The ARCHITECT AND ENGINEER

JANUARY
1930

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WHO'S WHO IN THIS ISSUE

CHARLES H. CHENEY, city planner for the Palos Verdes Estates development, described in this issue, was born in 1884 in Rome, Italy, (of California parentage.) In 1905 he took his A. B. degree in architecture and engineering at the University of California and then spent several years abroad studying at the Ecole de Beaux Arts, Paris. After two years in New York, working with Chas. A. Platt and others, he returned to California in 1912 for the San Francisco City Hall competition. His first commission in private practice was the lay out of a large town planning scheme in Northern California and he has been engaged in planning practice ever since, having served as technical consultant to many of the more important cities on this coast at one time or another, including Riverside, Santa Barbara, Long Beach, Los Angeles, Monterey, Alameda, Berkeley, Portland, etc. Has also been engaged on design of new townsites and large subdivisions at Palos Verdes Estates, Rancho Santa Fe and other places in California, as well as on a number of projects in other states. This year he is national chairman of the City and Regional Planning Committee of the American Institute of Architects, a director of the National Conference on City Planning and vice president of the California Conference on City Planning. He has been a member and secretary of the Palos Verdes Art Jury since its founding in 1923.

COL. JOHN C. LOW, who writes in this issue of Community Associations and Property Owners' Government, is president of the largest body of this kind in California. He is a graduate of Dickenson College and before coming to Los Angeles in 1920 was a mining engineer, and a lieutenant-colonel of engineers in the world war. As assistant general manager of the Palos Verdes Project since its inception in 1921 he has had a deal to do with upholding the high ideals of this beautiful community. Through being also president of Palos Verdes School Board, he has contributed much to the welfare of the residents and their children.

DAVID C. ALLISON, architect of Los Angeles, tells in this number of long years of constructive experiences on an art jury. He was born at Hookstown, Pa., in 1881 and graduated in the school of architecture at the University of Pennsylvania. After studying at the Ecole de Beaux Arts in Paris he started practice in Pittsburgh, Pa., and moved to Los Angeles in 1910, becoming a member of the firm of Allison & Allison, architects, which has since been responsible for so many fine public buildings, clubs and churches in California and the southwest. Among these buildings are the University Club and Friday Morning Club in Los Angeles, grammar and high school buildings in Santa Monica, Santa Maria, Palo Alto, Pasadena and some 150 other places in California and Arizona, the old U. C. L. A. buildings (now Los Angeles Junior College), a number of the new University of California at Los Angeles buildings (Westwood), etc. He is a fellow of the American Institute of Architects and former president of the Southern California Chapter. Since 1923 he has been a member of Palos Verdes Art Jury.

JAMES F. DAWSON gives in this issue some pertinent ideas on arrangements of residences from the landscape architects point of view. He was born in Jamaica Plain, Mass., in 1874, studied at Harvard and under Olmsted Brothers, landscape architects, and finaly became a partner of that firm in 1922. He is a Fellow of the American Society of Landscape Architects. Among other developments, he has been engaged upon park and large estates planning at Scarborough and Long Island, N. Y., Seattle and Spokane, Wash., including the Seattle Exposition of 1909; St. Francis Wood, San Francisco, Berkeley, Palos Verdes Estates, Santa Barbara and Monterey, California; Colorado Springs, Colorado, and Daytona, Florida. He became a member of the Palos Verdes Art Jury in 1925.

JAY LAWYER is general manager of the Palos Verdes Project and writes authoritatively in this issue, from long experience, on the business value of good design and the maintenance of architectural control. He was born in Sycamore, Ill., in 1870 and for many years has represented the Frank A. Vanderlip interests on the Pacific Coast, including developments at Marshfield, Oregon, Los Molinos, California, and on the Palos Verdes Art Jury since 1923.

A. C. ZIMMERMAN, who, with W. H. Harrison, won the National Airport Competition, is a graduate of University of Southern California and the Beaux Arts Institute of Design and is a member of the American Institute of Architects. He received the honor award of Southern California Chapter for the best designed commercial building erected in 1923 and the best designed school erected during 1924. He was highly commended for a residence entered in the National House Beautiful competition. Mr. Zimmerman is now architect in charge of the development of the Western Air Express Terminal at Los Angeles. He is 35 years of age. W. H. Harrison graduated from Cornell University in 1921 and was awarded the graduate fellowship in architecture. He won first prize in the Small House Service Bureau competition of 1923.

EINAR C. PETERSEN, mural painter and decorator of Los Angeles, was born in Denmark in 1885. He served as a decorator's apprentice for five years in his native country and with a scholarship from the Danish government studied painting for several years in Paris, Munich and Rome. He established himself as a decorator in Los Angeles in 1916, and for the past fourteen years has executed murals and decorative painting in numerous public and private buildings throughout California. Mr. Petersen received two honor awards from the American Institute of Architects for exceptional merit of work. His most recent paintings are in the new City Hall and Alexander Baldwin Building, Honolulu.

CONVENTIONS AND EXHIBITIONS

January 18—30—International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.

January 27—31—International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.

January 28-31—Annual Meeting American Society of Heating and Ventilating Engineers, Philadelphia.

February—Convention American Concrete Institute, New Orleans.

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March—April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20—October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21 23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

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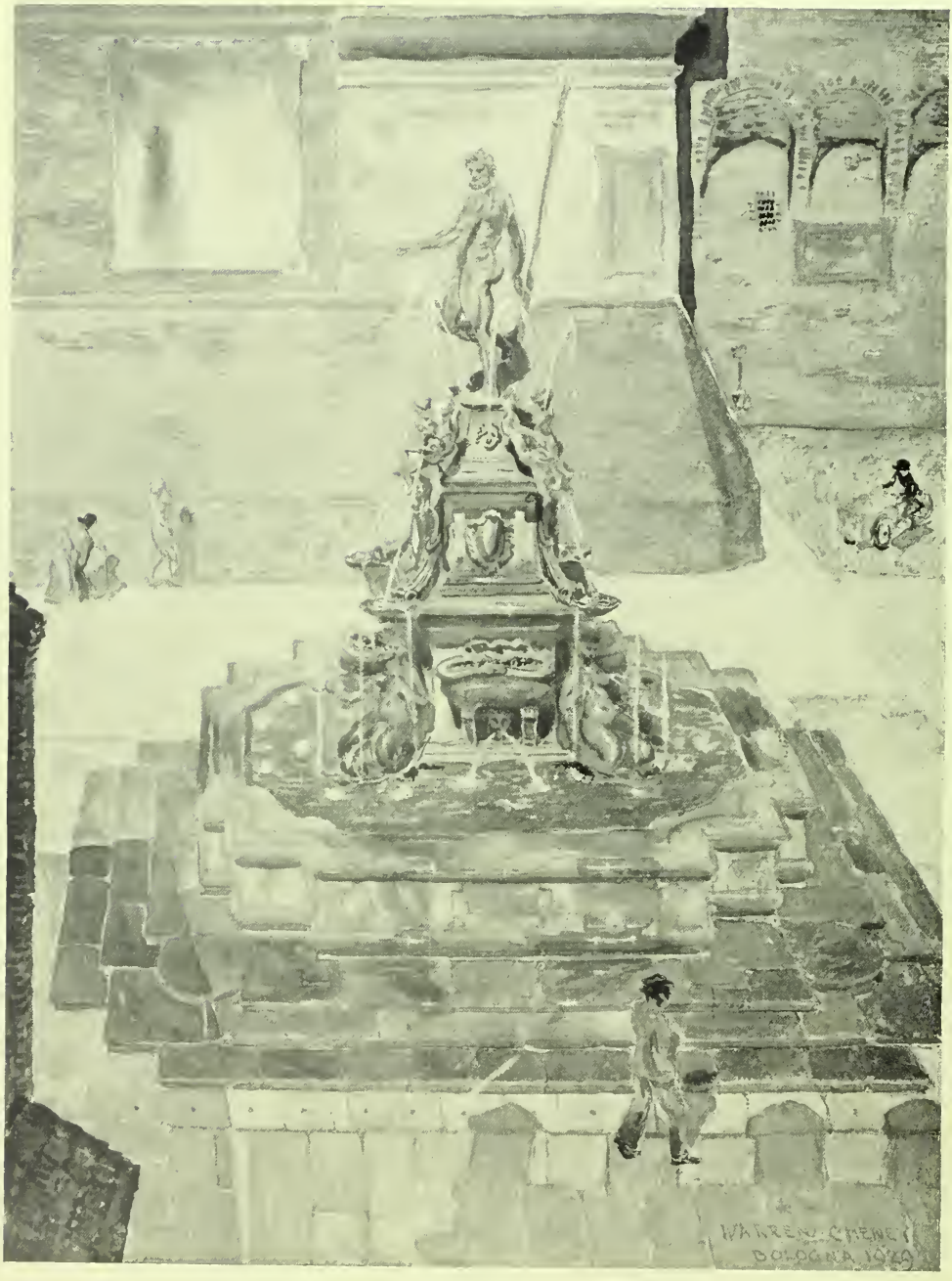


THE FOUNTAIN OF NEPTUNE, BOLOGNA, ITALY

BRONZE FIGURE BY GIOVANNI DI BOLOGNA, ERECTED 1563

(From original watercolor by Warren D. Cheney, May, 1929)

An antique replica of this fountain has been presented to Palos Verdes Community and is now in course of erection in the center of Malaga Cove Plaza

The ARCHITECT AND ENGINEER

VOLUME C JANUARY, 1930 NUMBER ONE

PALOS VERDES EIGHT YEARS of DEVELOPMENT

By Chas. H. Cheney
Consultant in City Planning

THE story of Palos Verdes is interesting because it shows another of California's great dreams coming true. Conceived in 1921 as an ideal residential suburb for the large adjoining metropolitan district of Los Angeles, it was to be a place where one could build his home in safety, without fear that the neighborhood would ever be made unsightly or undesirable. Since 1923, when construction began, this project has moved steadily ahead, adhering to its high ideals, with sound construction, fine planting and architecture of the best type ensured by an able and permanent art jury having veto power over the design and color of all improvements.

Palos Verdes Ranch lies at the southwest corner of the Los Angeles metropolitan district about twenty miles from the center of the city, and includes twelve miles of seacoast, on beautiful rolling hills with many charming bays and inlets, on the promontory which projects into the ocean toward Catalina Island, between Redondo Beach and San Pedro. Here the Vanderlip Syndicate acquired 16,000 acres (or 25 square miles) in 1913, becoming the sixth owner in succession from the original grant from the King of Spain.

The object of the first development was to furnish a residential neighborhood assured of a better environment than had heretofore been offered about Los Angeles—more open space, better recreation areas, more careful control of architecture — such as may be found elsewhere in the United States to a limited degree in established districts like Roland Park, Baltimore; Forest Hills, Long Island, or St. Francis Wood, San Francisco. Hence in Palos Verdes approximately twenty-five percent of the whole area is dedicated for parks and recreation.

The first area developed has been the 3225 acres (or 5 square miles) lying along the northern and western fringe of this ranch. The inital development is financed in comparatively small amounts through the Palos Verdes Trust, by several thousand participating owners, about two thousand of whom have bought home sites at reduced rates as underwriters.

Fortunately for the perfection of this conception, the planners were brought into the situation at the start—Olmsted Brothers, landscape architects, the writer as consultant in city planning, and H. T. Cory, consulting engineer (for the first 3 years). A

PLAN OF PALOS VERDES ESTATES, LOS ANGELES COUNTY, CALIFORNIA
OLMSTED BROTHERS, LANDSCAPE ARCHITECTS
CHAS. H. CHENEY, CONSULTANT IN CITY PLANNING

master or guiding plan for the entire 16,000 acres was completed in 1923, and then precised, unit by unit, for the development of the 3225 acres placed on the market and generally known as the Palos Verdes Project.

Some 2800 acres of subdivisions of the Palos Verdes plan have been filed of record and more than half of the lots are sold out of a total of some 5000, in the 3225 acres being developed. Four and a half million dollars worth of improvements of streets, utilities, planting, etc., had been done up to July 1, 1929, and as much again is to be spent during the next three years. Hence this project is now well along towards being built. Over two and a half million dollars of building permits were issued up to August 1, 1929.

Looking back on this project after eight years of intimate connection with it the following would seem to be the most valuable contributions to community building in America:

(1) The completion at the beginning of a master or guiding plan for the whole area.

This plan provided for wide continuous major traffic streets with good wide planting strips, contour roads, parkways or show drives, single family, apartment and business zoning with business centers at well established foci or traffic centers, church locations, parks, playgrounds, school sites and continuous park strips for bridle trails, preservation of ocean shore, etc.

(2) The faithful adherence to this master plan in the 3225 acres first developed.

(3) The best provision of parks and playgrounds to be found in any residential community in the country. Approximately one-fourth of the entire area (over 700 acres in the first 3225 acre development) has been deeded over to the community association, in which every lot owner has a share.

This includes establishment of the 10-25-40 system of public playgrounds, schools and parks, providing ten acres every mile across the property for an elementary school site and playground for children under 12, with a wide border plantation or screen and with some public park; a 25 acre junior high school site, play fields and neighborhood park every two miles across the property; and a 40 acre senior high school, play field and park every three miles across the property. The excellence of all the sidewalk plantings and particularly the fine range of flowering trees and shrubs established by Olmsted Brothers, landscape architects, is not only a contribution to the art of landscape design, but a conspicuous civic asset.

(4) The complete protection established by the restrictive conditions under which deeds are issued. These include not only a complete zoning ordinance with set up of an architectural board of review or art jury, but also detailed regulations as to types of architecture, building set back lines, minimum cost of buildings, prohibition of nuisances, limitation of the cutting of trees, community planting of vacant lots, clean up of rubbish, establishment of a building code and building permit system, etc.

(5) The complete and permanent architectural control to prevent ugly, carelessly designed or off color structures, established under a permanently endowed art jury, with controlled nominations to insure the service of only the best qualified architects and other members on the jury.

(6) Incorporation of a permanent maintenance association, in which every lot has one vote, with the power to tax lots for the upkeep and maintenance of streets, parks, playgrounds, beaches and all community features, collection of garbage, enforcement of restrictions, and a limited amount of police and fire duty. This unites the purchasers in a strong property owners scheme of government and relieves the selling group of the burden of enforcement of restrictions.

Already considerable national and even international recognition has been given to these important accomplishments of the Palos Verdes Project. The Department of Public Welfare of the Commonwealth of Massachusetts sent to every city and town of that state, a bulletin entitled "Planned for 1960—and After," pointing out what was being done in Palos Verdes Estates with the following comment: "Control in this way, even to the design of the buildings, points clearly to what all places will have to do if the prevailing medley of uses and design is ever to be overcome. The art jury is legally established because the entire area is group controlled instead of being left to private whim and private profit, yet great profits are sure because the value of a home depends upon its value as a home, and not upon its value as a pile of building material."

Most large real estate operators have not yet learned the value of good design except to a limited degree. A practical and interesting contribution was made by Professor

ADOPTED GENERAL DESIGN FOR MALAGA COVE PLAZA, PALOS VERDES

WEBBER AND SPAULDING, ARCHITECTS

Olmsted Brothers, Landscape Architects

Chas. H. Cheney, Consultant in City Planning

Geo. J. Eberle, of the University of Southern California, in his weekly business letter of the Eberle Economic Service for April 16, 1928, in which he valuated the esthetic and other items contributing to the intrinsic value of typical lots in ten large subdivisions around Los Angeles. The basis of rating the value was location, view and restrictions 45 points; environment and architectural control 10 points; landscaping 4 points; site value and accessibility, streets, topography, utilities and soil 41 points. The so-called intangible attributes, including esthetic values, were rated as nearly two-thirds of the whole.

After establishing a comparison of average front foot price and unit foot price, he arrives at a unit foot intrinsic margin ranging from plus six for Palos Verdes Estates to minus fifty for a prominent Santa Monica tract. In other words, a business rating on esthetic values is set up in which the first tract is shown to be selling for 6 per cent less than its intrinsic value and the last one for fifty per cent more than its intrinsic value. This is a step in establishing the economics of esthetics.

The 3225 acres unit of the Palos Verdes Project has been subdivided with approximately 26 per cent of the land in streets, plazas and parkways (considerably less than most suburban developments), with 25 per cent of the area in parks and playgrounds (about 24 per cent more than most suburban developments), and 49 per cent in net salable land, or approximately 1600 acres. The budget of improvements adopted in 1924 for the development of this large area was approximately nine and a half million dollars, not including a million dollars paid for the land. This budget provided for the installation of street surfacing, curbing, grading, paving, some sidewalks, street trees, and some street lights, water, gas, electricity, telephone and a considerable number of general features such as a golf course and club house, bathing pavilion and pool, bridle trails, etc. Of this sum approximately $1,000,000 was for landscaping and recreation features, one of the chief reasons for the remarkably attractive way that Palos Verdes has developed. The total list sale price for this 3225 acres is approximately $24,500,000 so that the investors have at present an anticipation of approximately $14,000,000 profit, less sales expenses.

Palos Verdes is not planned as a self-contained industrial and residential unit. It was conceived primarily as a suburban residential district for a metropolitan area which now contains close to two million people. The zoning done by restriction therefore reserves over 90 per cent of all lots for single family dwellings. Local business centers consist of a few lots each, surrounded by a small group of apartment and house-court sites; necessary stores, garages, service stations and the like are being located in a few compact blocks. The number and kind of these buildings are strictly limited, and the community reasonably controls their architectural design.

Definite standards of architecture have been established; in most parts of the Estates these require the use of a type appropriate to the Southern California climate—its predominant features being walls of light-hued plaster and tile roofs. No billboards or general advertising signs can be erected anywhere in the Estates; the few necessary store and business signs are subject to review by the Art Jury.

By planning so large a tract at a time, it was possible not only to group residence and shopping districts into convenient community units—the store centers being approximately two miles apart—but to make exceptional provision for open spaces and recreation. A 213 acre park and golf course, with grass greens, fairways and clubhouse complete, has been deeded to the community for permanent recreation use; together with four miles of ocean shore park and about two hundred acres of additional parks and gulches, linked up with paths, roads and bridle trails and eventually reaching all parts of the property.

