CRANE, JR.*

Today housing is an implement of war. Like other such implements it is expendable, and its production is guided not by the needs of the future but by the urgent necessities of the present. The energies of the National Housing Agency, of all of us here today, and of the entire building industry, are dominated by that objective; and for the time being we have had to lay aside most of our efforts to build and rebuild our cities into good communities for human life.

But even in our devotion to the tremendous war task we cannot escape the realization of our responsibilities when the war has been won. Today housing serves the nation as an essential activity behind the front; I am confident that it will take its position as one of the main fronts tomorrow. The housing job which will face us then will be bigger and more complicated than war housing.

Without detracting from our present work we must somehow look ahead and chart the strategy for our sector in the peace-time battle of the United States for full employment and full lives. It is time now to try to understand the forces which will be at work and the problems and opportunities which they will create.

This nation will enter the peace with the greatest urban housing shortage in its history. The backlog of need with which we began the war will have been swelled by war migrations. Against this background, the return of millions of men from the armed services, a large proportion of them single and of marriageable age and inclination, will precipitate an acute housing crisis in many localities.

Recent estimates from various sources indicate a national need for from one million to two million new and rebuilt houses per year for perhaps ten years after the war. Something like one-third to one-half of this need will probably be for workers whose incomes range from very low figures up to about $2,000 per year, of 1942 dollars.

We will have not only a heavy pressure of need and demand but will also have the manpower and other resources to do this huge job. There is remarkable agreement, both in industry and government, among those who have been studying the shift from full employment in war to full employment in peace, that the production of housing must be one of the greatest activities in which our released manpower can be engaged. Directly and indirectly, the construction of 1,500,000 new and modernized homes per year would employ about one-fifth of the 15,000,000 workers that Vice-President Wallace has estimated will be looking for jobs at the end of the war. But this volume of home building, creating long-term wealth, and carried on with both private and public participation, would require only about one-tenth of that part of our annual national income that we are now consuming for purely war purposes.

What will be required to set this productive effort in motion? With respect to construction for those customers who can pay "economic" prices, little special encouragement will be needed. A huge demand will exist and the means will be at hand. Billions of dollars in savings are being accumulated. Incomes are increasing in the lower brackets, so that large numbers can pay higher rents or purchase prices. As a result of the technological and organizational progress in building and related industries during the war, better houses can now be provided at lower actual total cost than before.

Although the scope of local authority activities cannot yet be fully foreseen, I have no doubt that they will play a great part in the post-war housing job.

In short, I believe that the stage will be set for the greatest productive effort in housing that we have ever seen. I feel less concerned about whether this production is to be set in motion than with its timing and with the direction it will take.

The elements exist which, if uncontrolled,

* Director of Urban Studies, National Housing Agency, Washington, D. C. An address at Northeast Regional Conference, National Association of Housing Officials, Boston, Mass.

might create a wild boom, carrying further the haphazard explosion of our urban areas out into the uncontrolled suburban fringe, with wildcat developments, further excess subdividing, wasted utilities, costly services and potential slums. The very violence of the boom could make it self-destroying, for the market could rapidly be overbuilt at certain price levels, with lost equities, mortgage delinquency, and then deep depression.

On the other hand this great productive activity could be the start toward making cities out of housing programs. We could accomplish the double purpose of providing the needed housing and at the same time starting our cities on the route toward functional and aesthetic order. With the trend toward stabilization of population in our urban areas, in place of the rapid growth of past decades, the great postwar building activity may not take place again at any time in the conceivable future. It would therefore be tragic to miss the postwar opportunities which are offered to business and government and especially to local governments.

If these powerful forces in prospect are to be guided by principles of rational urban growth and redevelopment, each urban community must begin now to prepare for them. Each one will need a good idea of where it is going, how it can get there, and with what resource. Each one will require a concept of the proper future function of each area and of the methods—physical, legal, financial, and organizational—by which that function can be achieved.

What I am talking about, of course, is planning, although I have not until now used that word. It seems to me that you must begin—in your local communities—to prepare your plans and programs now. No one but the community itself can do it. The federal government may be able to give some technical and perhaps financial assistance, but success of your community will inevitably rest on the quality of its own leadership.

Perhaps I should offer a word of caution about that term "community." In the sense in which I am using the term no city or other single political unit is a community if it forms **only a part** of a total urban area. The entire locality constitutes the urban community, and effective planning and development must proceed in this framework.

Once a broad underlying plan has been formed, the community will be in a position to formulate a housing program, through the cooperation of the various individuals and agencies directly concerned. The housing program would have as its purpose the provision of the needed houses, in the right places, of the proper types and standards, for the right income groups—**and not too many for any one neighborhood or any one price range.** It would seek to secure the production of all of the needed housing in a long-term building program which served the best interests of the consumers, the building industry, and of the urban locality as a whole. I do not underestimate the difficulties which confront the community in developing and establishing that kind of program, but I think it can be done.

The community housing program will have to be elastic, changing as necessary to meet immediate needs, while still conforming to future objectives. In the immediate postwar period, for example, low-rent and medium-rent housing may have to be developed very rapidly, both to provide houses and to provide critical transition-period employment. So that they may go ahead without delay, many of these projects may have to be on vacant, readily-available land. Meanwhile, preparations can be made for clearance and redevelopment work, upon which most communities will focus much of their attention sooner or later.

The locality which possesses both an underlying plan and a housing program has a yardstick against which the suitability and the probable economic success of any proposed housing development can be measured. The test will be a dual one: Does the development provide needed housing; and does it help carry out the long-term plan for the neighborhood and for the whole community?

The test will be especially useful when you come to that particularly difficult problem—the wholesale rebuilding of your slums and blighted areas. Local housing authorities already have made a start on that work, and they may be required to expand their operations in

the post-war period; but a great effort will be made to enlist private capital and management in the job. Therefore, it is not unlikely that a substantial part of the postwar building activities will eventually be directed into the central areas.

This effort, both private and public, is essential, and must be promoted by all suitable means. Yet I think that there are some dangerous elements in the situation.

We have talked so much about the need for rebuilding the blighted areas that we may sometimes forget that reconstruction is not necessarily a good thing in itself. There is no merit in replacing old housing by new in an area which may be needed more for industrial activities. Nothing may be gained in the long run by a rebuilding operation which perpetuates unnecessarily high density and gives precedent for maintaining fictitiously high assessed valuations, where the future welfare of the city community demands a land economy adapted to its needs for rebuilding.

In short, there is no inherent magic in redevelopment as such. Newness in itself is not a virtue. The merit of any redevelopment project, public or private, must be tested in the light of the basic plan and housing program of that community.

I believe that local housing authorities should and will become concerned with more and more aspects of this complex problem of urban development. Those of you from local authorities will have not only your own operations to worry about, but increasingly you will find opportunities to assist private management in its part of the job. It seems to me that you should be alert to perceive what services or facilities you can put at the disposal of the responsible private builders. Perhaps your experience in large scale operations has taught you methods—technological or organizational—which will assist the private developer to build for lower levels of income than has until now been possible. Your studies may reveal sites most suitable for private development. A broad concept of your job can pay dividends to your community.

It is a long way, I realize, from glib generalities to a workable community plan and housing program. But nothing can bridge that gap except the vision and cooperative effort of the community itself. There will be a magnificent role for housing in the post-war drama, and we will be one of the few great industries possessing no right to ask time and delay for conversion from war to peace work. We have to be ready, and we have to get ready now.

NEW TREND IN HOUSING

A definite trend away from permanent housing for war workers was reported to the City Planning Division meeting by Jacob L. Crane Jr., director of urban studies for the National Housing Agency. In the earlier stages of the war housing program, Mr. Crane said, it seemed clear that government war housing, when built in localities where it could be used after the war, would be most economical if designed to permit its occupancy for 20 years or more. Accordingly, in most of the built-up areas of defense production, some permanent government war housing was built. Similarly, for the localities where the government war housing would not be needed after the war, it seemed clearly economical to provide demountable housing which could be moved after the war for use elsewhere. Now, the urgent need for the economical use of materials has forced the government war housing program almost wholly into the provision of temporary dormitories, temporary dormitory apartments for couples, and temporary family dwelling units. All three categories are reduced to minimum floor areas and minimum use of metals.

Postwar housing was the subject of a paper by Harland Bartholomew, city planner at St. Louis, Mo. He estimates that to meet housing requirements in the 10-year period following the war, construction of 828,000 non-farm dwelling units yearly will be required. This total would include 140,000 units to accommodate new population growth in cities; 336,000 units to replace obsolete units now 50 years or more of age; and 352,000 units becoming obsolete each year.

If citizen's groups do not work hard and effectively, 95 percent of all postwar housing in American cities will be built in remote suburban areas, Mr. Bartholomew believes.—Engineering News Record.

—Courtesy Westinghouse and American Standards Association

Protective lighting of industrial properties prevents saboteurs from reaching vital war-production objectives under cover of darkness.

CORRECT LIGHTING PROTECTS AGAINST SABOTAGE

by CYRIL AINSWORTH*

Those who have passed industrial plants engaged in war work and have noticed the extensive illumination which surrounds the buildings and properties have probably realized that this lighting is intended to decrease the possibility of theft or sabotage. Few may have realized, however, how extensive are the technical considerations which have gone into the installation of such a lighting system. Several months of work by a group of experts, as well as comment and criticism from a large group of key individuals, went into preparation of the recently completed American War Standard for Protective Lighting of Industrial Properties.

Many industrial plants had already installed protective lighting systems long before the war. After the war started, however, the administrative authorities concerned asked other plants to install such systems in order that production might not be interrupted through sabotage. This greatly increased demand for effective protective lighting immediately pointed to the need for specifications to outline satisfactory requirements for a protective lighting system. To meet this need, the Insurance Committee for the Protection of American Industrial Plants asked the American Standards Association to initiate a project on outdoor protective lighting of industrial properties. Soon after this request, the War Department made a similar request, but later, before the project was completed, withdrew as a joint sponsor for the undertaking.

The American Standards Association agreed to undertake the development of these specifications under its War Standards Procedure, and organized a technical committee to assemble technical data, prepare a draft specification, and review the comments and criticisms received from persons interested.

PRINCIPLES OF PROTECTIVE LIGHTING

This committee first proceeded to determine just what protective lighting was designed to accomplish, and what principles should be followed in the writing of the specifications. Its findings can best be illustrated by quoting directly from the standard:

"Adequate light and normal vision are the essential tools for seeing quickly, accurately, and easily. Many benefits of more light and better lighting have been revealed since the First World War. This increasing knowledge has been revolutionizing lighting recommendations and practices. These benefits which are appealing in peacetime become essential in wartime with no end in sight for the all-out effort to produce maximally with the least waste in human and material resources.

" 'Protective' lighting is a wartime auxiliary to 'productive' lighting. It must combat darkness which crowds in from everywhere at night. Here it promotes safety and security from sabotage and in this protective role light should reveal the saboteur while darkness should conceal the guard. Here glare, so undesirable in productive lighting, can be utilized in protective lighting to blind the trespasser and to obscure the guard.

"In the darkness outdoors the problems of seeing are doubly important. The guard's eyes should be protected from brightness and glare so that they remain dark-adapted. In this state they can detect very low brightness and, therefore, movements. Good protective seeing is achieved by adequate light upon no-man's-land, glaring light in the eyes of the trespasser, and no light upon the guard; and in aiming to provide protective seeing, high brightness-contrast between trespasser and background should be a first consideration. This may be accomplished by adequate light and the proper use of paint.

"Protective lighting is intended to facilitate the night-time policing of vulnerable properties. It is therefore essential that it be designed to provide adequately for policing requirements."

HOW TO MEASURE EFFICIENCY

Having established the objective of protective lighting, the committee then enumerated the following basic principles which may be applied to any protective lighting system as a measure of its efficiency:

* Acting Chairman of the American War Committee on Protective Lighting of Industrial Properties.

A watchman is screened from the saboteur by the glare of protective floodlights, but has a clear view of any intruder.

(a) It should provide adequate illumination to discourage and detect attempts to enter a property, and to reveal unauthorized persons within the property.

(b) It should avoid glare that handicaps the guards or is a source of annoyance to street and highway traffic, marine or railroad operations, occupants of adjacent buildings, or workers on neighboring projects.

Glare directed at the intruder, if not in violation of the above, is effective in handicapping the seeing ability of the would-be saboteur and in preventing the discovery of the guard.

(c) It should illuminate shadowed areas caused by adjacent structures.

(d) It should coordinate the lighting with the guard stations or patrol routes to provide maximum concealment for the guard. Patrol roads and paths should be kept in relative darkness.

(e) It should avoid leaving areas dependent upon a single lamp or circumstances where the failure of one lamp, as for example in the boundary circuit, would create a dark passageway into the property.

(f) It should provide special treatment for such situations as railroad sidings, alleys, roofs of abutting buildings, wooded or water approaches, entrances and exits.

(g) It should be dependable in operation and provision should be made for convenient control and maintenance. Suitable control is essential for purposes of blackout.

(h) Means of concealment such as bushes, tall grass, and weeds should wherever possible be removed from approaches to the property.

(i) Poles, lighting equipment, and electrical auxiliaries should be located inside the property fence or where they are not readily accessible to malicious damage.

(j) It is desirable to supplement the fixed lighting with searchlights controllable by the guards and permitting explorations outside the property or augmenting the fixed lighting within the property in the event of an emergency.

Realizing that industrial plants differ widely in their physical character and that specific rules could not be stated for all possible conditions, the committee in building the standard decided to set up general rules supplemented by appendix material that would be sufficiently comprehensive for adaptation to specific situations.

MINIMUM LEVELS RECOMMENDED

The committee has been careful to point out that in applying the provisions of the standard, the illumination levels recommended are the minimum levels believed to be necessary for policing properties, but that the levels are not necessarily adequate for efficiency from the standpoint of plant operations. For example, the lighting recommended as a protective

A saboteur, attempting to enter a correctly lighted industrial property, is blinded by the direct beams of the protective lighting system.

measure for a stock pile is not necessarily sufficient illumination to permit of maximum efficiency or safety for workmen handling the material.

The question that is most often asked by persons interested in protective lighting is: "Does the standard cover protective lighting for industrial properties located in dimout areas?" This question was discussed at considerable length by the members of the committee who decided that inasmuch as the values specified in the standard were the minimum values that should be obtained and still provide protection from theft and sabotage, it was impossible for the committee to prepare any specifications for protective lighting of industrial properties located in dimout areas. It recommended that persons interested in protective lighting for properties in dimout areas should confer with those responsible for the administration of dimout and blackout regulations in the areas where the plants are located. In other words, dimout lighting and protective lighting are actually in conflict with one another, and industrial plants in dimout areas must be guided by the advice received from the properly constituted authorities.

The specifications for protective lighting systems are divided into two main parts: the first pertains to boundary and approaches; and the second to areas and structures within property lines. Boundaries are in turn discussed according to whether or not they are fenced boundaries, unfenced boundaries, or whether the boundaries are formed by building faces. Boundaries formed by water fronts, and the entrances through boundaries are also covered.

The appendix to the standard is very extensive and discusses in some detail the types of lighting equipment which are most suitable for protective lighting purposes. It describes the conditions and locations where particular types of lighting equipment can be used to the best advantage, types of circuits, and control methods. Typical methods of obtaining specified illumination values are outlined, and sketches are provided which clearly illustrate the typical methods discussed in the text.

It has already been mentioned that many industrial plants had installed protective lighting at the time of the outbreak of the war. The new specifications will be of value to such organizations in carrying out studies to determine the efficiency of their lighting systems. It is quite likely, however, that plants which have not already installed protective lighting may experience some difficulties now in securing the necessary materials. The relation of the work of the plant with the war effort will undoubtedly have a definite bearing on this problem.

The interested governmental agencies, insurance groups, and industrial plants are indebted to the technical committee for the valuable advice and assistance which they have given throughout the development of these specifications.

POST-WAR SCHOOLS

(Continued from Page 24)

3.—Science and Technology

Most schools at present have public address systems and the means to project pictures as a part of the regular classroom instruction. This has made it possible to bring the voices and images of the outside world into the classroom in a way with which all are familiar. We are led to believe that television will be within the reach of all in the near future. The rate of development of new media of communication may make this a reality soon after the war. New and unknown factors such as this may therefore affect the size, shape, and mechanical equipment of classrooms.

Much closer to our experiences as designers and builders are the new developments in building materials. A great variety of new materials may be expected after the war. Some will make it possible to employ familiar building practices and forms much more simply, inexpensively and satisfactorily. Others will make possible the development of new forms, ideas and practices. The wealth of new materials has led to much prediction, speculation and philosophy, to which this article can add little.

However, the practice of prefabrication in war building has established the value of prefabrication as a building practice. The use of inexpensive materials, the need for haste in construction, both of these a war necessity, has subjected prefabrication to unwarranted criticism. New and better materials, new machines and construction methods, added to our present technique of prefabrication, are sure to bring about a still wider acceptance of prefabrication methods.

To the best knowledge of the writer, the Carquinez Heights Elementary School in Vallejo and the Pacific Beach Elementary School in San Diego, were the first schools of their scope and size to be built by modern prefabrication methods. Both were designed by Franklin & Kump and Associates, Carquinez Heights with William Wilson Wurster as consultant. The two schools represented economies and speed in construction with no sacrifice of anything considered desirable in functional school design.

PREFABRICATED SCHOOLS A REALITY

Embodied in the prefabricated school buildings, illustrated in this article, are these features:

- **structurally independent unit buildings to form an integral building group.**
- **complete flexibility for any site arrangement or climate.**
- **foundations adaptable to any conditions — level or hilly ground.**
- **scientifically designed classrooms and facilities endorsed by leading educators.**
- **structural and safety features approved by state and municipal engineering departments.**
- **design based on experience.**

It is a generally accepted fact that the life of schools should be limited to the length of the bond issue needed to build them. This points in the direction of a shorter life for schools with less of the tax payers' money spent for permanence and monumentality. This permits the educational plant to keep pace with the advances in curriculum and equipment. A permanent or long life school hampers educational development. Prefabrication may be one of the factors contributing to the solution of this problem.

One more point which does not readily fall into any of the foregoing groups should be added here. It is pure speculation but deals with a problem in urban school planning. Smaller communities have developed a highly organized school bus system to transport pupils from outlying districts to population centers. The need for large sites for schools is recognized as a necessity and yet it is all but impossible in most urban locations to obtain adequate land. If the land were available, costs would be all but prohibitive.

City and regional planning have not as yet been able to provide all schools with desirable urban sites.

It may be that the urban school of the future will be located outside the city where open space is available. Pupils will be transported by the school district to the school. Openness, fresh air and sunshine are of immeasurable value to the young children in lower school grades, particularly those whose homes are in the congested city districts.

STRUCTURAL ENGINEERS ARE GO-GETTERS

PROF. CLEMENT WISKOCIL
University of California, Berkeley

The following are highlights of a talk by Past President Clement Wiskocil at a recent meeting of the Structural Engineers Association of Northern California at the Engineers' Club of San Francisco:

"Look about you, does your neighbor seem to be suffering with a pain in his neck? I know that at least one of you here this evening is affected because while in the crowd before dinner I overheard someone say, 'Whisky gives me a pain in the neck' and what's more, 'casting an eye to the future is just so much baloney.' That was a humorous remark by a good friend who knew I could hear him. So while I'm unquestionably responsible for his trouble, all of you are more or less the cause of my discomfort because I got my stiff neck as a result of my efforts in your behalf—craning to peer around the ever-present corner into the future.

"However we cannot side-step the subject with a facetious quip or wise-crack; the future beckons too urgently! Even the problems of our Association are a part of a dynamic, interdependent world, now in the throes of swift transition. Perhaps at no other time were more people looking more anxiously and hopefully to the future.

"All of you have heard of prophets. Wasn't it an anonymous soothsayer who warned Julius Caesar to "beware the Ides of March"—a good but unheeded forecast? Some among you may recall that the famous Hebrew prophet Daniel, a courageous lad, proved that the handwriting on Belshazzar's wall dealt with the future. Moreover, wasn't it Cassandra who was punished by the Olympian God Apollo, whose "directive" prevented anyone from believing her forecasts? So it appears to have been the fair Cassandra who unknowingly set the custom which seems to be the fate of all prognosticators.

"But what of it? Well just this. You wouldn't want me to venture even a hasty glance into the future knowing that no one would believe me anyway. Besides those who are too definite in their forecasts merely invite trouble. Haven't many of the records computed by our track coach Brutus Hamilton as being the maximum possible of human skill and endurance already been exceeded? According to his 1935 forecast, Warmerdam should not be vaulting over a bar set at 15 feet. But hasn't he done just that some 27 times? And what's more he is close to 16 feet!

"If creditable performance is a criterion, Hamilton should have been an accurate prophet; at least his forecasts were interesting. However, I have no record of either performance or prophecy behind me. But does lack of personal achievement necessarily preclude ability to tell others how to do it? Didn't Ed Gallagher's Oklahoma A. & M. wrestling teams win 14 out of 15 intercollegiate titles? Yet Gallagher never wrestled in his life. Hiram Conibear, who developed the outstanding Washington crews, never pulled an oar! And Johnny Weismuller's coach never swam a stroke!

"I'm not in the class of these fellows, neither am I trying to establish an alibi, but after reciting these interesting incidents may I present this thought—no man's opinion is entirely worthless, for even a ten-cent watch tells the correct time twice each day. So now let's look at 'SEAONC.' This Association is now in its fourteenth year with its eleventh president. It has established an enviable reputation throughout California. One only hears the most favorable comments, such as 'there's the livest organization I know of,' and 'the Structurals—meaning you—are go-getters.' These are the characteristics of a youthful, vigorous organization. They typify a state of mind, a quality of imagination and vigor of the emotions. Surely they can be continued if those among you who are responsible for this record of worth-while accomplishments will not only keep up the good work but also bring younger men into your organization and work with them so as to give them the direct benefit of your counsel. Pass on to them the courage that has been yours!

"There are many vehicles for your activities; but why not continue to use the Committees such as, Research, Welfare, Public Relations, Consulting Practice and Legislative which have been so effective in the past? But why name more, you know them as well as I do. Furthermore, you are in a most strategic position. All of your membership and authority are close at hand. You can operate quickly and effectively—no waiting for a policy to be established by a G. H. Q. shall we say, in New York? Besides there are many traits of human nature in your favor. For example, you know that people work hard to establish their superiority in the eyes of others: that most of them yield to suggestion when flattered: that they follow leaders blindly (some actually seem to do it not only with their eyes shut but with their mouths open): and that they accept ready-made beliefs and stick to them. Now knowing some of these characteristics why not make use of them to accomplish worth-while aims?

"So why not participate in general activities, not only those peculiar to our profession? We must not be satisfied with merely working with our own problems,

for even their solution depends upon our breadth of outlook, our interests and activities. Remember that not all world problems can be solved by a technologic approach. Why aren't more engineers willing to run for political office? Why not each of you take a more active part in the community in which you live? It seems to me that the place of our technical organizations and the future of the engineer as an individual depend to a large extent on his attitude and the part he is willing to take in movements which deal with the great issues of life.

"To many of us the future means an unpredictable change. Yet as we look ahead, aren't there many sound, stable elements of life that should hold us steady? The old world stays in its exact orbit so that one season follows another; two plus two continue to be four; the ceaseless laws of friendship still operate; a lie is a lie, and the truth is still powerful. So let's not be bewildered as we look into the future. Your duties and responsibilities as a member of human society will not change. Nothing can deprive you of them except a false belief that they no longer exist. They do exist. See that you make the most of them!"

STRUCTURAL ENGINEERS VISIT SHIPYARD

Barrett & Hilp, who are building ships and ships at the Belair Shipyard, South San Francisco, invited the members of the Structural Engineers' Association of Northern California to visit the plant, Saturday, May 8. There was a good sized turnout.

On Tuesday, May 4, J. F. Barrett, member of the Barrett & Hilp organization, addressed the members at the bi-monthly dinner at the Engineers' Club. He spoke on "Concrete Ship Construction." Another speaker, Stanley C. King, discussed the design features of concrete ship building. King is a member of the engineering firm of Ellison and King of San Francisco.

THE CANADIAN-ALASKAN HIGHWAY

"The Canadian-Alaskan Highway," was the subject of a talk by Dr. Laurence I. Hewes, C. E., at the regular bi-monthly meeting of the San Francisco Section, A. S. C. E., held at the Engineers' Club, San Francisco, April 20.

Dr. Hewes has been with the U. S. Public Roads Administration for thirty-two years, and, during the past twenty years has been Chief of the Western Region where he had full charge of Federal aid work and National Park and Forest road construction in the eleven western states, Alaska and Hawaii. He is representative of the Commissioner of Public Roads on the Canadian-Alaskan Highway and is author of two recent volumes on American highway construction.

Dr. Hewes' talk was illustrated with natural colored slides of the project.

FLAG COVER COMPETITION

In support of the Treasury Department's War Savings Program, the United States Flag Association announces a 1943 Magazine Flag Cover Competition with the Patriotic Service Cross, and citation, awarded for the best cover in four types of publications: (1) Monthly magazines of general circulation; (2) Weekly magazines; (3) Organization and trade magazines; (4) House organs and miscellaneous magazines.

ENGINEERS AND ARCHITECTS ANNUAL

One of the largest turn-outs of the year marked the annual meeting of the Engineers and Architects Association of Southern California at Los Angeles the evening of April 29. Outstanding features of the celebration included a splendid dinner for only $1.25 per plate, (including tip); vocal selections by Miss Gertrude Kreig; nine reels of moving pictures with fascinating titles, such as: "Steel Goes to Sea," "Diary of a Polish Airman," "Air Screw," and "Army Lays the Rails."