Title to these parks has been turned over to the Palos Verdes Homes Association, which was incorporated as a non-stock, non-profit community organization to bridge the gap that usually occurs in a new section between the time of its first settlement and the incorporation of a city government—a

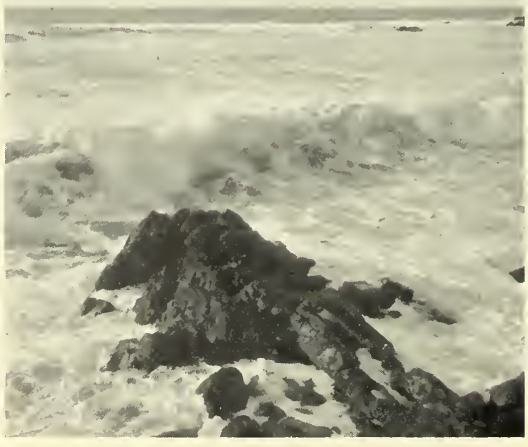
gap which is full of embarrassing possibilities for those whose interest lies in prompt and continuous operation of community service. This association has power to interpret and enforce all the restrictions attached to the property and to collect an annual maintenance tax created in the restrictions by a recurrent annual lien. This tax must never exceed the city tax rate of Los Angeles and is used for the upkeep of recreation sites, street planting, parks and the like, and for the general benefit of all property owners. The association will act as a permanent nucleus for common activities of all sorts.

The difficulty with most of the protective restrictions adopted in residential tracts has been that once put on record they could never be changed until the date of expiration. In Palos Verdes for the first time a reasonable scheme of amendment has been provided, so that, without breaking down the protection offered, it is possible to correct unforeseen difficulties, or, as the years go on, to meet changing conditions.

Enough water has been developed to take care of 20,000 people and more is available. Two arcaded business buildings in Malaga Cove Plaza have been completed. The intangible or esthetic ideals of the garden suburb, elaborately preplanned, are being carried out; Palos Verdes is building for permanency.

Credit for the high ideals with which the Palos Verdes Project has been developed is very largely due to Jay Lawyer, its general manager and guiding genius for the past six years. His summing up of the value of good layout and careful design is given on another page. But the sound foundations which he has laid, and the thorough machinery for carrying on which has been set up, are likely to persist through a long period of time as an object lesson in community building. And a great deal of the consistency of the fine work done is undoubtedly due to the fact that the same staff carried the project through for the seven years since construction started. Col. J. C. Low, assistant general manager and the other members of this group have tempered sound business with idealism and the result is a marvelously attractive community, which will get better and better as years go on, with the fine planting coming up and only good architecture and color permitted.

The remaining 13,000 acres of the Palos Verdes Ranch owned by Frank A. Vanderlip is expected to be developed along much the same lines. Mr. Vanderlip has recently filed of record similar high type protective restrictions, with maintenance association and art jury control over some 2000 acres of Portuguese Bend territory, and promises some very interesting and attractive village development, as well as fine large estates,



ON THE SHORE PARK, PALOS VERDES ESTATES

CASA DEL PORTAL, MALAGA COVE PLAZA, PALOS VERDES ESTATES
WEBBER AND SPAULDING, ARCHITECTS

on this beautiful area facing southward towards Catalina Island. His constructive-mindedness and genius for large affairs are well known. The announced intention of requiring here the Italian type of architecture, rather than the bolder Spanish and Mediterranean, encouraged on the first unit of the Estates, will be watched with interest.

SALLY PORT OVER VIA CHICA AND CASA DEL PORTAL, PALOS VERDES ESTATES
Webber and Spaulding, Architects

THE MEDITERRANEAN ATMOSPHERE PREVAILS IN THIS SMALL PALOS VERDES HOME

COMMUNITY ASSOCIATION CONTROL IN UNINCORPORATED TERRITORY

By J. C. Low

TO keep a neighborhood nice and attractive, with safety from fire and lack of policing, and to give it the other wholesome attributes of a high-class residential community, from the beginning of a real estate project, is a large undertaking, unless there has been careful forethought and organization. When the neighborhood stretches over five square miles, the size of the undertaking is considerable.

In Palos Verdes Estates, however, these things were carefully thought out and the experience of the best large developments of the country taken advantage of. Before any lots were sold a non-stock, non-profit community association was incorporated under title XXII of part IV of division First of the Civil Code of California as approved March 21, 1872, and given the name of "Palos Verdes Homes Association." Under the restrictions also placed of record before the lots were sold, this Association was granted the authority to do practically everything of a community nature needful for the upkeep and maintenance of the beautiful district laid out on Palos Verdes Hills.

The Association has now grown to include over 3,000 individual owners of lots, each of whom is forced to have a membership running with his land, and this membership ceases if he disposes of his land.

In accepting deeds for their lots, purchasers obligate themselves to be bound by the rules and regulations of this Association, which is authorized to enforce protective restrictions, take care of street maintenance, street signs, garbage collection, cleaning up of lots, police and fire protection, maintain parks, a Building Commissioner and building inspection service. A building code has been adopted as complete as that of the City of Los Angeles, so that there is no bad wiring, plumbing, foundation or shoddy construction permitted in the Estates. In fact, people living here have all of the usual protections of a city while living in the country.

The protective restrictions also establish a maintenance tax running with the land. Last year we collected $48,000 from this tax, the Project paying its share on the unsold lots just like any other property owner, and these funds were used for the purposes indicated above.

The Association owns outright some 700 acres of parks and playgrounds donated to the community by the Palos Verdes Project, and held for the common benefit of all members. These lands are worth in excess of $2,000,000, and include a complete 18-hole golf course and club house, some four miles of ocean shore, and bridle trails, beautiful natural canyons and scenic bits that will forever enhance the residential value of this community.

Acting as a group, the association has been able to obtain annually from the County substantial help for road maintenance, last year securing $5,450. A considerable sum is also obtained from building permits, fees for which are the same as for Los An-

NORTH FACADE, CASA PRIMERA, MALAGA COVE PLAZA, PALOS VERDES ESTATES

WEBBER AND SPAULDING, ARCHITECTS

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

geles, making possible five inspections during the progress of construction of each building.

The business of the Association is transacted by a board of five directors, who meet frequently and are elected at the annual meeting of all members, as provided by State Law. The Association has a paid secretary and manager and a building commissioner, who are its executive officers. It also holds hearings and passes on amendments to the restrictions in case it is necessary to change a set-back line or some such minor provision as authorized in the protective covenants of record. It employs deputy sheriffs, gardeners and a road crew; has an attorney for legal questions relating to restrictions and regulations. In general, it operates much as the board of trustees of a small city would do.

Closely related to the Association, is Palos Verdes Art Jury, which, however, is a judicial body to pass on standards of excellence of design and color. The Association must submit to it for approval all designs for fountains, works of art or community structures in parks and streets, just the same as private owners have to do under the protective restrictions. This holds up the standard and prevents any objectionable or careless design from creeping in.

On the whole, the people of Palos Verdes community have been given a complete form of organization whereby they can carry on the fine things originally conceived and established for them and make them better year by year. The system is automatic in that as fast as the project completes any district and turns it over to the Association, there is a means of keeping up the

THE VIA CORTA CORNER OF CASA PRIMERA, PALOS VERDES ESTATES
Webber and Spaulding, Architects
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

fine sidewalks, trees, shrubs and the park planting installed. Each buyer takes up his share of the burden of maintenance. There can be no absentee owners or shirkers who fail to pay their share because a recurrent annual lien has been retained on the land and transferred to the Association to enforce collection of the annual upkeep tax. The tax rate last year and this year too is $1.60 on the $100 of County assessed valuation, and as the lots here as in any new district are generally assessed for only a few hundred dollars a piece, the tax burden is not heavy on anyone for the Association.

This community association will, therefore, take on ever increasing importance as the years go on. As this seems likely to remain for a long time a district of home owners, the scheme of property owners government provided will probably be sufficient for all general governmental needs with the aid of the County services. It is therefore presumed that Palos Verdes may never incorporate as a city or, at least, not for a long time. To do so would merely add increased taxation and a duplication of community services, because there would be no legal method of transferring the duties and privileges set up under the protective restrictions. It is hoped that the administration of the Association will be so responsive to community needs that no such move could be thought advantageous.

COMMUNITY OWNED BRIDLE TRAILS LEAD FROM THE TOP OF THE HILLS TO THE OCEAN BEACH, PALOS VERDES ESTATES

FROM AN ARCH OF A BUSINESS BUILDING, PALOS VERDES ESTATES

OLMSTED BROTHERS, LANDSCAPE ARCHITECTS

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

LA VENTA INN FROM BELOW

LA VENTA INN, PALOS VERDES ESTATES, CALIFORNIA

Pierpont and Walter Davis, Architects

TERRACE, LA VENTA INN, PALOS VERDES ESTATES, CALIFORNIA
Pierpont and Walter Davis, Architects

The water worn native field stone and flags are extensively used on The Estates and add greatly to the landscape effects

WELL PLANNED COMMUNITY DEVELOPMENT PAYS

By Joy Lowyer

WHEN the Palos Verdes development was about to be started the management, after long and careful consideration, decided to attempt to make of it the finest development that the best obtainable talent could visualize. We believed that there were enough people who had a real appreciation of beauty in architecture and in nature to make a financial success of a home development of the very highest type.

I am happy to say that our judgment has been more than vindicated by the tremendous approval and success that has come to Palos Verdes Estates. It is not only the outstanding development in Southern California, but it is recognized throughout the entire United States as the one really complete and outstanding thing of its kind to be found anywhere.

In the beginning we had considerable difficulty convincing the public that we really meant what we said and that we were

PORTICO, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES
Kirtland Cutter, Architect

going to create an Art Jury that would actually function and that would have absolute control over all building and structures of every kind, and a Homes Association that would actually own one fourth of the entire development in community park areas, golf courses and other developments of kindred nature.

We have now reached the stage where the development speaks for itself and we no longer have to sell the idea, as is evidenced by the fact that the total sales within the Project in the approximately six years since it was started are in excess of $8,000,000.00.

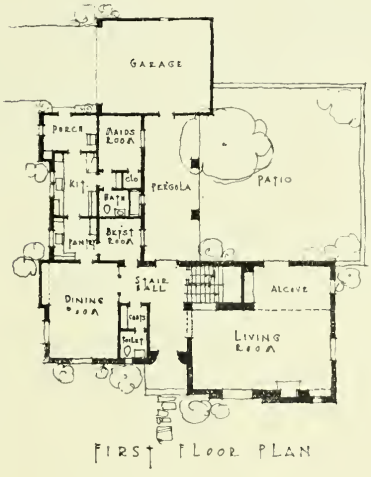
I think this is a complete answer to the question: Does beauty pay in a real estate development? It certainly has in our case. It is true that in Palos Verdes we had a piece of land that lent itself peculiarly from every angle to a development of this nature, but it is possible to do approximately what we have done here in almost any residential development.

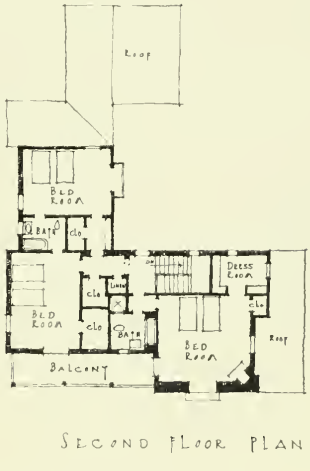
Then there is another angle, and that is the satisfaction to be derived from a job well done, and this satisfaction is shared by every member of the Palos Verdes organization, as well as by the residents and property owners within the Estates.

I firmly believe that the time is fast approaching when it will be impossible to successfully market a real estate development without providing at least real architectural supervision and a real park area in proper proportion to the area involved.

PATIO, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES

Kirtland Cutter, Architect





PLAN, RESIDENCE OF MRS. F. F. SCHELLENBERG, PALOS VERDES ESTATES

Kirtland Cutter, Architect

PALOS VERDES ART JURY ON ANNUAL INSPECTION, 1929
Left to Right: JAMES F. DAWSON, ROBERT FARQUHAR, JAY LAWYER, DAVID C. ALLISON and CHAS. H. CHENEY
(President Myron Hunt was absent)

WIDE, SMOOTH AVENUES ARE TYPICAL OF PALOS VERDES ESTATES

SEVEN YEARS OF ARCHITECTURAL CONTROL IN PALOS VERDES

By David C. Allison, F.A.I.A.

ARCHITECTURAL control may be comparatively a new subject to most people, but it will be found to be deeply appreciated by those living in suburbs where the control has been at all properly administered. As a member of the board which for the past seven years has been judicially responsible for passing upon the design and color of all buildings in Palos Verdes Estates, near Los Angeles, I am convinced that architectural control is essential to the development of cities, for the protection of investments in homes and other buildings, and for the maintenance of agreeable neighborhoods in which to live or to work.

All of us know of districts where some notably ugly or off-color building has gone in and thereafter destroyed the physical attractiveness of the place to such an extent that people of taste no longer would live there and property values became depreciated. As long as only ten per cent or less in number of the buildings in our cities are designed by competent architects most of the people of the city are bound to suffer from something ugly or disagreeable being erected next to them, unless a definite barrier is put up or some board of review established to see that such things are not permitted.

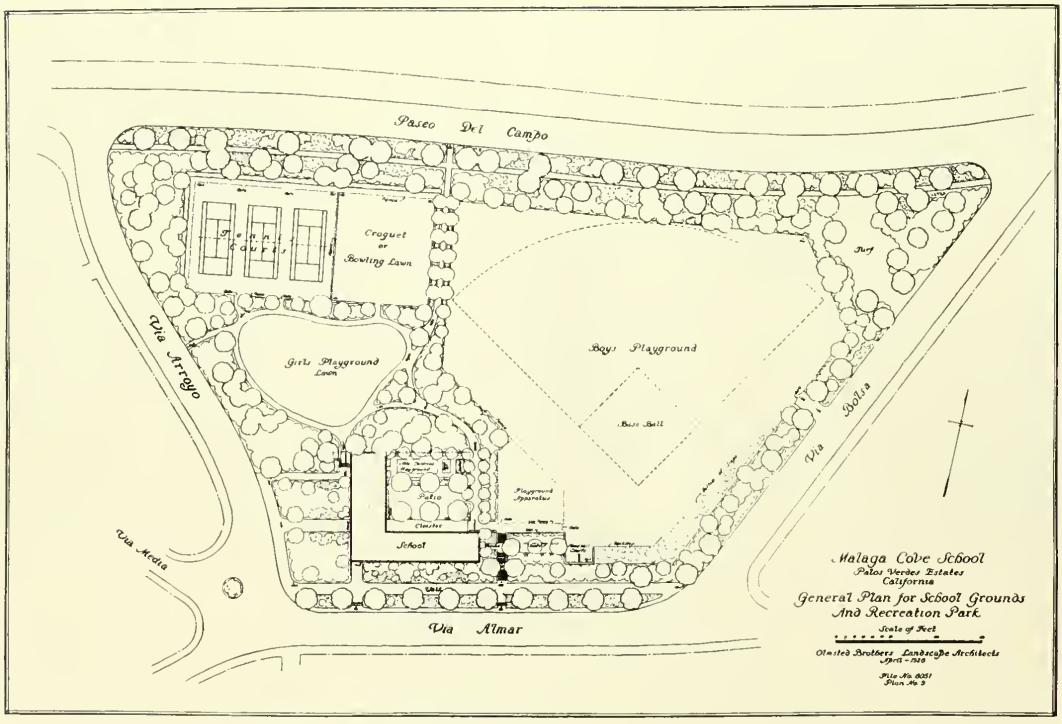
Real estate men for over 50 years have been establishing high class residence districts, and in some instances local business centers, where by restriction, nothing could be built unless complete plans for the proposed buildings were approved in advance. This is architectural control. However, its success is so dependent upon having a competent art jury or architectural board of review to administer it, and with power to enforce their findings, that there have been many failures in the past.

MALAGA COVE ELEMENTARY SCHOOL, PALOS VERDES ESTATES
Allison & Allison, Architects

To be a success it has been found that an art jury must be composed primarily of men trained in the arts, appointed from controlled nominations, permanently established, independent of the selling company, with legal veto upon all plans and color or works of art that are

found unworthy, and financed either by endowment or community tax sufficient to pay an adequate per diem fee to the members of the jury for the few times per month that they must leave their offices for attendance at meetings.

Such an art jury was set up in 1922 for the new Palos Verdes Estates development and has jurisdiction over five square miles



SEVEN ACRE ELEMENTARY SCHOOL PLAYGROUND AND PARK, PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

distinctly better design, color and finish on all buildings that come before us.

Now that some 160 or more buildings are completed, we are beginning to have many compliments for the simple, dignified architecture, its harmonious and restful quality, and particularly for the appropriateness of the design, which we have secured by a little insistence with the architects who

of lovely rolling hills on the ocean south of Redondo Beach. From experience we have found that the administration of architectural control is entirely feasible and to date we have met with very little opposition or difficulty that I know of. We have passed on plans for some three hundred buildings besides many studies of plazas, general schemes, landscape layouts, building restrictions, etc. At first we felt it advisable to make a few concessions to the sales department of the Project, to get things started but with their cooperation we are continually raising the standard and now require have come before us. The work has been the subject of inquiry and report by a number of national technical bodies, and thoughtful developers, and trained men from all over this country and Europe are continually visiting Palos Verdes and inquiring into the methods of architectural control, often for definite application in their own communities.

Realizing that the public should insist upon similar protection eventually by municipal ordinance, the Department of Public Welfare of the State of Massachusetts not long ago sent to every city and town of that

state a bulletin entitled "Planned for 1960 — and After," pointing out what was being done in the Palos Verdes Estates development, with the following comment: "Control in this way, even to the design of the buildings, points clearly to what all places will have to do if the prevailing medley of uses and design is ever to be overcome. The art jury is legally established because the the limits of the actual deed restriction requirements, which make necessary the use of tile roofs and plaster surfaces over a large part of the Estates and indicate that a more or less Mediterranean style is desired, because the founders of the Project wisely thought that the most appropriate to our Southern California climate. The weak or poorly trained designers are the

AUDITORIUM, MALAGA COVE ELEMENTARY SCHOOL, PALOS VERDES ESTATES
Allison and Allison, Architects

entire area is group-controlled instead of being left to private whim and private profit, yet great profits are sure because the value of a home depends upon its value as a home, and not upon its value as a pile of building material."

Good architects have nothing to fear from properly administered architectural control, as they have always found upon coming before us. The Jury tries to allow every architect the widest latitude of design, within ones who make trouble for the public, and they naturally are our principal concern. But by tactful suggestion and a cooperative spirit we have generally been able to make friends of them, and to secure sufficient study and modification of their designs to permit final approval by the Jury.

In fact we have never definitely had to say *no* finally except in two cases, one of which was on a five dollar set of bungalow plans obviously unfitted for its neighbor-

RESIDENCE OF E. L. ETTER, PALOS VERDES ESTATES
Clarence E. Howard, Architect
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates, by the Art Jury, 1929

hood. Nor have the suggestions offered to architects and owners by the Jury increased the financial burden of the owner. I believe that we have often saved owners considerable unnecessary expense by indicating simplifications of facades and roofs, and even rearrangement of floor plans, although we have no legal jurisdiction over the interior of buildings.

Once in a while some one raises the cry of "censorship," or expresses a fear that the Jury will insist upon a monotony of the same kind of design. I think the latter fear is well refuted by the illustrations in the accompanying pages. On the first point I prefer to think of the passing upon plans that we do as a necessary inspection to protect the public, just as pure food or health inspectors have to do.

We have been particularly fortunate on the Palos Verdes Project in the broad-mindedness and vision of Jay Lawyer, general manager, and his associates, and also of the officials of the Bank of Italy, which is Trustee for the Project. They had the foresight to establish the Jury before a lot was sold and to use its combined wealth of technical knowledge for the criticizing of the original layout and restrictions of the property as well as in following it through in construction. They have also held meticulously to the carrying out of the comprehensive master plan of the five square miles under development made by Olmsted Brothers, landscape architects, and Chas. H. Cheney, consultant in city planning.

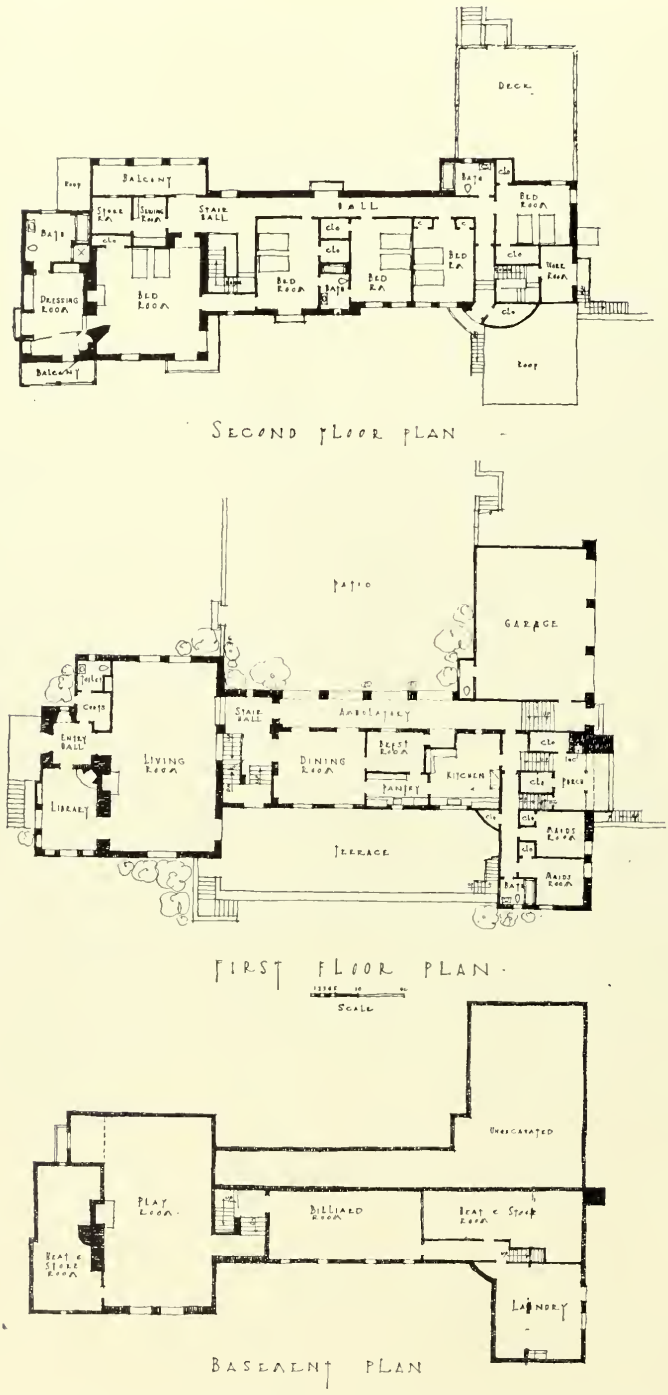
The architecture of this suburb has been given its necessary setting of rich planting with a wide variety of flowering sidewalk shrubs and trees and the jury has also met with fine response suggestions for landscaping on the part of the owners of both large and small homes.

The members of Palos Verdes Art Jury therefore have considerable satisfaction in acting for this attractive community, and rejoice to find that more and more people who have homes in Palos Verdes are requesting the Jury to tighten its standards, rather than to lower them.

LOWER: RESIDENCE OF EARLE W. GARD. UPPER: RESIDENCES OF W. M. SUTHERLAND,
PALOS VERDES ESTATES
Kirtland Cutter, Architect

Selected as two of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect



PLANS, RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES

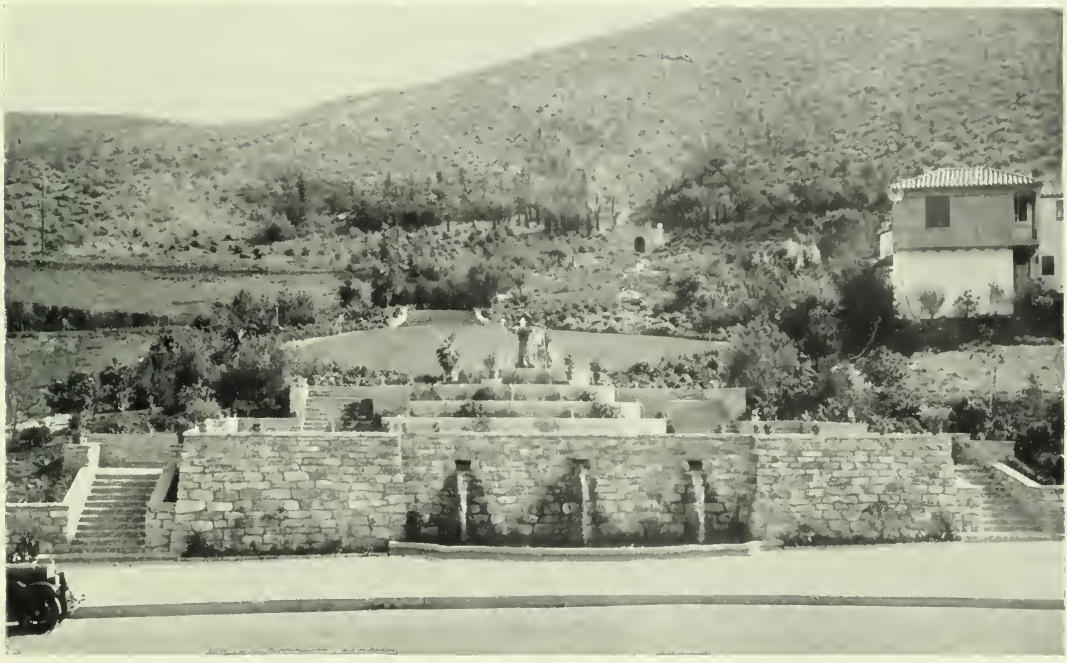
KIRTLAND CUTTER, ARCHITECT

NORTH FACADE, RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect

RESIDENCE OF EARLE W. GARD, PALOS VERDES ESTATES
Kirtland Cutter, Architect
Selected as one of the most notable examples of Architecture in Palos Verdes Estates

SOUTH FACADE, RESIDENCE OF W. M. SUTHERLAND, PALOS VERDES ESTATES
Kirtland Cutter, Architect

GARDEN OF W. M. SUTHERLAND
PALOS VERDES ESTATES
Kirtland Cutter, Architect



FOUNTAIN IN FARNHAM MARTIN'S PARK, PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

RESIDENCE OF D. K. LAWYER, PALOS VERDES ESTATES
John Byers, Architect
Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

NORTH FACADE, RESIDENCE OF H. LEMONT SCHMIDT, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF H. LEMONT SCHMIDT AFTER GROWTH OF PLANTING
Olmsted Brothers, Landscape Architects
Selected by the Art Jury as the most notable example of architecture erected on The Estates in 1926

PATIO, RESIDENCE OF H. LeMONT SCHMIDT, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF E. S. GILMORE
PALOS VERDES ESTATES

Kirtland Cutter, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

ENTRANCE GATE, RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

KIRTLAND CUTTER, ARCHITECT

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

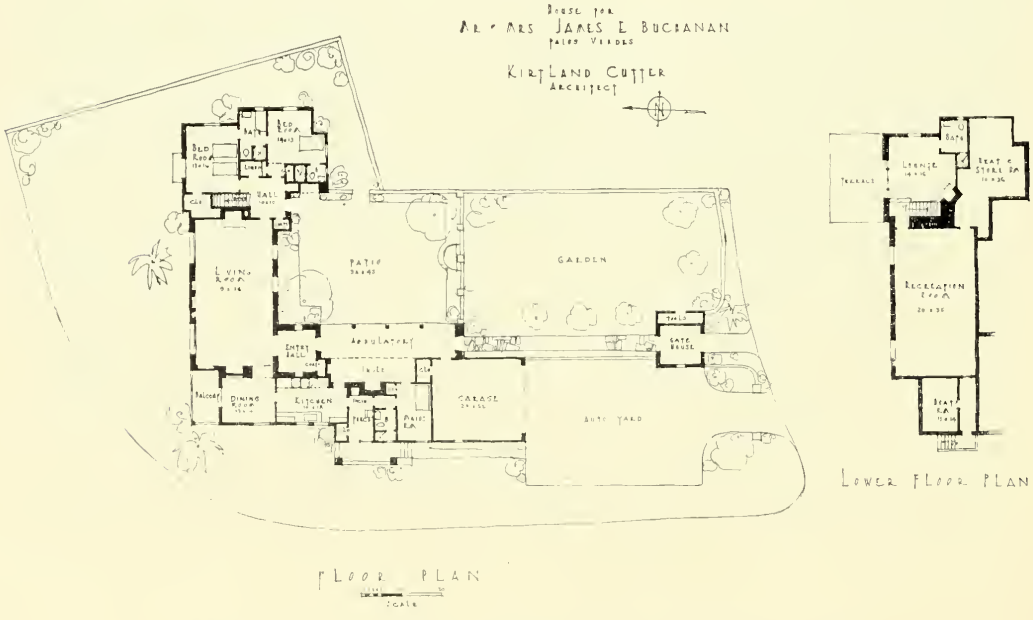
OUTER COURT, RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

KIRTLAND CUTTER, ARCHITECT

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

Kirtland Cutter, Architect



PLAN RESIDENCE OF JAMES E. BUCHANAN, PALOS VERDES ESTATES

Kirtland Cutter, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

SOUTH FRONT, GOLF CLUB HOUSE, PALOS VERDES ESTATES
Clarence E. Howard, Architect

TERRACE, GOLF CLUB HOUSE
PALOS VERDES ESTATES
Clarence E. Howard, Architect

NORTH FRONT, RESIDENCE OF MRS. CAROLINE JOHNSON, PALOS VERDES ESTATES
Arthur C. Munson, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

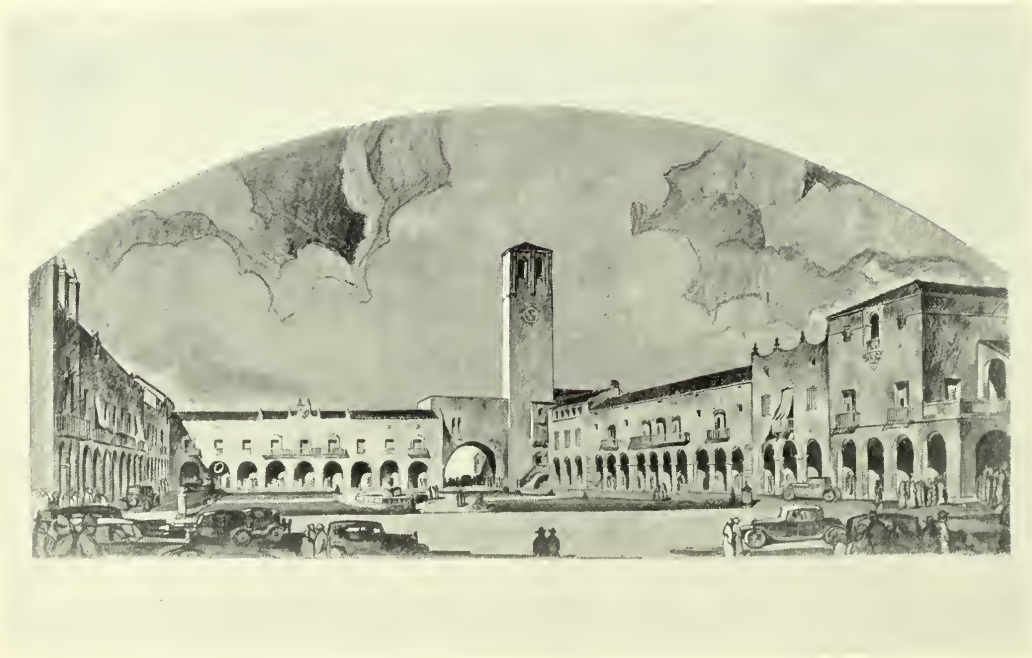
RESIDENCE ON VIA MONTEMAR
PALOS VERDES ESTATES
Kirtland Cutter, Architect

SOUTH FACADE, RESIDENCE OF MRS. CAROLINE JOHNSON, PALOS VERDES ESTATES

Arthur C. Munson, Architect

PATIO OF THE C. H. CHENEY RESIDENCE
PALOS VERDES ESTATES

Charles H. Cheney and Clarence E. Howard
Associate Architects



ADOPTED GENERAL DESIGN FOR VALMONTE PLAZA, PALOS VERDES ESTATES
Marston and Mayberry, Architects

Charles H. Cheney, Consultant in City Planning

Olmsted Brothers, Landscape Architects

THE PATIO, LA VENTA INN
PALOS VERDES ESTATES
Olmsted Brothers, Landscape Architects

GARDEN FRONT, RESIDENCE OF WM. RIPLEY DORR, PALOS VERDES ESTATES
Winchton L. Risley, Architect

REAR GARDEN, RESIDENCE OF
WM. RIPLEY DORR
PALOS VERDES ESTATES

Winchton L. Risley, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

PATIO, RESIDENCE OF G. B. SNELGROVE, PALOS VERDES ESTATES
Kirtland Cutter, Architect

TWO INTERESTING VIEWS, RESIDENCE OF H. P. SHUPP, PALOS VERDES ESTATES

Arthur C. Munson, Architect

Selected as one of the ten most notable examples of architecture in Palos Verdes Estates by the Art Jury, 1929

RESIDENCE OF T. L. TAGGART, PALOS VERDES ESTATES
A. J. Williams, Architect

RESIDENCE OF F. M. HODGE
PALOS VERDES ESTATES
W. L. Risley, Architect

EAST FRONT, RESIDENCE ON GRANVIA LA COSTA, PALOS VERDES ESTATES
Winchton L. Risley, Architect

SIDE VIEW, RESIDENCE ON GRANVIA LA COSTA
Winchton L. Risley, Architect

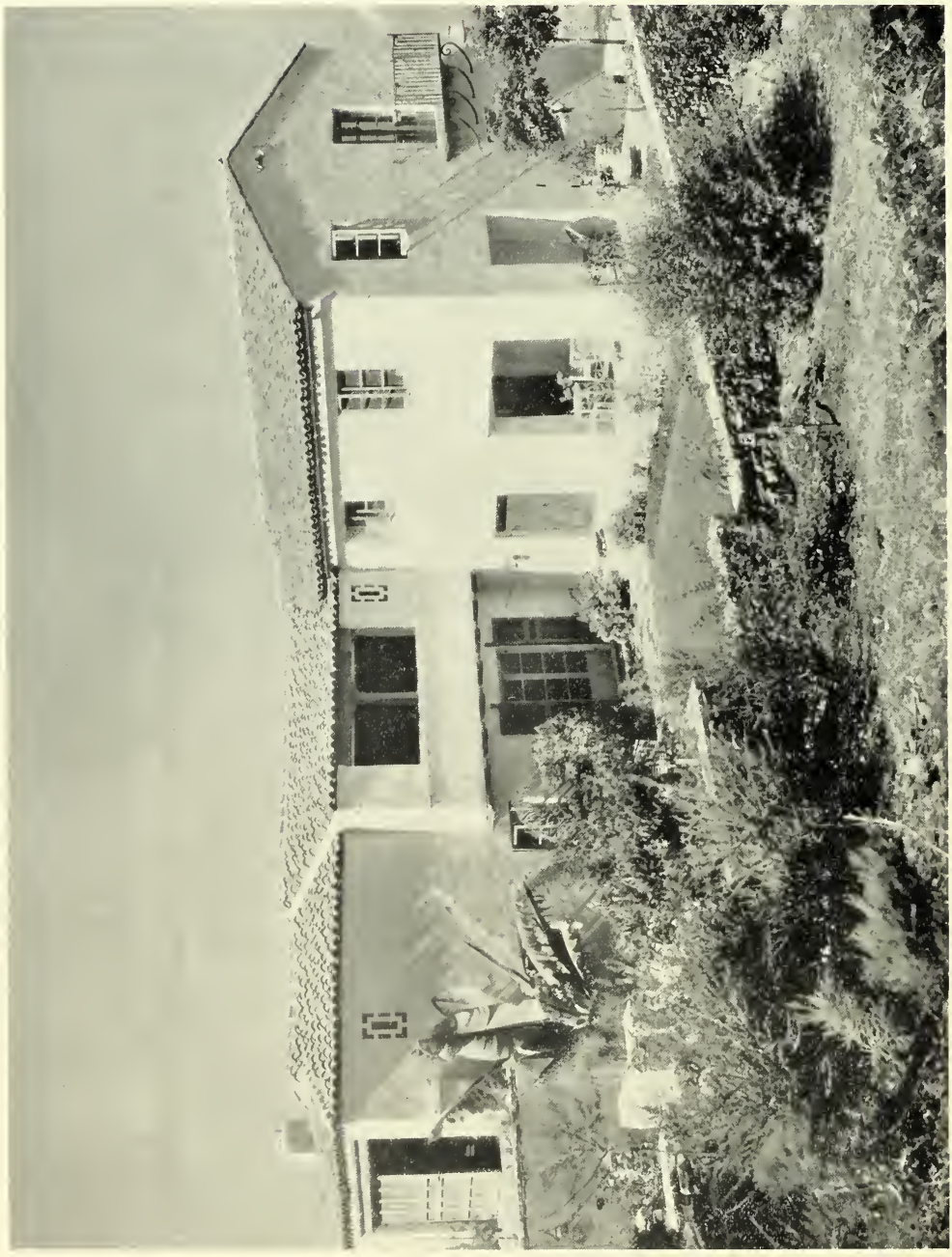
PATIO, RESIDENCE OF MR. AND MRS. HOWARD S. DEAN, PALOS VERDES ESTATES
Lincoln Mortgage Company, Designers

THE PLACING OF HOUSES IN RELATION TO ONE ANOTHER

By J F Dawson

THERE has always been and there still exists among many, the curious idea that the so-called front of a house must face the street, and because the front of the house faces the street the entrance door or "front door" must also face the street and for the same reason the "parlor" or the living room must be on the front of the house regardless of anything else. Then, because the front of the house is next to the street, the opposite side of the house must be the "back" of the house, and the kitchen and the "back door" and the "back yard" must all be to the rear even if this side of the house enjoys beautiful views and is otherwise the most desirable side of the house to live in.