It was announced that the following members of the Association are now serving in the armed forces:

Anderson, Lyle E.
Atencio, A. P.
Bancroft, Alexander Harry
Barker, Francis James
*Beeson, Cyrenus D.
Benson, Elmer H.
Benton, William L.
Brown, Melvin Lee
Bush, John Augustus
Carson, Eugene G.
Cosgrove, Richard G.
Clark, George W.
Collins, T. J.
Dent, Raymond
Ebert, Earl S.
Edelstein, Harold
**Ellis, R. S.
Fulmer, Kenneth C.
Gale, Arthur H.
Goodwin, Eugene K.
Gray, R. C.
Hack, Paul A.
Hall, Robert B.
Hamilton, Ralph Ellis
Hanks, Edward F.
Harkins, Noble J.
Hartline, W. R.
Hawes, Harold W.
Hedger, Harold E.
Hildebrand, Harry
Huey, R. B.
Iffert, William J.
James, Yancey L.
Kambestad, Lowell
Kays, Graydon C.
Kenmir, James E.
Klus, L. L.
Knauer, Herbert F.
Lamb, L. John
Lieberman, Robert H.
Mayer, Robert J.
**McIntosh, James H.
McKinley, Wm. R.
McNemar, John J.
Meyer, Glenn H.
Mossawir, Harve
Oakley, Robert E.
O'Brien, Sherwood Thomas
Plunkett, North H.
Pritchard, Charles A.
Provan, W. King
Pyeatt, Gene Bennet
Ramsey, William A.
Regensberg, David L.
Reinhart, Joseph C.
Roberts, Otis H.
Rosenthal, Arthur G.
Rule, Joe
Scanland, Lloyd
Schwilk, W. P.
Seaton, Chas. M.
Short, Charles M.
Shuler, Herbert D.
Slavin, Stanley W.
**Sorrels, Othel H.
Staples, Clayton
Stebbins, Clarke, Jr.
Stern, Martin, Jr.
Stilson, Philip V.
Stoney, Clyde F.
Swift, Charles F.
Swift, Frank J.
Takayama, Hideo
Thompson, Richard Harry
**Thompson, Wallace C.
Timmons, John D.
Torrey, John D.
Van Natta, Walter S.
Vaughn, Roger, Jr.
Visconti, Jos. M.
Vollum, Edward O.
Van Kories, Major Otto
Wadhams, Homer L.
Walker, George N., II
Whitmore, George B.
Wickes, Clarence Z.
Williams, Milliard R.
Wirsching, Carl B.
Wise, John S.
Wood, Clyde C.
Worstell, Harold W.
Yale, Alfred George
Yocky, Clifford S.

*Deceased.
**Released from service.

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

ATTACK AND DEFENSE

This month's report on the state of affairs at Sacramento must go to press before the final returns of the State legislative session are completed. The legislature is still convening and, as we victory farmers know, rank weeds may spring up in the most unexpected places. But, to shift to the bucolic, our legislative shepherds seem to have beaten off the wolves who would raid the architectural fold.

The attack upon the architectural profession which accompanied Assembly Bill 822 was well prepared, and superficially convincing. Some of the points raised and the answers of our representatives are worth consideration by every architect, for, at one time or another, all of us have an opportunity to counter a blow or foil a slur.

The statement was made, with the backing of statistics, that less than twenty per cent of the structures built in California in a normal year have been anointed with oil from the sacred lamp of architecture. It was manifestly unfair, therefore, so the argument ran, for the eighty per cent who built the buildings to have to comply with a law which requires that the builder write a letter to some one stating that the builder is not an architect. As if they **had** been compelled to write such a letter!

It is unfortunately true that the buildings designed by architects are much in the minority, but the "for sale" or speculative builders are under no legal compulsion to send letters to themselves listing the professions which they can not practice without being licensed. Even those builders who employ clever student draftsmen and, at times, produce creditable products, are under no lash to remind themselves, in writing, that they are without the pale.

The fact of the matter is that buildings designed by architects have won for themselves a premium rating for investment and aesthetic value. The mass builder who would change the law covets the opportunity to take unto himself some of the value that the word "architect" has given to buildings, without increasing either the expense of training himself to be an architect or the expense of hiring an architect who has made that investment in time and money.

If we assume that the proponents of Bill 822 are correct in their figures as to the proportion of work which is controlled by architects, then it is hard to believe that the present law is working any great hardship upon anyone who wants to construct a building. The man who wants to draw plans for his own building is, under the present law, at liberty to do just that. There is no restriction on the sale of such a building. Nor is there a restriction upon the builder who would build for others except that he come clean and state what his principal business is and what sort of training he has had for the proposed venture.

The State has set up certain standards of competence for those who wish to represent themselves to their fellowmen as qualified in more than a

right degree in the designing and supervising of the construction of buildings. It likewise has set up certain standards for those who would like to represent themselves as qualified to contract for the construction of buildings. There is no prohibition against anyone submitting himself for an examination in which he may demonstrate his skill in the field in which he wishes to browse. But the present laws do set up minimum standards which must be met by those who would present themselves to the public as "contractor," "architect," "attorney," "barber," etc., through a long list of professions and businesses.

There is a legal means available for anyone to acquire the right to affix the word "architect" to his name, when he acquires the requisite knowledge and skill. But until he has acquired and passed an examination in which he demonstrates that ability, the law demands that he not sell his services under a false label.

CARL WERNER, ARCHITECT

Carl Werner, architect for many of the Masonic temples throughout Northern and Central California, passed away at his Alameda home May 3, following a lingering illness. He was 68 and had practiced his profession in the Bay Area for more than 35 years.

Mr. Werner was a native of Philadelphia. He came to California 56 years ago and while practicing in San Francisco his home was in Alameda.

In 1898 he graduated from the Massachusetts Institute of Technology after winning a traveling scholarship for outstanding work.

He designed about nine-tenths of the Masonic Temples in California, including the Oakland Scottish Rite building and the Bakersfield, Sacramento and San Francisco Masonic Temples.

He was the architect of the Lowell High School, San Francisco, the Alameda High School, the Sequoia Union High School, and the Alameda West End Branch Library.

Mr. Werner co-operated with four other architects in redesigning the Alameda County Court House and constructed five Christian Science churches in San Francisco, one in Alameda, and the Lake Merritt church.

He also designed the Army and Navy Y.M.C.A. on the Embarcadero in San Francisco and a hospital for the Masonic Home in Decoto.

He was particularly known early in the century for designing Nob Hill residences.

Mr. Werner was a 33rd degree Mason and belonged to the Scottish Rite of Oakland and Lodge No. 166, F. and A. M., in San Francisco.

MORE ARCHITECTS ON THE MOVE

Kenneth Acker has moved from 3305 Wilshire Boulevard, Los Angeles, to 9624 Highland Gorge, Beverly Hills.

John Knox Ballantine, Jr., has moved from 137 Harlan Place, San Francisco, to 1512 La Loma Ave., Berkeley.

A. R. Denke, from Hotel Claridge, 15th and Grove Streets, Oakland, to 1550 Grand Avenue, Oakland.

Willard H. Francis has moved from North Signal, Ojai, California, to 1539 Bentley Street, West Los Angeles.

Charles H. Franklin, from 1244 "O" Street, Fresno, to 1505 Francisco Street, San Francisco.

John A. Grundfor, from 3520 Downing Avenue, Glendale, to 116 North Jackson, same city.

Henry H. Gutterson, from 26 O'Farrell Street, San Francisco, to his residence, 2922 Garber Street, Berkeley.

Wilber C. Harrison, from 979 East Green Street, Pasadena, to 195 South Hudson, Apartment "F," same city.

David H. Horn, from Route 1, Box 409A, Fresno, to 667 Cragmont, Berkeley.

Keplar B. Johnson, from 5347 Golden Gate Avenue, Oakland, to 503 North Laurel Avenue, Los Angeles.

Leon D. Lockwood, from 50 Third Street, San Francisco, to 835 South Oxford Street, Los Angeles.

E. Parks and Irene McFaul, from 206 Moore Building, Santa Ana, to 1118 Halladay, same city.

Theodore H. Pettit, from 6348 Eleanor Avenue, Los Angeles, to 4832 Cammaron, same city.

Virgil Owen Prince, from 1810 West Twelfth Street, Los Angeles, to 1650 West 83rd Street, same city.

Homer C. Rice, from 404 San Fernando Road, Los Angeles, to 3425 Oak Glen Drive, same city.

Robert B. Stacy-Judd, from 6715 Hollywood Boulevard, to 5039 Whitsett, North Hollywood.

Claude A. Steil, from 1735 Vine Street, Berkeley, to 1686 Oxford Street, Berkeley.

Harold G. Stoner, from 1 Sloat Boulevard, San Francisco, to 800 Butterfield Road, San Anselmo.

Charles K. Sumner, from Decker Oak Building, Palo Alto, to 760 University Avenue, same city.

Burnett C. Taylor, from 1166 Victoria Avenue, Los Angeles, to 2575 West Fifth Street, same city.

William H. Taylor, from 1275 Morada Place, Altadena, to W. R. A., Public Works Division, River, Arizona.

Frederick Westcott, from Apartment 202, Mayfair, Spokane, Washington, to 726 Sixth Avenue, same city.

Ralph Wyckoff, from 207 Spring Building, San Jose, to Anglo Bank Building, same city.

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

HARRY J. LEMOS
He handles the money.

Harry J. Lemos, new treasurer of our local Chapter, enjoys a unique distinction. It began to look like Eastern interlopers had taken over until we discovered Harry. H. J. is a Native Son, spelled with a loud voice. Harry's first job was with the P. G. & E., and he still holds forth with that organization, in the capacity of New Building Representative. When the building "freeze" came, Harry was snowed under by the WPB's many limitation orders, and will continue to be occupied thusly until after the "thaw." Unable to produce a first baseman, former ballplayer Lemos resides in Burlingame with his wife and two daughters. We understand that a super-victory garden has taken over his begonia beds.

P's and Q's covered the gamut run by Allen Turner and Ed Banta in their talks at the April meeting. Masonite popped from guns a la puffed wheat, and the H. H. Robertson Company's "Q" floor for quickness, were the subjects of the informative talks by these two speakers, respectively.

New Member Gerald J. Concannon was introduced by Chapter President Chuck Kraft at our last meeting. Jerry represents the Shower Cabinet Division of the Fiat Metal Manufacturing Company in Northern California. His boss is Gordon C. Hay of Chicago, National Director Laiason Officer.

President Chuck Kraft will attend the annual Producers' Council meeting in Cincinnati May 25-27, concurrently with the annual meeting of the A.I.A. Chuck will take part in several discussions of particular interest to local Chapter and regional members. Preparatory to this trip, Chuck has met with the Executive Committee and Past-Presidents to get the group "opinion" on various questions that will come up, time not permitting a meeting of the entire Chapter for this purpose.

A Square Meal, with a round table discussion for dessert, is on the program for the June 7th meeting, to be held again at the Palace Hotel, Room A, at noon. The discussion will be devoted to a further consideration of the various interesting questions of policy affecting Chapter activities, as debated at the last annual meeting in Cincinnati, Ohio. A good many moons have passed since we've taken the time for this type of meeting. Today's fast moving events command that we get together for a good old-fashioned round table session. We want YOU to be there! And here's hoping that our Architect Laiason Officers from both the A.I.A. Chapter and the State Association will be with us to lend their counsel.

Sound wisdom is contained in the letter sent Chuck Kraft by Theodore Irving Coe, Technical Secretary of the A.I.A. Coe writes:

> "I appreciate your sending me a copy of ARCHITECT AND ENGINEER, which contained much of architectural interest. I was particularly gratified to see the "Producers' Council Page," sponsored by your Chapter of the Council.
>
> "As we look back over the 21 years of the affiliation of The American Institute of Architects and The Producers' Council, we appreciate the wisdom of the early fathers of this Association in recognizing the community of interest of those who produce the materials of construction, and those who weave them into the fabric of completed structures.
>
> "As we celebrate the 21st anniversary of affiliation, we may go forward to face the post-war problems with confidence based on knowledge that in union there is strength, and with the hope that the friendly association between the Institute and the Council may serve as example to encourage more definite integration of all the elements and groups which form the now more or less nebulous construction industry."

Gremlins of a variety of types get blamed for many mysterious mishaps, slip-ups and untoward developments these days. In our March Page, "War-time activities **of their** companies" were discussed by George Quamby and Dan Anzini, not "of other companies," which would amount to traitorism. And we note in our April Page that "Vic" has a new name—Vice Anderson.

THE ARCHITECT—
STILL ADVANCING ON THE WAR FRONTS

INDUSTRIAL WORK KEEPS PACE IN BAY AREA

Industrial improvements labelled "essential" took another upward swing last month in the San Francisco Bay area. Largest of these projects was a contract to Geo. C. Renz of Gilroy to build a dehydrating plant for $100,000.

The Ferry-Morse Seed Company took out a building permit to construct two warehouse buildings on Bayshore Boulevard, San Francisco, for $30,000. Construction will be handled by George Wagner, Inc. No architect employed on the work.

In Oakland the Western Union Company needs more office space and has let a contract to S. Kulchar & Company who will remodel two floors of the building at 424 Thirteenth Street from privately drawn plans.

California Packing Company will build a one story brick addition to its plant on 29th Avenue from plans by its own engineering department. John F. Tulloch, 3428 Ettie Street, Oakland, is the contractor.

The A. Schilling warehouse at 2nd and Folsom Streets, San Francisco, is being remodeled by the Dinwiddie Construction Company, from plans by L. A. Kruse, architect, 251 Kearny Street. The Western Pacific's engineering department has prepared plans for 6 section houses to be built along the company's right-of-way in California, Nevada and Utah.

Fred J. Early, Jr., has the contract to remodel the Metten & Gebhardt tannery at 1775 Egbert Street, San Francisco, at an estimated cost of $20,000. Another remodeling job is under way at 220 Battery Street, San Francisco, for the Dow Chemical Company. The Austin Company of Oakland is doing the work. The Linde Air Products Company is building a one story concrete and brick addition to its 8th Street plant in Berkeley.

Carl F. Gromme, architect of San Rafael, has completed drawings for a Boy Scout building at Second and A Streets, San Rafael. Twenty thousand dollars has been donated by Jacob Albert and construction will go forward as soon as priorities are granted.

U.S. GRANTS PRIORITIES FOR NEEDED SCHOOL BUILDINGS

Increased population in the Bay Area has filled the schools to overflowing and some "essential" building is the result. Franklin & Kump and Associates have let a contract for a two class room building at Shipyard Acres in Napa County for $13,000 and George Sellon in Sacramento has awarded a $54,000 eight class room elementary school building in North Sacramento.

In Monterey County, Architects Robert Stanton and Thomas Mulvin have let contracts for a $70,000 one story frame and stucco school near Fort Ord.

Dragon and Schmidts of Berkeley are busy planning a $30,000 grammar school for the Mira Vista District, near Richmond; a six class room school for the Winters Union High School District; and three grammar school buildings costing $10,000 each for the Washington, Harding and Stege Schools. A large grammar school building of ten rooms is being designed in connection with the Harbor Gate Project, near Stege, by Frederick H. Reimers.

S.F. HOUSING AUTHORITY AWARDS CONTRACTS FOR ADDITIONAL PROJECTS

The Housing Authority, City and County of San Francisco, has received bids for the "Candlestick Cove" project consisting of 994 war apartment units, from plans by Hervey P. Clarke and Francis E. Lloyd, 369 Pine Street, San Francisco. This Hunters' Point Housing Project will run over one million dollars.

Another Hunters' Point project was let during the month to MacDonald & Kahn for $281,182. It consists of seven dormitory buildings. Plans were prepared by E. Geoffrey Bangs and Howard Moise. Contract for the South Gate Project for the San Francisco Housing Authority has been let to the G. W. Williams Company of Burlingame for $275,000. W. P. Day and Harry Michelsen are the architects.

Conversion jobs to relieve the housing congestion in San Francisco are keeping the following architects busy: F. H. Reimers, Vincent Buckley, Harry A. Thomsen, Loy Chamberlain, Malcolm D. Reynolds, Wallace H. Hubbert, Wm. G. Merchant, A. R. Williams, F. H. Meyer, O. A. Deichman, A. A. Cantin, Wm. Mooser, Chas. E. Rogers and Thos. M. Edwards.

A Federal grant has been approved for 1,000 residences and 500 apartments to be built in Oakland and Alameda with private funds.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.

Sash weights, cast iron, $50.00 ton.
Nails, $3.50 base.
Sash weights, $45.00 per ton.

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps ..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches).
Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	¾x2¼" T&G	⅜x2" T&G	⅜x2" Sq. Ed.
Clr. Otd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Otd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place. $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.90 per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M
Slash grain—	
1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G.	50.00 per M
Lath	7.50 per M
Shingles (add cartage to price quoted)—	
Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.
Plywood—Douglas Fir (add cartage)—	
"Plyscord" sheathing (unsanded)	
¼" 3-ply and 48"x96"	$39.75 per M
"Pivwall" (wallboard grade)—	
¼" 3-ply 48"x96"	$43.70 per M
"Pivform (concrete form grade)—	
⅝" 5-ply 48"x96"	$117.30 per M
Exterior Plywood Siding—	
⅜" 5-ply Fir	$132.00 per M
Redwood (Rustic) 1"x8" clear heart	$ 95.00 per M

$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine, $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plaster

Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hat roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hat roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only)	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¼" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suscended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hat roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—

From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—

Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware, $1.75 per sq. ft.

Skylights—(not glazed)

Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)

$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).

$150 to $200 per ton, set.

Stone—

Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise, $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)

Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—

Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—

40c per square foot and up. Installation extra.

Windows—Steel

Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.75	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

COLD CATHODE LIGHTING TRANSFORMER — This type of lighting, using a minimum of critical materials has been successfully tested in many war production plants. Similar to the luminous tubes used in "Neon Signs," Cold Cathode tubes of 20 to 25 mm.

NEW LIGHTING TRANSFORMER

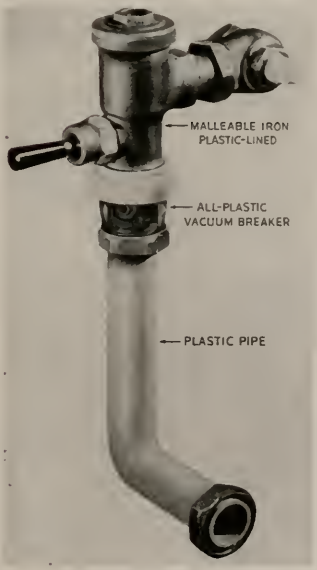
diameter can be used in multiple parallel strips, and curved to follow the contour of a building or production line. The brilliant light can be color-mixed to make inspection work stand out in relief. Announced this month by Acme Electric & Manufacturing Company of Cuba, New York, is a new style Cold Cathode Lighting transformer especially designed for industrial applications.

"THE PROPERTIES OF AMERIPOL D"—A revised edition of its catalog section on this subject, explaining the oil and heat resisting qualities of their synthetic rubber used in many specialized industrial applications, has just been published by The B. F. Goodrich Rubber Company and is now available upon request. The catalog section discusses the properties of Ameripol D and includes a rough guide indicating the services where use of synthetic rubber is practical.

NEW GYPSUM EXTERIOR BOARD —Twenty square feet of durable, weather-proof, rigid and fire-resistant wall in two minutes—is the claim by Certain-teed Products Corp., 120 S. LaSalle St., Chicago, for "Bestwall" Gypsum Exterior Board, a new product designed especially for speedy wartime construction. This new board is surfaced with "Millerized" Asphalt Roofing and comes in large panels, 24 and 48 inches wide and 8, 9 and 10 feet long. Application is made direct to the wall studs.

PUMPCRETE PRACTICE—A new manual and handbook of concrete placement by means of pump and pipeline has just been published by Chain Belt Co., Milwaukee, Wisconsin. This manual is available to contractors, engineers, estimators and operation men. It has 164 magazine size pages and gives full information on every phase of the concrete pump. One chapter is devoted to general Pumpcrete placing methods. The machine, its adaptability, limitations and accessories are described with typical construction lay-outs. Costs are discussed with actual figures and estimates cited in a few actual cases.

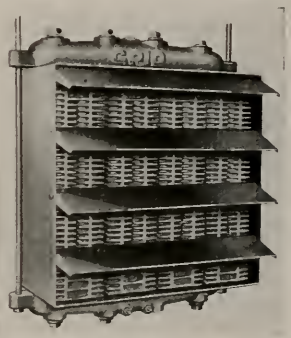
NEW "VICTORY" VALVE — The Sloan Valve Company, Chicago, has redesigned one of their toilet flush valves so that its net copper



NEW SLOAN FLUSH VALVE

content has been reduced from approximately 6 pounds — to less than 4 ounces per valve. Millions of pounds of copper will be saved for products more essential to the war effort. This saving was the result of substituting various plastics and malleable iron for the more critical brass used in the component parts of the peacetime product. According to the manufacturer, the new valve has been thoroughly tested under all simulated conditions and has been found durable beyond all expectations.

CAST IRON UNIT HEATERS — Illustrated is the new "Grid" Cast Iron Heater, introduced as a substitute for aluminum heating sec-



"GRID" UNIT HEATER

tions to cooperate in the war effort. A complete description is contained in a catalog sheet, especially prepared for the architect, now being offered by D. J. Murray Mfg. Co., Wasau, Wisconsin.

NEW ALL-PURPOSE CEMENT—A new all-purpose water-proof type cement, designed for use as an over-all adhesive for cementing resilient floor materials to on-grade concrete floors, has been introduced by the Floor Division of the Armstrong Cork Company, Lancaster, Pa. Claim for the product is that of the elimination of stretching and crawling and it is not necessary to use a primer unless the concrete floor is unusually dirty. Known as Armstrong's No. S-220 Cement, the manufacturer expects to market the product in one and five gallon sizes.

CLARENCE A. TANTAU, A.I.A.

Clarence A. Tantau, 59, practicing architect in San Francisco for 30 years, died April 20th at the Alta Bates Hospital, Berkeley, following a brief illness. Mr. Tantau was at his office only a few days prior to his death.

Best known for his talent in domestic architecture, Mr. Tantau designed some of the better homes in the San Francisco Bay Region, including houses in Oakland, Berkeley and Piedmont, also on the Monterey Peninsula. He was particularly gifted in Spanish architecture and at the time the Spanish style was most popular in California his homes were outstanding.

Mr. Tantau was associated with Lewis P. Hobart in rebuilding the Hotel Del Monte following the fire which destroyed the main part of the hotel. He designed the Monterey Peninsula Country Club and the Pasatiempo Club in Santa Cruz County as well as many of the beautiful homes in the vicinity of the club. He also designed numerous houses at Pebble Beach and Monterey, including those of Harry Hunt, Francis McComas and Mrs. Chas. Wheeler, Jr. One of his latest houses of interest was the Dr. Cheney residence on the Tunnel Road in Berkeley. The Richard Rheem residence at Orinda also deserves special mention.

Mr. Tantau was critical in his work almost to a fault. His fine understanding and appreciation of good architecture was recognized by the profession which several times honored him for jury duty in important architectural competitions. On one occasion he served with other Northern architects in an "Honor Award" program conducted by the Southern California Chapter, A.I.A., for the best examples of meritorious work by Chapter members.

Mr. Tantau was a member of Northern California Chapter, A.I.A., and the State Association of California Architects.

VAST BUILDING PROGRAM—AFTER THE WAR

The California State Planning Board recently announced that 20 state agencies had submitted plans for 2800 projects representing an outlay of 600 million dollars. The cost of these projects, added to the proposed highway program, would total two billion dollars.

* * *

The National Resources Planning Board in Washington has stated that $7,695,000,000 in Federal funds could be spent after the war on construction and improvement work, for which plans have been completed or could be made if the money is assured.

The projects, the report said, constitute a potentially available "backlog" of work which could be undertaken upon the cessation of hostilities to provide employment while the transition is being made from war goods to civilian goods production.

The backlog was itemized thus:

1. Those involved in surveys authorized or already undertaken by various agencies, but "not immediately available for construction," $1,350,000,000.

2. Those proposed by Federal agencies but not yet authorized by Congress and hence unlikely to be backed by detailed plans making them "available for construction in the immediate post-war period unless authorization is forthcoming," $3,378,000,000.

3. "Authorized projects or those requiring only presidential authorization," including some projects already begun which will require additional work after June 30, 1944, $2,966,661,916.

Specific projects were not identified, but the report said they range from small works costing $1000 or less to large and complex projects costing more than $20,000,000.

"There is a large volume of projects costing under $50,000, chiefly relating to land and forest improvement, but also including much river and harbor work," the report said. "Public buildings and roads are important types of projects in the cost range from $50,000 to $100,000.

"Most of the large power, irrigation and flood-control projects are found in the cost range from $1,000,000 to $20,000,000."

Congress has refused thus far to give the NRPB funds to continue its work after next June 30. Unless money is appropriated, the report said, "when the time comes in the post-war era for demobilizing our economy, there will be maddening delays in trying to put men and materials to work on public works projects."

POST-WAR CONSTRUCTION

Post-war public construction is being projected here and there but "taking the country as a whole, very little has been done to translate paper proposals into steel, stone, concrete—and jobs," declared Maj. Gen. Philip B. Fleming, Federal Works Administrator, in a recent dinner talk.

"This is the next step that must be taken," General Fleming told representatives of labor, business, and Government. "Whether it is to be directed by the Federal Government, or by the States and municipalities, is less important than that it should be done, and done now."

VALENCIA GARDENS

Editor, Architect & Engineer:

Your March issue most interesting, especially the account of the Valencia Gardens project in San Francisco. I agree with Sally that some things might be improved, such as location of incinerators (guess at that they are only garbage chutes), and lack of closet space in kitchens.

We have a large project under construction here on Third Street, at Fairfax Avenue.

Los Angeles WM. F. SMITH.

COLUMBIA STEEL'S NEW ROD MILL

Completion and full-time operation of Columbia Steel Company's new continuous rod mill at the Pittsburg, California, plant, marks another finished step in the United States Steel Corporation's $700,000,000 war expansion program. Operation of the mill substantially adds to U. S. Steel's increasing finished steel facilities in the Pacific Coast area.

The new rod mill, the most modern continuous type built for three strand rolling in the United States, produces rods at a great speed. Rods produced from red-hot billets, thirty feet long, weighing six hundred pounds, pass through the last finishing stand to the reels at a rate of 48 miles per hour. At this speed, size No. 5 rod nearly a mile long is delivered to the reels in about a minute from the time the billet leaves the suspended arch-type furnace.

Operation of this high quality production mill, which furnishes rods to the adjacent Columbia Steel wire mill, now humming day and night to fill wartime orders, is continuous from the time the cold billet enters the furnace to the placing of the finished bundle of rods on the shipping platform at the end of the mill.

Standard length billets of 30 feet are fed one by one into the upper end of the 33' x 50' furnace, pushing the entire row of billets down the inclined furnace bed. The furnace has an hourly heating capacity of 50 tons of billets, insuring a steady flow. All steel heating operations are automatically controlled from fuel mixture ratios to the temperature of the heated billet.

Billets are heated slowly and uniformly until reaching the proper rolling temperature. Billets are then pushed out, one by one, from the lower end of the furnace into the "bite" of the rolls of the first of nine roughing stands. In all, the mill has 21 stands, divided into nine roughing stands, six intermediate roughers and six finishing stands.

After leaving the final finishing stand, the rod passes through water-cooled connecting pipes to the reels. From the reels, the finished bundle of rods is switched onto an apron conveyor and headed toward the loading platform. At the end of this conveyor, bundles transfer automatically to a hook-carrier conveyor, designed to cool the rods before handling.

Rod bundles are removed from the hook conveyor by manually operated air hoists and placed on stands. Groups of coiled rods are then picked up from the stands by tractors and loaded on specially constructed flat cars for transfer to the Columbia Steel wire mill.

The new rod mill is a complete separate unit from the rest of the rolling mills and is served by its own auxiliary equipment. Seven of the nine main drive motors are housed in a separate motor room, which is air conditioned to remove the heat of the motors, protecting them from dust and other abrasives in the air. A water recirculating system is provided, made up of a settling tank, a clari-floculator tank, cooling tower, and suitable pressure pumps for returning the water to the mill, so that only make up water is required.

POST-WAR HOMES

"Build homes," says Bror Dahlberg, president of The Celotex Corporation and chairman of the board of Certain-teed Products Corporation, referring to post-war preparations.

"After the war," he states, "millions of men will be coming home from the armed services, eager to get back into civilian life, civilian jobs and homes instead of barracks or tents.

"Millions of war workers, now living under crowded and unsatisfactory conditions in the areas about the great war factories where they have assembled from all parts of the country, will be scattering into more desirable locations, and they will want homes.

"These returning soldiers and sailors and these war workers, the urgent need for their services ended as the demands of war stop, will want jobs.

"The building industry can provide both homes and jobs."

Mr. Dahlberg declared that two-thirds of the nation's people are now living in quarters that are inadequate, out-of-date, in need of remodeling or complete replacement.

Part of this, he said, is due to the fact that home building has been halted during the war except for the most essential construction, which, by necessity, has been often done on the regimented pattern of housing projects. Remodeling, the installation of improved living facilities, even repairs unless they are imperative, have been virtually impossible.

"In the meantime," he said, "the building industry has made tremendous strides. We have learned more about building houses in the past two years than we learned in the preceding two decades. We have been forced to develop new materials, new methods of construction, because accustomed materials have been impossible to get and old methods of construction have been too slow.

"All this wealth of development will be ready to apply to the building of private homes when the war is over."

New materials and new construction methods, Dahlberg said, have brought with them economy not only of time but of cost.

This will prove a matter of vital importance to the servicemen returning from the wars, he pointed out, because they will need an economical market in homes in order to be able to afford the kind of residences they and their families are entitled to.

"The home of the future will not only be more modern, more attractive and more efficient than the home of the present, but it will cost less," he said.

Mr. Dahlberg visualized more than 1,000,000 new homes a year springing up all over America when the war ends, and sees that building rate continue for at least ten years.

Although he sees the home of the future built from pre-fabricated materials, which are daily proving their worth in war-time construction, he emphatically disapproves regimentation in design or planning.

"A home will always be an individual matter," he said. "What we are building now in the housing projects surrounding our war plants should not be taken as the complete pattern for the future. When you have to build a thousand dwellings in the greatest possible haste, the only way to get them done is to use a standard design.

"But when homes are built individually and with less need of haste, they can be as different as the people who occupy them, even though they are built of the same materials.

"Already the architects and designers are developing hundreds of new designs for private homes, using exactly the same materials that are going into regimented housing projects, but turning out as many different plans as there are designers.

"A 'machine house' need not be a standardized house. It is nothing more nor less than a house in which the essential elements are mass-produced instead of being laboriously put together for each job and can be arranged to suit individual taste."

INCANDESCENT LIGHTING

Incandescent lighting fixtures will be channeled largely into war work, defense housing and other essential civilian uses by a limitation order issued by the War Production Board.

It is estimated also that the order will result in the saving of from 2500 to 3000 tons of ferrous metal this year. This saving will be effected in various ways.

First, the amount of metal permitted in the manufacture of standard utility and industrial incandescent lighting fixtures is reduced about 60 per cent.

Second, the amount of metal permitted in residential type fixtures is reduced about 80 per cent.

Third, certain simplifications and a reduction in the number of sizes and shapes permitted to be produced are ordered.

BRIDGE AWARDS DELAYED

Owing to conditions brought about by the war, the American Institute of Steel Construction has decided that, until the war has ended, no awards will be made in their annual bridge competition.

This competition has been held annually from 1928 to 1942, and awards have been made for the most beautiful large, medium-sized, small, and

movable bridges constructed during the previous year. The awards have been made by juries selected each year from nationally-known architects and engineers.

As some bridges have been, and will be, built since 1941, the period covered by the last competition held, and the end of the war, it is the intention of the American Institute of Steel Construction to reinstate these awards, and the structures then eligible to compete will include all those steel bridges constructed since the beginning of 1942 and the time of reinstatement of the competition.

TIME TO ADVERTISE

Domestic consumption of Portland cement for 1943 is estimated by the War Production Board at 107,788,000 barrels, a decrease of 39% from the 1942 figure of 177,480,000 barrels.

The estimate should furnish an approximate indication of the probable drop in requirements for sand and gravel used in construction, the Building Materials Division, WPB, points out.

According to the U. S. Bureau of Mines, the domestic cement requirements of Arizona, California and Nevada (estimated) are 14,878,000 barrels, or 13.7% of the national total and a decrease of 26% from 1942, when they were 20,086,000 barrels, or 11.3% of the national total.

AFTER-THE-WAR HOUSING

One hundred per cent of public war housing programmed in the San Francisco-Oakland Metropolitan Bay Area is of temporary construction scheduled for dismantling after the end of the war, according to Langdon Post, regional director of the Federal Public Housing Authority.

Between October 1, 1942 and March 15, 1943, approximately 10,480 units were programmed by the National Housing Agency for construction in San Francisco, Oakland, Alameda, Richmond and Vallejo. These included 8,052 temporary family units and 2,428 temporary dormitory units.

For the same period in the region of California, Arizona and Nevada, 99.4 per cent of public units programmed, 17,062 are temporary family, 5,346 are temporary dormitory, 70 are leased structures and 2,889 are trailer units. The balance, he said, are made up of 146 permanent family dwellings.

U. S. CONSTRUCTION DROPS

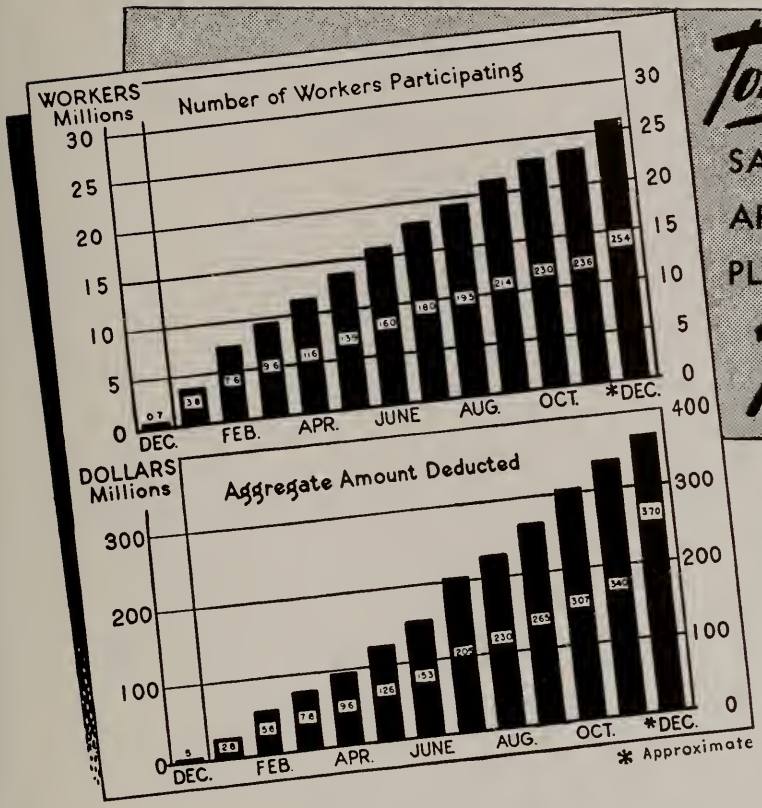
The total volume of construction activity in the United States amounted to $756,000,000 in February, the War Production Board announced in April. This represented a decline of 5% from the January total.

The February total is 8% below the monthly volume of a year ago, and 48% under August, 1942, when construction activity reached a peak of $1,468,000,000. Another decrease of 7% is estimated for March.

War housing and community facilities construction declined 12% in February. The construction of privately-financed housing and of community facilities in places showed declines of 22% and 30%, respectively, while government - financed housing remained at virtually the January level. Increases in all of these categories are estimated for March.

Government - financed factory expansion (construction volume and machinery and equipment deliveries combined) amounted to $562,000,000, a 2% decline from January. Factory construction in February remained very near the January level. A sharp upsurge in construction for the Defense Plant Corporation, particularly in raw material plants, was offset by a continued decline in other types of construction. It is estimated that March will show approximately 17% decrease in factory construction.

The volume of machinery and equipment deliveries declined 4% in February following a slight increase in January. Deliveries are expected to show a March increase as the lag between scheduled and actual deliveries is reduced. Deliveries of machinery and equipment to plants built by the Defense Plant Corporation totalled $205,000,000, or 66% of the total. It is estimated that deliveries in March to this group will remain around $200,000,000.



Tomorrow's SALES CURVES ARE BEING PLOTTED . . . Today

THESE CHARTS SHOW ESTIMATED PARTICIPATION IN PAYROLL SAVINGS PLANS FOR WAR SAVINGS BONDS *(Members of Armed Forces Included Starting August 1942)*

STUDY THEM WITH AN EYE TO THE FUTURE!

There is more to these charts than meets the eye. Not seen, but clearly projected into the future, is the sales curve of tomorrow. Here is the thrilling story of over 25,000,000 American workers who are today voluntarily saving close to FOUR AND A HALF BILLION DOLLARS per year in War Bonds through the Payroll Savings Plan.

Think what this money will buy in the way of guns and tanks and planes for Victory today—*and mountains of brand new consumer goods tomorrow.* Remember, too, that War Bond money grows in value every year it is saved, until at maturity it returns $4 for every $3 invested!

Here indeed is a solid foundation for the peace-time business that will follow victory. At the same time, it is a real tribute to the voluntary American way of meeting emergencies that has seen us through every crisis in our history.

But there is still more to be done. As our armed forces continue to press the attack in all quarters of the globe, as war costs mount, so must the record of our savings keep pace.

Clearly, on charts like these, tomorrow's Victory —*and tomorrow's sales curves*—are being plotted today by 50,000,000 Americans who now hold WAR BONDS.

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with

War Savings Bonds

This space is a contribution to America's all-out war effort by

THE ARCHITECT AND ENGINEER

Lightning Hose Rack

For Unlined Linen Hose Only

The rack is supported from the valve with Lightning Valve Nipple, allowing the rack to swing the full 180°.

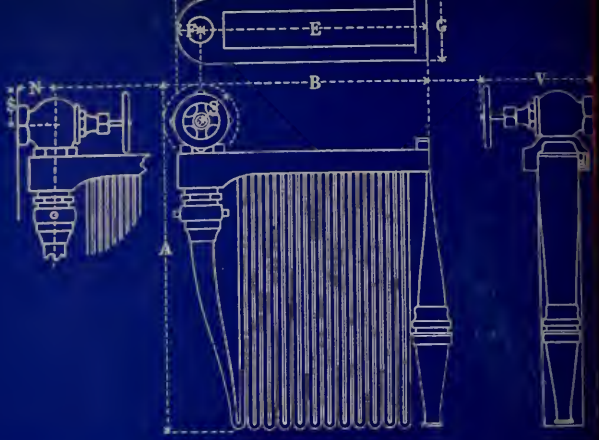
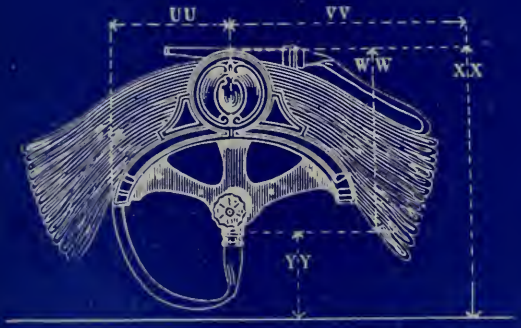


PLATE 3—With Nipple Attachment

Capacity of Hose	25′	25′	25′	50′	50′	50′	75′	75′	75′	100′	100′	100′
Size of Hose and Valve	1½″	2 ″	2½″	1½″	2 ″	2½″	1½″	2 ″	2½″	1½″	2 ″	2½″
A	19 ″	19¾″	21 ″	21 ″	21¾″	23 ″	26 ″	26¾″	28 ″	28¾″	29½″	31 ″
B	13 ″	16½″	17⅞″	15½″	16½″	17⅞″	20 ″	20⅜″	21⅞″	20 ″	20⅝″	21⅞″
E	10¾″	13¾″	14⅝″	13⅝″	13¾″	14⅝″	17¾″	17½″	18⅝″	17¾″	17½″	18⅝″
F	1⅜″	1⅜″	2⅛″	1⅜″	1⅜″	2⅛″	1⅜″	1⅝″	2⅛″	1⅝″	1⅝″	2⅛″
G	4 ″	4⅜″	5⅝″	4⅛″	4⅝″	5⅝″	4¼″	4⅝″	5⅝″	4⅛″	4⅛″	5⅝″
N	2⅛″	2¾″	2⅝″	2⅛″	2½″	2⅝″	2⅛″	2½″	2⅝″	2½″	2½″	2⅝″
S	2½″	3⅜″	3¼″	2⅜″	2½″	3¼″	2½″	3⅜″	3¼″	2¼″	2¾″	3¼″
Valve 1 closed	7⅜″	8¾″	10½″	7⅜″	8¾″	10½″	7¾″	8¾″	10½″	7¾″	8¾″	10½″
Valve 2 opened	8¾″	9½″	12¼″	8¾″	9½″	12¼″	8¾″	9½″	12¼″	8¾″	9½″	12¼″
Weight—lbs.	15½	22½	31¼	19½	28	37½	25	33½	46½	28½	39	53



Lightning Theatre Rack

Plate 5½ is a very attractive saddle rack, suitable for either linen hose or small quantities of Cotton Rubber Lined Hose.

DIMENSIONS PLATE 5½

WITH LINEN HOSE

Capacity		UU	VV	WW	XX	YY	Recess Dimension		Depth
Feet	Size						Width	Height	
50′ to 100′	1½″	11½″	19″	17¼″	23¼″	6″	40″	33″	8″
50′ to 100′	2 ″	11¼″	19″	17¼″	23¼″	6″	40″	33″	9″
50′ to 100′	2½″	11½″	19″	17¼″	25¼″	8″	40″	35″	11″

WITH COTTON RUBBER-LINED HOSE

50′	1½″	11½″	20″	17¼″	23¼″	6″	42″	36″	8″
*75′ or 100′	1½″	11½″	20″	17¼″	23¼″	6″	42″	36″	8″
50′	2 ″	11¼″	20″	17¼″	23¼″	6″	42″	36″	9″
*75′ or 100′	2 ″	11¼″	20″	17¼″	23¼″	6″	42″	36″	9″
50′	2½″	11½″	20″	17¼″	25½″	8″	42″	38″	11″
*75′ or 100′	2½″	11½″	20″	17¼″	25½″	8″	42″	38″	11″

THE AMERICAN RUBBER MANUFACTURING CO.

FACTORIES AND GENERAL OFFICES: OAKLAND, CALIFORNIA

ARCHITECT AND ENGINEER

JUNE, 1943

BARRETT & HILP ARE BUILDING 26 OF THESE REINFORCED CONCRETE CARGO SHIPS FOR UNCLE SAM

1. Robert McCarthy, head of the Robert McCarthy Company, General Contractors of San Francisco.
2. Construction view of 4,000 apartment units in Richmond, Calif.
3. A few of the finished 4,000 apartment units
4. Part of 500 apartment units in Alameda.
5. Finished buildings of a 1,800-apartment-unit job in Richmond.

A few views of

$11,000,000

worth of current

WAR-HOUSING

The largest single contract awarded by the Government for war apartments went to the Robert McCarthy Company of San Francisco for 4,000 apartment units and 74 utility buildings in Richmond.

This brings **recent** war-housing awarded to McCarthy up to $11,000,000 and the last of this current work is about finished.

Other jobs not shown here and finished previously, total many millions more!

And only 18 years ago the Robert McCarthy Company was awarded its first contract.

The Robert McCarthy Company **built** its reputation for good workmanship, speed and low cost. Its fine organization was ready when the Government wanted war-housing built in a hurry.

Robert McCarthy Company

General Contractors

San Francisco **Washington, D. C.**

ARCHITECT AND ENGINEER

JUNE, 1943

Vol. 153 No. 3

COVER DESIGN: Wayne S. Hertzka

PHOTOGRAPHY: Saxon Atherton (Safety Town and U. S. Student Work)
Gabriel Moulin (Cargo Ships and Vallejo Hospital)

THIS ISSUE

Illustrations

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NEXT MONTH

Few builders in the United States have handled with greater success such huge commissions of war housing projects as Robert McCarthy, before the War, just another small town builder in the San Francisco Bay area. McCarthy's record of house building for Uncle Sam reads like fiction. Architect and Engineer readers will be amazed at his record which accounts for the successful completion of many thousand housing units with an expenditure of millions of dollars of Government money.

Another July feature will illustrate a proposed new development on the East Bay waterfront embodying the construction of a trans-Pacific air base, largest of its kind in the country. The project is already well advanced on paper in the office of Donald R. Warren Company, engineers, San Francisco, Oakland and Los Angeles. Financial backing is said to be assured. The air port is one of several important post-war developments originating in the Donald Warren office.

Since the California State Legislature has abolished the California State Planning Board, the recently published outline of its plans, etc., by Richard J. Neutra, chairman, would seem to be without particular importance at the moment. By act of the Sacramento solons the Board will cease to function after August 1st of the current year. Our readers will find details of the proposed new set-up on Page 36, this issue.

MODEL No. 9H—Pedestal type unit with two enameled iron bowls, equipped with self-closing valves. Fountains can be installed to face same direction.

MODEL No. 6G2—Pedestal type with single vitreous china fountain bowl with protecting cowl. Anti-squirt, angle stream drinking fountain head and self-closing stream control valve.

MODEL No. 8—Wall type with enameled iron drinking fountain bowl. Has shielded anti-squirt angle stream drinking fountain head and self-closing valve.

SERVE INDUSTRY WITH HAWS

DRINKING FOUNTAINS and FAUCETS

The comforts and conveniences for workers in war equipment industrial plants are vital features for capacity production. Satisfied workers will produce. Healthful, safe drinking water, available at all times, is important to the workers' satisfaction. HAWS catalog shows a complete line of wall and pedestal type fountains and electric water coolers. The HAWS angle stream, anti-squirt drinking fountain head assures complete drinking sanitation. **Specify HAWS for drinking water equipment!**

HAWS DRINKING FAUCET COMPANY

1808 HARMON STREET • BERKELEY, 3 • CALIFORNIA

Agents in the following cities:

Chicago • Los Angeles • San Francisco • Seattle • Salt Lake City • Portland
New Orleans • Houston • Atlanta • Philadelphia • Worcester, Mass.

RUNNING FIRE — by MARK DANIELS

• *THE POST WAR HOUSE*

Professor A. Petrarch Bean was in a gay mood as he tripped up his front steps—and over the electric door-closer that operated the garage door. The last trip, and his gay mood, threw him off balance so that he pushed the two-way burglar alarm instead of the secret door-operator. The "Modern Burglar Alarm" was so installed that it could be released by the Post War Home owner on retiring, leaving a button on the knob that would operate the alarm at the slightest touch. Instantly the house echoed with the clangor of bells and gongs. But the door remained closed, for the key would not work while the alarm was on. The professor rang the bell and pounded on the door but the sound was lost in the noise of the burglar alarm. As the professor put his fingers in his ears and turned to go, the door opened and he heard his wife shout, "Good heavens, Pet," (Pet was short for his middle name, not a term of endearment), "I thought you were burglars; you were so late and I must have thrown the light switch into the alarm system—or something," she said as she fumbled for the invisible door of the plastic switchboard. Meanwhile the Professor groped along the hall for the coat closet. "Turn on one of the lights, dear," he called. A sudden rumbling as of furniture sliding for home was climaxed by a shout from the professor. "Lights! for God sake turn on the lights. Something hit me." "I must have pressed the wrong button," his wife cried. "I've forgotten which is the light button."

"It's the fifth down the third row. The one you've got is setting the dining room. Get those lights: I want to know what hit me. Hurry! It hit me again"!

The light flashed on, all the lights in the house, barely in time for the professor to dodge an approaching figure.

"Turn off the Robot-Butler before he gets me again," he cried. "Seventh button on the left."

Professor Bean turned into the bathroom to bathe his skinned nose and stood in perplexity before a kaleidoscopic array of plastic knobs, buttons and levers; he wasn't sure of the transparent bathtub so he stood still. "I'd trade a Ph.D. and LL.D. for a plumber's union card any time," he muttered. "Here goes."

Memorizing had never come easy to the Prof. but finally he put his hands in the iridescent bowl, leaned over to place his bruised nose nearer the bowl, and stepped on a floor lever. A sprout of steam enveloped his face and he quickly shifted his foot to a button, but too violently, for the stopper popped up and out of the bowl.

"Mary, Mary," he howled, "come and get me some water. Now this collection of gadgets has hit me—and on the nose too . . . "

"You'd better come into the dining room, dear" (dear was the term of endearment, not Pet), "I know there's a bowl of water there, and bring a dry, warm towel off the chrome rack."

The Prof. reached for a towel—and howled again.

"For heaven's sake, Mary, come and get me. My left hand is burned to a crisp."

"I forgot to warn you, Pet, dear, that Willie had been playing in the bathroom and probably got the pipes and levers mixed up." Reaching through the bathroom door she took the professor by the arm and led him to the dining room.

As the door opened on the Telurium hinges the professor forgot his nose and his blistered hand. "What in Hell!" he shouted.

"My God!" cried his wife.

A half inch of water covered the floor. It dripped from the sideboard, from the chairs. Rain was falling lightly through the open roof. "I'm afraid," she said, "that Willie forgot to slide the roof back after he pulled the open lever. It was so bright and clear at dinner time," she added weakly, timidly.

* * * * *

Sitting on the edge of the chaise longue (the beds were collapsible, disappearing plastic). Mrs. Bean bathed her husband's nose in a stainless steel basin.

"Pet, darling," she half pleaded, "couldn't we take our vacation high in the mountains in a log cabin with a little wood stove, a tin wash basin and a mountain brook?"

• *"DECORATING THE HOME"*

Despite the congenital antagonism of most architects for the views of interior decorators, I find Miss Ethel Lewis's book on "Decorating the Home" does not rub my architectural fur the wrong way. Perhaps this is because to begin with she states that the book is not intended to teach anyone to be an interior decorator or designer. This is a real step forward in these days of pedantic authorship, when most writers are telling everyone just how to do everything.

The chapters on architecture are simply presented with pictorial examples of easily identified types of houses. The author suggests that the exterior of the house should serve as a style guide as to what to expect to find in the interior—a point missed by many architects. She is apparently not a stickler for period style uniformity but rather stresses the necessity of scale harmony and the importance of textures of backgrounds in relation to furniture and other component parts on interior design.

There are sketches of certain interior architectural details which might aid the layman as well as the architect to more comprehensive understanding of the architectural lingo.

For the rest the chapters on furniture styles, textiles, wall and floor coverings, seem complete and authentic. There are chapters on color, on art elements and even a small chapter on the importance of flower arrangement in well planned interiors.

At any rate here is one Lewis without an ulterior motive.

• *THE BRUTES!*

The paper this morning carried this caption, "Unions Charge Intimidation by Red Cross."

We have been expecting this. Girl Goon Squads attacking defenseless stevedores along the waterfront and Bounding Billowing, Bandage Bundlers hurling helpless hod-carriers to the ground and tieing them into knots. It makes one shudder to think of such brutality.

Something must be done about these heinous practices.

CONTEMPORARY PAINTING IN CANADA ON DISPLAY AT S. F. ART MUSEUM

Twenty years ago indignant citizens sent scorching letters to the editors of Toronto and Montreal papers because, they said, certain painters were representing the landscape of Canada in a way that would menace the tourist trade. Instead of depicting the cultivated rural country of Southern Ontario, or the homely feudal strip-farms along the rivershores of Quebec, these artists were painting the rugged, weather-bitten lands of the unsettled north. This trespass against the wilderness was considered a trespass against good taste, not to say bad business.