Following this theory, if there happens to be any pleasant outlook, such as a magnificent view of the ocean, or of the mountains, and if the ground happens to slope toward such attractive views as is the case in many parts of Palos Verdes Estates, then the belief is that a house site on the down-



RESIDENCE OF LIEUTENANT COLONEL GERALD KINCADE, PALOS VERDES ESTATES
MRS. HELEN KINCADE, DESIGNER

RESIDENCE OF MISS STELLA SMITH, PALOS VERDES ESTATES
Winchton L. Risley, Architect

RESIDENCE OF REV. ANTON CEDARHOLM, PALOS VERDES ESTATES
Winchton L. Risley, Architect

SOUTH FRONT, RESIDENCE OF GEO. C. KINCAID
PALOS VERDES ESTATES

hill side of the street is decidedly inferior to the house site on the uphill side of the street because the house on the downhill fronts on the street, so front rooms face the street, and, therefore has no chance of enjoying the wonderful view which the house on the uphill side has because it faces the street as well as the view.

Such a belief is wrong, for there is no reason why both sides of the house should not be "front sides," and there is no reason at all why the person occupying the house on the downhill side of the street should not have his living room on the view side of the house and enjoy the pleasant outlook, fully as much as from the house which is on the uphill side which faces the street. Of course, every house should have a kitchen, it should have an entrance to the kitchen, and it should have an area or yard where materials used in connection with the house could be stored and where clothes could be dried, etc., but the kitchen does not need to be located in such a way that it cuts off all of the view from the rest of the house, and the door to the kitchen does not need to be called the "back door," and the service yard in connection with that part of the house does not need to be called the back yard or kept like a back yard.

I do not mean to imply that the site on the downhill side of the street is any better than the uphill site, or vice versa. Naturally some sites are better for various rea-

NORTH FACADE, RESIDENCE OF GEO. C. KINCAID, PALOS VERDES ESTATES

sons than other sites, but what I do mean to say is that with a certain amount of common sense and thought the house can be so arranged that both sides of the house would be front sides. The side next to the street could be called the approach front, and the other side of the house could be called the view front or the living front or the garden front. The kitchen in most cases could be placed at the end of the house and could be referred to as the kitchen end or the service end of the house, and the yard in connection should be called the service yard. According to this scheme the back or garden side of the house and grounds is a very important and a very attractive part of the place; it is not a place where you dump things from the kitchen door and allow them to be kept in disorder but is a part of your place where you live out-of-doors because it is secluded and attractive and is much more private than the front side next to the highway.

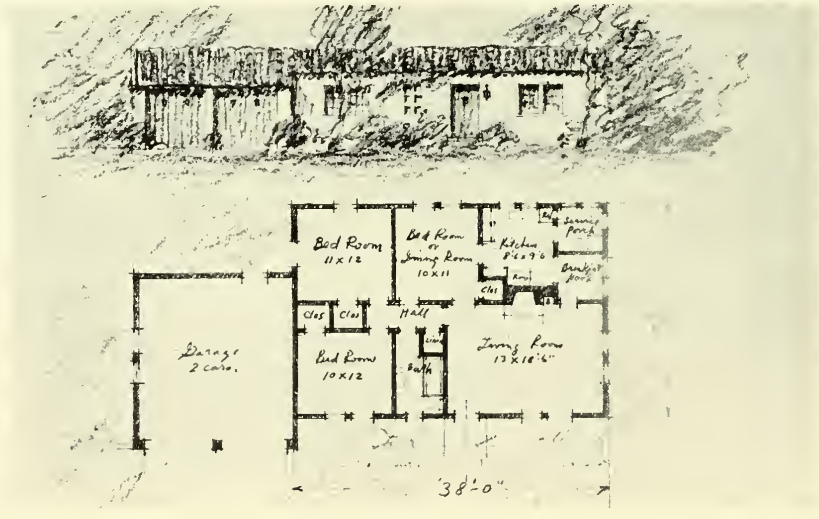
PATIO FOUNTAIN ON VIA CAMPESINA
PALOS VERDES ESTATES

In locating houses in any fairly thickly settled community it is desirable, if possible to have the service ends next to each other

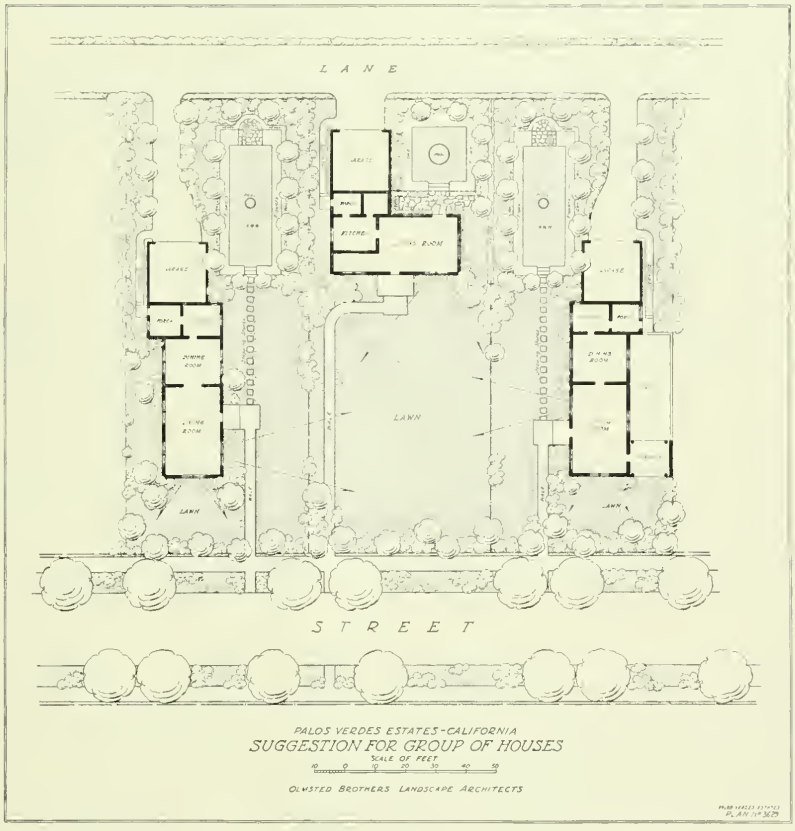
RESIDENCE ON VIA CAMPESINA, PALOS VERDES ESTATES
Lefler B. Miller, Architect

Examiner Prize House of 1925

SMALL HOUSE IN VALMONTE, PALOS VERDES ESTATES
H. Roy Kelley, Architect



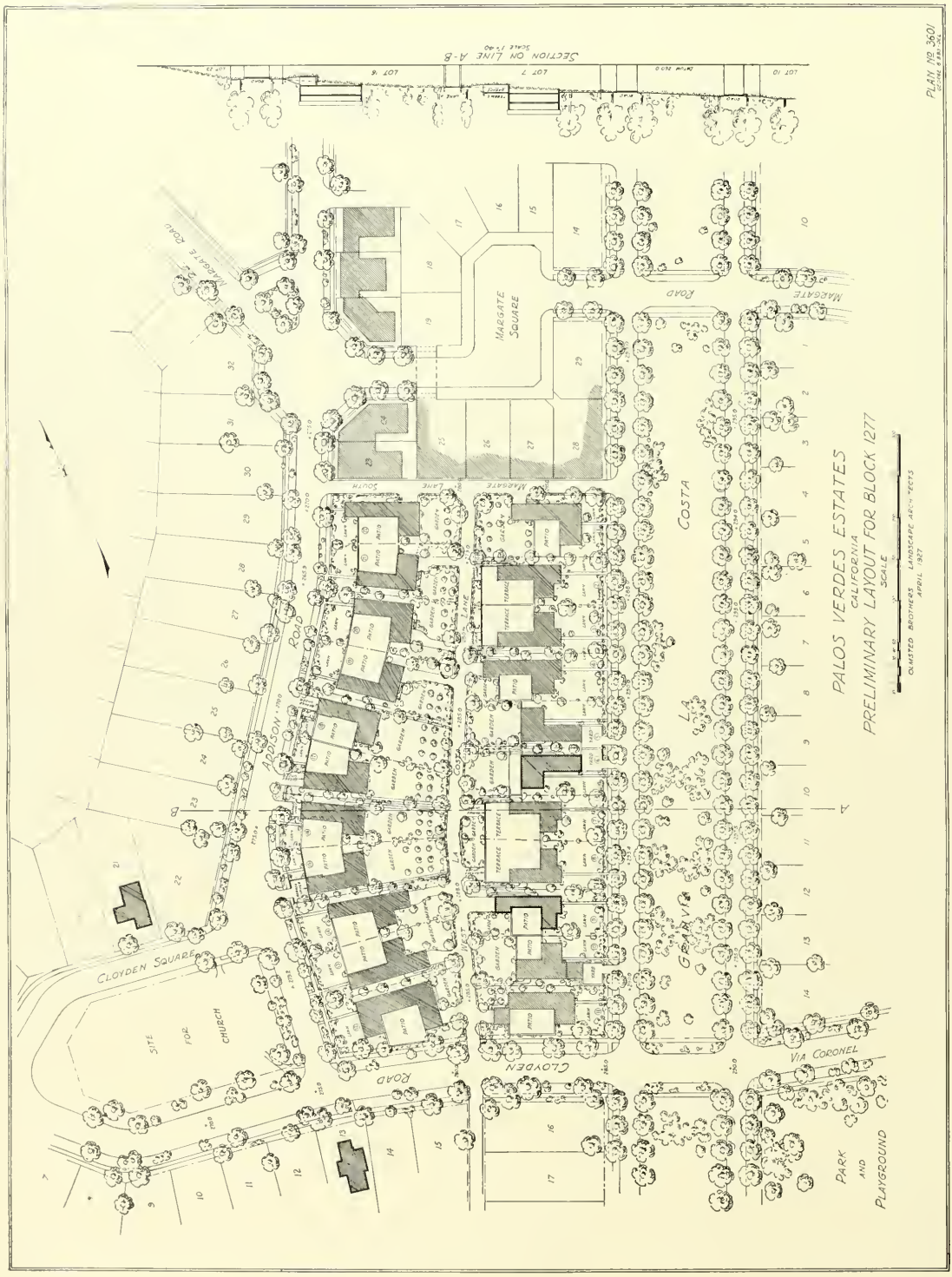
TYPICAL PLAN OF SEVEN SMALL HOUSES IN VALMONTE, PALOS VERDES ESTATES
H. Roy Kelley, Architect



PLAN A, PROPOSED GROUPING OF HOUSES, PALOS VERDES ESTATES

and the living ends next to each other; and it is often well to arrange the houses in groups, with the grounds on the living side of the house coming together in such a way that each house in the group will have the advantage of the view over all the lots, as indicated in the accompanying Plan "A." (This sketch provides for the garage entrances from a lane in the rear of the lots, but the driveways could enter from the street just as well if there were not a lane.) The grouping of houses as shown by Plan "A" is difficult to get unless the houses are all built by one person, and therefore, it is necessary when making the subdivision plans to vary the front setback or building limit lines, instead of having the setback line the same on all lots.

Plan "B" shows the various lots in one block at Palos Verdes Estates (Block 1277, northwest corner Granvia La Costa and Cloyden Road in Margate), in which two houses (colored dark) have already been built. In this block a lane is provided in the rear of the lots. The plan shows the variation in the front setback line, already provided for in the restrictions, and how the various houses could be located to give an interesting and pleasing grouping. This calls for most of the areas, in the rear of the houses, to be developed as gardens or lawns, where the occupants of each house could enjoy privacy and pleasant surroundings. Some of the garages would be under the terraces of the gardens where they would be entirely out of sight when look-



PLAN B. GENERAL GROUPING OF HOUSES RECOMMENDED BY MR. DAWSON FOR BLOCK IN MARGATE, PALOS VERDES ESTATES

ing from the houses westward toward the ocean. Other garages would be attached to the houses and entered from the street although a few would be detached and entered from the lane. It would be attractive if this were treated as an old-fashioned lane with trees and hedges planted along its boundaries.

Such a plan for the grouping of the buildings of an entire block has been actually carried out both in the development of Forest Hills, Long Island, New York, and by an individual developer (Dr. George Woodward) in Philadelphia. With the cooperation of the individual builders and the Art Jury, such a plan could be successfully carried out at Palos Verdes Estates. Naturally there would have to be certain variations and changes in details; but it is hoped that this article, with the plans, will offer certain suggestions and will encourage people when planning and building their houses to take advantage of all the opportunities and conditions, to consider the benefit to their neighbors, as well as themselves, and thereby help develop a community that will be a greater pleasure to live in.

ADOPTED DESIGN FOR LUNADA BAY PLAZA, PALOS VERDES ESTATES

Kirtland Cutter, Architect

Olmsted Brothers, Landscape Architects Chas. H. Cheney, Consultant in City Planning

HELL'S HALF ACRE, HONOLULU

EINAR PETERSEN'S SKETCHES

An Appreciation by Wm. Lee Woollett

I HAVE before me some re-prints of pencil drawings by Einar Petersen, recently on exhibition in the Architects Building, Los Angeles. In order to write at all in key with these lovely drawings I have just sharpened a thick Faber No. 2 drawing pencil which gives me a sufficiently broad and black and easy flowing line with which to describe these — "charming" — no not exactly that — something a little better — sketches made by our friend during one of his recent visits to the Islands.

Einar Petersen is known and loved by the profession for his personal qualities—the even genial quality of the man, as well as the confident and successful craftsman may be observed in these sketches.

Of all the different qualities which may be observed in an artist's work, I myself am most concerned with that quality which asserts itself in craftsmanship. Composition, color, line, quality—these may be obtained by any student. Only the years of growth and intelligent handling of the tools of a craft finally permits the untrammeled out-flowing of the abstract vital principal one seeks in a work of Art.

These drawings are even, sure, confident —as confident as is the even purr of the perfectly broken motor which makes your new automobile climb mountain curves on high.

The delightful ease of Petersen's drawings is to me their chief claim to one's interest. And because I dwell on this illusive characteristic — which I think many will agree they possess —I do not pass over the other more academic and passive phases. The compositional values are splendid — to many of his sketches the merits are outstanding for their technical form and color.

If you will study these drawings you will observe that in common with the great artists of all time there is unconscious use of

CHINESE PEDDLER, HONOLULU

PLANTATION VILLAGE, KAUAI

A FISHERMAN'S CABIN 'NEATH HAWAIIAN PALMS

the number three in the composition. Three divisions of mass—three of color values—and three of line weight and quality. This statement is a generalization, like "all the world knows" it could not possibly be literally true. In reality it constitutes a premise or thesis which may be used as a basis for a real enjoyment in the study of the sketches.

At first glance these drawings are incredibly simple. But also like the Persian Rug or a "Barye Lyon" they disclose a more intricate pattern upon investigation. You can amuse yourself, if you will, in picking out the various values in terms of three, in this or any other work of Art.

The sketch entitled "Honolulu—1929" is "unlight" an elegant and stirring sunlight which gilds with a "glamour" the homely surroundings of the shack, dilapidated and torn with decay.

"A Chinese Pedler" is also as full of sunlight as it is empty of conscious effort.

"Hells Half-Acre," like many others, illustrates Petersen's command of decorative forms. He has wrought into this sketch a rare decorative pattern (of course utterly unconsciously). I would like to see this one done in color—a stage set perhaps.

After all life is not altogether what it seems. And to illustrate the point of my appreciation—that is, the idea that it is the way we do things and not what we do that counts, I must tell a war story—utterly irrevelant to Art and yet not so, perhaps, for some.

It was the custom of the English in the war to replace higher officers rather than to promote from the lists of junior officers. On the day in question a brigade had lost its colonel in action—a new colonel had crossed the channel and was on hand ready to take over his command as the bedraggled, muddy, wounded and wrecked detachments came out of the rain-filled trenches. He stood there with a monocle in his eye as the tired men filed past and came to attention. The colonel was a pink-cheeked youth—his belt and buckle and puttees were shined to the "nth" power. He was perfection personified. These tired men who waited were aghast—they slumped, they broke rank and lolled. Some took pennies out of their pockets' and put them in their eyes—monocles—like the one the new colonel wore. The youth gazed down the line of disgusted, grinning men. Then slowly took the glass from his eye and stood carefully wiping it with a new white hand-

HONOLULU, 1929

kerchief. Then he snapped the glass into the air a good ten feet—gave a quick jerk to his head and caught the thing in his eye. "Do that you bally devils." The sagging line drew itself into formation. The orders came quick—the men found themselves. The new colonel died in action the following day. The English lad was an artist, for with consummate skill he had made a beautiful and dramatic thing of a simple act.

Einar Petersen has flung off these simple little sketches with the touch that spells beauty!

BOWLES HALL, UNIVERSITY OF CALIFORNIA, BERKELEY
GEO. W. KELHAM, ARCHITECT

Photo by Moulin

THE NEW ARCHITECTURAL MEDIUM CONCRETE

By Frederick A. Hanson

IT is not wholly surprising that in California, the land of many unusual things, a significant architectural development should have taken place within recent years. For there is an eager vitality about the architecture of California. It grows. It expands. It tries new things. It is sensitive to new impressions. Not that it is lacking in appreciation of older forms and media nor that it fails to value the tried and the proven — it is simply that here the architect proceeds to try and to test new forms, and if he finds them good, adopts them.

So it is that concrete — a powerful structural medium — has been adopted by Pacific Coast architects and transfigured to serve their purposes. A very remarkable transformation, this, but after all, a logical one. For there is beauty in honest strength. It remained only for architects to understand and develop the infinite possibilities of concrete as a medium for architectural expression.

It is indeed a major event, the coming forth of concrete into a primary architectural position. It places at the command of the artist a material of very great adaptability and it presages much in the improvement of concrete itself. As a structural material it achieved an extensive use years ago but, as with other materials, it began in a lowly utilitarian station. The dignity, nobility and aspiration of the recent ecclesiastical uses of concrete are not to be found in its beginnings.

Hitherto, the fact that concrete was either to be concealed, by interior plaster or by exterior veneers, or was left indifferently exposed to view on alley or property line, led to carelessness in construction methods, to slipshod formwork and sloppy mixtures that many times were appalling in their ugliness.

DETAIL, COURTYARD, STUDIO BUILDING, LOS ANGELES
Morgan, Walls and Clements, Architects

Who has not seen the story of carelessness written in concrete walls? Slatternly form marks, laitance streaks and gravelly blotched areas are eloquent of the time when these walls engaged the labor but not the understanding of men. Again, on the other hand, who has not seen walls which, though devoid of relief and as economically flat as a pancake,

EDITOR'S NOTE—Mr. Hanson is Architectural Supervisor of Forest Lawn Memorial Park, Glendale, California.