That it proved to be good business is beside the point. But the fact that thousands of people have chosen since to spend their vacations in this wilderness has made general the attraction which a handful of painters felt first.

This wilderness, on and about what geologists call the pre-Cambrian shield, extends through Muskoka and Georgian Bay and along the north shore of Lake Superior. Visible in these parts is one of the oldest surface areas of the earth. Huge rock strata, stretched, twisted and bent by primeval forces, project from the waters to make hundreds of islands, to enclose scores of lakes. Wind torn pines anchor themselves to the rocks with roots like grappling hooks.

HAND OF A BUDDHA ***China, 6th Century***

This hand from a colossal Buddha, both monumental and subtle, is carved in close grained, dark grey limestone now covered with a lovely patina. At de Young Golden Gate Park Museum.

This country, ugly to those who enjoy only the sedate landscapes of England, inspired the city-bred artists of Canada. Calling themselves the Group of Seven, these men created the first distinctive school of Canadian painting. That was about a generation ago. Now there are signs of a shift of scene. Asked to comment on the state of Canadian art, twenty-nine year old Tom Wood recently said: "I believe there are some healthy trends taking place, particularly amongst the younger artists who have discarded the influence of the Group of Seven."

* * *

The current exhibition of Contemporary Painting in Canada at the San Francisco Museum of Art contains works of artists a generation apart. Three members of the Group of Seven are represented, so is Tom Wood. In all, thirty-eight artists were selected for this showing by Bartlett H. Hayes of the Addison Gallery of American Art. To my knowledge, this is the first time that an American show of Canadian art has been selected by an American. Perhaps for this reason the show is quite different from its few predecessors in this country. For one thing, not a single dramatic landscape of the stepped-up-in-scale variety is present. The three artists in the list who liked to produce that sort of thing are here represented by a moderate-sized canvas, two oil sketches, and two drawings. Such, according to Bartlett Hayes, is the glory that was the Group of Seven. Another painter of the same generation, who was not so much as a distant cousin of the celebrated Group, is represented by one small oil and five watercolors. This is David Milne, a name already familiar to those who recall the lists of the famous Armory Show at New York in 1913. Milne spent much of his life in the Adirondacks and one of the six works on view was painted there. The other five were done much more recently in his native province of Ontario. These show a remarkable change of attitude. From landscapes of a fresh, breath-taking simplicity, he has turned to a relatively complicated world of light fantasy.

* * *

Another feature of the Hayes selection is the proportion devoted to the painters of French Canada. French Canadian artists have never taken a large share of the stage of Canadian art in general. This is partly because the proportion of trained artists of French descent is small. Mr. Hayes extended the limits by admitting the work of the folk painters of Quebec. Their works show the flair for gay pattern and naive design found in the hooked rugs by the same peasants. Some sophisticated French Canadian painters are now turning to this art of their simpler folk for inspiration, others prefer the traditions of pre-war Paris, and one or two share the ways of their non-French compatriots.

* * *

These ways are various but they are familiar

enough to followers of American art. "Today," writes A. Y. Jackson, "the younger artists are going American. I can see no definitely national characteristics as are found in Mexican art . . . most of us live under conditions so similar to Americans, I don't feel that our art can be very different . . . "

Nevertheless, the art of the Group of Seven was different, and mixed though it may have become, the strain of that art is evident in the work of many of the younger painters. As much as anything else, this influence distinguishes contemporary Canadian art from ours.

DOUGLAS MacAGY.

FAMOUS FRENCH ARTIST'S PAINTINGS SHOWN AT SAN FRANCISCO MUSEUM

An exhibition of Jean Hélion's work would be welcome at any time, but the occasion of his present show at the San Francisco Museum of Art is something of a celebration. When war was declared Hélion returned from America to fight for his native France. Now he is back in this country, free after a long confinement in the Nazi prison camp from which he escaped.

At thirty, after a period of five years devoted more to painting than to his first interests in architecture and engineering, Hélion was an acknowledged leader of the younger artists of Paris. At thirty-nine, he is called "the leading French painter of the 'youngest' generation" by James Johnson Sweeney.

An admirer of Poussin and Seurat, Hélion works towards the exact formal order which distinguishes the works of these men. His paintings have a clarity that comes of intellect, and a precision that comes only of a highly trained sensibility.

Feininger's Recent Work

Those who remember the summer which Lyonel Feininger spent at Mills College will welcome the show of his latest watercolors now on view at the San Francisco Museum of Art.

Art of Our Neighbors

Accompanying the sizable exhibition of Canadian Painting, described above by Mr. MacAgy, is a show of works from Latin American countries. These pictures, for the most part owned by local collectors and the Museum, formed three exhibitions which have toured the United States throughout the past year. In the words of Dr. Grace L. McCann Morley, Director of the Museum, "Such an exhibition as this can serve usefully in making better known to us our neighbors of the Western Hemisphere as their artists report upon them."

Both Dr. Morley and Douglas MacAgy, Curator of the Museum, have lectured separately on the inclusive exhibition of the Art of Our Neighbors; on Sunday afternoon, June 27, they will give a joint talk on Art in the Americas and a otur of the show.

ABSTRACT DESIGN **Jean Helion**
At the San Francisco Museum of Art.

SOME GOOD EXHIBITIONS AT THE LEGION OF HONOR THIS MONTH

Most important exhibitions the current month at the California Palace of the Legion of Honor, San Francisco, are the following:

20th Century Portraiture Exhibition: Now till July 12.—This exhibition, circulated by the Museum of Modern Art, brings to San Francisco the most comprehensive collection of portraits by the finest artists of America and Europe. Eakins, Sargent, Renoir, Bonnard, Sloan, Glackens, Picasso, Brook, Derain, Matisse, Rousseau and many others are represented. To quote the Museum of Modern Art, "Portraiture as considered here means any representation of an individual known to the artist personally in which the appearance and character of that individual have been an important factor in his mind as he worked."

Charlotte Meyer Sculpture: to June 27.—A West Coast artist, living and working at present in Santa Barbara. Approximately 10 pieces.

Artists for Victory War Posters: Now till July 18.—These posters—approximately 100—were selected from the National War Poster Competition, which was sponsored by the Artists for Victory for the purpose of obtaining inspirational and fight-

ing posters for the nation. It was based on eight themes carefully selected from the President's first War Message to Congress of January 6, 1942. These posters were first shown at the Museum of Modern Art in New York City and subsequently were exhibited for a month at the National Gallery of Art in Washington, where they were seen by 180,000 people. Eight designs were purchased by the Government, and a total of thirteen have been acquired by it for reproduction and national distribution.

Early American and European Flasks and Decanters. This exhibit is from the collection of Vice Admiral and Mrs. R. P. McCullough, and is being shown now at the California Palace of the Legion of Honor, San Francisco.

The famous George Washington, Scroll and Violin, Union and Clasped Hands, and many others are represented in this interesting and historically important exhibition.

THE WENDELL WILLKIE COLLECTION, "ART OF FIGHTING CHINA" AT DE YOUNG'S

Battles, bombed cities, Flying Tigers in action, a Chinese mother fleeing from an attacking airplane with a baby strapped to her shoulders and a little boy, hand clutched in hers, running frantically beside here—these and many other too-familiar scenes of war-torn China comprise an exhibition, "Art of Fighting China," now showing at the De Young Museum. The exhibit, composed of scrolls, oil paintings, watercolors and woodcuts, is currently being circulated by the Museum of Modern Art in New York.

This is the show, in its entirety, which Wendell Willkie brought back with him from China on his round-the-world hop last fall. It is the work of contemporary Chinese artists, entrusted to Mr. Willkie by the All China Fine Arts Association, a branch of the Central Political Institute in Chungking of which Generalissimo Chiang Kai-shek is the Director. The selection of works, made by Dr. Chiang Tao-fan, head of the Fine Arts Association, gives greater argument—if such argument were needed —to the cause of Fighting China.

"ART FOR FUN" FEATURES SUMMER SHOWINGS AT DE YOUNG'S

Art for Fun: This exhibit represents the work done since December by members of the museum art classes—the Saturday sessions and the "Sunday in the Park" meetings. From the youngest of these amateurs, 4 and 5 years, to adults who have now joined the Saturday afternoon group, the walls are covered with drawings in pencil and charcoal, pastels, watercolors and a few oils whose subject matter ranges from portrait and landscape to the political cartoon and caricature (an influence, no doubt, of the Soviet posters which hung on the same walls a few months back). Side by side are displayed the efforts of future sculptors and potters—the results of the special clay modeling section. The works are abundant and some show a wonderful freedom and originality which so often is lost by the more sophisticated artist.

WINNER OF NATIONAL COMPETITION FOR SPRINGFIELD LIBRARY MURAL

The winning design submitted in the nation wide Springfield (Mass.) Museum of Fine Arts $4500

MURAL DESIGN AND DETAIL **By Sante Graziani**

library mural competition was produced by Private Sante Graziani, now of Camp Joseph J. Robinson, Arkansas. The only competition of its kind, privately sponsored, in the United States, nearly 100 entries were received from all parts of the United States as well as some from Canada and Mexico.

Index To Advertisers

*Indicates Alternate Months

STRADDLE-TYPE TABLE FOR THE NAVY

Mario Corbett, Architect, and J. Albert Paquette, S. E., design an improved fold-up mess table.

Editor Architect and Engineer:

I am enclosing a photograph of a barracks mess table which was designed by J. Albert Paquette, structural engineer, and myself.

At first glance this may not seem an exciting project in the face of whole architectural schemes, but it is a solution to one very difficult problem in wartime planning. I have been working on Navy and Coast Guard projects since July of last year, and one of our major difficulties—very often a major bottleneck—has been the timing in a large mess hall. In a 3,000 man mess hall, for instance, men march in in shifts during a two hour period, and 14 minutes is the average time allowed for one man to enter, be served, find a seat, eat, march out, and dispose of garbage. The advantages of the straddle-type table over the old standard bench-type can at once be seen, since seating and spacing become automatic.

Mr. Paquette and I do not claim to have originated the idea of the straddle-type table, but we have applied and vastly improved it. I have yet to see a 12 foot table of light construction, straddle or bench type, where there are less than 6 points of contact to the floor. Our design has only four points of contact, and is steadier than any other tested to date. Since it is necessary to mop and scrub the mess hall after each mess period, this lighter, four-legged table has a distinct advantage over the old centipede-type, which was, moreover, considerably heavier.

These tables, the first of 450 ordered by the Navy, were turned out in standard table heights of 30" and standard seating heights of 18". Each seat is carried by a hanger from a 2" x 6" facia which runs the full length of the table, and these hangers serve as posts combined with the leg at the leg supports. Stiffness is obtained by means of braces, struts, stretchers and plywood. Other features of this table are the split rings (borrowed from wooden truss design), especially economic sizes of members in Oregon pine, and the light hardware. Both the 12' and the 8' table measure only 4' 6" in width, which is quite a consideration where space is always a factor.

The final improvement is that the table may be packaged for shipment. The top is pressed in one section, the hangers fold down on the sea struts, and the legs and bracing are removable. In the event you should find this material suitable for publication, it should be noted that patents have been applied for.

Sincerely yours,
MARIO CORBETT, Architect.

El Nido Ranch, Hayward,
May 26, 1943.

ARE YOU THINKING ABOUT THE FUTURE?

What Steel has to offer for the buildings of 194X

THE qualities that have made steel the A-1 material for thousands of war uses will again make it a prime material for construction after the war. No other material can do so many jobs so well.

Here are a few things that you can obtain with steel that will improve post-war buildings of all kinds:

GREATER STRENGTH. Steel-framed buildings have shown their greater strength again and again during severe bombings of London and other European cities. Future construction should take this into consideration for all types of buildings. Steel frames for homes offer greater resistance to damage from tornadoes, high winds or earth movement.

MORE LIGHT AND AIR. Steel windows and large glass areas made possible with steel framing bring the outdoors into the house. Living is more healthful and enjoyable.

IMPROVED AIR CONDITIONING. Great advancements in heating and air-conditioning are now being perfected and will be ready right after the war. Warm air systems using steel furnaces and steel ducts will clean the air to a degree never obtained before. Temperature and humidity controls are being improved which will assure freedom from drafts, cold areas, and incorrect humidity.

BEAUTY. U·S·S Stainless Steel and Porcelain enamel on U·S·S VITRENAMEL Sheets are finding new uses for kitchens, bathrooms and outdoor trim. Store fronts of porcelain enamel are highly decorative—never need painting.

DURABILITY. U·S·S Steels will be obtainable with corrosion resistance ranging from that of ordinary steel to the permanence of stainless steel. Greatly increased capacities for making electric furnace steels will help to reduce their cost. Surface finishing, such as Bonderizing, will help to make painted surfaces more durable.

PREFABRICATED UNITS. Mass production of prefabricated units, such as windows, cabinets, closets, stairways, bathtubs, sinks and lavatories, will help to reduce costs on these items. Prefabricated homes and farm buildings with steel wall sections have already found wide use in some districts. Look for increasing developments along this line with more attention to exterior and interior beauty.

BETTER PROTECTION. Danger from fire, lightning, rain, snow, wind, sun and termites can be reduced with proper use of steel. Roofing of U·S·S Copper Steel for modern and colonial style buildings will last indefinitely if properly maintained. Porcelain enamel corrugated roofing and siding never needs painting.

MORE EFFICIENT INSULATION. Steel insulation reflects 95% of radiant heat. Winter heat trying to escape is directed back into the house. Summer heat from the sun is kept out. Steel insulation sheets retard fire, form dead air space between walls, are water-proof, vermin-proof and do not pack down.

Write for information

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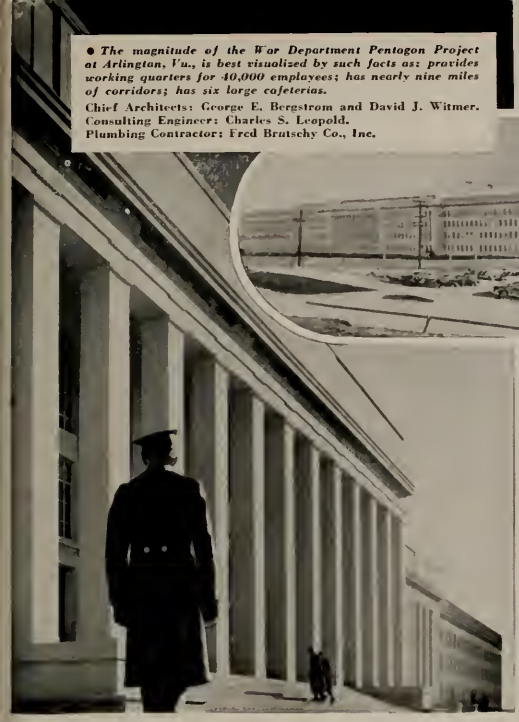


● *The magnitude of the War Department Pentagon Project at Arlington, Va., is best visualized by such facts as: provides working quarters for 40,000 employees; has nearly nine miles of corridors; has six large cafeterias.*

Chief Architects: George E. Bergstrom and David J. Witmer.
Consulting Engineer: Charles S. Leopold.
Plumbing Contractor: Fred Brutschy Co., Inc.

WAR DEPARTMENT'S NEW PENTAGON BUILDING

World's Largest Office Building Installs WATROUS FLUSH VALVES

3,004 Watrous Flush Valves will bring to the new War Department Pentagon Building the "all-out" water and maintenance saving performance for which Watrous Valves are famous. Here in the world's largest office building these valves will demonstrate the tremendous extra savings that are possible when each valve can be *adjusted* to the actual water requirements of the fixture on which it is installed.

For detailed information on the new "V" model Watrous Flush Valve, which is now available for essential applications, write for Bulletin No. 858-W.

THE IMPERIAL BRASS MFG. CO., 1237 W. Harrison St., Chicago, Ill.

Distributed through wholesalers of plumbing materials

● *3,004 Watrous Majestic Flush Valves are installed in the Pentagon Building as shown in these two views.*

Watrous Flush Valves

SAFETY AND BETTER LIVING

a city can mushroom

City design is a kind of art. Only instead of a single creator there are hundreds or thousands or millions.It takes generations. It is always in process. A city can mushroom, decay, spread, shrink..... It can glow in spots and sometimes achieve beauty by accident. Occasionally the design is conscious as in classic Athens or modern Paris.

Pericles knew

That only happens when enough of the "citizen-designers" know what it is all about. Pericles knew and so did many Athenians of his time. Hausmann knew but he could not have made Paris the memorable city that it is if other Frenchmen had not also been fired by a passionate love of their city.

hills and waters

San Francisco is young - hardly a century. Yet there glows here the possibility of repeating the "miracle" of conscious city design. Citizens find excitement and inspiration in this galaxy of hills set in sparkling waters. There is another reason. Gifted architects here are beginning to think in terms, not alone of houses, but of streets and whole neighborhoods, of what would make a city liveable, likeable, integrated.

no pillared porticoes

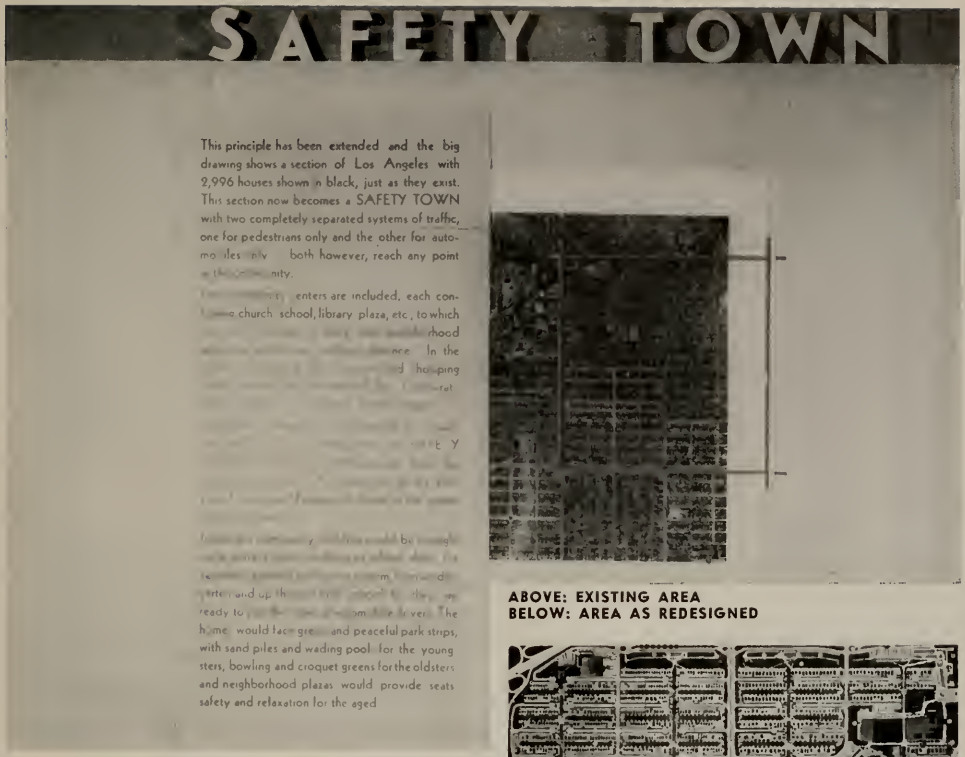
It won't be pillared porticoes we will build when we grow truly conscious of our civic art. The false gods have perished. No triumphant arches or broad avenues for marching feet will be slashed from our slums as they were in Paris. Warfare has changed. With the automobile and the airplane, the dive-bomber will determine the new design.

Like plastic ribbons the free-ways will have to cut through as well as loop the town, breaking it up into island neighborhoods self-contained and well planned..... Industries must have their stark but aesthetic areas to function efficiently... Stores must be conveniently grouped..... broader parking space..... Fewer and wider streets and more play areas where streets once were.

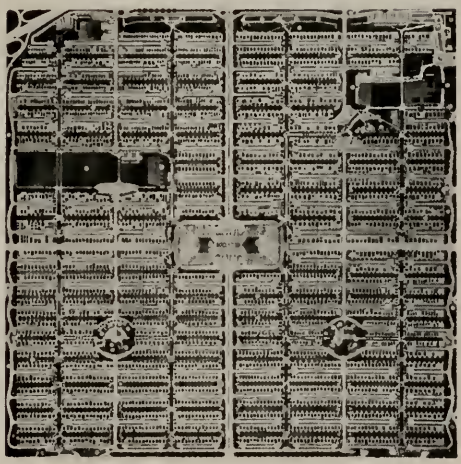
masses of stone

The "blighted" areas,those decayed and sordid sections from which we turn our eyes when we pass through and which, losing value to their owners through neglect are also a loss to the city because they cost more in services of light, sewerage, police...than they bring back in taxes, these blighted areas will have to be turned down, many blocks at a time. The streets will have to be replanned, open space retained and then rebuilt by private capital. As Giedion has said, cities are more than masses of stone. Man must be joined to the soil again through placid greenery and quiet tree-lined courts. The suburbs must flourish in the town.

Courtesy San Francisco Museum of Art



ABOVE: EXISTING AREA
BELOW: AREA AS REDESIGNED



POSSIBILITIES FOR POST-WAR S. F.

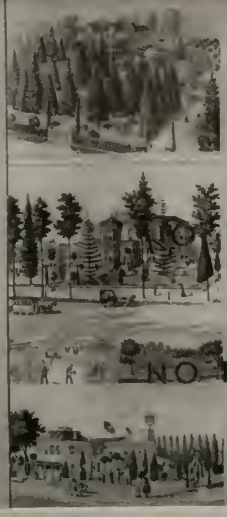
by BARRY DUNLOP

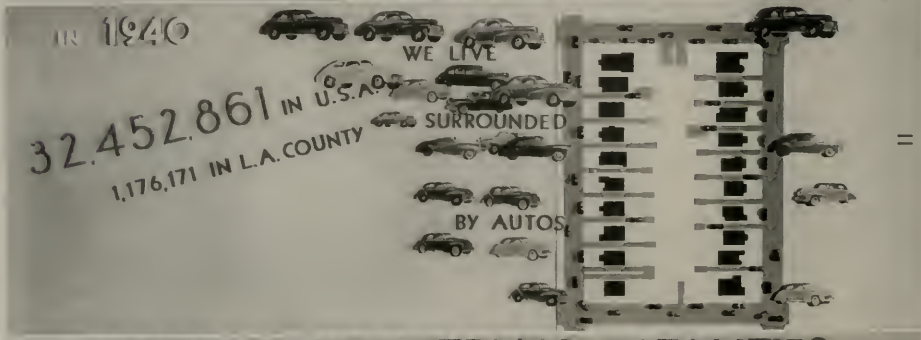
"Safety and Better Living" was the title of an exhibit shown recently at the San Francisco Museum of Art under the sponsorship of the San Francisco Housing and Planning Association. Subtitle, "Possibilities for Post-War San Francisco." It was a modest and straightforward little show depending chiefly for its interest on the ideas inherent in the designs shown rather than on the bag of tricks of modern exhibit showmanship. The purpose of the exhibit, as the subtitle indicated, was to explore certain planning and design possibilities for post-war San Francisco. It was actually a combination of two exhibits, one consisting of the studies by Carl B. Troedssen of the University of Southern California for the replanning of a specific area in Los Angeles, the other consisting of a number of designs made by students at the University of California in Berkeley under the direction of Howard Moise of the faculty of Architecture. While Mr. Troedssen's suggested scheme for neighborhood rehabilitation is based on a Los Angeles example, it could be applied to similar areas in any American city and hence contains valuable suggestions for San Francisco planners. The two problems studied by Mr. Moise's students had to do specifically with San Francisco.

Among the planners, business men and economists who are giving thought to the problems of the post-war period urban redevelopment has come to be regarded as one of the most promising means of stimulating business and

THE CAUSE

THE INTRODUCTION OF FAST AUTOMOBILES INTO CITIES THAT ARE BUILT ALONG PEDESTRIAN EVOLVED PLANS.

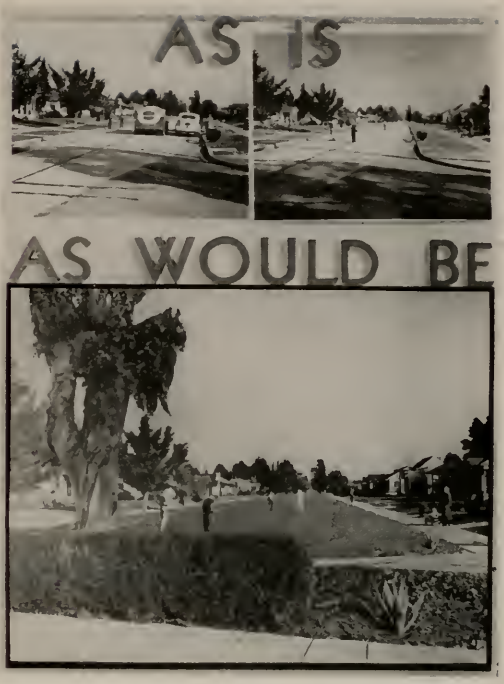




A FATAL INTERMINGLING OF AUTOMOBILE AND PEDESTRIAN

employment after the war's end. So much thought and study have been given to the idea that certain basic concepts as to patterns and procedure are now quite generally accepted.[1]

There is for instance general agreement that if such rehabilitation projects are to be worthwhile they should comprise an area large enough to insure stability for the improved property values. If possible an area large enough to constitute a "neighborhood,"[2] which is generally defined as the area served by one elementary school. It is also generally agreed that a street pattern designed to discourage through traffic within the area is essential, and that adequate open space for recreation easily accessible to all parts of the area must be provided. Provision for shopping centers, schools, community buildings, churches, etc., should of course be made.



"SAFETOWN"

"Safetown" is the name which Mr. Troedssen has given to his study, and while his designs make use of all the currently accepted concepts of neighborhood planning, interior park areas, community centers, etc., it is the problem of eliminating the hazard created by the automobile on which he places the chief emphasis—as well he may with Los Angeles the object of his solicitude! Citing the fact that during the half-century since the first gasoline operated automobile appeared in the United States the total number of cars has increased to over 32 million, all of which cities designed only for slow moving traffic have had to absorb, he says, "This wholesale introduction of a fast and potentially dangerous means of transportation into cities in which no provision had ever been made for any such innovation resulted in the scenes which today have become so familiar—a fatal intermingling of automobile and pedestrian, with children having to cross dangerous thoroughfares going to and from school, with homes that are never free from the din and hazard of traffic, tens of thousands killed and maimed in the United States yearly.

"This conflict, which has been ever-increasing, will become ever more felt, with greater loss of life, greater numbers of injured, and ever increasing nervous strain upon the entire population." It will become ever more felt, that is, unless something is done "to restore some of the safety to life, the peace-of-mind and possibility for relaxation, which were a part of city life before the automobile was thrust into pedestrian-evolved city layouts."[3]

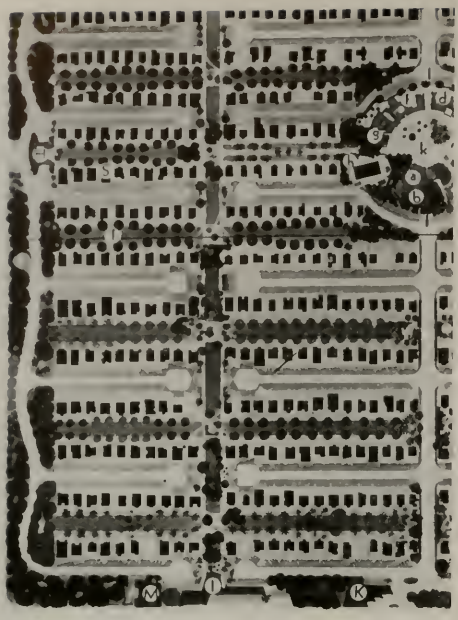
The something which Mr. Troedssen's study proposes to do is to eliminate all fast-moving traffic from an area comprising some 130 blocks, relegating it to fast-moving traffic

1 At least five more or less specific proposals for urban redevelopment have been published within the last two years. These are (a) The Federal Housing Administration's "A Handbook on Urban Redevelopment for Cities in the United States"; (b) "A Proposal for Rebuilding Blighted City Areas" and "Outline for a Legislative Program to Rebuild Our Cities" by the Urban Land Institute (an offshoot of the National Association of Real Estate Boards), Washington, D. C.; (c) "Urban Redevelopment and Housing," by Alvin H. Hansen and Guy Greer, National Planning Association, Washington, D. C.; (d) "Better Cities," by Charles Ascher, National Resources Planning Board, Washington, D. C.; and (e) "Report of the Committee on Urban Redevelopment," in the proceedings of the National Conference on Planning, 1942, published by the American Society of Planning Officials.

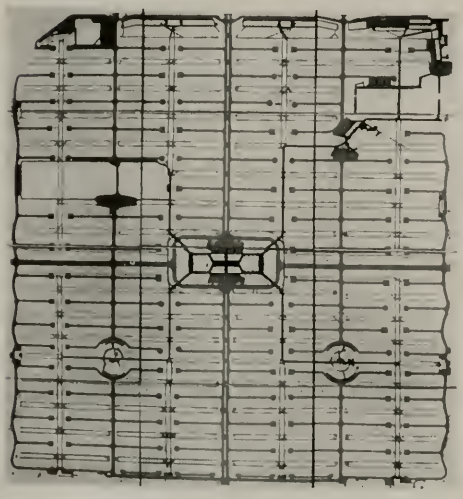
Permissive legislation under which urban redevelopment projects may be carried out actually exists in New York, Illinois, Wisconsin, and Kentucky. Michigan has a statute which applies to Detroit only. In California a bill of doubtful merit (AB 1979) passed both houses during the recent legislative session and is now awaiting the Governor's signature or veto. In Congress a well-conceived bill which would set up a federal urban redevelopment agency has been introduced by Senator Thomas of Utah. The Urban Land Institute will unquestionably introduce a bill which has reached the stage of its fourth tentative draft, and no doubt there will be numerous others.

2 For a definition of "neighborhood" and a discussion of the basic concepts of neighborhood rehabilitation see: "Regional Survey of New York and Its Environs," Vol. VII, Monograph One, by Clarence Arthur Perry, or Mr. Perry's Book, "Housing for the Machine Age," New York, Russell Sage Foundation, 1939.

3 "The City of Tomorrow" article by Carl B. Troedssen, Western Building, Vol. 21, No. 6, June, 1942.



Detail of Mr. Troedssen's plan of "Safetown," showing new dead-end streets, old streets converted to park areas, part of one of the community centers, and the insuloting strip of park around the perimeter. Garages have been turned around and immediotely adjoin the new access streets.



Traffic design of "Safetown." Broader greyish lines indicate motor ways; narrow dark lines show course of pedestian travel. Note that all pedestrian ways lead to the main shopping center in the middle of the plan.

streets or super highways on the perimeter and creating wide buffer or sound-insulating strips of planting between the highways and the nearest houses. Within the area each house would be accessible to automobiles on one side while the other side would adjoin a communal space through which pedestrian ways would connect all parts of the development—schools, playgrounds, shopping centers—without ever encountering an automobile.

ENGLISH PROTOTYPE

Admirable as this idea may be it is not a new one nor original with Mr. Troedssen. It is a commonplace in English town planning and may be seen in actual operation in this country in Radburn, New Jersey, the community designed by Henry Wright and Clarence S. Stein in the early thirties to demonstrate the merits of the "superblock" with an interior park area and a perimeter pierced by cul-de-sac streets. The novelty in Mr. Troedssen's scheme lies not in the separation of motor from foot traffic but in the fact that he achieves this much-to-be-desired result while preserving all—or nearly all—of the existing houses and without altering except at a few points the prevailing gridiron pattern of the area comprised in the study. In short he recognizes the fact that in our American cities there are many areas drastically in need of replanning in which the existing houses are still structurally sound and dear to their owners; that one of the obstacles to be overcome in promoting rehabilitation schemes which may prove unsurmountable is the reluctance of many home owners to give up their cherished houses; and that buried underground in our cities lie utilities — water mains, gas mains, sewers—which would be costly to replace if a wholly different street pattern necessitated replacing them. In demonstrating that the main objectives of a replanning operation can be achieved without abandoning the basic street pattern, or the existing houses, utilities, and schools, Mr. Troedssen has made a valuable contribution to the science of planning. It should be noted too that the several community centers which he has introduced are charmingly designed and suggest the possibility of pleasant outdoor as well as indoor community life.

When we consider some of the details of the scheme, however, we are not wholly convinced. One notes, for instance, that a child, in order to get from some of the houses to the school without crossing a motor street, would have to follow a long and circuitous route; and, remembering that a straight line is the shortest distance between two points, we are led to suspect that for all the planning many a child would take the short way and dodge traffic as of yore. We also question the extravagance of tearing out all the paving and curbs of the existing streets and the building of new approach streets between the backs of the houses. Mr. Troedssen does this in order that the houses may **front** on a green area and in order to eliminate the waste of land entailed in a long driveway leading from the curb to a garage at the rear of the lot. Well, we hold no brief for long driveways or for garages at the rear. Modern planning places the garage at the front of the house near the street and reserves the space at the rear for a garden toward which the important rooms of the house are oriented. But this, of course, is beside the point. The houses in question are not modern in plan and could not be made so without costly alteration. Their living rooms are at the front and are going to stay there and that presumably is why Mr. Troedssen proposes to transform the present street into a green mall. The garages are at the back of the lot and are going to stay there, and that is why he proposes to turn them around and enter them from a newly constructed street built on land taken from each owner's garden. But if I know my Los Angeles and the intensive development of the backyards behind little houses of the sort with which we are dealing the average owner would not be compensated for the loss of fifteen or twenty feet across the back of his lot by the salvage of the relatively useless space taken up by the driveway along the side of the house. Nor would this loss be compensated for by the creation of a **public** greensward in front of the living room windows which would almost certainly function as a continuous playground. A green space adjoining a living room to be of value must be private. No doubt I am a curmudgeon but I actually prefer the sound of automobiles to the shrill cries of playing children.

Then there is the question of cost. One of the criticisms of Mr. Troedssen's plan heard at the exhibit is that it is conceived in a vacuum—that there is no indication of how the various improvements would be paid for. Even though the utilities are preserved, the building of the new paved streets, the removal of paving from the old ones, the acquisition of land for the perimeter planting strips, the community centers, etc., and the construction of overpasses or underpasses for foot traffic would be considerable. It would presumably have to be assessed —at least in part—against the property in the reconstructed area. In addition each property owner would be faced with the expense of moving or replacing his garage, removing the driveway, and alterating the house—or at the very least its walks and porches—in order to make it function properly with visitors arriving from the rear. It seems very doubtful that the average American home-owner would see enough merit in Mr. Troedssen's scheme to persuade him to shoulder the expense involved.

U. C. EXHIBIT

In the exhibit from the School of Architecture at the University of California one of the two problems was undertaken, Mr. Moise informs us, at the request of Mr. L. Deming Tilton, Director of the San Francisco City Planning Commission. This problem was concerned with the study of a typical block of twenty-five foot lots such as have been developed in enormous quantities by Doelger and other speculative builders. Its purpose was not only to demonstrate that a better house in approximately this price range could be designed, but to make a study in which the street itself would be considered as something to design, in which an attempt would be made to achieve in our modern architectural idiom something comparable to the harmony and dignity of the eighteenth century streets and squares in London[4] in place of the "sales-ap-

[4] The London streets and squares so justly praised by Siegfried Giedion in "Space, Time, and Architecture" (Part VII); Cambridge, The Harvard University Press.

BLOCK OF TWENTY-FIVE FOOT ROW HOUSES FOR SUNSET DISTRICT, SAN FRANCISCO DESIGNED BY REEVE GOULD, UNIVERSITY OF CALIFORNIA
Street itself considered as an entity.

BLOCK OF TWENTY-FIVE FOOT HOUSES DESIGNED BY REEVE GOULD
Living rooms in upper houses have view of ocean, lower houses direct contact between living room and garden.

peal" false-fronts which jitter down the blocks in the Sunset Division.

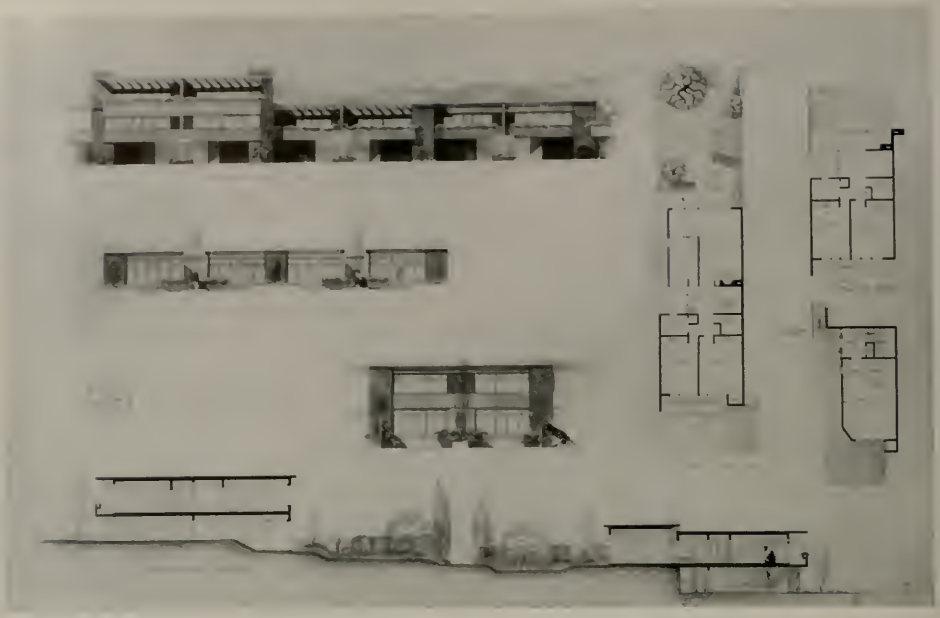
The program for the problem recognizes the fact that, considered individually as machines-to-live-in, the Doelger houses have considerable merit. They are comfortable and convenient and their planning often displays intelligence in such matters as the placing of the important rooms on the rear when a view of the ocean is obtainable in that direction.

Where they fall so shockingly short is in the contrast between the lack of even the meagrest attempt at design in their plainly visible backs and the elaborate striving for individuality in their street facades, each phoney little stylized front reverting to honest siding where the eye turns the corner of the party wall. And, with all this effort at differentiation, and with the total absence of any sense of unity in the design of the block as a whole, achieving only what Mr. William W. Wurster has aptly described as "the deadly monotony of slight variation."

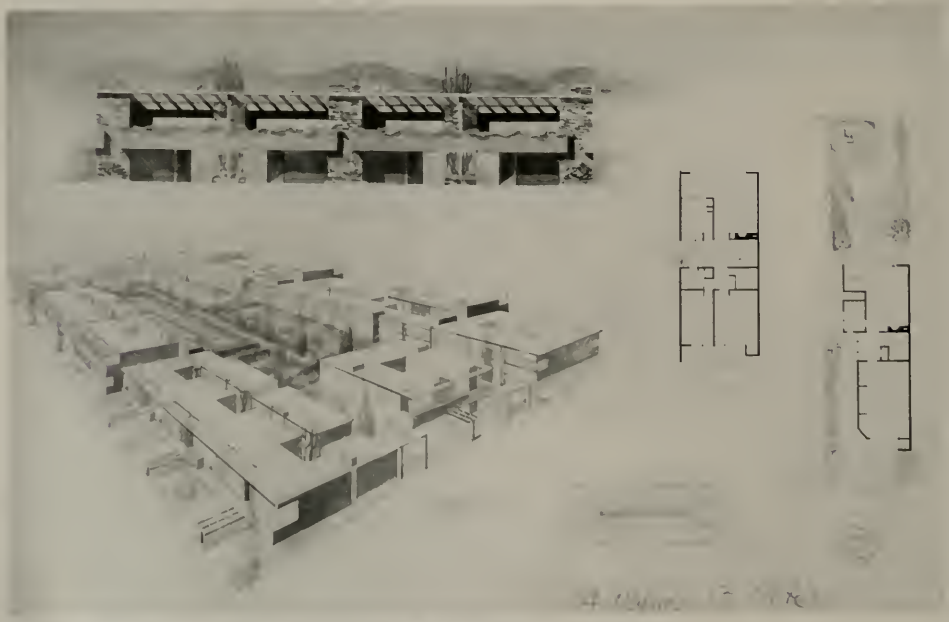
This feeling of integration in block design and of harmony and repose in the street as an entity has certainly been achieved in the designs of the University of California students, especially in the admirably straightforward solution of the problem by Mr. Reeve Gould. Whether or not this unity of design and the consequent anonymity of the individual house would prove a handicap in selling is a question which only a tryout of the idea could answer. We believe that even that part of the public which lives in Doelger houses might be found responsive to good design, though Mr. Doelger would probably be timid about giving the proposition a trial. Let us hope that one of these days some hardier entrepreneur will have courage to make the experiment.

REMODELLING

The other problem in this exhibit was an exploration of the possibilities inherent in a suggestion, which is by no means new, that pleasant living accommodations could be achieved in blighted areas developed with row houses by tearing out every third house to create open space and remodelling the remaining houses.



DESIGN OF A BLOCK OF TWENTY-FIVE FOOT ROW HOUSES IN THE SUNSET DISTRICT, SAN FRANCISCO, BY MARVIN LANGE, UNIVERSITY OF CALIFORNIA



IN MR. LANGE'S DESIGN A SMALL COMMUNAL PROMENADE WITH SEATS AND PLANTING IS INTRODUCED IN THE MIDDLE OF THE BLOCK

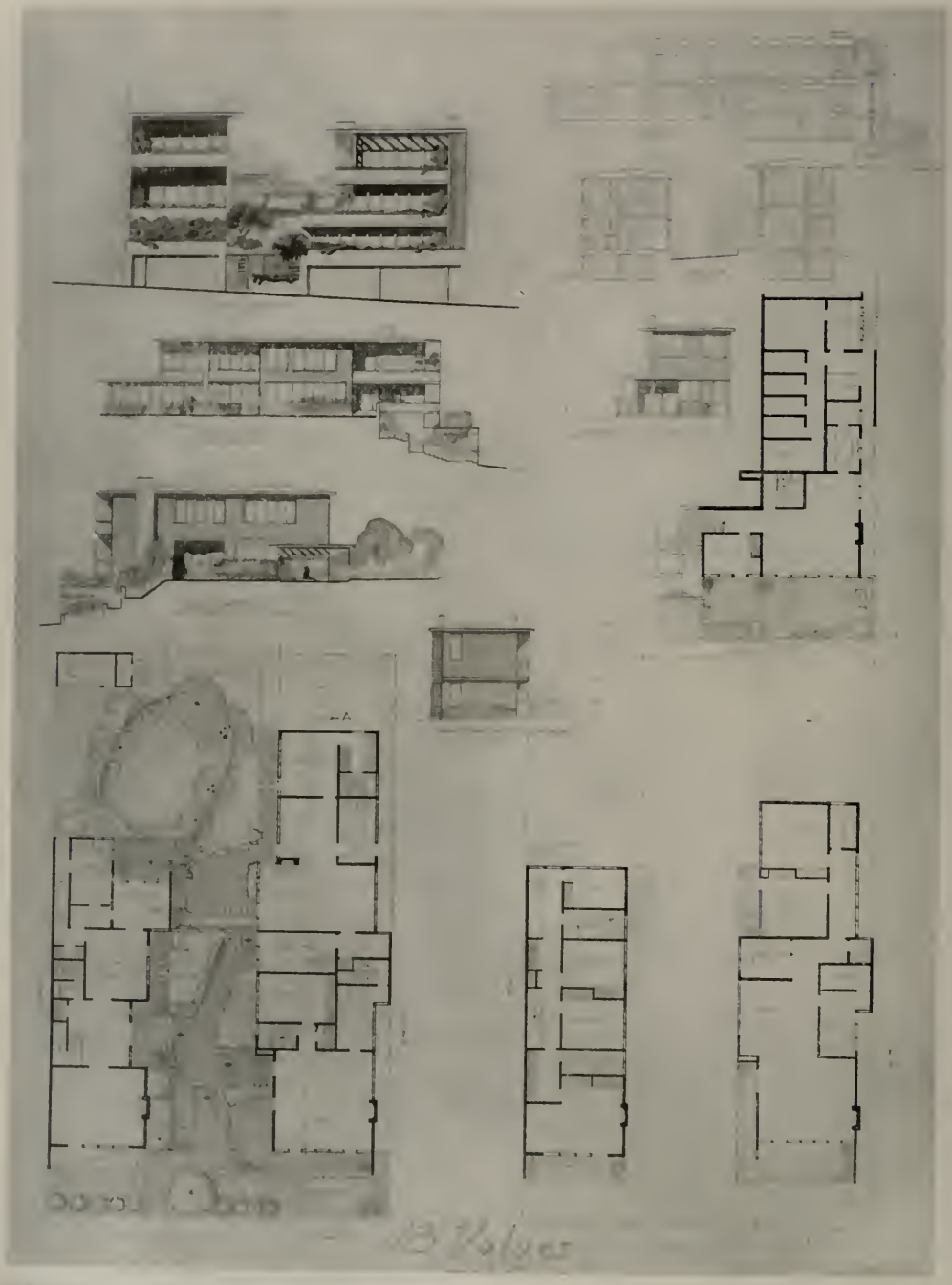
REMODELLING TWO OLD HOUSES
DESIGN BY ANDREW ANDERSON, UNIVERSITY OF CALIFORNIA
Ample provision is made for outdoor living.

In this instance Mr. Moise informs us the twenty-five foot row house of wood construction and late Victorian design, which is so characteristic of the Hayes Valley and other old sections of San Francisco, was made the subject of the study.

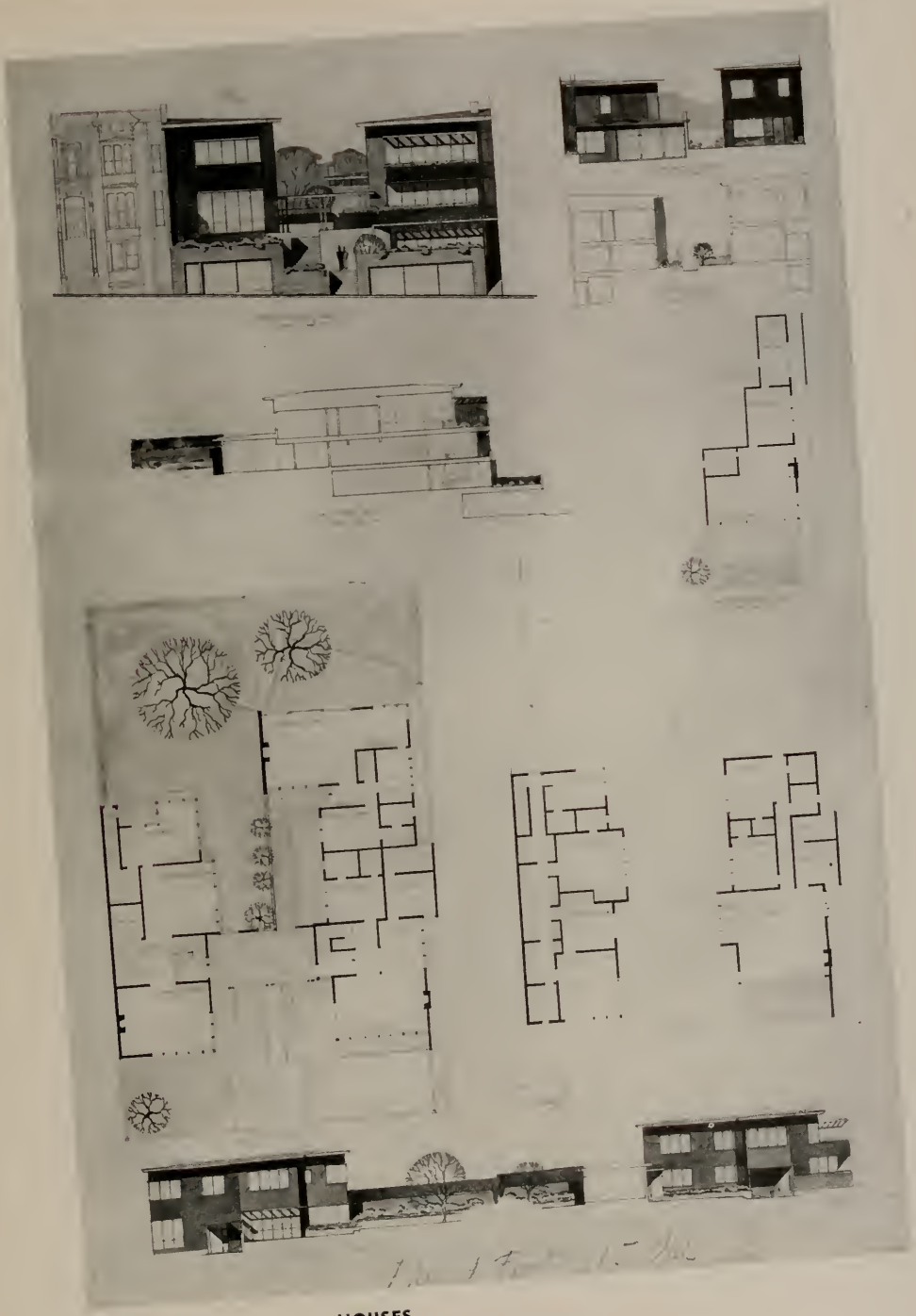
At the outset of the problem several of these old houses were visited by the students and the one which seemed most typical was measured and used as the starting point for the study. Characteristically the one selected had a sloping lot and a first floor high enough above the street to permit the introduction of a garage on the sidewalk level. The program stipulated that the study should comprise the two houses flanking one of the newly-created open spaces, one to remain in single family use, the other to be remodeled into three or more apartments. The provision of outdoor living space for each apartment was made mandatory.

In all four of the solutions of the problem shown the designers have succeeded admirably in providing the outdoor living spaces which the program stressed and in giving these outdoor spaces a high degree of privacy. Notable in this respect is the design by Andrew Anderson in which the blank north wall of the living room and terrace in the upper apartment prevents the occupants of this apartment from overlooking the garden of the apartment below. All of the designs show a predilection for the open type of plan now so much in vogue and for the feeling of intimate contact between indoor and outdoor spaces. In general the plans suggest pleasantly shaped and well proportioned rooms and the exteriors are attractive, inviting, and commendably simple and straightforward. There is no doubt that living accommodations of this sort would find ready takers.