Photo by Hawthorne Studios

WILSHIRE PROFESSIONAL BUILDING, LOS ANGELES

ARTHUR E. HARVEY, ARCHITECT

yet in the sound, unvarying quality of their concrete and in the impressed record of the forms, testify to work done with all the skill and with all the spirit which good workmen have ever shown?

Needless to say, it is only with concrete of the latter quality that the new developments are concerned; in fact it is only with concrete of sound unvarying quality with which they can be executed. The concrete must be of a uniform character. It must completely fill the forms. The mixes must be plastic yet excess water content, with its inevitable separation of materials, cannot be tolerated. Well-graded mixes, maintained or adjusted to a constant water content, are necessary to achieve that fundamental uniformity of concrete quality which is essential for the accomplishment of satisfactory results.

It is with concrete of such a character, the physical nature of which is not different in one part of the work from its nature somewhere else in the structure, that the successful new work has been done. Plastic, mobile, sensitive to the most trifling variation of form and surface with which it comes in contact, yet in a few hours losing these properties forever, here is a material to engage the interest and fascinate the imagination. With textures and surfaces fresh with the natural variety of form boards, with random slight imperfections of plane and with line warm with the suggestion of human hand and touch, with simple or elaborate ornamentation made integral with the structure by the use of simple wooden or more elaborate plaster molds, and with an incomparable adaptability to mass effects, concrete has attained an architectural development and recognition warranted by its own inherent worth. It may be "fashioned to the heart's desire."

Yet another impelling reason for its use is the satisfying honesty and sincerity of this construction. It is the structural frame itself which stands revealed, unconcealed and unashamed, and upon which the architect exercises his ability of shaping mass, line and ornament. It is the structural frame which meets the eye, not that which appears to be the structural frame. In what indefinite and subtle manner this distinction between the actual and the apparent is expressed is not always easy to explain but the distinction, none the less, exists and declares itself. It can be for no other reason than that, from its beginnings, architectural criticism has ever emphasized the virtues of honesty and sincerity in construction.

Happy the man who may work unrestricted by the limitations of financial allotments. But to those who have felt the constraint of purse strings — and who has not? — the new uses of concrete offer a welcome freedom and relief. Some price must of course be paid for improved concrete quality, for a better grade of form lumber, for more careful, skillful carpentry. But all these additional costs amount to no more than the cost of plastering and covering up a carelessly constructed concrete job. In comparison with equally pleasing results obtained with other materials, the cost of exposed concrete has much to commend it.

Regarding the forms, a few words may be desirable. That the lines of the forms which appear in the concrete should possess a parallelism, whether horizontal or vertical as the case may be, is plainly apparent. Where a good surface is desired, a better grade of form lumber free from knots, slash grain and similar imperfections is required. Particular care must be exercised when work resumes at a horizontal construction joint to avoid an expansion and bulging of the forms immediately above the joint which would result in a correspondingly unsightly bulge in the concrete revealed when the forms are removed. Particular care must also be exercised with the forms at such horizontal construction joints to be sure that they are tight and do not allow the escape of fines from the freshly placed concrete.

Where smooth surfaces are desired, enlivened and redeemed by small scattered air or water pockets, forms lined with non-warping fiber board give excellent results. Particularly is this true where a rustication of the surface allows the jointing between the fibre board sheets to be covered by the tapered wooden strips which form the joints of the rustication.

Where special surfaces of not too deep relief are wanted, wood forms shaped to the

Photo by Mott Studios

RICHFIELD OIL BUILDING, LOS ANGELES

MORGAN, WALLS AND CLEMENTS, ARCHITECTS

Photo by Mott Studios

DETAIL OF WINDOW, FIRST BAPTIST CHURCH, LOS ANGELES

ALLISON AND ALLISON, ARCHITECTS

Photo by Mott Studios

DETAIL OF DOORWAY AND WALLS, ST. JOHN'S CHURCH, LOS ANGELES

PIERPONT AND WALTER S. DAVIS, ARCHITECTS

Photo by Mott Studios

CHURCH OF THE PRECIOUS BLOOD, LOS ANGELES

HENRY CARLETON NEWTON, ARCHITECT

Photo by Mott Studios

DETAIL MAIN ENTRANCE, EBELL CLUB, LOS ANGELES

HUNT AND BURNS, ARCHITECTS

Photo by Mott Studios

DETAIL IN PATIO, EBELL CLUB, LOS ANGELES

HUNT AND BURNS, ARCHITECTS

desired contour, shellaced and oiled, are used. For the more elaborate ornament, plaster moulds, shellaced to prevent absorption and to assure cleancut removal, are by their wooden frames incorporated into the other form work.

Exposed concrete has not yet itself attained a variety of color and tone, when used en masse, comparable to the variety of surfaces and textures which have been developed for it, but it may be stained or, with cement washes, may be given almost any desired color. Some of the newer work has not sought to obtain anything other than the natural concrete color, the warm grey of which blends admirably with the green of shrubbery and vine. An example of the use of a thin wash color coat is the Ebell Club, on Wilshire Boulevard, Los Angeles, the work of Hunt and Burns, built in 1927, which was colored a soft tone of reddish buff.

Two very interesting new developments in concrete exteriors appear in the Richfield Building, by Morgan, Walls and Clements; and in the Wilshire Professional Building by Arthur E. Harvey. In the Richfield Building, the brilliant black and gold terra cotta of the main facades was duplicated on the north and west property line walls with concrete moulded to conform in true shape lines with the fluting of the terra cotta, and colored by the application of china wood oil and mineral pigment. Except for the absence of the joint marks, which characterize the terra cotta exterior, there is little difference apparent between the walls of these two very dissimilar materials.

In the beautiful new Wilshire Professional Building, the exterior is done entirely in monolithic concrete, with integral molding of the modernistic ornamental courses, and fiber board forms used elsewhere. The spandrels are darkened behind the silvered iron grills and the entire exterior has been given a clear white color, with the light upon the round corners of the columns accentuated by a silvery coating of aluminum leaf.

The beautiful new mausoleum at Forest Lawn Memorial Park, now under construction, will, when completed, be one of the finest and costliest structures of its kind in the world. No expense has been spared to make this building of the most substantial character befitting its nature. It was the enduring character of properly made concrete and the assurance of permanence which could be expressed in the architectural design, that led to the selection of concrete, exposed and uncolored, for the execution of this work.

It is hazardous to prophesy, yet it would appear that this architectural use of concrete will soon find a general and wide acceptance. That this should be is but the logical consequence of proven and demonstrated success.

AMERICAN CITIES 90% UGLY

TO eliminate "the careless ugliness" of the nation's cities, the American Institute of Architects has started a campaign of public education in "good architecture and good environment." Moving pictures are being employed to illustrate how Washington is being developed as the city beautiful.

In high schools and colleges, and before chambers of commerce, civic bodies, women's clubs, art bodies and other organizations, films are portraying the architectural advance of the national capital as a model for the nation.

American cities are "ninety per cent ugly," and the result is enormous waste and depreciation, according to Charles H. Cheney of Palos Verdes Estates, California, chairman of the Institute's City and Regional Planning Committee, which is striving to stimulate an awakening in behalf of better architecture.

"The seriousness of the situation lies, however, in the fact that the percentage of new buildings, really esthetically good, is not increasing," Mr. Cheney says. "In some cities it is even decreasing. The building inspectors tell us they are getting fewer plans today than formerly by men trained to produce good design.

"It is unthinkable that a rich country like this will long continue to allow such needless ugliness to be hung like a millstone about our necks. The same amount of buildings could be built attractively for the same money or less.

"Sound city and regional planning, that takes carefully into account the esthetic factors of city building, as inseparable from the economic and social factors, would soon produce different results. Much more use of trained city planners should be made by city planning commissions, and every such commission should have an architect as a member because architects have special knowledge of how to produce attractiveness in city building.

"Zoning and major street plans are important, but they are but a small part of city planning. The widening of major streets for the new motor age is everywhere cutting down trees and leaving our cities uglier than ever. Such city planning is not sound unless provision is made in the same or parallel proceedings for the replanting of the street trees. Ruthless disfigurement of this kind, if caused by the neglect of a city planning commission or city engineer or city council, should be sufficient cause for removal from office.

"A major traffic street plan which neglects or overlooks the necessity of maintaining important vistas, of purposely shifting over to make opportunity for location of important buildings and groups 'on axis,' of providing for arcading or of harmonious block treatment of downtown architecture, of group planning in residence as well as business districts, is no solution of the city plan.

"Zoning ordinances and building codes have more effect on architecture and landscaping than other agencies. The glorious new architecture of New York, caused by the New York zone ordinance in its step-back provision for light and air, is one profound esthetic result of the city building of our time.

"Few people know that these regulations were deliberately worked out by some of our greatest architectural thinkers, who had the esthetic importance of such regulations well in mind at the same time as the economic and social objectives of zoning.

"One of the greatest blights of our cities, one of the biggest and hardest problems to be solved, is that of the disfigurement and upset to surrounding property caused by railroads and other transportation agencies. Great economic losses ensue, with depressing and deteriorating influence upon the poor creatures of humanity who generally drift to the depreciated neighborhoods along railroad rights of way.

"There is also great loss of time and inconvenience to whole cities by misplaced or outgrown yards, terminals and other facilities, that proper co-operation and planning on the part of public and carriers, could make wholesome, esthetic and compatible with the reasonable amenities of life.

"And so through all the items of the master plan the human equation—that subtle thing that reflects and controls men's souls, the esthetic—can and must be provided for.

"There is much yet to be done in Washington to change it from only twenty-five per cent of a city to something nearer seventy-five or eighty per cent and the capital Park and Planning Commission should be upheld in the work it is doing to this end.

"President Hoover's recent appointment of William Adams Delano of New York City to this Commission will meet with the approval of the country. Mr. Delano's long service on the Fine Arts Commission of Washington, and his untiring interest in the development of the Capital, have well prepared him for constructive service on the more active Capital Planning Commission."

"BUILD NOW," SLOGAN FOR ARCHITECTURAL PROFESSION

"BUILD NOW!" is the slogan of the architectural profession, according to C. Herrick Hammond of Chicago, president of the American Institute of Architects, who, in a statement issued through the Institute's Committee on Public Information, declares there is every reason to believe that 1930 will be a good year.

"Costs are lower today than for several years, and those contemplating construction should be advised by the architect not to delay," according to Mr. Hammond.

"The outlook for 1930 in the construction industry is difficult to forecast. However, in all probability, the first quarter of the new year will show an amount of building construction somewhat less than the corresponding quarter of 1929. This loss will, with reasonable certainty, be overcome and the total volume of construction for 1930 should be equal to, if not in excess of, 1929."

Reports from leaders of industry to the Advisory Council of Business established at the suggestion of President Hoover show, Mr. Hammond says, that most of the large corporations in the country have extensive programs calling for expansion in excess of that for 1929. These enlarged programs, he points out, will contribute largely toward an increase in the volume of new construction for 1930.

"The Federal Government," Mr. Hammond adds, "will do its share in maintaining the stability of business by advancing its construction activities beyond the point originally planned both in the national capital and throughout the country.

"Money formerly diverted through speculation from construction loans should be available for permanent improvements. There should be a stabilized market for both labor and materials — with labor doing more work per day than has recently been the case."

Mr. Hammond made public a report submitted to Secretary Lamont of the Department of Commerce outlining the co-operation available to President Hoover through the sixty-five chapters of the American Institute of Architects in all sections of the United States.

"The position of the architect and the exercise of his function with respect to building operations under modern conditions are of fundamental importance in the development of any program which is concerned with the construction industry," Mr. Hammond told Secretary Lamont.

"In twenty-seven states of the union no building can be erected unless a registered or licensed architect is engaged. Seventy per cent of the buildings in this country costing $75,000 and upwards are designed in offices of members of the American Institute of Architects.

"The architect is the co-ordinator in the building operation, be it large or small, and his advice on when to build, and when not to build, is of great weight with the investor, the home builder, and the banker.

"The architect is in a key position and should be encouraged, at this time, to say to private individuals or interests who may have projects in mind that the immediate future is a good time in which to build, because it can be demonstrated that building is now cheaper than it has been in past years.

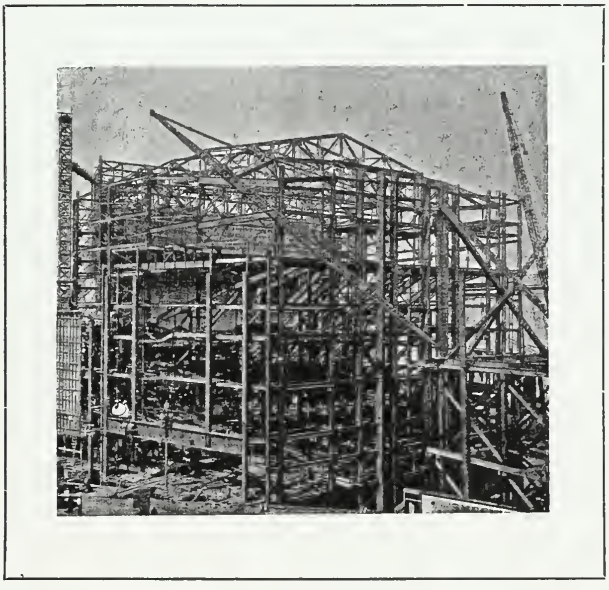
"The American Institute of Architects, through its sponsorship of the Architects' Small House Service Bureau, which Bureau was fully endorsed by President Hoov-

[Please turn to Page 110]

ENGINEERING

and

CONSTRUCTION



STEEL FRAME, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

Featuring

The Steel Frame of the New Fox Theater,
San Francisco

STRUCTURAL FEATURES of the NEW FOX THEATER, SAN FRANCISCO

By John J. Gould, S.E.

THE new Fox Theater* at Market, Hayes and Polk streets, San Francisco, occupies a ground area of about 40,000 square feet. The building, seating 5000 persons, was completed in June, 1929, at an approximate cost of $2,000,000. It is owned by the Giannini interests which leased it to the Fox Theaters Corporation.

In so far that provision had to be made for future extensions, the design of the structural frame for the theater presented problems of unusual interest. The building was planned so that ten stories of office or hotel space may be added above the auditorium and a 20 story building on the remainder of the block.

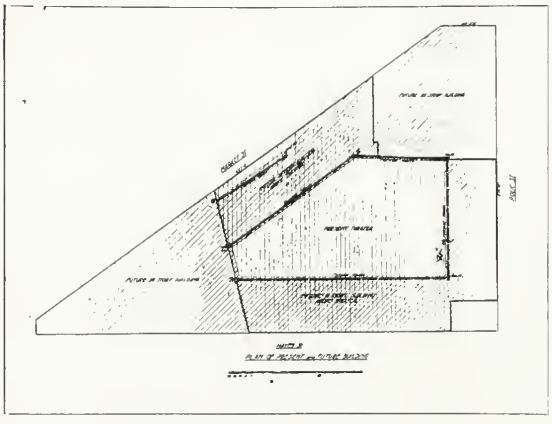
The theater is of the Class A, steel frame and concrete type. The exterior walls are six inches to ten inches thick of reinforced concrete, faced with travertite stone.

Although the soil conditions would have permitted the use of spread footings as a means of transferring the loads directly into the ground, concrete piles 20 to 30 feet long, poured in place, were used. This solution was decided upon after a careful cost analysis, which showed a distinct advantage in favor of concrete piles.

It was found that if piles were not used, spread footings would have come so close together that the footing at the lowest level would have brought practically all others to considerably lower levels than now built. This also would have made it necessary to carry all foundations below the water level and would have required sheet-piling of the whole area. Other factors, like the presence of exceptional column loads, together with great variations in the basement floor levels, favored, from the standpoint of economy, the use of concrete piles.

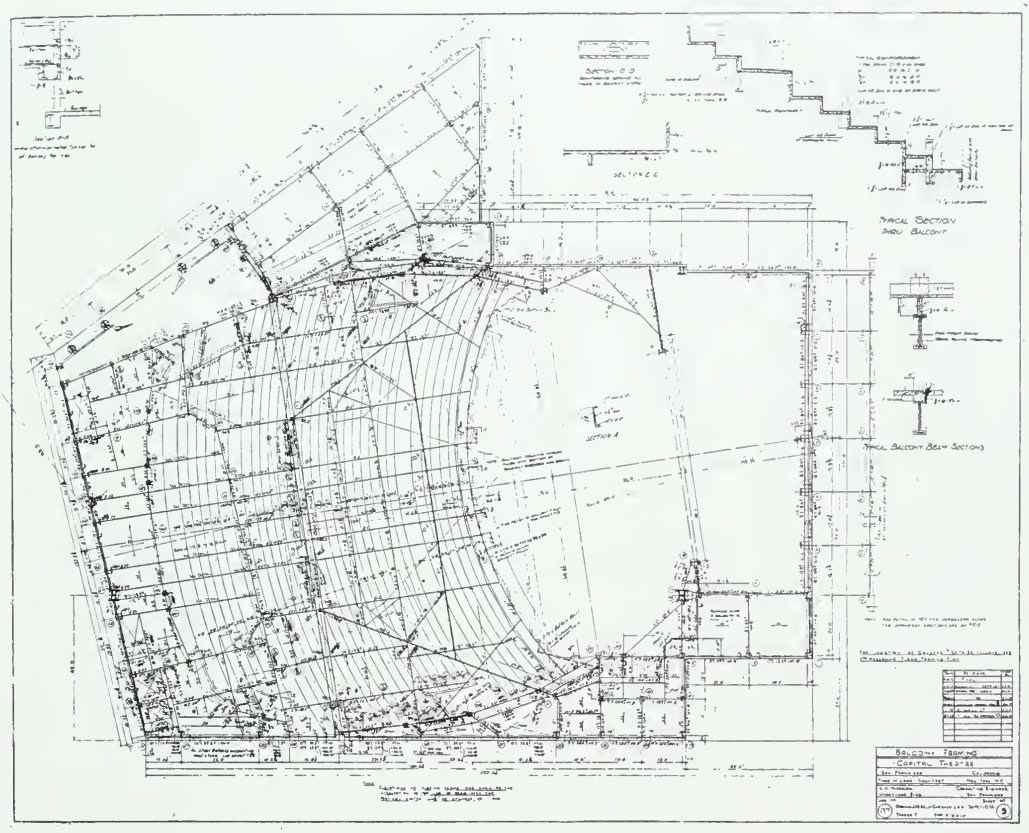
All basement floors and walls subject to water pressure were waterproofed by treating the interior surfaces with a mixture of iron and cement composition after the concrete was poured.

First floor construction is of reinforced concrete joists supported by steel beams.



PLOT PLAN, SHOWING PRESENT AND FUTURE FOX THEATER BUILDINGS

*Pictures of the interior appeared in this magazine in December, 1929.