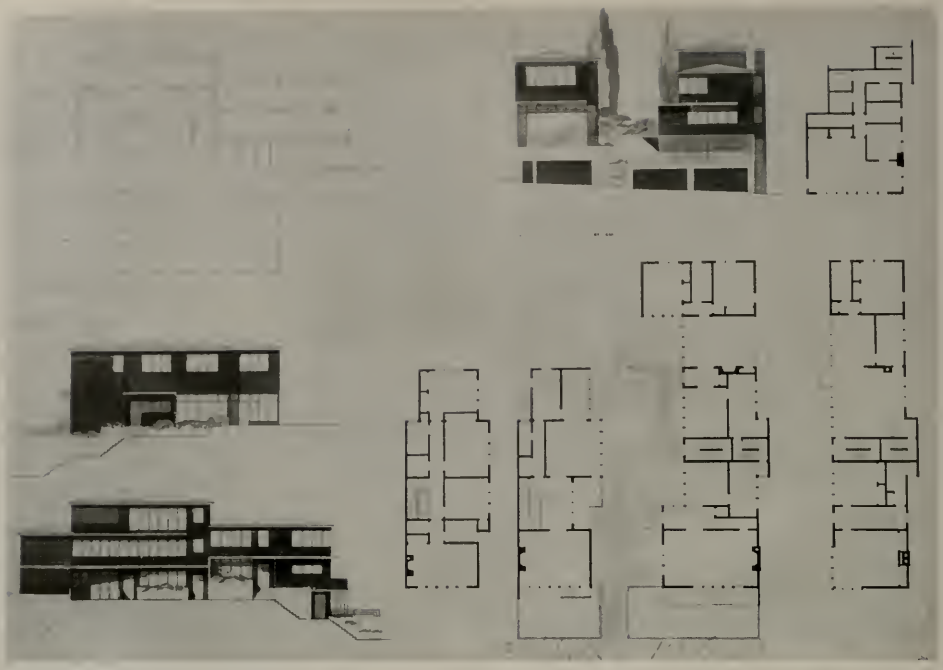
Whether or not such extensive remodellings for the rental market could be done at a profit is, however, another question; there was no indication that the economic equation had been solved. In answer to this question Mr. Moise commented as follows: "Our object in this problem (and no doubt Mr. Troedssen's object in his study) was to suggest ideas and stimulate interest rather than to offer blue-



REMODELLING TWO OLD HOUSES
DESIGN BY CLAUDIA WATKINS, UNIVERSITY OF CALIFORNIA
One house for single family use, one converted into apartments.



REMODELLING TWO OLD HOUSES
DESIGN BY DAVID LEAF, UNIVERSITY OF CALIFORNIA
Character of existing houses indicated at left.



REMODELLING TWO OLD HOUSES
DESIGN BY RICHARD W. JACKSON, UNIVERSITY OF CALIFORNIA
Interlocking garden units.

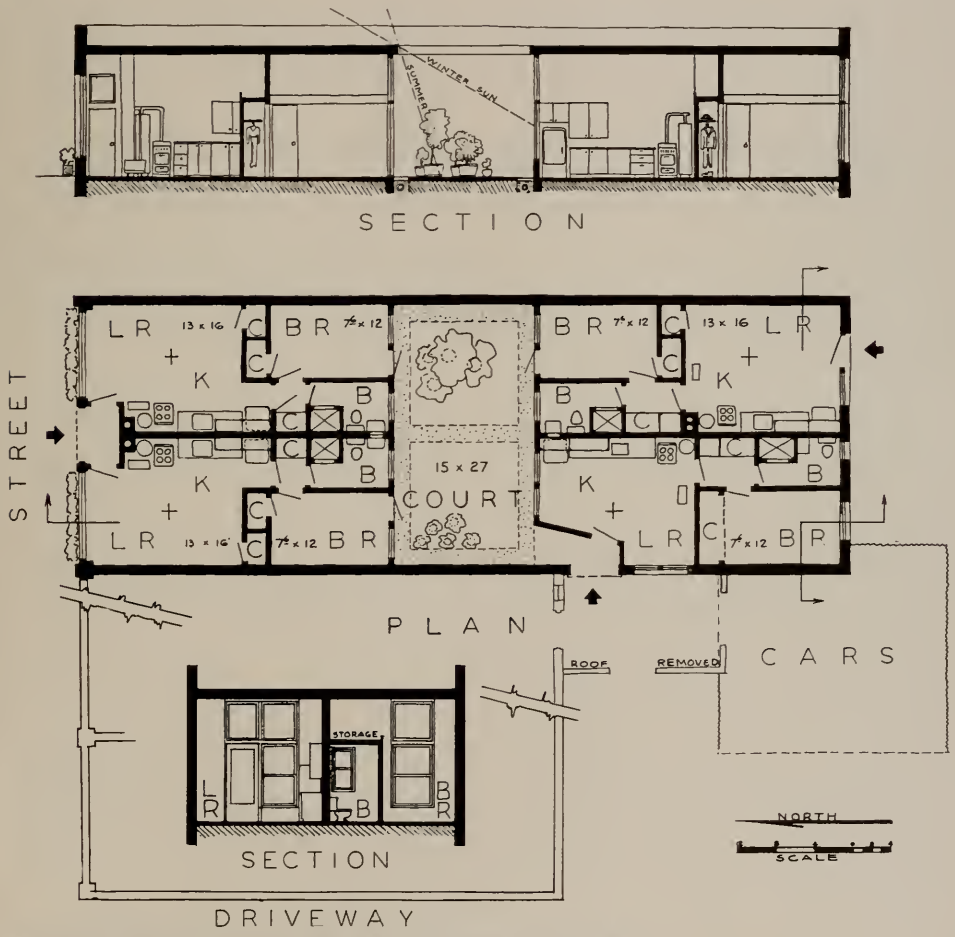
prints and specifications for specific use. Needless to say had the problems been undertaken by graduate students, with ample time for research, the results could have been somewhat more realistic. Actually the students undertaking them were only fourth year undergraduates and the time given to each of the problems was short — approximately four weeks."

That both the Troedssen studies and the designs by the University students were stimulating and provocative was indicated by the attendance at the show and by the careful scrutiny which many of the visitors gave to the drawings. It is to be hoped that exhibits of this sort, which have to do with the well-being and future development of cities, will find a regular place in the Museum's subsequent offerings.

IMAGINATION IN A CONVERSION PROJECT

Something new has come to pass under the architects' sun—the conversion, sponsored by the HOLC and welcomed by almost everybody except the kind of tax-payer who worries about the possibility that an early end to the war will leave him holding the bill for unwanted dwelling space. Whether conversions are a happy development or not, they are here, and a challenge.

Each conversion job presents special difficulties, but among the hardest, and surely the least inspiring, must be the alteration of stores into living quarters. Interesting solutions to that problem have been evolved by Frederick L. Langhorst in his design for four apartment units out of the store at 1603 Tacoma Street, Berkeley, a building owned by Benjamin T. Hansen. Some elements of Mr. Langhorst's design apply



PLAN AND SECTIONS FOR CONVERTING STORE INTO FOUR APARTMENT UNITS
BERKELEY, CALIFORNIA
Frederick L. Langhorst, Architect

only to store-conversions; others suggest unusual ways of saving space and gaining livability at small cost in any kind of emergency housing.

In this case, the plan had to provide for reconversion back to the store's original use, a requirement that puts up a set of limitations both structural and financial. The HOLC adds the cost of reconversion to the cost of present alterations. If too high, the project is considered impractical.

The store is 27 ft. x 78 ft., with frontages on Tacoma Street and a rear alley; no openings on the sides of the building, but access to one side, via a driveway, towards the rear. To get light and air into the center of the building is the most conspicuous problem here, as in the case of most store-conversions. The solution here is a large airy court the size of which is determined by winter sun angles to permit year round sunlight. Several 30-ft. joists will be removed (and saved) and the roof knocked out to allow for this open court, 15 ft. x 27 ft., separating the two front from the two rear apartments. The court allows secondary access to the front apartments from the shed at the back of the building where cars will be parked. Bedroom windows facing on the court will be topped with large transoms to take greatest possible advantage of light and air. The concrete floor will be cut up around the edges of the court to allow for drainage. Tubbed planting is planned.

The 13-ft. ceilings, and the limited floor space, made it important to break up individual apartments as little as possible. In each will be one fairly large room, about 13 ft. x 16 ft., one small room, 7½ ft. x 12 ft., and the bath. With some courage the architect put the kitchen facilities in the living room and designated the small room as a bedroom. The bedroom will gain an illusion of extra size from the fact that it borrows space over the bathroom, the wall separating it from the bath being only 7½ ft. high. There is a ceiling over the bath, boarded. The area above it can be used for storage if desired.

The idea of combining kitchen and living room, rather than bedroom and living room, is new but has some points in its favor. Why not let the woman of the household be surrounded by her family and perhaps friends as she cooks? Also, food is beautiful; rationing has taught that to people who didn't know it before. Many housewives probably would like to be able to screen off or curtain off cooking arrangements after the dishes are washed and put away—or especially if they cannot be washed immediately—and no provision for screening or curtaining has been made in this conversion. But the philosophy behind the kitchen-living room combination is interesting.

Nothing will be done to existing concrete floors. The concrete side walls will be given brush coats of cold water paint; the new partitions will have integral-colored plaster surfaces. Since it would be impossible to match these two kinds of pigments, no effort will be made to do so. They will be in different but harmonious colors.

The large store windows in the front will be left but if possible within the program will be trimmed with low window-boxes containing hedge-type planting. The present front door will be removed, and a small entry-way built, from which doors to the two front apartments will open. The entrance of one rear apartment will be from the rear yard, which connects by a walk with the street behind; from the other the entrance will be at the side.

Each apartment will be furnished with stove and electric refrigerator or ice box; also with console heater and hot water heater.

The cost of this conversion is estimated at slightly less than $10,000, or about $2,500 a unit, including cost of demolition and reconversion, contractor's fee, contingency fee, and the architect's fee.

POTENTIAL MARKET FOR POST-WAR HOUSING

The following material is taken from a post-war housing survey of the nation recently made among architects, builders and building supply houses by "Parents Magazine," 52 Vanderbilt Avenue, New York, and Hobart Building, San Francisco:

QUESTION—What price range will offer the largest postwar housing market? Why?

4.0%	said	up to $ 3,000
12.8%	said	up to 4,000
19.2%	said	up to 5,000
24.0%	said	up to 6,000
12.0%	said	up to 7,000
14.4%	said	up to 8,000
1.6%	said	up to 9,000
3.2%	said	up to 10,000
5.6%	said	over 10,000
3.2%	did not state.	

It is interesting to note that 60.0% of the replies indicated that the largest postwar market would be for houses costing up to $6,000 while another 26.4% indicated that the largest market would be up to $8,000. The replies would indicate that architects, builders and contractors do not believe this war will produce a large group of millionaires.

QUESTION—Will there be more individual architect-designed houses after the war? Or will the prospective home owner select his plans from a group of stock designs? Or make his selection after looking at model houses?

53.6% stated the prospective home owner would make his selection after looking at model houses.
45.6% indicated that plans will be selected from a group of stock designs.
33.6% said there would be more individual architect designed houses.
2.4% did not state.

These replies would indicate that there will be even more model houses in the postwar era, and that stock house plans and designs are gaining in importance. If these replies are indicative, then there will undoubtedly be changes in merchandising techniques for building supplies.

QUESTION—Will the average house have more rooms than the houses built before the present war? Or fewer rooms? Why?

68.8% indicated there would be fewer rooms in the postwar house.
16.8% indicated there would be approximately the same number of rooms.
12.8% indicated more rooms.
1.6% did not state.

The reasons given by those who stated there would be fewer rooms in the postwar house were, in the order of frequency.

"Economy."
"Increase of dual-purpose rooms."
"General trend toward fewer rooms."
"Better use of space."

QUESTION—Will there be more one-story houses? Two-story houses? Why?

72.8% indicated more one-story houses.
12.8% indicated more two-story houses.
4.8% indicated will remain the same.
10.4% did not state, or indicated an even division of one and two-story houses.

The chief reasons given for more one-story houses were:

"More economical."
"Ease in housekeeping."
"Lots will be larger."
"Prefabrication will influence one-story design."

QUESTION—Will the operative builder become more important after the war? Will there be fewer speculatively built houses? Why?

59.2% stated operative builder will become more important.
24.8% stated fewer speculatively built houses.
4.0% stated it will remain the same.
12.0% did not state.

The chief reason given by those who stated the operative builder (meaning the builder who builds on special order to the owner's requirements) would be more important in the postwar era is:

"Operative builder builds closer to needs of a buyer."

Those who considered the operative builder as one who develops large scale operations and sub-divisions gave us the following reasons:

"Greater trend toward regimentation."
"Cheaper."
"People want to see what they are buying."

Those who stated there would be fewer speculatively built houses gave as their reasons:

Public more educated as to what good house construction means."
"There will be more large scale housing developments."

QUESTION—Will prefabrication, as a result of the large number of prefabricated houses presently being built by the government, be generally accepted by prospective home builders? Why?

68.8% indicated prefabrication will not be accepted by prospective home owners.
25.6% indicated prefabrication will be accepted by prospective home owners.
5.6% did not state.

The two predominating replies given as the reasons why prefabricated houses **will not** be generally accepted are:

"Lack of individuality."
"Not permanent."

QUESTION—In what price ranges will prefabricated houses have the greatest appeal and sale? Why?

70.4% indicated that the greatest market for prefabricated houses is up to and including $6,000. Some of the chief reasons are:

"More for the money."
"Useful in factory centers."
"Lower cost."
"Economy through standardization."

Per Cent Replying	Price Range Having the Greatest Appeal
4.0%	Up to $ 1,500
6.4%	Up to 2,000
13.6%	Up to 3,000
25.6%	Up to 4,000
14.4%	Up to 5,000
6.4%	Up to 6,000
1.6%	Up to 7,000
2.4%	Up to 8,000
.8%	Up to 9,000
1.6%	Up to 10,000
23.2%	did not state.

QUESTION—Do you believe that the bulk of prefabricated houses of the future will be built primarily of standardized units assembled to suit the individual's need? Why?

53.6% indicated prefabricated houses will be built of standardized units assembled to suit the individual's needs.
28.8% indicated they did not believe this would be the case.
2.4% indicated a possibility.
15.2% did not state.

The replies to this question indicate that builders, architects and contractors feel that houses will be an assembly of prefabricated units. And the most often repeated reasons were:

"Will satisfy individual taste."
"Lower cost."

The answers indicate that houses made of prefabricated units such as windows, doors, walls, cabinets, etc., which can be arranged to suit individual taste will be accepted by home builders; but that mass produced prefabricated houses will not be generally accepted.

QUESTION—Or do you believe that prefabrication will succeed only in mass housing efforts? Why?

52.8% indicated that prefabrication will succeed only in mass housing efforts.
28.0% do not believe that prefabrication will succeed only in mass housing efforts.
.8% indicated there is a possibility that prefabrication will succeed only in mass housing efforts.
18.4% did not state.

The two predominating reasons stated for the success of prefabricated mass housing efforts were:

"Economy."
"Speed in construction."

QUESTION—Do you believe houses of the future will have more or fewer built-in features? Why? Enumerate.

84.0% indicated houses of the future will have more built-in features.
4.8% indicated houses of the future will have same number built-in features.
3.2% indicated houses of the future will have fewer built-in features.
8.0% did not state.

Among the predominating reasons for more built-ins were:

"Economy."
"Convenience."
"Conservation of space."
"Labor saving."

Among the wide variety of built-in features mentioned the predominating ones were:

"Kitchen equipment."
"Cabinets."
"Clothes closets."
"Book shelves."

A.I.A. REPORT CRITICIZES PUBLIC HOUSING PROGRAM

Raymond J. Ashton of Salt Lake City, Utah, will direct the destinies of the American Institute of Architects for the next two years, his election as President having been the unanimous choice of the delegates to the seventy-fifth annual convention in Cincinnati May 27-29. Ashton succeeds Richmond H. Shreve, a two year incumbent. Walter R. MacCornack of Cambridge was re-elected vice president; Ralph Walker of New York, secretary, and James R. Edmunds of Baltimore, treasurer.

Post-war housing was an all-absorbing subject of the convention, highlighted with a report by the Institute's Committee on Post-War Reconstruction. The public housing program carried out during the past decade segregated the lower third of the population, and undermined the democratic foundations of community life, it was declared in the report.

"Before it is too late," the committee warned, "the nation should prepare to avert a repetition of the disastrous experiences with previous building booms in residence construction, and recognize the community design as the basis of a program of action."

In the public housing program there was too much copying of European practice, with emphasis on regimentation, said the committee, announcing a plan for the cooperation of the architectural profession with other national groups in the rebuilding of America.

"This regimentation," the report continued, "took two forms; first, the monotonous, unhomelike repetition of barrack-buildings and of institutional group plans; and, second, the segregation of the 'lower third' of the population into concentrations where community amenities were insufficient and where contacts were severed with other economic and social groups.

"The public housing projects suffer from a failure to maintain the democratic cross-section of American life that is both the foundation and the motive power of our civilization. Although the dictates of government may have had much to do with the barren quality of the design, it was the ceilings imposed both upon rents and upon the incomes of tenants that forced the type of design and necessitated the segregation.

"It is time for the architectural profession to issue its declaration of independence and to reserve to itself the dignity it should have as the custodian of housing and land development. When this is done, there will be a surge forward in the development of the individual house—both single and row types—and, in some cases, of multiple dwelling units of far greater value to our American way of life than much of the product of government bureaus.

"In all the discussion that rages about housing, architects should keep in mind the fact that in the disproportionate relation of the incomes of users of housing to building costs lies the crux of the housing problem. This disparity is the basis of the calls upon government to intervene with subsidies. It is for architects to lead in a movement really to cut housing costs all along the line, from the cost of construction, partly caused by obsolete building codes, to the costs of land, of taxation and of finance.

"This done, the general program of post war reconstruction should provide full employment at good wages and so greatly reduce the ranks of the lower third. Then, when the submarginal population thus becomes a tiny fraction, a new policy may arise—rent subsidies being granted to the individual in those cases where the individual can be nearly self-supporting, instead of subsidies made to the buildings, as now; and an enlightened program of institutional guidance developed for the remainder, the 'unemployables'.

'Another failure of housing technique—observed in private operations as well as public—is faulty integration with the master plan of the city and the district and neighborhood. The relationship of housing to other parts of the city, industries, business, parks, shopping, and to the transportation and traffic system, is rudimentary.

"Mechanical repetition of units is prevalent and so is failure to provide sufficient community facilities to make these huge collections of hundreds or thousands of homes what they should be, namely, villages and towns and neighborhoods fairly complete in themselves. Lack of community facilities in housing projects overburdens existing community facilities in other sections of the city.

"Equally important, the relationship to the tax and existing mortgage structure should be carefully worked out. Although property owners and mortgage interests have an investment in depreciated properties, they should not be permitted to block new construction; nevertheless, it must be recognized that tax-exemption of public housing projects has an impact on the solvency of existing property. These are economic problems which should be considered in the interest of the city as a whole."

It is of paramount importance that the production cost of all forms of construction should be reduced, but the great need is for the production of low-cost homes, the committee held. Design is a major factor in production costs, it was pointed out.

"Architects should be able to design homes which are less subject to the damaging effects of depreciation and obsolescence," the report added. "This means that the neighborhood instead of the single building should so far as possible be made the unit of design. It is, however, just as essential that the neighborhood should be coordinated with the master plan of the city as the individual properties should be coordinated with the design of the neighborhood.

"Architects should be freed from the damaging effects of trade restrictions, combinations to prevent the introduction of new methods and materials, and archaic, over-restrictive, and too specific building codes.

"A definite effort should be made to reduce the long cycles characteristic of the building industry in which the greatest activity in building takes place at periods of high prices, and building slows down and mechanics and laborers suffer from unemployment in periods of low prices. Effort should be made to reduce these fluctuations in the course of building activity, to increase the annual wage of workers in the industry and to do away with the necessity of high hourly wages and limited production.

"A greater amount of prefabrication should be encouraged. Architects should help to dispel the erroneous impression that the purpose of prefabrication is to provide for demountability. Its true purpose is to transfer from field to shop as large a proportion of the work as can be effectively and economically assembled in advance. As they learn to design in terms of prefabricated parts, architects will learn that the discipline of prefabrication is a stimulus to improved design.

"In imagination, originality, and adaptability, there is no industry which is more resourceful than the building industry. It should struggle to free itself from those unfair, archaic and wasteful practices with which it is afflicted as a result of the uneven uneconomic conditions to which it is subjected."

Dean Walter R. MacCornack of Massachusetts Institute of Technology is chairman of the committee which prepared the report. Chapters of the Institute throughout the country will work with other organizations in carrying out a national program of reconstruction developed by the Institute.

REINFORCED CONCRETE CARGO BARGES FOR WAR

by S. C. KING, C. E.

(Photos on Front Cover)

Building concrete barges for Uncle Sam was the theme of an informative talk before the Structural Engineers Association of Northern California Tuesday, May 4, by S. C. King of Ellison & King, consulting engineers, San Francisco. Two hundred members and guests were present. Opening remarks and introductions were made by Bert Wells, president of the Association, following which J. F. Barrett, of Barrett and Hilp, contractors for a battery of concrete barges, addressed the assemblage on the problems facing his firm in the initial stages of the construction period and from that period to date.

Mr. King's remarks brought out the following interesting facts:

Barrett & Hilp are now engaged on the construction of twenty-six reinforced concrete ship shape cargo barges at Belair Shipyard, on the Bayshore Highway immediately south of South San Francisco. The barges are being built in basins or graving docks shut off from the waters of the Bay by reinforced concrete gates which will be floated as each hull is launched. Six of these basins have been constructed for shipbuilding purposes and there is one additional basin to be used for painting and inspection of exterior surfaces.

The construction basins are 400 feet long, 82 feet wide and 20 feet deep. The painting basin is only 68 feet wide but is 24 feet deep. Excavation was thus a major item and in addition a hill on one side of the site was totally removed. All excavated material was used for fill. While the larger portion of the site was swamp land, underlying stratas were almost uniformly of serpentine rock which formed an excellent foundation for the concrete bottom slabs in the basins and for the construction loads which are carried by these slabs. The side walls of the basins are formed of 8" solid lagging supported near the top by horizontal walings tied back to dead-men and bearing on the edges of the floor slab at the bottom.

The side walls of the basins at the entrances are of concrete in order to receive the floating gates. The gates are sealed at the bottom and the abutments by continuous wood pieces bearing against the concrete. Various methods of sealing were considered, but the method adopted was the simplest of all and has proved to be entirely satisfactory as seepage around the gates and, in fact all seepage, is negligible.

A Turning Basin and a Channel to the Bay were dredged to a depth of elevation—12 ft. The Fitting-out Wharf was constructed at the south end of the Turning Basin and consists of three finger piers accommodating six vessels. Adjacent to the Fitting-out Wharf, the Turning Basin was dredged to a depth of elevation—15 feet in order to allow certain tests of the hulls to be made.

The yard is laid out to give the highest efficiency of operation. Forms are assembled outside the hull on specially designed jigs, and are placed by crane as units. Wherever possible, reinforcing steel is prefabricated into large units in the yard and placed in the hull by cranes. This method is used for frames, bulkheads, side shell reinforcing, and numerous other items. The longitudinal bars at the deck and bottom of the hull are continuous, without splices for their full length. These bars, 1¼" round, are delivered to the yard in 64 ft. lengths and are flash welded into lengths up to 350 ft. The welding is done in advance of placing. These bars feed in a straight line operation from the welding machine to a storage pile behind each dock. From this storage they are pulled through a 12" pipe into the hull when needed. A Mold Loft, Equipment and Tool Sheds, reinforcing and form jigs, mixing plant and storage areas, are placed so as to give a maximum ease of access to the work, with a minimum of material handling.

The designer of steel or wood ships has the accumulated knowledge of years of shipbuilding to guide him in his work whereas the designer of a concrete hull must attack his problem as a pioneer. The hull as a whole is considered as a beam supported on waves. Simultaneous with this action each particular member such as the slabs, frames, and beams

must resist the local hydrostatic pressure of the water against the hull. In the design of the midship portion of the vessel four conditions were considered for the hull as a whole and five conditions of local loading.

Hull Loadings Requirements

H-1—Loaded ship supported on a wave at each end of ship.

H-2—Loaded ship supported on a wave at center of ship.

H-3—Unloaded ship supported on a wave at center of ship.

H-4—Loaded ship in still water.

Local Loadings Requirement

*A deck load of 416# sq. ft.

This loading was combined with "H-1" and "H-2" above.

*An external hydrostatic head to 2′ above the deck (this results in a pressure of 2368# sq. ft. on the bottom of the ship).

This loading was combined with "H-2" and "H-4" above.

*An internal hydrostatic head of 20′ in combination with an external head of 10′.

This loading was combined with "H-1" above.

*An external hydrostatic head of 18′.

This loading was combined with "H-1" and "H-3" above.

*An external hydrostatic head of 27′.

This loading was combined with "H-1" above.

The various combinations of loading are intended to represent the various conditions met by the vessel in service.

Bulkheads divide the hulls into cargo holds and these bulkheads are spaced at 32 feet centers. Four frames spaced at 6.4 feet centers divide the side walls into five bays between each pair of bulkheads. With the exception of the keelson, the gunwales and the deck beams, there is no horizontal framing. Three small back-up beams behind the continuous exterior wood fenders are structurally redundant. The scheme of framing thus becomes a system of frames and bulkheads connected by the bottom shell, the side walls and the deck.

The keelson runs the entire length of the vessel and is the largest structural unit in the hull. Its dimensions are 24" x 52" and its contains 108 bars $1\frac{1}{4}$" diameter. In order to accommodate the large concentration of bars in the lower section, tee extensions have been added to each side of the keelson at the bottom slab. Similar tees occur at one side only of the deck beams at the sides of the hatches.

The bottom slab of the ship is 7 in. thick, reinforced with two layers of $1\frac{1}{4}$" round longitudinal bars 4" on centers and two layers of 1" round transverse bars spaced at $4\frac{1}{2}$" and 9".

The deck varies in thickness from 5" to $6\frac{1}{4}$" and the side shell slab is 6" thick. The reinforcing in the deck and side shell is somewhat lighter than at the bottom of the ship.

A central batching plant mixes concrete for all hulls, delivery being made to hoppers by mixing truck. The concrete is then chuted to stages halfway down the hull side, from which point concrete buggies carry it to secondary chutes with flexible tube extensions to the point of placement. In pouring the keelson and deck girders, with their heavy concentration of reinforcing bars, all concrete for the lower section is poured into the side of the form near the center of the beam, where no steel is carried. After the concrete reaches that point, the opening in the form is closed and the remainder is worked through the interstices of the upper steel.

Concrete coverages over the reinforcement are necessarily less than those used in ordinary building construction and are as follows:

Outside of hull at bottom and sides $\frac{7}{8}$";

Inside of hull $\frac{1}{2}$";

Deck $\frac{3}{4}$".

Concrete is placed in three separate and continuous pours. The first pour includes the bottom slab and the bilges up to a point 8′ 2" above the bottom of the ship. The second pour consists of 18" lifts to a point just below the gunwales. The final pour includes the gunwales, the deck and the miscellaneous items of the superstructure. All concrete is consolidated by vibration.

At the South San Francisco yard, William Lawson is project manager for Barrett & Hilp, George McKeever general superintendent, and Fred Crocker project engineer. Raymond Anderson is resident engineer for the Maritime Commission.

Joslyn and Ryan are the naval architects, Ellison and King are the consulting engineers and the contractors' consulting engineer is Charles Andrew of Tacoma, Wash.

VALLEJO COMMUNITY HOSPITAL
VALLEJO, CALIFORNIA

This is one of two community hospitals for war needs designed by Douglas Dacre Stone and Lou B. Malloy, architects of San Francisco. Besides the Vallejo Hospital, pictured above, a second hospital is under construction near Marysville, California.

The Vallejo project is a 262-bed, completely integrated general hospital, designed on a modlue system of 4-foot squares, for economy, with fire walls dividing the wings. The hospital is in the center of a tremendously swollen war production population, being situated just off the Napa Road, one mile north of Vallejo.

All buildings are to be of wood construction, due to shortage of other materials. However, each wing will be separated from the corridors by fire walls. In addition to the main group of connected buildings containing twelve wards and 150,000 square feet of floor space, there will be two homes for the 100 nurses and buildings to house the other 40 resident employees.

Barrett & Hilp, the general contractors, have 180 days to complete the project.

GRAVE POST-WAR PROBLEMS FACE CALIFORNIA HOUSING AND PLANNING ASSOCIATION

Attorney General Robert W. Kenny, as President, heads the roll of new officers of the California Housing and Planning Association. Others are the Rt. Rev. T. J. O'Dwyer and Carey McWilliams, Los Angeles; Dr. Omer Mills and John F. Shelley, San Francisco, Vice-Presidents; Mrs. Marion Beers Howden, San Francisco, Secretary, and Mrs. Millard Rogers, San Francisco, Treasurer.

Elected to the Board of Governors were E. Geoffrey Bangs, Catherine Bauer, Mrs. Jesse Colman, Morse Erskine, Walter Koetitz, Dr. A. E. Larson, Frank C. MacDonald, Richard M. Neustadt, the Rev. N. W. Pendleton, and Paul G. Pinsky, San Francisco; Dr. M. R. Benedict, Prof. Howard Moise, Walter E. Packard and Dr. Max Radin, Berkeley; Charles O. Busick and John Harold Swan, Sacramento; Ronald Campbell, Redwood City; Mrs. Olin Garrison, Lafayette; Dr. Paul R. Hanna, Palo Alto; Maurice J. Wilsie, Vallejo, and the Rev. Edgar Wilson, San Jose; Floyd C. Covington, John Entenza, John Anson Ford, Oscar Fuss, Helen Gahagan, C. J. Haggerty, Augustus F. Hawkins, Reginald D. Johnson, Roger C. Johnson, Ralph A. McMullen, Richard Neutra, Carl C. Rasmussen, B. F. Shrimpton, Mrs. Sumner Spaulding, Mrs. Jessie L. Terry and Lloyd Wright, Los Angeles; Dr. Arthur Coons, Claremont; Dr. Harry Girvetz, Santa Barbara; Richard Ibanez, Upland; Ralph Lavin, Bakersfield; Stewart Meigs, Carpenteria, and Dr. Hubert Phillips, Fresno.

"The success of a democracy depends upon the intelligent action of its informed citizens and to provide the essential information is one of the major objectives of the California Housing and Planning Association," declared President Kenny in taking over the leadership of the organization. He paid tribute to Professor Howard Moise, of the University of California, whom he succeeds as president, for laying a strong foundation for the organization, placing it in a position, Kenny said, "to perform great service to our state."

The new president explained that the California Housing and Planning Association is an organization of representative citizens, who seek to stimulate intelligent public and private planning, both for war-time emergencies and for the longer range post-war period.

"We are concerned," he said, "with housing, transportation, urban and rural development, and in a broader sense with the application of modern planning methods in town and country.

"Because of the tremendous concentrations of people in war industry centers, California will have grave problems of readjustment when the war is won. The ultimate wisest use of all our human and natural resources to prevent disemployment and suffering calls for bold and intelligent planning now. Good programs don't just happen—they are carefully planned. The California Housing and Planning Association is prepared to encourage the necessary planning and to follow it through with public support to the action stage.

"We shall need to develop the closest coordination between agencies of the State and Federal governments, as well as between various private and semi-public groups to deal with these problems that concern us all."

POST-WAR PLANS WILL RECEIVE PREFERENCE

San Francisco has an "excellent chance" of obtaining Federal financing for $2,000,000 in post-war public works projects, L. Deming Tilton, city planning director, said in an interview.

Tilton recently returned from Washington, D. C., where, in company with Douglas D. Stone, president of the City Planning Commission, conferences were held with officials of the Public Works Agency.

The planning director did not list the projects submitted for early financing, but said they included school buildings, utility extensions and playgrounds.

"Federal officials," said Tilton, "realize that the shortage of manpower makes it difficult for communities to prepare plans and specifications for projects at this time. Several bills are pending in Congress to loan money to cities for this work.

"Communities which have cost estimates and plans ready for the start of the post-war period are going to get preference when the post-war construction period begins."

ARCHITECTS' BULLETIN

Issued For

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS

Northern Section

STATE ASSOCIATION MEMBER
OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Editor
William C. Ambrose

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PROMISES

The magazines, newspapers, and particularly the advertisements of many of the large corporations of the country are full of post-war promises. As the crystal-gazers emerge from the trance into which they have, seemingly, to lose themselves, they are fairly dripping with the loveliness of their visions.

Occasionally they break forth with pictures showing the wealthy mechanic opening the gate to his rambling and rose-covered cottage on a lot one hundred and fifty feet in width, beautifully landscaped, while small daughter dabbles in the pool, and mother appears at the front porch, lovely as a bride, or a reasonably accurate facsimile thereof. She has, of course, merely turned a few switches and the day's work has been done for her by the gadgets which the research laboratories have contrived while resting from the day's labor of designing a super airplane motor. And it's all to be so cheap, too!

Which is very, very pretty, and doesn't cost the big fellow too much, for it all goes as an expense item on the income tax blank. But we are wondering whether it all is not putting the architect on a somewhat hot-spot in post-war days. For the cold reality will be that it will be the duty of the architect to tell the prospective home builder that Santa Claus starts to vanish when the boy starts to school (which he already knows) and that Santa has not come back in a cloud of war (which the advertisements would have us believe).

Just at present the industrious mechanic, and a few who are not mechanics, are receiving more income than their subsistence requires, and there is a shortage of luxury goods. The plain facts of the case are, however, that when the war is won and electronics and aluminum, magnesium and monoplanes are turned over to civilian uses there is scant chance of the luxuries of life being relatively cheaper than before we shot, sank, and squandered our substance in the task of keeping ourselves free men and women.

Mass production in housing is not a new invention of the war. It is even debatable whether it has been given impetus by the war. There will be new products on the market soon after the war is ended, some useful, some beautiful, and some to catch the stray penny. But we sadly fear that we will see again that incredulous look slowly creep over the hopeful faces of our young clients when we tell them that dishwashing machines still cost money, that the magic eye garage opener remains a luxury, and, worst of all, that the "dear" little house which they have clipped from the magazine could not have been built, even in pre-war days, for five thousand dollars. We will be wrong and not know our business. But the picture man and the copy writer in the advertising agency will have done a good job of selling.—W. C. A.

Friends Honor Wm. C. Hays

More than one hundred and fifty friends, former students, and associates of William C. Hays and Mrs. Elah Hale Hays gathered at dinner in the Claremont Hotel, Berkeley, on the evening of June 3rd to pay tribute to him upon his retirement from active service as Professor of Architecture at the University of California. Professor Hays has been at the University for almost

forty years, and is the last of the original faculty of the School of Architecture.

Professor Leon Richardson acted as toastmaster, and appreciations were voiced by Warren C. Perry, Director of the School of Architecture; Wm. Clement Ambrose for the alumni· Mrs. Marjorie Hendrickson for the undergraduates; Robert Evans for the University's architecture, and Abe Appleton for Auld Lang Syne.

Numerous telegrams and letters of congratulation to Mr. Hays from all over the world were read by Hans W. Schickele who, with Professor Howard Moise, had charge of the arrangements.

Architects on the Move

The taking over of the office building at No. 224 Kearny Street, San Francisco, by the government for conversion to war housing has moved several architects and engineers from that central location.

Among those affected are:

Wm. Clement Ambrose, moved to 369 Pine Street.

Albert A. Coddington, to 251 Kearny Street.

William Mooser, Norman R. Coulter.

STATE PLANNING BOARD ABOLISHED

In line with the State of California's post-war planning program, Governor Warren has signed Senate Bill 807, creating a State Reconstruction and Reemployment Commission to assume all the functions of the State Planning Commission which is abolished. The measure authorizes the Governor to appoint a Director of Reconstruction and Reemployment at a salary of $10,000 a year. The Director will be the Chief Executive Officer of the new agency which will consist of nine members as follows:

Director of Public Works—Chairman
Director of Finance—Vice Chairman
Director of Professional and Vocational Standards
President of University of California or his representative with the approval of the Governor
Director of Natural Resources
Director of Agriculture
Director of Industrial Relations
Superintendent of Public Instruction
Executive Secretary of the Governor

The bill is an important integral part of Governor Warren's post-war program. As defined by the Act, the duties of the new commission will be to prevent unemployment, conserve and develop the natural, social and economic resources of the state, promote the development of new industries, create new markets, promote the re-employment of discharged service men, readjustment of displaced war workers and the conversion of industry and commerce from war to peace standards, to provide for post-war adjustment and reconstruction and to encourage economic and social employment of the general public.

The bill appropriates $74,000 to carry out its provisions. The State Reconstruction and Re-employment Commission will succeed to and be vested with all the duties, powers and responsibilities and jurisdiction of the State Planning Board. The Planning Board and officers and positions of all deputy officers and employees of the Board are abolished.

Each member of the Commission will act as chairman of a Citizens Advisory Committee of five members selected by the Governor upon nomination by such member and qualified as specialist in the respective field of activity in this Commission. Members of these committees will receive no compensation.

* * *

While the recognition of the need of planning now to meet the economic difficulties of the post-war period, which the passage of this bill indicates, is encouraging, and while the bill has good features, it is most regrettable that its passage deprives the state of the accumulated experience of the present State Planning Board and leaves it without a permanent planning agency. Such an agency should constitute the coordinating center and clearing house for the many phases of post-war planning, and should continue to function after war and post-war problems have been resolved. It is not merely a temporary wartime need but a permanent necessity of our modern world, and is recognized as such by more farsighted state governments than that of California.

That the state now finds itself without a permanent planning agency can be largely attributed, however, to the tactless ineptitude of Governor Olson in completely filling the State Planning Board with his own appointees shortly before he left office. Had places on the Board been left open for Governor Warren to fill it is doubtful that a bill abolishing the Board would have been introduced or, if introduced, that it would have had the Governor's support. Under the circumstances, which Governor Olson created, Governor Warren can scarcely be blamed for supporting Bill 807. These remarks should not be interpreted as a criticism of the personal merits or abilities of Governor Olson's appointees. It is merely that the making of the later appointments should have been left to his successor.

As to the make-up of the Commission which the Bill creates it seems eminently strong in the direction of economic and industrial planning but weak in the direction of physical planning, which is certainly of equal importance. Its success or non-success will probably depend largely on the qualities of its paid Director, and it is to be hoped that for this post a planner of wide experience in physical as well as economic planning will be selected.

One other opportunity to strengthen the Commission in the direction of the physical planning exists—the appointment by the President of the University of California of an eminent planner to represent him on the Commission. If in this appointment by President Sproul and its approval by the Governor the unbalance noted is rectified the Commission will be immeasurably strengthened. HOWARD MOISE.

PRODUCERS' COUNCIL PAGE

Northern California Chapter

The National Organization of Manufacturers of Quality Building Materials and Equipment
Affiliated with the AMERICAN INSTITUTE OF ARCHTECTS

T. S. "ED." BANTA
He sells "Q Floors"

T. S. "Ed" Banta, Chairman of our important Membership Committee . . . Ed graduated from Philadelphia's Drexel Institute in 1928. His first job was to help change the appetite of the Pennsylvania Railroad's "iron horses" from coal to electricity. In 1935 he was invited to join the Spiral Pipe Sales Department of the American Rolling Mill Company. He worked with them until 1941, when the H. H. Robertson Company was fortunate enough to acquire his capable services. San Francisco and Ed came to know each other in January, 1942, when he was assigned to handle sales of Robertson's "Q Floors" in this territory. Today, his selling effort includes the entire Robertson line.

Ed's married . . . his wife's name is Mary Elizabeth. He has two children . . . Eddie Diehl Banta, 12 . . . Andrew Ross Banta, 5. He lives in Menlo Park, right smack in the middle of the bird and bee country and commutes daily between there and his Mills Building offices.

Something New has been added to the organization of the Producers' Council, Inc. As a direct result of action taken at the Annual Meeting in Cincinnati last month, Regional members are now eligible to be elected to the Board of Directors and to hold National office. First Regional member to be so honored is our own "Chuck" Kraft, President of this Chapter, elected to a two-year term on the Board.

Other Firsts marked up by the Northern California Chapter, indicating the leading part this group has always had in Council affairs—**First Producers' Council Club,** organized February 25, 1931. Northern California Chapter was **first to suggest that local Clubs be chartered** by The Producers' Council, Inc. Charter was received November 1, 1932. **First Regional members were admitted at the suggestion of Northern California Chapter,** as follows: W. P. Fuller and Company joined in 1933; Gladding McBean and Company, 1937; Kraftile Company, 1938; Blue Diamond Corporation (Los Angeles), 1939.

San Francisco was first to suggest appointment of Director Liaison Officers to work with the local Chapters or Clubs as they were then known. Because these suggestions were taken up by the Board of Directors and made a part of the program is first-class evidence of the rosy reputation we have earned among Council Chapters. And we might add, with a slightly expanded chest, that Clubs number Two and Three, Seattle and Los Angeles, were formed with the assistance of San Francisco.

July 12th is the date of our next regular Chapter meeting. It will be held at the Palace Hotel at 12 noon. Council members participating in the program will give short talks on their firms and products. H. L. Heakin, of the Pacific Foundry, a brand new member, will discuss the activities of his firm and the part their products play in war industries. Louis D. Saylor of the Vermont Marble Company will outline the part his organization plays in war construction.

Reports on our joint meeting with the San Francisco Post, Society of American Military Engineers, were tops for enthusiasm.

It's Lt. Col. Ervin H. Clausen now. "Erv" Clausen, active Johns-Manville member now in the service of his Great Uncle, writes from Salt Lake City that he had temporary hopes of attending our meeting with the Military Engineers but couldn't get away. "Erv" is in the Corps of Engineers. He's located in the Office of the Division Engineer, Pacific Division. You can reach him at the University Club, 130 East South Temple, Salt Lake City.

Rolph Mills & Company continues to lend prestige and glamor to the Chapter. Comes now the news as reported in Time Magazine and our local papers of the marriage of Boris Kitchin's daughter, Natalie, to Manuel I. Prado, son of the President of Peru.

And with genial Tom Rolph carrying the famous Rolph name to Washington, this is probably the only Chapter with its own representative in Congress.

The Octagon now goes to all member companies in the Producers' Council. Originator of the idea is Theodore Irving Coe, Technical Secretary of the AIA, another indication that the AIA-Producers' Council affiliation is a mutually beneficial association and that the ties of two years standing are being strengthened.

USE QUALITY PRODUCTS • CONSULT AN ARCHITECT

WORLD'S LARGEST EDGE-LIGHTED MIRROR MURALS DECORATE PENNSYLVANIA HOTEL COCKTAIL LOUNGE

Central theme is dancing girl, life size, sandblasted on single piece of polished plate glass one-half inch thick, 7 feet 5 inches high and 6 feet 10 inches wide.

Designed and executed by Pittsburgh Plate Glass Company

The largest edge-lighted mirror murals ever built were recently installed in the cocktail lounge of the Penn-McKee Hotel, McKeesport, Pennsylvania. The central theme of a Greek dancing girl, life size, is executed by sandblasting on a single piece of polished plate glass one-half inch thick, 7 feet 5 inches high, and 6 feet 10 inches wide. Edge-lighted by concealed neon fluorescent lamps on all four edges, the panel is supported by hidden brackets that do not permit it to come in contact with the lamp tubes.

Flanking this central design are two smaller decorative panels 3 feet wide, also sandblasted and edge-lighted. All the glass is silvered on the sandblasted surface. The entire installation consists of two murals of exactly the same design placed between three fluted pilasters painted eggshell white. It extends for more than 30 feet along the wall.

The Pittsburgh Plate Glass Company's Studio of Creative Design created the sketches and the sandblasting and silvering work was done at its Ford City plant.

COMPETITIONS

ECUADOREAN LEGISLATIVE PALACE

The Ministry of Public Works and Communications of Ecuador announces an architectural competition for the selection of a design for a new Legislative Palace to be erected in Quito. Total cost of the structure shall not exceed 15,000,000 Ecuadorean sucres, which is equivalent to approximately $1,000,000 U. S. currency.

The competition will be divided into two stages, the first of which will close October 1st, on which date competitors will be required to deposit their drawings with the Director General of Public Works in Quito. A five-man jury will select the five designs, the authors of which will be invited to participate in the second stage of the competition. The privilege to participate in the second will be the only award in the first stage of the competition.

The second stage must be completed within four months from the date fixed by the Advisory Board. The jury will consist of two architects from other American Republics in addition to the five who will make the preliminary selections. Awards in the second stage of the competition will be as follows:

First prize, 50,000 sucres (approximately $3,500 U. S.)

Second prize 30,000 sucres (approximately $2,100 U. S.)

Third prize, 20,000 sucres (approximately $1,400 U. S.)

Fourth prize, 10,000 sucres (approximately $700 U. S.)

Fifth prize, 10,000 sucres (approximately $700 U. S.)

The architect whose design may be selected for the building shall have a preferential right to undertake the direction of the work. The fees, which shall be determined by agreement with the Government of Ecuador, shall not exceed 3% of the total cost of the project.

The drawings and sketches to be submitted in the preliminary stage of the competition shall include the following: A general plan of the building and the site, drawn to a scale of 1:500; a bird's-eye or aerial view; the main floor; the mezzanine; the other floors included in the building; a sectional view; a longitudinal view; views of the north, south, east and west sides; a general perspective; an interior perspective of any of the chambers; and an internal perspective of the Great Hall.

The projects shall contemplate the use as far as possible of national materials or materials of Ecuadorean manufacture, and shall limit to a minimum the use of reinforced concrete or metal. The style of architecture is optional with the competitor and may feature the traditional or classical, the modern or functional, or combination of the two.

(Turn to Page 42)

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts given are figuring prices and are made up from average quotations furnished by material houses to San Francisco contractors. 3% Sales Tax on all materials but not labor.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Bond—1½% amount of contract.
Government work ¾%.

Brickwork—

Common, $43 to $45 per 1000 laid, (according to class of work).

Face, $125 to $150 per 1000 laid, (according to class of work).

Brick Steps, using pressed brick, $1.50 lin. ft.

Brick Veneer on frame buildings, $1.10 sq. ft.

Common f.o.b. cars, $16.00 a yard. Cartage extra. $2.50 per 1000.

Face, f.o.b. cars, $55.00 to $80.00 per 1000, carload lots.

Building Paper—

1 ply per 1000 ft. roll	$3.50
2 ply per 1000 ft. roll	5.00
3 ply per 1000 ft. roll	6.25
Brownskin, Standard, 500 ft. roll	5.00
Sisalkraft, 500 ft. roll	5.00
Sash cord com. No. 7	$1.20 per 100 ft.
Sash cord com. No. 8	1.50 per 100 ft.
Sash cord spot No. 7	1.90 per 100 ft.
Sash cord spot No. 8	2.25 per 100 ft.
Sash weights, cast iron, $50.00 ton.	
Nails, $3.50 base.	
Sash weights, $45.00 per ton.	

Concrete Aggregates—

GRAVEL (all sizes) $1.95 per ton at bunker; delivered, $2.50. All quotations less 10% to contractors.

	Bunker	Delivered
Top sand	$1.90	$2.50
Concrete mix	1.90	2.45
Crushed rock, ¼ to ¾	1.90	2.50
Crushed rock, ¾ to 1½	1.90	2.50
Roofing gravel	2.25	2.80
River sand	2.25	2.70

SAND—	Bunker	Delivered
River sand	$2.25	$2.70
Lapis (Nos. 2 & 4)	2.85	3.15
Olympia Nos. 1 & 2	2.85	3.10
Del Monte white	84c per sack	

Common cement (all brands, paper sacks) carload lots $2.42 per bbl. f.o.b. car; delivered $2.60.

Cash discount on carload lots, 10c a barrel, 10th Prox.

Atlas White, Calaveras White, Medusa White — 1 to 100 sacks, $2.70 sack, warehouse or delivery; $7.65 bbl. carload lots.

Forms, Labors average $40.00 per M.
Average cost of concrete in place, exclusive of forms, 35c per cu. ft.; with forms, 60c.
4-inch concrete basement floor ..... 12½c to 14c per sq. ft.
Rat-proofing 7½c
Concrete Steps..... $1.25 per lin. ft.

Dampproofing and Waterproofing—

Two-coat work, 20c to 30c per yard.
Membrane waterproofing—4 layers of saturated felt, $4.50 per square.
Hot coating work, $2.00 per square.
Medusa Waterproofing, 15c per lb., San Francisco Warehouse.
Tricocel waterproofing.
(See representative.)

Electric Wiring—$12.00 to $15.00 per outlet for conduit work (including switches). Knob and tube average $3.00 per outlet. (Available only for priority work.)

Elevators—

Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing a slow speed automatic passenger elevator in small four story apartment building, including entrance doors, about $6500.00.

Excavation—

Sand, 60 cents; clay or shale $1 per yard.
Teams, $12.00 per day.
Trucks, $22 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—

Ten-foot galvanized iron balcony, with stairs, $150 installed on new buildings; $160 on old buildings.

Floors—

Composition Floors—22c to 40c per sq. ft.
In large quantities, 18c per sq. ft. laid.
Mosaic Floors—80c per sq. ft.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—50c to 75c per sq. ft.
Terazzo Floors—45c to 60c per sq. ft.
Terazzo Steps—$1.60 lin. ft.

Hardwood Flooring (delivered to building)—

	13/16x2¼" T&G	⅜x2" T&G	⅞x2" Sq.Ed.
Clr. Qtd. Oak	$144.00 M	$122.00 M	$141.00 M
Sel. Qtd. Oak	118.00 M	101.00 M	114.00 M
Clr. Pla. Oak	120.00 M	102.00 M	115.00 M
Sel. Pla. Oak	113.00 M	92.00 M	107.00 M
Clr. Maple	125.00 M	113.00 M	

Wage—Floor layers, $12.00.
Note—Above quotations are all board measure except last column which is sq. ft.

Glass (consult with manufacturers)—
Double strength window glass, 20c per square foot.
Plate 80c per square foot (unglazed) in place, $1.00.
Art, $1.00 up per square foot.
Wire (for skylights), glazed, 40c per sq. foot.
Obscure glass, 30c to 50c square foot.
Glass bricks, $2.50 per sq. ft. in place.
Note—if not stipulated add extra for setting.

Heating—
Average, $1.9C per sq. ft. of radiation, according to conditions.
Warm air (gravity) average $48 per register.
Forced air, average $68 per register.

Iron — Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)—

No. 1 common	$45.00 per M
No. 2 common	43.00 per M
Select O. P. Common	48.00 per M
1x4 No. 2 flooring VG	80.00 per M
1x4 No. 3 flooring VG	75.00 per M
1x6 No. 2 flooring VG	90.00 per M
1¼x4 No. 2 flooring	85.00 per M

Slash grain—

1x4 No. 2 flooring	$65.00 per M
1x4 No. 3 flooring	62.00 per M
No. 1 common run T. & G	50.00 per M
Lath	7.50 per M

Shingles (add cartage to price quoted)—

Redwood, No. 1	$1.20 per bdle.
Redwood, No. 2	1.00 per bdle.
Red Cedar	1.40 per bdle.

Plywood—Douglas Fir (add cartage)—
"Plyscord" sheathing (unsanded)
¼" 3-ply and 48"x96" ..... $39.75 per M
⅜" wall (wallboard grade)—
¼" 3-ply 48"x96" ..... $43.70 per M
"Plyform (concrete form grade)—
⅝" 5-ply 48"x96" ..... $117.30 per M
Exterior Plywood Siding—
¼" 5-ply Fir ..... $132.00 per M
Redwood (Rustic) 1"x8" clear heart..$ 95.00 per M
$5 less per M for A grade.

Millwork—Standard.
O. P. $100 per 1000. R. W. rustic $100.00 per 1000 (delivered).
Double hung box window frames, average with trim, $6.50 and up, each.
Complete door unit, $10.00.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $8.00 each.
Dining room cases, $8.00 per lineal foot.
Rough and finish about 75c per sq. ft.
Labor—Rough carpentry, warehouse heavy framing (average), $17.50 per M.
For smaller work average, $35.00 to $45.00 per 1000.

Marble—(See Dealers)

Painting—

Two-coat work	per yard 50c
Three-coat work	per yard 70c
Cold water painting	per yard 10c
Whitewashing	per yard 4c

Turpentine $1.08 per gal., in 5 gal. cans, and 95c per gal. in drums.
Raw Linseed Oil—$1.32 gal. in light drums.
Boiled Linseed Oil—$1.35 gal. in drums and $1.48 in 5 gal. cans.