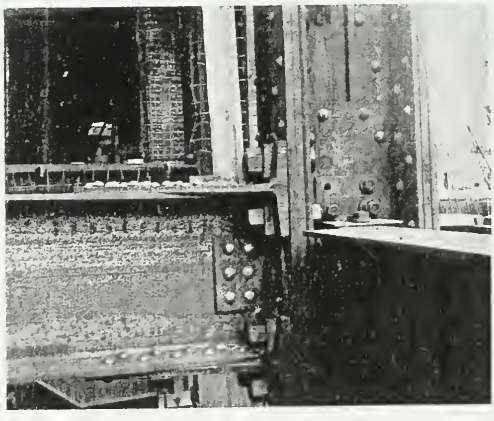
BALCONY FRAMING, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

Over the plenum chamber, supporting the main auditorium floor, a seven inch reinforced concrete flat slab was provided. The stage floor was designed of removable steel beams and wooden joists.

The structural design of the balcony framing was of unusual character, as a seating surface of 90 by 160 feet had to be provided, without supporting columns below. The mezzanine floor, 30 feet wide, was also supported by means of hangers from this area. The general layout of the balcony framing is shown in the illustration.

The main balcony truss weighs 160 tons, has a depth of 20 feet and a span of 145 feet.

The fulcrum girder PG-1, is 110 feet



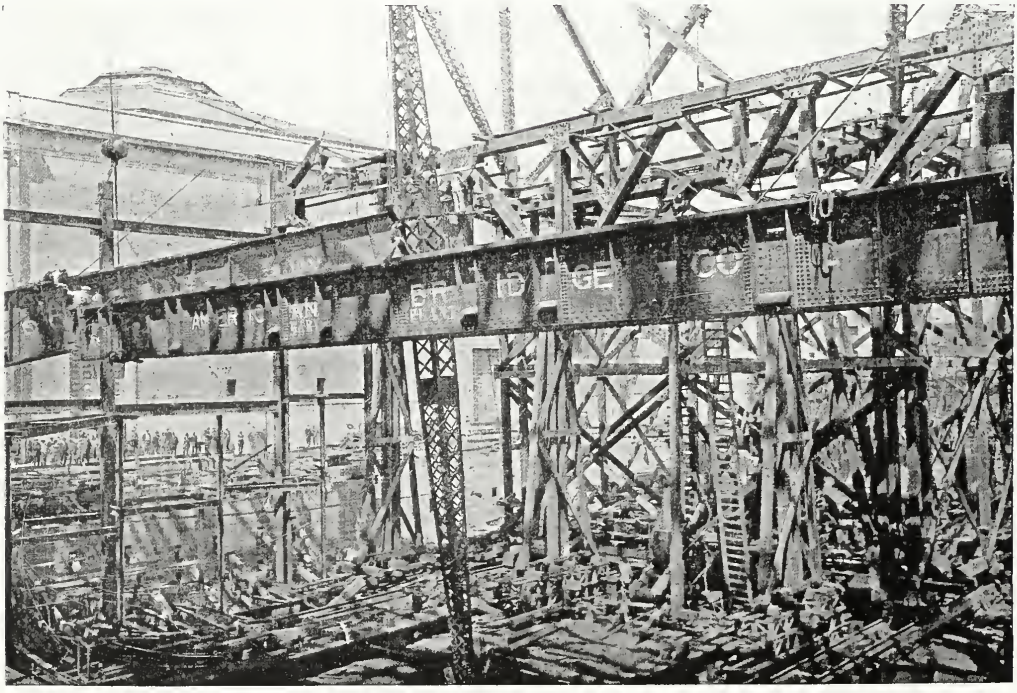
TYPICAL VIEW OF BEAM WIND CONNECTIONS TO COLUMN, FOX THEATER

long, six feet, six inches deep, weighs 70 tons, and was shipped and erected as a single piece.

In comparing the calculated accumulated deflection at the front end of the balcony cantilevers, in the center of the span, to the difference in elevation taken before and after pouring the concrete, it was found that the calculated deflection, neglecting any stiffening effect of the concrete, was about three and one-half inches. The actual measured deflection was approximately three inches which represents 1/640 of the span or width of the auditorium.

The roof framing consists of trusses, of an average span of 150 feet, their structural members being H and I beam sections. Reinforced concrete joists form the supports between the trusses. The central dome features of the ceiling are supported on a structural steel frame while the remainder of the ceiling was hung from the roof joists by wires fastened to the ceiling channels.

The majority of the columns were built up of angles and plates, and have I shaped sections. However, for columns carrying more than 3,000,000 pounds, special shaped sections were designed. One of the columns, calculated to carry 9,600,000 pounds of future load, has an area of 645 square inches and weighs 2200 pounds per foot.



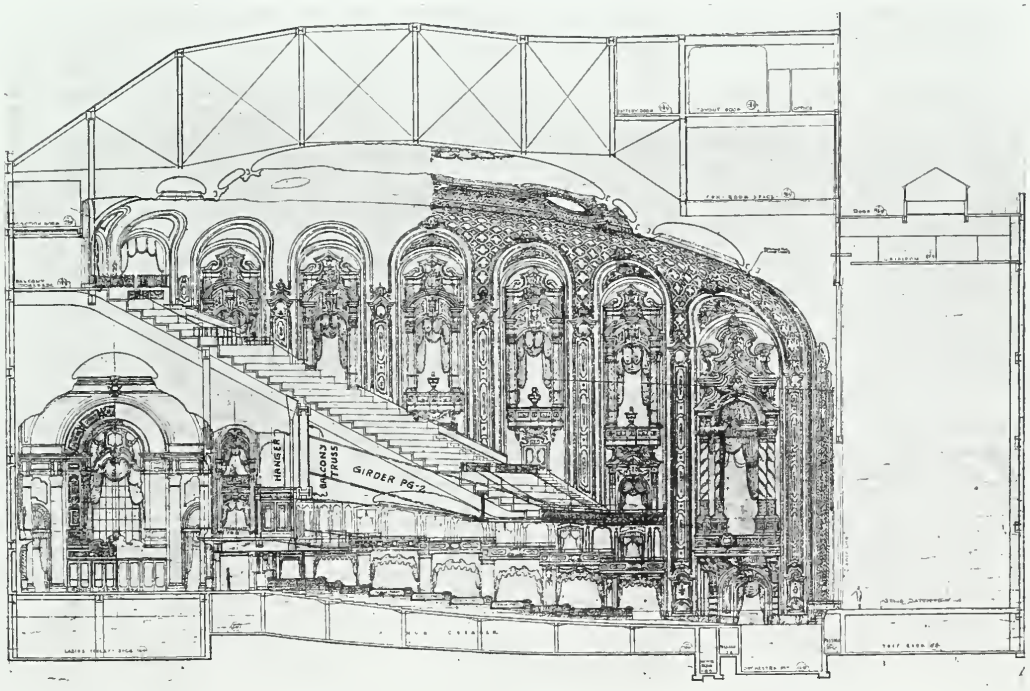
MAIN BALCONY GIRDER AND TRUSS, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer

In designing the frame, particular attention was given to wind loads and possible earthquake forces. While the high, practically solid exterior concrete walls form in themselves an effective means of resisting horizontal loads, diagonal steel X bracings were also provided. This was done in order to give the building more resistance against lateral movements and to satisfy the San Francisco Building Ordinance which considers concrete walls as filler walls only. The structural frame was designed without considering the resistancce of the masonry

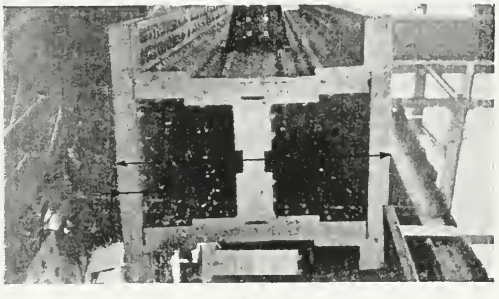
walls, for a wind pressure of 15 pounds per sq. foot. This resulted in beam connections to columns being designed to develop 60 per cent of the moment of resistance of the beams in the direction normal to the curtain and 100 per cent in the direction parallel to the curtain.

Contrary to the generally accepted methods of steel building erection, i. e., erecting in horizontal layers, a procedure was chosen by the steel contractor by which complete vertical units in successive steps were built. This was done by means of a traveling crane on which were mounted two stiff-leg derricks. This equipment had been in use for the erection of the Carquinez bridge, Carquinez Strait, California.

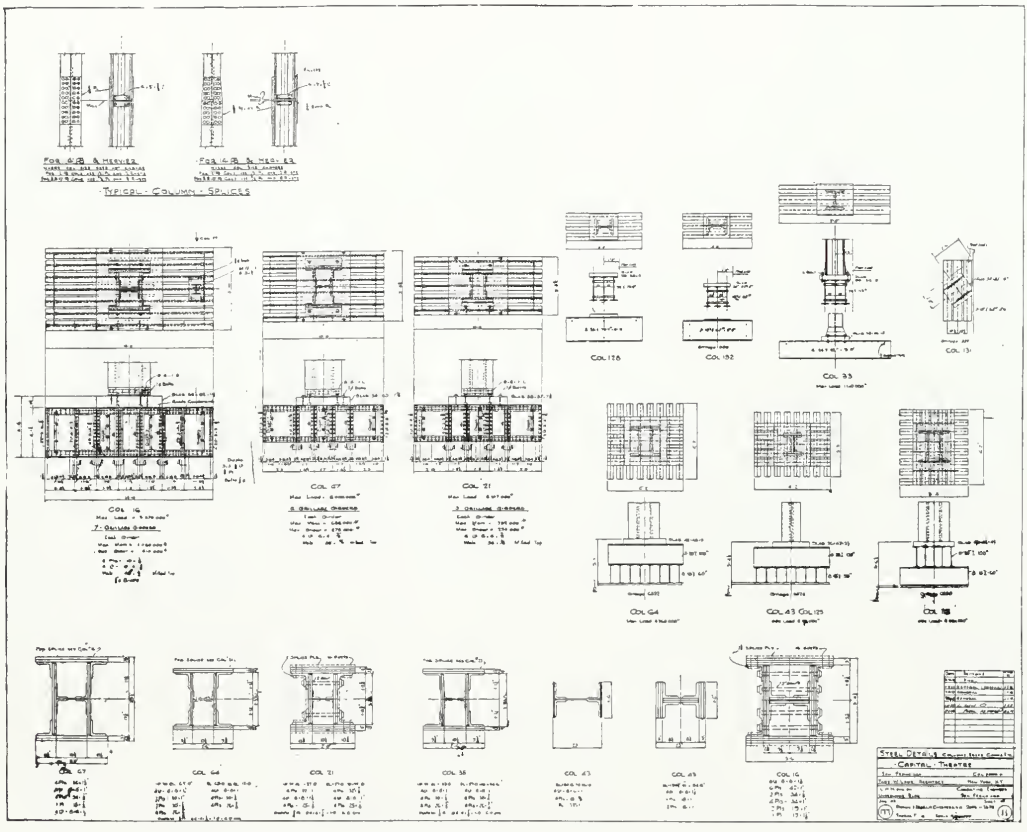
The architects of the theater were: Thomas W. Lamb, Inc., New York, and H. A. Minton, Associate, San Francisco. The writer was in charge of the structural design under the direction of L. H. Nishkian, Consulting Engineer, San Francisco. Charles T. Phillips, San Francisco was the Consulting Mechanical Engineer and John Novelli represented the owners as Superintendent of Construction. MacDonald & Kahn were the general contractors. The structural steel was fabricated and erected by an eastern steel company.



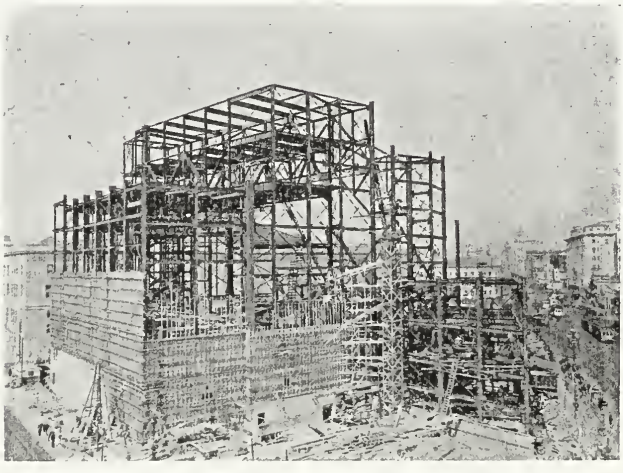
LONGITUDINAL SECTION OF AUDITORIUM, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer



SECTION OF COLUMN NO. 16, CARRYING 9,600,000 LBS.



STRUCTURAL STEEL DETAILS, FOX THEATER, SAN FRANCISCO
L. H. Nishkian, Structural Engineer



STEEL FRAME, LOOKING TOWARD STAGE, FOX THEATER, SAN FRANCISCO

EDITORIAL CHAT

THE value of careful and competent planning on a large suburban development project is nowhere better shown than in the Palos Verdes Estates, illustrated in this issue. Here everything has been provided for in advance, and the great master plan carried through in its entirety without deviation. Good architecture is assured by the establishment of a permanent, endowed art jury, with veto power over the design and color of all buildings. That essential background of intelligent planting which must be counted upon to frame good architecture has been encouraged and insisted upon. The Project itself has an ultimate budget of approximately $1,000,000 for the planting and enrichment of parks, parkways and sidewalk areas with fine varieties of flowering trees and shrubs. Each piece of improvement as it comes along is a delicate link in a beautiful chain, each part of which enhances the other.

The protective restrictions are complete and effective, yet have reasonable methods of amendment. A good building code and inspection service was set up at the beginning so that there is none of the usual bad construction, bad wiring and bad plumbing to be found on this project, although it is out in the incorporated area of the county. In other words, complete town specifications were arrived at with the town plan and instead of finding himself thwarted and hampered as in most places, the architect and the landscape architect can design and build freely and appropriately in the secure knowledge that no neighboring eyesore will be allowed to go in later to depreciate or inharmoniously deteriorate the carefully wrought product of his professional ability.

What the architectural control so ably being carried on by Palos Verdes Art Jury has done for that community may also be accomplished for many other beautiful parts of California—in fact must be done if we are to have any communities of distinction. The charge that "Americans universally befoul their nests" with ugly structures and ugly signs, and that we tolerate and maintain the ugliest cities in the world, will remain true until architectural control and wiser town planning become a more universal practice.

* * *

SEVERAL letters to the Editor, following the publication of articles in the November issue of this magazine on Adobe Construction, would indicate that there is still a great deal of interest being taken by the profession in this type of building. A letter from J. D. Long, Division of Architectural Engineering, University of California at Davis, recites the writer's enjoyment in reading these articles. Mr. Long agrees with the authors that adobe construction is worthy of further study and use, particularly in California where it has such an interesting and historical precedent. Mr. Long states that he has recently prepared a bulletin on the subject which readers of this magazine may obtain by addressing him, care of the University Farm, Davis, California.

* * *

THE late Thomas Hastings of New York and some of his more worthy contemporaries, established a Spanish precedent in Florida architecture which deserves to be followed.

In Florida, as in California, the Spanish style of architecture is particularly fitting. It suits the broad expanses of lowland and sea, tropical verdure, and open sky. It is adapted to the climate, and was developed in a climate much like that of Florida. San Antonio is also following Spanish precedent. At Charleston one finds precedent being followed again, but in the Carolinas it is colonial. They are building beautifully along those lines at Charleston. Of course colonial architecture is not a California or a Florida heritage, and is not as fitting in these states as is the architecture brought from Spain. In Tampa there is a large Spanish population, which makes the Mediterranean architecture even more pleasing.

The ARCHITECT'S VIEWPOINT

¶ *Just What Does Constitute an Architect—Lawyer, Builder, Engineer, Decorator?*
¶ *"Institute" to Tackle Modern Architecture.*

IT WAS several years ago! The stranger sitting next to me at dinner, having soon proclaimed the Law as his calling and I having confessed to Architecture, the next stage of conversation ran something like this:

Lawyer: "Has it ever occurred to you that a major part of present day architectural practice is a matter of law?"

Architect: "Quite a considerable part." (An impressive silence, then)—

Lawyer: "Isn't it probably true that the men best prepared to be architects are trained lawyers?"

Architect: "Almost thou persuadeth me"—except for the fact that most of my engineer friends *know* that the only persons qualified to be architects are engineers — while one friend who, as the wife of an architect and the sister of another, should surely know, tells me that the only person of *her* acquaintance fit to be an architect is a certain plumber.*

* * *

AND now they are "at it again," attack and counter-attack, as to the competence of architects to practise architecture. This time, the immediate provocative is the publication in *The Nation's Business* of an article written by a contractor. The author happened at the time of writing to be president of the Associated Contractors of America, and there be those who will think that by virtue of his office he expresses himself from first hand (if not first class) knowledge. The "general public," when it read him, will not have known that Mr. Flagler has either overlooked, or did not comprehend some of the should-be obvious factors that make or mar a building enterprise. Nor do some published "answers" to Mr. Flagler quite get at elementary facts.

Can Mr. Flagler, or any other informed person imagine that one man or one firm, makes a building, with, let us say, the exceptions of a dog kennel or a doll house? If, as a builder, he has *built* he should know a building operation, in its every stage, to be an example of cooperation, delegation and inter-dependence to the last degree. His assumption seems to be that relatively few building operations turn out well and, by inference, that those few successes are in spite of slovenly or unintelligent, or worse, practises of architects—which defaults Mr. Flagler assures us, in his wisdom, he might easily rectify give him the chance. There is a background of fact to some of his statements but in none of his deductions can we agree.

In every operation there are three "head men." Where these three, viz. owner, architect and contractor—all really competent—have met in common operation (which, it may sadly but truly be observed is seldom the case) the evidence will be found in a successful result. This in spite of the handicap upon each of the three "heads" in that he has had to delegate so much detail to others.

By way of particular, rather than general, condemnation of architects, Mr. Flagler worries over his belief that steel (or concrete) frames should be determined and com-

*Name withheld awaiting payment of the usual advertising rates.

pleted first, the "architecture"—whatever this term may mean to him—being somehow attached thereto. The President of the Associated Contractors has much, if not all, to learn about architecture!

From the points of view then, of lawyers, engineers and contractors—or let us hope it is only some of each category—architects might just possibly be permitted to do the pretty pictures. Just as we are becoming case-hardened against the estimates of all the "practical" men and mildly adjusting ourselves to being "artists" (always spoken with the accent of pity) we find ourselves between two barrages.

* * *

THE artists will not have us, either! The new fire comes from one we had looked on trustingly as a friend. *House and Garden* (January) deplores, just deplores the activities of architects as "decorators." Again we pause to wonder: What does the term "decorator" mean! "Why," we are plaintively asked, "do they (architects) hold to the strange notion that Heaven has endowed them with more talents than those who are specially trained?" And again—"in some (houses) the architectural backgrounds of the rooms—the paneling and such *which fall within the architect's province* (italics ours) are splendidly conceived and executed."