White Lead in oil

	Per Lb.
1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead and litharge

1 ton lots, 100 lbs. net weight	11½c
500 lbs. and less than 1 ton	12¼c
Less than 500 lb. lots	12¾c

Red Lead in oil

1 ton lots, 100 lbs. net weight	12½c
500 lbs. and less than 1 ton	13¼c
Less than 500 lb. lots	13¾c

Note—Accessibility and conditions cause some variance in costs.

Patent Chimneys—

6-inch	$1.25 lineal foot
8-inch	1.50 lineal foot
10-inch	2.25 lineal foot
12-inch	3.00 lineal foot

Plastar
Neat wall, per ton delivered in S. F. in paper bags, $17.60.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.70
2 coats, lime mortar hard finish, wood lath	.90
2 coats, hard wall plaster, wood lath	.80
3 coats, metal lath and plaster	1.50
Keene cement on metal lath	1.60
Ceilings with ¾ hat roll channels metal lath (lathed only)	1.10
Ceilings with ¾ hat roll channels metal lath plastered	2.00
Single partition ¾ channel lath 1 side (lath only	1.10
Single partition ¾ channel lath 2 inches thick plastered	$2.90
4-inch double partition ¾ channel lath 2 sides (lath only)	2.00
4-inch double partition ¾ channel lath 2 sides plastered	3.50
Thermax single partition; 1" channels; 2¼" overall partition width. Plastered both sides	3.00
Thermax double partition; 1" channels; 4¾" overall partition width. Plastered both sides	4.00
3 coats over 1" Thermax nailed to one side wood studs or joists	1.50
3 coats over 1" Thermax suspended to one side wood studs with spring sound isolation clip	1.75

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
3 coats cement finish, No. 18 gauge wire mesh	1.75
Wood lath, $5.50 to $6.50 per 1000 (not available)	
2.5-lb. metal lath (dipped) (not available)	.19
2.5-lb. metal lath (galvanized) (not avail.)	.21
3.4-lb. metal lath (dipped) (not available)	.22
3.4-lb. metal lath (galvanized) (not avail.)	.24

¾-inch hat roll channels, $72 per ton.
Finish plaster, $18.90 ton; in paper sacks.
Dealer's commission, $1.00 off above quotations. $13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $50.00 per M.
Hydrate Lime, $25.00 ton.

Plasterers Wage Scale	$1.75 per hour
Lathers Wage Scale	1.75 per hour
Hod Carriers Wage Scale	1.50 per hour

Composition Stucco—$1.80 to $2.00 sq. yard (applied).

Plumbing—
From $100.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $7.00 per sq. for 30 sqs. or over.
Less than 30 sqs. $7.50 per sq.
Tile, $20.00 to $35.00 per square.
Redwood Shingles, $7.50 per square in place.
Copper, $16.50 to $18.00 per sq. in place.
5/2 #1-16" Cedar Shingles, 4½" Exposure ..... 8.00 Square
5/8 x 16" — #1 Cedar Shingles, 5" Exposure..... 9.00 Square
4/2 #1-24" Royal Shingles, 7½" Exposure ..... 9.50 Square
Re-coat with Gravel, $3 per sq.
Asbestos Shingles, $15 to $25 per sq. laid.
Slate, from $25.00 per sq., according to color and thickness.
1/2 x 25" Resawn Cedar Shakes, 10" Exposure 10.50
3/4 x 25" Resawn Cedar Shakes, 10" Exposure 11.50
1 x 25" Resawn Cedar Shakes, 10" Exposure 12.50
Above prices are for shakes in place.

Sheet Metal—
Windows—Metal, $1.75 a sq. ft.
Fire doors (average), including hardware $1.75 per sq. ft.

Skylights—(not glazed)
Copper, 90c sq. ft. (flat).
Galvanized iron, 40c sq. ft. (flat).
Vented hip skylights 60c sq. ft.

Steel—Structural (None available except for defense work)
$150 ton (erected), this quotation is an average for comparatively small quantities. Light truss work higher. Plain beams and column work in large quantities $140 per ton.

Steel Reinforcing (None available except for defense work).
$150 to $200 per ton, set.

Stone—
Granite, average, $6.50 cu. foot in place.
Sandstone, average Blue, $4.00. Boise. $3.00 sq. ft. in place.
Indiana Limestone, $2.80 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average $1.00 per lineal foot.
Note—Consult with agents.

Tile—Floor, Wainscot, etc. — (See Dealers)
Asphalt Tile—18c to 28c per sq. ft. installed.

Wall Tile—
Glazed Terra Cotta Wall Units (single faced) laid in place—approximate prices:

2 x 6 x 12	$1.00 sq. ft.
4 x 6 x 12	1.15 sq. ft.
2 x 8 x 16	1.10 sq. ft.
4 x 8 x 16	1.30 sq. ft.

Venetian Blinds—
40c per square foot and up. Installation extra.

Windows—Steel
Factory type sash 30c ft.
Ventilators for steel sash $5.00 each.

1943 BUILDING TRADES WAGE SCALES FOR NORTHERN CALIFORNIA

All crafts, except plasterers, are now working 8 hours a day. Plasterers' time is 6 hours.

CRAFT	San Francisco	Alameda	Fresno	Marin	Sacramento	San Jose	San Mateo	Vallejo	Stockton
ASBESTOS WORKERS	$1.50	$1.25	$1.25	$1.37½	$1.12½	$1.25	$1.25	$1.25	$1.25
BRICKLAYERS	1.87½	1.87½	1.50	1.87½	2.00	2.00	1.87½	1.87½	2.00
BRICKLAYERS' HODCARRIERS	1.40	1.40	1.05	1.40	1.40	1.40	1.40	1.40	1.40
CARPENTERS	1.43	1.43	1.25	1.43	1.43	1.43	1.43	1.43	1.43
CEMENT FINISHERS	1.37½	1.37½	1.25	1.25	1.25	1.50	.....	1.25	1.25
ELECTRICIANS	1.50	1.50	1.50	1.37½	1.50	1.50	1.50	1.50	1.37¼
ELEVATOR CONSTRUCTORS	1.61	1.56	1.50	1.61	1.61	1.50	1.50	1.56	.....
ENGINEERS: Material Hoist	1.50	1.37½	1.25	1.50	1.37½	1.62½	1.37½	1.37½	1.25
Piledriver	1.75	1.60	1.60	1.75	1.75	1.75	1.62½	1.75	.....
Structural Steel	1.75	1.60	1.60	1.75	1.75	1.75	.....	1.60	1.60
GLASS WORKERS	1.25	1.25	1.12½	1.25	1.12½	1.21	1.25	1.25	.....
IRONWORKERS: Ornamental	1.50	1.31¼	1.37½	1.31¼	1.37½	1.31¼	1.25	1.31¼	.....
Reinf. Rodmen	1.50	1.31¼	1.31¼	1.31¼	1.31¼	1.60	1.31¼	1.31¼	1.25
Structural	1.75	1.60	1.60	1.60	1.60	1.75	1.50	1.60	1.37½
LABORERS: Building	.85	.87½	.82½	.81¼	.85	.81¼	.81¼	.81¼	.80
Concrete	.87½	.93¾	.90	.81¼	.92½	.....	.85	.90	.90
LATHERS	1.75	1.75	1.50	1.75	1.60	1.75	1.75	1.50	1.50
MARBLE SETTERS	1.43¾	1.25	1.25	1.31¼	1.37½	1.25	1.31¼	.....	.....
MOSAIC & TERRAZZO	1.00	1.25	1.12½	1.12½	1.15-5/8	1.12½	.....	.....	.....
PAINTERS	1.37½	1.50	1.28-4/7	1.37½	1.25	1.35-5/7	1.42-6/7	1.50	1.25
PILEDRIVERS	1.47	1.40	1.40	1.50	1.40	1.47	1.40	1.40	.....
PLASTERERS	1.66-2/3	1.66-2/3	1.75	1.66-2/3	1.75	2.00	2.00	1.75	1.83-1/3
PLASTERERS' HODCARRIERS	1.50	1.45	1.40	1.40	1.18¾	1.35	1.75	1.40	1.50
PLUMBERS	1.52½	1.50	1.53-1/8	1.50	1.56¼	1.62½	1.50	1.50	1.37½
ROOFERS	1.37½	1.37½	1.12½	1.25	1.25	1.37½	1.25	1.25	1.25
SHEET METAL WORKERS	1.37½	1.37½	1.43¾	1.37½	1.50	1.50	1.37½	1.25	1.37½
SPRINKLER FITTERS	1.50	1.37½	.....	1.25	.....	1.62½	.....	1.50	.....
STEAMFITTERS	1.50	1.50	1.53⅛	1.50	1.56¼	1.62½	1.50	1.50	.....
STONESETTERS (Masons)	1.50	1.75	1.50	1.75	1.75	1.50	1.75	1.75	1.50
TILESETTERS	1.50	1.37½	1.37½	1.37½	1.37½	1.50	1.50	1.37½	.....

Prepared and compiled by
CENTRAL CALIFORNIA CHAPTER, ASSOCIATED GENERAL CONTRACTORS OF AMERICA
with the assistance and cooperation of secretaries of General Contractors Associations and Builders Exchanges of Northern California.

The Month's Digest of New Building Products

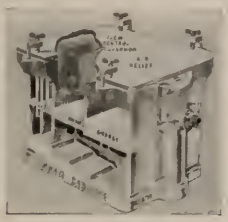
All of the literature described here is available to architects, engineers, contractors, draftsmen and specification writers upon request direct to the manufacturers.

METALESS SHOWER CABINET—To answer the wartime problem of the plumbing industry of increased need for bathing facilities and the need to conserve critical materials, Henry Weis Mfg. Co. of Elkhart, Indiana, has introduced a

WEISWAY V CABINET SHOWER

cabinet shower that contains less than a pound of metal. A feature of this prefabricated shower is the plastex receptor which is processed under 3,000,000 pounds pressure. Compression and flexual strength is said to be much greater than precast concrete. Important features are even density, durability and light weight.

GREASE INTERCEPTOR—The Josam Mfg. Co., Cleveland, Ohio, announces a new vitreous glazed earthenware Grease Interceptor. The present importance of such a product is emphasized by the wartime necessity to save greases and fats. The use is vital in reclaiming these materials in restaurants, hospitals, cafeterias, hotels, etc. A large part of grease and fats can be recovered from our wastage of billions of pounds now going into the sewer. Eliminating the use of critical cast iron, the Josam Type VC-2 Interceptor is claimed



GREASE INTERCEPTOR

to be equal in every way to its predecessor. Descriptive data will be sent upon request to the manufacturer.

WOOD PRESERVATION—The growing widespread necessity for wood conservation—and what to do about it—is contained in an illustrated brochure just published by I. F. Laucks, Inc., Seattle, Wash. This booklet is available from the manufacturer and is especially valuable at a time when wood is replacing metal in so many fields.

QUICK RELEASE HINGE—A wide range of applications is foreseen for the Burklyn Quick Release

QUICK RELEASE HINGE

Hinge, originally developed to replace former methods of releasing ammunition chutes on aircraft machine guns. This device combines a hinge and a means of instantly releasing the hinge, for quick removal of screen doors, cabinet lids, folding tables and seats, hoods, chutes, etc. For complete information write Burklyn Co., 3429 Glendale Blvd., Los Angeles.

SOUNDPROOF AIR-CONDITIONING—To eliminate the noise in the metal gears of the refrigerant circulation action of the methyling system, the engineers of the Phoenix Profession Building, Phoenix, Ariz., redesigned the gear detail. Micarta was selected as a material which would reduce noise and vibration, and withstand the circulation action of the methylchlorine handled through the compressors at the rate of 90 pounds discharge pressure and 25 pounds suction pressure. This is a laminated fabric phenolic-bonded plastic made by Westinghouse Electric and Manufacturing Co. For this application it was supplied to the gear fabricators, Johnson Gear and Manufacturing Co., Berkeley, in solid five inch segments, eight inches in diameter. The complete gear set was machined in about one-third the time required for metal gears. The greatly reduced weight resulted in operational advantages of less shaft strain and lower horse-power input.

COLORFUL ROOFING—A new kind of roofing booklet, designed to present asphalt shingles in the same kind of glamorous settings that Ziegfeld used to glorify the American girl, is soon to be published by The Celotex Corporation, Chicago. To stress the variety of colors, textures and styles in its lines, Celotex has employed Hollywood technique in dramatizing the possible style effects to be obtained.

SEMI-CONDUCTING RUBBER TYPE IS SPIRALLY WOUND INTO A HIGH VOLTAGE ELECTRIC CABLE AT A PLANT OF THE AMERICAN STEEL & WIRE CO.

COMPETITIONS

(Continued from Page 38)

Further and more complete details may be obtained from the Pan American Union, Washington, D. C.

LINCOLN FOUNDATION AWARDS

Application of arc welding to the design and construction of a jig for use in manufacture of electrical equipment, an arc welded chair and a radio tower, were the respective subjects of papers for which engineering undergraduates of leading universities received the first, second and third awards in the Engineering Undergraduate Award and Scholarship Program of the James F. Lincoln Arc Welding Foundation.

The paper entitled, "Arc Welding versus Casting in the Design of Jigs and Fixtures," won Herman J. Brenneke of New York University, New York City, the first award of $1,000 and the additional honor of having four scholarships of $250 each presented in his name to his university's department of Mechanical Engineering. Mr. Brenneke's paper, which contained 17 typewritten pages, 3 photos and 6 drawings, showed his own redesign of a jig for welded construction and a description which emphasized the benefits of welding. The description indicated a saving in cost of $45.18, and a saving in time of 17 hours. The author points out that in economy, strength, versatility and weight, welding is much superior to casting.

"An Arc Welded Chair" was the subject of the paper for which Robert Edson Lee of Iowa State College, Ames, Iowa, received the Foundation's second cash award of $500 and the additional honor of two scholarships of $250 each presented in his name to his university's department of architectural engineering.

Application of arc welding to the design and construction of a radio tower was described in the paper for which Charles L. Sammons and John H. Stewart of The Ohio State University, Columbus, Ohio, jointly received the Foundation's third cash award of $250 and the additional honor of a $250 scholarship presented in their names to their university's department of civil engineering.

In all, 77 awards, totaling $5000, were made by the Foundation to students representing 33 colleges and universities. Not one of the Pacific Coast colleges was represented by an entrant in the competition.

NATIONAL MAGAZINE COVER

The Museum of Modern Art, New York City, is offering eight prizes for the best covers in each of eight national magazine classifications. Prizes will consist of citations, plus honor awards at the discretion of the judges. Judges will be selected by the Museum of Modern Art, to be announced, and the prize-winning covers will be exhibited at the museum in September. Photographs, paintings, and drawings are all eligible.

The citations will be awarded after judgment on the following three points:

1. Excellence of design
2. Communication of the message

3. Suitability to the magazine's audience

Advance copies of the magazine covers should be sent before September 1, 1943, to Monroe Wheeler, Director of Exhibitions, Museum of Modern Art, 11 East 53rd Street, New York City, accompanied by a notification from the editor of the magazine as to the classification in which entry is to be judged. The judging will take place on September 2, 1943, at the Museum of Modern Art.

FIREPLACE MANTEL

The Majestic Co., Huntington, Ind., manufacturer of fireplace equipment and other building necessities, invites architectural designers, draftsmen, and students to participate in a competition for grille and mantel designs to be used in connection with the firm's Circulator Fireplace. The competition will close at noon, July 31.

Professor Wooster Bard Field, A.I.A., of Ohio State University, will serve as professional adviser. The judges are Wilfred A. Paine, A.I.A., Columbus, Ohio; Herman J. Albrecht, A.I.A., Massillon, Ohio; George Hermann, A.I.A., Dayton, Ohio.

A complete program and further details may be had from Wheeler, Kight & Gainey, Inc., 74 E. Long St., Columbus, Ohio, advertising counsellors for the firm.

BRIDGE VIBRATIONS

An advisory committee of nationally known engineers has been making a field investigation of the vibration problems of long span suspension bridges and to this end the committee recently spent two days in San Francisco to observe tests being made on the Golden Gate Bridge.

Members of the committee included O. H. Ammann, C. E. Andrews, R. G. Cone, C. F. Goodrich, O. L. Grover, L. H. Nishkian, C. H. Purcell and others. All were guests of the San Francisco Section, A.S.C.E., at a special meeting Friday, May 14, when the research work of the committee was reviewed at length.

SHOWS TWO CALIFORNIA HOUSES

Pencil Points devotes the major portion of its May issue to illustrating six outstanding houses, two of which are in California. Richard J. Neutra's Palos Verdes prefabricated steel house is shown again, this time more in detail, and is set up as a possible prototype for post-war construction. The other California home is in Marin County, a Gardner A. Dailey effort and praised by Pencil Points' editor as "one of the best he has seen in recent years—unpretentious, honestly conceived, superbly executed."

VACAVILLE, FAIRFIELD HOUSING

Construction in Northern California of 125 dwelling units through private financing has been approved by the National Housing Agency. They are 75 private family dwelling units in Fairfield and 50 in Vacaville.

Applications for preference ratings are pending with the Federal Housing Administration located in San Francisco.

HENRY H. MEYERS, ARCHITECT

Henry H. Meyers, 75, for more than 30 years a practicing architect in San Francisco, and for a time associated with the late Clarence R. Ward, died at an Oakland hospital May 26, following a two weeks illness. Mr. Meyers had not been active in business since 1936. His daughter, Mildred S. Meyers, has carried on since that time.

Mr. Meyers was probably best known as architect of many of Alameda County's public buildings, including the Highland Hospital, the Posey Tube superstructure, many schools, and most recently, the various American Legion memorial buildings scattered throughout the county.

Son of pioneer residents of the county, Mr. Meyers was born in Alvarado; received his architectural training in San Francisco, and for 40 years designed structures throughout California and in Honolulu.

Mr. Meyers spent 49 of his 75 years as a resident of Alameda. Until the time of his death he was a member of the City Planning Commission. For 29 years he maintained offices on the roof of the Kohl building at California and Montgomery Streets, San Francisco, the design of which he completed upon the death of Percy and Hamilton, the original architects. Reputed to be the first steel frame office building in San Francisco, it passed through the earthquake and fire of 1906 and later became the prototype of future steel frame buildings in the area.

Mr. Meyers' hobby was gardening. His 5-acre ranch in Alameda County was a source of great pleasure to him after his retirement and his friends marveled at his success as a horticulturist.

Organizations to which Mr. Meyers belonged include Oak Grove Lodge No. 215, F. and A. M.; Alameda Chapter No. 70, R. A. M.; the California Horticultural Society, the American Institute of Architects and the California State Association of Architects.

NEW MEMBERS, SOUTHERN CHAPTER

Southern California Chapter, A. I. A., is growing. Recently certificates of membership were awarded to the following:

Warren Dedrick, Long Beach.
Jesse Jones, Long Beach.
Maynard Lyndon, Los Angeles.
Junior Associates:
Byron J. Tharaldson, Los Angeles.
Robert Johnson, Ensign, U. S. N. R., "South Seas."
Harry Harmon, Ensign, U. S. N. R., "South Seas."
Ross R. Hutchason, Ensign, U. S. N. R., Washington, D. C.

Chapter members who are employed by others are fitting into a very diverse pattern of war work. Here are the latest statistics:

Post-war planning	3
Employed by other architects	8
Specialty construction products	1

Construction inspection	3
Employed by contractors	5
Construction engineering	3
Motion pictures	4
Aircraft plants	19
Other war industries	18
Navy construction	9
Army engineers	4
Other governmental agencies	8
Research	5
Teaching	5
Army	12
Navy	4
Marines	2
Total	111

PLANNING CONFERENCE

The Massachusetts Institute of Technology announces that a two weeks' conference on City and Regional Planning will be held at the Institute from September 7 to 18. The conference is to be sponsored jointly by the Institute and the American Society of Planning Officials. It will be open to men and women who have had practical experience in planning

Applications should be sent to Professor Frederick J. Adams, Division of City Planning, Massachusetts Institute of Technology, Cambridge, Massachusetts, not later than August 31, 1943.

COST OF POST-WAR HOUSES

At least 70 per cent of the post-war houses will cost only $3,000 to $6,000, Irving W. Clark, manager of the Westinghouse Electric Appliance Division's Home Building Department, predicted recently in an address before the Edison Electric Institute in Chicago.

Developments in the past five years, particularly the past two years, make the $3,000 home not only a possibility but an actual fact. From the standpoint of equipment, appearance and livability, the finished product is comparable to houses costing considerably more 10 years ago.

The need for housing seems "astronomical." One million housing units will be required annually, for 10 years or longer after the war, if we as a nation are to meet the needs for housing. Need for housing is one thing while the actual number of homes that may be built is quite another factor.

These figures are not mere guesses, but are based upon long-term studies which clearly establish the following facts: First, the net increase of new families that come into being annually in the United States is approximately 500,000. Second, the number of houses destroyed by fire, tornadoes and other catastrophies or razed because of total obsolescence every year averages about 400,000.

Most new homes that begin springing up when peace comes will not be radically different from those built just before the war. When the war ends, the crucial problem of all industry will be one of reconversion with minimum unemployment. Tools, techniques, production lines and tried materials can more easily be converted to these products than to wait for new tools, new techniques, new materials, new product developments and the many other changes that entirely new products would require. It is sound to anticipate that equipment and materials will be the same or similar to those with which we dealt in 1942. These may carry new dress, but fundamentally, 1942 products should be anticipated.

Many of the elements, materials

and products pictured as "things of the future" will eventually become fact. The history of all products has been one of improvements through research and development—step by step. New materials require new techniques, new machinery and periods of test before the reputable manufacturer is prepared to place them on the market for use by the consumer. While many new materials have been developed for use in war products, their application to peace will require a period of further research and development.

WOOD REPLACES METAL

By JOSEPH L. STEARNS

Conversion to wood of products previously manufactured of metal will release to war service more than five million tons of metal during 1943, technicians of the National Lumber Manufacturers Association, Washington, D. C., estimate. This figure is compiled from reports of WPB, Army, Navy, Maritime Commission, Forest Service, Census Bureau, and industrial concerns.

Statisticians of the association find that, on the average, it is possible to save one ton of steel by the use of one thousand board feet of lumber. On some items, such as cast iron, it is possible to save more on others, such as sheet metal, the saving is smaller.

The volume of saving is comparable to the 1942 figure, but there is a definite difference in the use of the material. Last year wood went to bat for metal in construction. Now the cantonment building program, the shipyards, and the factories are all but complete. The industrial effort has shifted from construction to production. Wood is being used this year to replace metal in a long list of civilian products that have been largely curtailed or discontinued, as well as being diverted into essential war uses other than construction.

Expenditures for construction in 1942 reached an all-time high of $6,170,000,000. Had it not been that timber replaced structural steel so extensively, a building program of this magnitude would have been impossible. The savings of structural steel in roof trusses alone through the use of timber connector construction has been estimated by the Timber Engineering Company at 400,000 tons.

Manufacture of some 2,200 metal items has been stopped entirely. Many of these are still being produced—in wood. Wood is performing some jobs it never has done before, but in many instances the use of wood is not historically new, although its use is new in modern industrial practice.

For example, when the manufacture of metal furniture was stopped, that portion of the furniture industry reverted to wood. That was followed shortly by the estoppel of metal springs for upholstered furniture, and the industry met the crisis with a new development—wood springs. These are now fairly well standardized and, according to all accounts, are just as comfortable and substantial as the metal springs they supplanted. The shift back to wood furniture was not too difficult, because the bulk of metal

had been finished to simulate wood grain anyhow.

The range of consumer goods in metals that have been estopped or seriously curtailed and have reverted to wood in whole or in part, is surprising: mechanical refrigerators, caskets and vaults, door and window screens, mirror and picture frames, certain farm implements, beauty shop equipment, children's vehicles, athletic equipment, lawn mowers, slot vending machines, radios, carpet sweepers, weather strip, gutters and downspouts, bottle caps, pocket books, atomizers, bathtubs, and jelly molds.

Thus, wood is pulling an extra oar on the home front, although the pressure for direct war service has not relaxed.

WOOD PRESERVATIVES AND THE WAR

A one-day session for examination of trends in wood preserving during the second year of war was held by the American Wood Preservers' Association recently in Chicago.

Quick gearing of the wood-preserving industry to meet wartime construction needs was stressed in the report of the Committee on Diversified Uses. Demountable barracks designed for military use in arctic or tropical regions, and incorporating plywood walls and roofs with pressure-treated lumber substructures, were cited as examples of the versatility of forest products in this country's war effort.

Other installations noted in the committee report were pressure-treated lumber boats and barges for special wartime uses, and naval and air base construction in the United States, the South Pacific, and African war zones.

Pressure-treated timber is being used extensively in construction of floating drydocks at Navy repair bases, and in miles of docks and wharves for handling soldiers and equippage, the report further emphasized.

Navy blimp-patrol hangars—largest wood-frame buildings in the world—are now being constructed of flameproofed lumber specified by Navy engineers. These hangars are the first large-scale project to use fireproofed lumber—each hangar requiring at least three million board feet of the specially treated lumber.

CENTRAL VALLEY PROJECT

Construction will be resumed shortly on several portions of the Central Valley, California, water control project, sponsored by the Bureau of Reclamation of the Department of the Interior.

Work has been authorized to the following extent:

1. Completion of Friant Dam by the installation of three valves required for the storage and release of water.

2. Completion of the Madera Canal leading from Friant Dam 38 miles westward to the Chowchilla River area.

3. Continuation of concrete work on Keswick Dam.

These projects, together with other parts of the vast Central Valley development, were halted late in 1942 because of the stringency of critical materials. Remainder of the program, other than these three projects, will continue to be deferred.

While the situation as to critical materials has not changed substantially since these projects were halted, the additional work is being authorized to obtain the increased food production which Friant Dam and Madera Canal will make possible and to facilitate the ultimate completion of Keswick power plant if it should become necessary later.

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