This writer wonders about that "special training." So now, let us ask one! Why is it not conceivable, even to the anonymous writer in *House and Garden,* that the architect certainly being no less "specially trained" than are the, too often, lady-like ladies and gentlemen who gasp over "drapes"—*is* "specially trained." A "four *months* practical training course" in "Interior Decoration" (vide, the same, page 47) with the publishers implied endorsement, can scarcely compare with the five to eight *years* given to training in design, theory and practise by the real architect. Do any of you recall Robert and James Adam, Mansart or Gabriel calling themselves "decorators?" Stanford White, John Russell Pope, Bertram Grosvenor Goodhue, George Washington Smith, Wilson Eyre—"decorators?" Hardly! But this writer cannot recall any works by specially trained "decorators," or "landscape designers" either, that surpass (they very rarely equal) the "decoration" and gardens designed by these mere architects and many others like them. As one who knows its history, let me remind the present editors of *House and Garden* that their Magazine's earliest (and some of us still think, its best, numbers) were promoted, edited, illustrated and composed entirely by architects . . . of whom the above named Wilson Eyre was chief.

Does the fault lie, perhaps, in the misleading classified telephone directories, or membership lists of technical societies? Are all *soi disant* architects really architects? Do all contractors really build; all decorators really decorate? And assuming architecture to carry, shall we say, to be understood by our practical friends, "a side line called Beauty"—and further—assuming "Unity" to be a recognized element of Beauty, can there be unity without plan? Or plan without a planner?

* * *

THE next convention of the American Institute of Architects should be a vital one, for it is to be devoted mainly to the discussion of that most vital present day subject, "Modern Architecture." What with le Corbusier's "Toward a New Architecture," Stanislaw Szukalski's broadsides that accompany his "Projects in Design" and the numerous other evangelists inveighing the Young against the platitudes of the Stand-patters, there is much commotion . . . and somehow something seems to be "doing" about it. How disrespectful they are, these proselyters! "Do not listen," says one, "to the artificially slobbering enthusiasms of the professional art critics who chatter about the impenetrability of the greatness of great works of Art." And, "do not show the Art Student the masterpieces of the past until he himself is able to create his own primitives." One in-

clined to argue might ask, "are there, any longer, accepted critics who say much about "impenetrability?"—let us say since Ruskin" (who was with all his rhetorically expressed fallacies, useful in his time); or "just how is the helpless, vacuous Art Student to be kept from getting at the masterpieces of the past any more than a child from the experimental cigarette, the suppressed book or bad liquor?" "Why 'primitives' to express sophistication?" These French, Polish and other apostles of the New, only echo what Albert Kelsey suggested as a slogan, "Progress Before Precedent" nearly thirty years ago, at a convention in Chicago. The late Louis Sullivan and his closest disciple, Frank Lloyd Wright, there and then almost broke up the meeting with their own interpretation "Progress *Without* Precedent" the while Mr. Kelsey protested that "before" inferred sequence and sequence inferred more than one item. Yet whatever is sound of the New Order, at least in America, seems to justify the Kelsey dictum. "Precedent" if we look intelligently for evidence in the great works of the past, shows that, somehow, Architecture has expressed and will continue to express the problems, structural systems and, a more subtle quality that we generally overlook, "the times:" that Architecture has indeed always been "new!"

Apropos of "Modern Architecture" as of every other subject, there will always be someone who is fool enough to ask for a definition of terms. Well! Who dares do the defining? But Modern Architecture is *not*, say, the omission of cornices—although certainly the omission of cornices in city buildings is a modern trend, structurally and sensibly inspired. And surely, Modern Architecture is *not* the appropriation of decorative elements already specially designed for and executed by others in particular places, *ad lib*, and without your leave. Can, for example, Bottiau's thrilling bas relief "La Vitesse," so at home at the Palais St. Didier in Paris, belong on a public building in New Jersey? La Vitesse in Camden seems to have slowed down . . . the chariot wheel spokes and heel wings of Mercury are visible as they are not in the original. And, by the way, the publication of this more recent version, unaccredited as, say, a near replica, seems to have been inadvertent, although architects sometimes do cross lines that writers fear and the disregard of which have cost some playwrights fortunes. What of it! "Did Ictinus," it may be defensively asked, "invent the triglyphs he used in the entablature of the Parthenon?"

Wm. C. Hays, A. I. A. San Francisco.

BUILD NOW, ARCHITECTS' SLOGAN

[Concluded from Page 100]

er when he was Secretary of Commerce, is in a position to enlist the active and vigorous support of the Small House Service Bureau in any program which may be determined upon in the future.

"The Structural Service Department of the Institute provides a contact between the architect and manufacturers and technicians. It is actively co-operating with many divisions and activities of the Department of Commerce and especially with the Division of Simplified Practice, and the National Committee on Wood Utilization.

"The Institute, through its Structural Service Department and other committees, is actively co-operating with building and loan associations, banks and investment companies in matters relating to the financing of buildings and especially to the financing of small homes to the end that losses running into millions of dollars annually may be prevented by assuring design and construction of such a character that the resale value of the property will be at least sufficient to meet the mortgages."

WITH *the* ARCHITECTS

SAN FRANCISCO MUNICIPAL BUILDINGS

The year 1930 promises to be an active one in new building construction for the City and County of San Francisco. Several million dollars will be expended for new schools, hospitals and fire houses, according to Mr. Sawyer, head of the Bureau of Architecture. The following are some of the more important projects contemplated:

Ward building at the Relief Home, from plans by Former City Architect John Reid,, Jr., $185,000.

Two-story and roof ward addition to women's wing and four roof wards to other wings at City and County Hospital, from plans by the Bureau of Architecture, $365,000.

Two new buildings at the Laguna Honda Home, Hyman and Appleton, architects. $500,000.

Cancer hospital to be built on site of present St. Catherine's Home at 22nd and Potrero streets, from plans by Alfred I. Coffey and Martin J. Rist. $800,000.

Health Center Building at Grove and Polk streets, S. Heiman, architect. $650,000.

New building at the Health Farm, Redwood City, Henry H. Meyers, architect. $125,000.

Emergency Hospital, Alemany boulevard and Ocean avenue, Bureau of Architecture, architects. $45,000.

Final unit to Balboa Senior High School, Bakewell and Weihe, architects. $700,000.

Aptos Junior High School building, below Mount Davidson Manor, Shea and Shea, architects. $600,000.

George Washington, Sr. High School group, block bounded by Geary, Balboa, 30th and 31st avenues, Miller and Pflueger, architects. $1,500,000.

Junior High School building to occupy site of the old Lick School on Castro street, William H. Crim, Jr., architect. $600,000.

Fire house on 18th avenue, Sunset district, Bureau of Architecture, architects. $25,000.

STORES AND RESIDENCES

Plans have been completed by Russell B. Coleman, 1404 Broadway, Burlingame, for a one-story Spanish store building to be erected on Primrose Road, Burlingame, for Edward R. Martin. Plans have also been completed by Mr. Coleman for two residences for the G. W. Williams Company, one to cost $15,000 on Poppy Drive and the other to cost $11,000 on Hale Drive, Burlingame.

Y. W. C. A. BUILDINGS

Julia Morgan, architect of San Francisco, has been commissioned by the Y. W. C. A. to prepare plans for a new dormitory and boarding home for girls, which will probably be erected on the site of the present home at 1259 O'Farrell street, San Francisco. An approximate cost of $300,000 was recently provided for in a building fund campaign. Additional funds were raised at the same time for alterations and additions to the Japanese Y. W. C. A. building at 1826 Sutter street and for a new Chinese Y. W. C. A. building at Joyce and Clay streets.

ANOTHER SAN JOSE HOTEL

San Jose has another hotel project in a twelve-story reinforced concrete structure planned for 4th and San Fernando streets. The plans are by Coffman, Sahlberg and Stafford of Sacramento, the promoters being known as the San Jose Properties, Ltd. The estimated cost of the project is $750,000.

These same architects have been commissioned to prepare plans for the new Armijo Union High School at Fairfield, Solano county, to replace the building recently destroyed by fire.

CHURCH AUDITORIUM AND HOTEL

James W. Plachek, architect, Mercantile Trust building, Berkeley, has been commissioned to prepare plans for a skyscraper apartment hotel, auditorium and Bible training school, for the Fitzgerald Memorial M. E. Church, South. The building will be located at the northeast corner of Ellis and Taylor streets, San Francisco, and will cost in the neighborhood of $750,000.

AUTO SALES BUILDING

August Nordin, architect, Mills building, San Francisco, is completing drawings for an auto sales and service building to be built next to the State Armory at 14th and Mission streets, San Francisco, for the Kresteller Motor Car Company. The estimated cost is $135,000.

BURLINGAME LIBRARY

E. L. Norberg of San Francisco has been appointed architect for the new City Library at Burlingame. A bond election will be held to vote the necessary funds.

HEALTH CENTER AND HOSPITAL

Preliminary plans are being prepared in the office of S. Heiman, architect, 605 Market street, San Francisco, for a four-story and basement reinforced concrete Class A health center, emergency hospital and office building for the City and County of San Francisco. The site is the corner of Polk and Grove streets, facing the Civic Center. An appropriation of $600,000 is available.

HOSPITAL PLANS COMPLETED

Working drawings have been completed in the office of Arthur Brown, Jr., and Bakewell & Weihe, associate architects, 251 Kearny street, San Francisco, for a new surgical wing at Stanford Hospital, Buchanan street, between Sacramento and Clay streets, San Francisco. Bids for this $1,000,000 structure will be taken during the current month.

SAN MATEO STORE BUILDING

Plans have been prepared by Messrs. Edwards and Schary, Santa Fe building, San Francisco, for a $60,000 store building for the Wisnom Estate in San Mateo. There will be ten stores. Plans are being considered for additional floors for hotel purposes.

GUY L. BROWN BUSY

New work in the office of Guy L. Brown, architect, American Bank building, Oakland, includes a factory for the Standard Acetelyne Gas Company, a factory for the Overhead Door Company and a large Spanish residence in Moraga, Contra Costa county.

THREE SPANISH RESIDENCES

Plans have been completed by George E. McCrea, architect, Hearst building, San Francisco, for three Spanish type residences to be built on the south side of Seacliff avenue between 26th and 27th avenues for Harry B. Allen, Inc., at a cost of $35,000 each.

LOS ANGELES LOFT BUILDING

The Mutual Income Properties, Inc., are owners of a $300,000 four-story Class A loft building to be built in San Pedro from plans by A. L. Smith, architect, Fidelity building, Los Angeles.

NEW COLLEGE DORMITORY

Plans have been completed by H. A. Minton, architect, 525 Market street, San Francisco, for a new dormitory at Santa Clara College. Construction will be started immediately.

PERSONAL

Messrs. Couchot and Rosewald, engineer and architect, have moved into new offices in the Underwood Building, San Francisco. E. Musson Sharpe, architect, occupies the same suite.

C. H. Salyers, 916 Eighth Street, San Diego, would like to receive manufacturers' catalogs to be used in connection with his new A. I. A. file. Mr. Salyers writes that of all his subscriptions to architectural magazines, he considers The Architect and Engineer the most interesting and valuable.

J. U. Clowdsley, architect of Stockton, received Honorable Mention for his design of the George Ditz home, which he entered in the *House Beautiful* Competition for the best small home in the United States.

Edward H. Russ, architect of Berkeley, has taken offices with R. Reede Hardman, First National Bank Building, Berkeley.

William G. Mann, architect of Seattle, has taken leave of absence from his office for a period of two months. He will visit southern California, Arizona and other southern points before returning.

Ernest Flores, architect, 1803 Franklin Street, Oakland, announces his firm will no longer operate under the name of Flores, Wood & Ward, but will undertake all future work as Ernest Flores, architect.

R. F. Felchlin, a member of the architectural firm of Felchlin, Shaw & Franklin of Fresno is convalescent from burns received December 5 when a water heater exploded in his home in Fresno.

Hugh Y. Davis of Davis-Pearce, architects and engineers, Stockton, is at his office again following an operation to his arm.

HONOR FOR WM. H. WEEKS

William H. Weeks, architect of San Francisco, Oakland and San Jose, won third prize for his design of the First Christian Church in Watsonville, the award being made by a jury of architects in the annual church building competition conducted by the *Christian Herald*. Mr. Weeks also received Honorable Mention for his design of the First Christian Church, Oakland. The first prize in the competition was awarded to John Russell Pope, architect of the First Presbyterian Church, New Rochelle, N. Y., while second prize went to Coolidge & Hodgdon, for their design of the First Presbyterian Church, Clinton, Iowa. The prize awards were made from an entry of 50 churches in 22 states and two foreign countries.

ARCHITECT OPPOSES "OR EQUAL" SPECIFICATIONS

A number of San Francisco architects are in receipt of a letter from the Down Town Association of San Francisco which explains a new venture about to be undertaken by the Association—that of aiding architects, contractors and manufacturers of building materials by forming a close co-operation between the investor, the architect, the contractor and the manufacturer. In conclusion the writer of the letter, B. C. Brown, makes the following appeal:

"We now ask the architects, the contractors and the manufacturers of building materials to notify us whenever an order for plans, a contract for the construction of a local buliding or an order for building materials are contemplated being let outside of San Francisco. On receiving this information, committees from the Down Town Association will immediately call on the investor, the architect or the contractor and take whatever action may be considered advisable."

Exception to this rather drastic plan is taken by many architects who are in the habit of specifying materials manufactured outside the city in which they are practicing for obvious reasons. Opposed to the plan is Louis C. Mullgardt, who has addressed the following letter to the Down Town Association of San Francisco:

"The architect occupies a compromising position in respect to Community Business Interests. He is inevitably general agent for specific kinds and qualities of building essentials, when drawings and specifications for a building project have been prepared. All sorts of incriminations come from almost every branch of the building industry, when the provisions are specific. If the architect's provisions are not specific, then the final results are usually unsatisfactory to both the investor and architect. The term "equal to" frequently used, is too indefinite to insure satisfactory results. Every large city produces similar but not identical products. The variations are as great in building products as in automobiles, pianos, oranges or celery. The architect must be specific, to give the investor that which he is entitled to for his investment. It is manifestly an act of misconduct when an architect deliberately and knowingly fails to provide whatever his client is entitled to, and because of a natural predilection toward favoring his own community business. In recognizing and fulfilling "first duty" to his client, he also serves the community best.

"The policy of intensive community development is unquestionably essential. The principle of foreign interchange in business is undeniably as important, intercommunally as it is internationally. There should be a definite limit-line beyond which a community business development policy would become retroactive; for instance, if outlying communities should incline the policy as a parsimonious attempt to exclude them from our patronage. This has happened elsewhere.

"With kindest regards, very truly yours,

"L. C. MULLGARDT, F. A. I. A."

LONG BEACH ARCHITECT MOVES

Joseph H. Roberts, who has been located at 311-312 Marine Bank Building, Long Beach, California, for the past eleven years, has opened temporary offices at 616 Pacific-Southwest Building, due to the fact that the Marine Bank Building is to be torn down.

Mr. Roberts, who has served for the past three years as secretary and treasurer of the Architectural Club of Long Beach, asks that all communications addressed to the Club be sent to his new address.

The office in the Pacific-Southwest Building will be used by Mr. Roberts until his new permanent quarters are ready for occupancy.

LE BRUN TRAVELING SCHOLARSHIP

Preliminary notice has been received of the Le Brun Traveling Scholarship competition for the year 1930. The winner of this competition receives $1400 to aid him in paying expenses of a European trip lasting not less than six months. Competitors must be nominated by members of the American Institute of Architects and nominations should be sent so as to be received before January 15, to LeBrun Scholarship Committee, Room 530, 101 Park Avenue, New York.

ARCHITECTURE

The three essentials of great architecture are proportion, dignity and refinement, said Norman Shaw the famous English architect.

Whether it be the peerless grace of the Taj Mahal, the combined mass and delicacy of Fontainebleau, the Gothic poetry of Milan, the Grecian purity of St. George's Hall, Liverpool, the stately Capitol at Washington, or one of our modern business buildings, by these three qualities—proportion, dignity and refinement, we may appraise architecture of buildings.

COUNTRY RESIDENCE

Plans have been completed in the office of Willis Polk & Company, 277 Pine street, San Francisco, for a $50,000 country house at Hillsborough, for Eugene Kauffman of the H. S. Crocker Company, San Francisco.

SOUTHERN PACIFIC HOSPITAL

Plans have been completed by Alfred I. Coffey and Martin J. Rist, associated architects, Phelan building, San Francisco, for a new wing to the Southern Pacific Hospital at Baker and Fell streets, San Francisco. Construction will be steel frame, concrete walls and floors and brick exterior. There will be accommodations for one hundred and twenty patients. The building will cost $600,000.

COMPLETING SCHOOL PLANS

The office of William H. Weeks, architect, Hunter-Dulin building, San Francisco, is completing drawings for the new Alhambra Union High School to cost $240,000, which is to be built at Martinez, Contra Costa county. The same office is also completing plans for the new Trace School addition at San Jose, estimated to cost $80,000.

JUNIOR HIGH SCHOOL BUILDINGS

A group of Junior High School buildings for the City and County of San Francisco is being designed in the office of William H. Crim, Jr., architect, 488 Pine street, San Francisco, at a cost of $650,000. The location is 25th and Noe streets. The group will include an administration building, shops, gymnasium and auditorium.

HONOLULU BUILDING

Contracts have been let for the construction of a three-story reinforced concrete wholesale drug building, office and warehouse, at Honolulu, for Langley, Michaels & Company, from plans by Henry H. Meyers, architect, Kohl building, San Francisco. The building will cost $109,000.

REINFORCED CONCRETE HOTEL

A reinforced concrete hotel is to be erected on the ocean front near Santa Monica, from plans by Walker and Eisen, architects, Western Pacific building, Los Angeles. There will be one hundred rooms. The cost is estimated at $250,000.

PALM SPRINGS HOTEL

A $1,000,000 resort hotel is to be built six miles east of Palm Springs, California, for H. L. Lewis, Wm. Bearman and associates. The architect is A. B. Rosenthal, Lankershim building, Los Angeles.

MERCED THEATER

Plans are being prepared in the office of Reed Brothers, architects, 105 Montgomery street, San Francisco, for a $200,000 theater at Merced.

FIVE DAY WEEK FOR BUILDERS

The San Francisco Builders Exchange has adopted the five day working week, according to the following resolution unanimously passed December 20th:

WHEREAS, the slackness in the building industry has created some unemployment, and

WHEREAS, investors now seem to be turning to real estate and construction, and

WHEREAS, there should be no doubt in the minds of the investing public as to the stability of the building labor markets and its costs, and

WHEREAS, there has been considerable request for a five day week for building mechanics on the buildings, and

WHEREAS, it is not practical or right that such program should include our shops, factories and business houses with their heavy carrying charges and overhead, and

WHEREAS, it seems advisable that both employer and employe should have the opportunity of testing out the advisability of the five day week for building mechanics employed on the buildings,

NOW THEREFORE BE IT RESOLVED by the members of the San Francisco Builders' Exchange, in meeting duly assembled, that until further notice and commencing with January 1, 1930, we will employ the mechanics *employed on the buildings* only five days for a week's work (except for mechanical emergency repairs) and

BE IT FURTHER RESOLVED that the wage scale for the year 1929 is hereby ratified and continued for the year 1930 at the same rates per day and for the days actually worked (except that the wages for those employed on mechanical emergency repairs will remain as at present), and

BE IT FURTHER RESOLVED that Saturday forenoon shall be considered a holiday and subject to the usual payment for overtime (except that Saturday forenoon will not be considered a holiday for those employed on mechanical emergency repairs).

SAN LEANDRO STORE BUILDING

Charles D. Vezey & Sons of Oakland, have been awarded a contract to construct a two-story steel frame and brick store and office building on the site of the old Estudillo house in San Leandro for $65,000. The architect is E. W. Cannon of Oakland.

DEPOT PLANS COMPLETED

Messrs. O'Brien and Peugh of San Francisco have completed plans for the new Pickwick stage depot and hotel at Eureka, Humboldt county. More than $500,000 will be expended on the ten-story structure. There will be a hundred and fifty rooms.

BAYWOOD CONSTRUCTION ACTIVE

Many new buildings are under construction and are being planned for the Baywood district near San Mateo from plans by Grimes and Schoening, 235 Third street, San Mateo. The work will include apartment houses and high class dwellings.

SANTA ANA FACTORY

A $4,000,000 factory to occupy an eighty acre site in Santa Ana is planned by the Pittsburgh Plate Glass Company.

1930 GOOD BUILDING YEAR

Modernization of cities is a neglected field offering vast opportunities for the building industry, declares D. Knickerbacker Boyd, chairman of the Committee on Public Information of the Philadelphia Chapter of the American Institute of Architects.

A healthy year is ahead for building if those associated with the industry realize the possibilities of the situation, according to Mr. Boyd, who points out the need of collaboration between architects and builders, and planning and zoning commissions and kindred organizations.

The construction consciousness of communities and citizens has been aroused by President Hoover to an extent that should assure prosperity, in the opinion of Mr. Boyd, who is president of the Philadelphia Building Congress.

"Aside from the construction in hand and in sight for 1930, as indicated by reports from governors, mayors and others, there remains a big field of heretofore neglected work for the whole of the building industry in almost every locality," Mr. Boyd says, in a statement issued by the Institute. "This field can be opened up in two ways:

"First, by participation in the home modernization movement, so well established in certain communities. The vast majority of buildings have been allowed to deteriorate or become 'out of date' to an alarming extent, and they should be rejuvenated without delay.

"This rehabilitation would carry with it not only the sale of building materials and other manufactured products but also would result in vastly increased sales of furniture, equipment and devices which always follow in the wake of activities in the building industry.

"Second, by the elimination of slums and the modernizing of the older sections of our growing cities. Fortunately, attention is now being called by the Better Homes in America Committees and women's organizations to the necessity of improving slum districts.

"Here again is a vast opportunity for activities in the building industry which will improve the living conditions and surrounding of those now residing in the older portions of communities neglected while new areas have been built up.

"Building Congresses in New York, Boston, Portland (Oregon), Philadelphia and elsewhere have for some years fostered activities to overcome seasonal periods of depression. They have shared in promoting the construction of schools and other buildings throughout the winter, and have made investigations and issued statistics showing the economic and communal advantages of year round construction.

"Both the public and the industry now seem to recognize thoroughly the general advantages of winter building. This statement, however, does not apply with the same force to some construction activities, such as road building, street repairs, sidewalks, sewer construction, etc.

"Viewing the situation broadly, it may be said with confidence, that the building outlook has never been brighter."

HOW MUCH ART IN "MODERN" ART?

[Contributed]

The desire for "something different" is laudable. It means progress—if kept within bounds. We have lately had a surfeit of so-called modern art—in design, in furniture, in typography—that was decidedly different. But it was not art. It violated every vital principle of harmony, symmetry, rythm, contrast, balance, emphasis and proportion.

A refreshing exception is a circular now before us, published by the Pacific Portland Cement Company. It features a remarkable specimen of concrete construction—the new factory of the Continental Can Company, Oakland, California; architects, Francisco and Jacobus, Los Angeles; contractors, Scofield-Twaits Company, San Francisco.

The circular represents the true type of modern art. Its artistic and factual points of emphasis co-incide. The eye naturally, easily and readily absorbs the main point, viz.: that with specially prepared forms and the use of Old Mission plastic waterproof Portland cement no further surface finish was needed when the forms were stripped. This marks a new step in the art of concrete practice.—C. R. L.

PRACTICING WITHOUT LICENSE

Pleading guilty to practicing architecture without a license, I. D. Northcutt, service architect for the Greater City Lumber Company, was fined $100 by Police Judge O'Brien. Northcutt was arrested on a warrant sworn to by Frank A. Johnson, inspector for the State Board of Architectural Examiners. The recently amended act regulating the practice of architecture in California requires all practicing architects to have a license. Judge O'Brien's court is in San Francisco.

COMPANY CHANGES NAME

The name of The Safety Stair Tread Company has been changed to Wooster Products Inc. Since 1921 the Safety Stair Tread Company has been manufacturing several types of anti-slip stair treads. They have been unusually successful in the acceptance of these products for use in schools, institutions, office buildings, and similar places.

FRIZE WINNING DESIGN IN NATIONAL AIRPORT COMPETITION

A. C. ZIMMERMAN AND W. H. HARRISON, ASSOCIATED ARCHITECTS

Courtesy, Southwest Builder and Contractor

LOS ANGELES ARCHITECTS WIN NATIONAL AIRPORT COMPETITION

GRAND prize of $5,000 cash in the Lehigh Valley Cement Company's airport national competition, has been awarded to A. C. Zimmerman and W. H. Harrison, associated architects and engineers, Los Angeles.

In explanation of their solution of the problem offered in the competition, the architects made the following statement:

"In our field layout, we chose the quadrant of a circle, placing this in a square which concentrates the area for buildings and other facilities. On this we placed eight runways, making what is known as a 16-way field, these runways having a minimum length of 3500 ft. Since the program stipulated that the prevailing winds should be assumed to be equal in the eight cardinal and quarter points of the compass, we felt it was mandatory that these runways form angles of 22½ degrees with each other. We used an eight-runway system so that it would be possible with any wind direction to have a plane landing on one runway and a plane taking off on another runway with no interference, and no plane off-wind over 22½ degrees. This 16-way field could be cut to an eightway field, eliminating the possibility of simultaneous landing and take off without destroying the design of the field. This could be accomplished by eliminating the two runways that are parallel to the sides of the field and the two runways that are at 45 degrees to them. This of course, would necessitate a taxi strip in the place of the center runway that runs into the loading point. The taxi strips are used for field control and to immediately clear the runways.

"The entire design of the airport is built around the field control tower and loading point for transport planes. It is possible, with this design, for five 100-ft. wingspread transport planes to taxi up to the loading points and simultaneously load or unload and taxi away under their own power without interfering with each other. Larger planes could be accomodated by extending the telescoping steel tunnels. As shown, there are three tunnels used for unloading and two for loading. The number of tunnels used for loading or unloading may be easily changed by an attendant shifting the division between the arriving and departing portions in the loading point. Future expansion at the loading point can be taken care of by building intermediate tunnels and lengthening the existing tunnels.

"The first floor of this building is devoted exclusively to passengers. A circular stairway used only by the personnel leads to the second floor, in which is a registration room for pilots, radio department, weather bureau, toilets, lockers and a large pilot's room. The third floor is devoted to field control.

"The telescoping steel tunnels that extend out to the doors of the planes from the concrete tunnels could be automatically controlled from this tower if desired.

"We felt the necessity for separating small private or taxi planes from the large transport planes and provided a means of enplaning or deplaning without interfering with the transport planes, as shown on the plan.

"The loading point for transport planes is reached by descending a ramp leading out of the passenger station, through a tunnel, and up a ramp into the loading point.

"Deplaning immigrants must ascend a stairway from this tunnel and go through the immigration department before entering the passenger station proper.

"The entire second floor of the passenger station is used for observation. Ample provision is made for future expansion in this building as shown on the plan.

"The design of all the buildings of the airport is modern in character, which is in keeping with the newness of the airport problem. The buildings are designed as being principally of concrete construction, the finish and the ornaments being cast in place."

H. ROY KELLEY AGAIN

Has H. Roy Kelley ever missed a Mention in any of the numerous competitions he has entered? Two more recognitions of his versatility have to be chronicled this month. One is his design for an airport in the Lehigh Valley Cement Company competition, which received honorable mention, and the other his First Church of Christ, Scientist, Filmore, submitted in the *Christian Herald* Church Building competition.

SOCIETY and CLUB MEETINGS

WASHINGTON STATE CHAPTER

The November meeting of Washington State Chapter, A. I. A., was held at the College Club, Seattle, Thursday evening, November 7th.

At the conclusion of the usual dinner the meeting was called to order by President Ford. The minutes of the last regular meeting were read and approved as was also the report of the treasurer. The proposed change in the Chapter by-laws changing the name of the Executive Committee to Executive Board was presented for final action and unanimously adopted.

The secretary read a letter from the executive secretary of the Institute in regard to a proposal to have the present standard general conditions of the contract documents re-written for smaller projects such as residences.

The executive committee of the Institute believed it to be inadvisable to issue a condensed set of general conditions at this time, as the Institute committee on contracts believed that two sets of general conditions would be confusing, and attention was called to the fact that the general conditions as now published have been carefully studied by the architects as well as by the contractors and are well known to the building fraternity. They have stood the test of time and usage and have proved very satisfactory.

A letter was also presented from the Institute committee on public information, relative to its general committee program. The president called the attention of the Chapter to the fact that the Chapter's public information committee has been for two years proceeding quite successfully along practically the same lines as was now recommended by the National Committee.

Mr. Myers, chairman of the Civic Design committee, presented recommendations of his committee regarding the proposed bridge to cross Lake Washington either through or in the vicinity of Seward Park, Seattle.

* * *

A notable event in the annals of the Chapter was a duck luncheon extended the Executive board at its regular weekly meeting at the College Club, November 27th, by former President Harlan Thomas, whose skill as a sportman was abundantly appreciated.

The Architects' Wives Club recently resumed activity with the election of officers, consisting of Mrs. Carl F. Gould, president; Mrs. Sumner L. Hinman, secretary, and Mrs. Lance E. Gowen, treasurer, the club to hold meetings on special occasions.

SOUTHERN CALIFORNIA CHAPTER

Election of officers for 1930 and the election of delegates for the 1930 annual convention marked the meeting of the Southern California Chapter, A. I. A., on the evening of December 10.

The officers elected were: H. C. Chambers, president; Carleton M. Winslow, vice-president; H. Roy Kelley, secretary; Ralph C. Flewelling, treasurer; Gordon B. Kaufmann, director for three years.

The delegates elected for the 1930 convention to be held in Washington, D. C., were: David J. Witmer, William Richards, A. M. Edelman, Edgar H. Cline, Carleton M. Winslow, Charles H. Cheney, Ralph Flewelling. The alternate delegates elected were: Pierpont Davis, Arthur L. Acker, J. E. Allison, Eugene Weston, Palmer Sabin, Gordon B. Kaufmann, Arthur R. Hutchason.

LOS ANGELES ENGINEERS MEET

The December meeting of Los Angeles Chapter, American Association of Engineers, was held at the Engineers Club in Los Angeles on Friday, December 20th. "Registration of Engineers in California" was the subject of the evening and it was very well handled by James F. Collins of Long Beach, director of the Department of Professional and Vocational Standards, and Donald M. Baker, president of the Board for the Registration of Civil Engineers. A. M. Edelman, Secretary of the Board of Architectural Examiners, Southern District, expressed the viewpoint of the architects, and Pecos H. Calahan, Secretary of the California Engineers Registration Association, told the accomplishments of the Registration Association and the need of continuing the organization for further work.

Places at the speakers' table were reserved for Mr. and Mrs. James F. Collins, Mr. and Mrs. Donald M. Baker, Porter H. Albright, president of Los Angeles Chapter, A. A. E., Carl B. Wirshing, Commissioner of Public Works, Frank H. Olmsted, Pecos H. Calahan, William C. Hogoboom, Hubert Ferry, A. L. Sonderegger, A. M. Edelman, F. E. Trask and Mariabelle Sutherland, the efficient secretary of the local chapter of the A. A. E. Many other prominent engineers of Los Angeles attended the meeting to learn more about the registration of engineers.

President Porter Albright announced that the Honorable C. C. Young, Governor of California, would be the guest of honor and the principal speaker at the January meeting.

L. A. ARCHITECTURAL CLUB NOTES

(From the December *Lintel*)

The November meeting, in which the Southern California Chapter, A. I. A., the *Los Angeles Times* and the Los Angeles Architectural Club joined forces was, to all intents and purposes, a success, and considering the great social problems faced which were almost analogous to those faced by the Washington diplomats in the Gans-Longworth controversy, it was a success.

There were two presidents, a past-president and chairman, important representatives of the press, realtors and three guests of honor all wanting to occupy one chair. It's a well known fact that no more than two persons should occupy the same chair at once and then not in public, so the impossible was faced.

Philosophers maintain that any man important enough to raise the question of precedence is great enough to attract so much deserved attention to himself that wherever he may sit is the head of the table. This policy was followed with the result that the table resembeled the nine-headed Hydra—heads stuck out everywhere.

A great many people talked, including both Roy Kelley and Harrison Clarke, in whose honor the meeting was held, but it was not until Alma Whitaker spoke of the modesty and altruistic ideals of her near neighbors that the real genius of the evening actually displayed itself, for where perspicacity and perspicuity meet, the results are delightfully illuminating.

John Steven McGroarty spoke feelingly of the architecture of California and deftly spotlighted certain romantic phases of our earlier history. The *Times* was well represented with Mr. McGroarty, Mr. Trueblood, Miss Whitaker, Mr. Grant and Mr. Hanson—as Mr. McGroarty might have said had he been a little bolder—"We of the *Times* believe that five men can do the job better than one."

* * *

The architectural profession may not have all gone "moderne" but the Architectural Club *has* gone Russian! For its Christmas meeting, anyhow. It was held Tuesday evening, December 17th, at the Russian Artcraft Club, 5311 Hollywood Boulevard.

The Club House is picturesque rather than imposing, set far back from the street, among trees. Its interior decorations, rich in Slavic design and color, tell the ever-interesting stories of Russian mythology. Ogres and dragons, knights and giants disport themselves in alarming array.

The dinner and entertainment was in the hands of Madame Sonia Poushkareff who had planned a program of ballet and songs of her native country.

* * *

The second dinner meeting was held at the Atelier, Thursday, December 5th, with the critics on the evening problem as honored guests. The very successful results of the previous problems were announced.

The work is on exhibit at the Atelier (1548 W. 7th street) and every one is invited.

New quarters for the Atelier have not been found as yet.

ARCHITECTS ARE GUESTS

Southern California Chapter, Associated General Contractors, entertained their architect friends at the meeting of the Building Division in the Jonathan Club, Los Angeles, December 19. Following an instructive entertainment and showing of a moving picture taken during the construction of a soundproof studio for making talking pictures, the evening was taken up with an informal discussion of matters of mutual interest to architects and contractors, in which all of the architects present and many members of the Chapter participated.

It was announced by Melville Dozier, Jr., that James F. Collins, director of the Department of Professional and Vocational Standards and also registrar of contractors, had announced in an address at the A. G. C. convention held in San Francisco recently, a plan to form in his department a division comprising the architects, the engineers, the contractors and the public accountants. The license laws for each of these groups is administered through Mr. Collin's department. He hopes by occasional conferences to bring these four elements more closely together for constructive work looking to professional advancement of the different groups and the general betterment of the construction industry.

Robert H. Orr, architect, member of the Los Angeles Board of Building and Safety Commissioners, who was the guest of honor, gave some of his impressions of the duties of the board and its relations to the public and to the building industry, and called special attention to the discussion of the question of modifying the height limit provisions for buildings contained in the city charter, which the board has invited preliminary to some definite action either for or against any change which the board will later recommend to the city council.

ANALYSIS OF THE NEW LAW REGULATING THE PRACTICE OF ENGINEERING IN CALIFORNIA

AFTER June 30th of this year the new State Board of Engineer Examiners will issue certificates to practice only after examining applicants. The new California State Law regulating the practice of Engineering is administered under the State Department of Professional and Vocational Standards, of which Major James F. Collins of Long Beach is directro. The members of the Examining board are Donald M. Baker, Los Angeles, president; H. J. Brunnier, San Francisco, vice-president; Albert Givan, Sacramento, secretary; P. H. Calahan, Los Angeles, assistant secretary.

For the benefit of those who would know the salient points in the new law, stripped of legal phraseology, an analysis of the measure prepared by Melville Dozier, Jr., member of the American Society of Civil Engineers, is printed herewith, by courtesy of *Southwest Builder and Contractor*:

Sec. 1—Registration Requirement

To safeguard life, health and property civil engineers must qualify to practice, and it shall be unlawful to practice civil engineering unless duly registered or specifically exempted.

Sec. 2—Creation of Registration Board

A registration board of three members, all registered civil engineers, shall be appointed by the governor.

Terms of office shall be four years each, except first two appointees, whose terms shall be two and three years respectively, in order that only one term shall expire in any one year.

The governor may remove members for misconduct, incompetency or neglect of duty; all vacancies to be filled by the governor.

Each member must be a citizen of United States, a civil engineer of twelve or more years' actual experience, and of good standing in his profession, thirty or more years of age, and shall have resided in this state five or more years immediately preceding appointment.

Each member shall receive $25 per diem when attending sessions of board, and necessary expenses incident to performance of duties.

Sec. 3—Powers and Duties of Board

Each member shall receive certificate of appointment, file oath of office, and receive certificate of registration.

Any member may administer oaths and take testimony.

The board shall adopt a seal which shall be affixed to certificates of registration.

Sec. 4—Organization and Operation of Board

The board shall organize, elect officers, adopt rules and by-laws, and hold at least two regular meetings a year.

The board shall appoint a secretary at a salary not to exceed $3600 per year.

The board shall hold examinations as often as it deems necessary.

Special meetings and notices shall fulfill requirements of by-laws.

A majority of the board shall constitute a quorum.

Sec. 5—Secretary's Duties and Bond

The secretary shall receive all funds, report to state controller monthly, and deliver funds to state treasurer for deposit in Civil Engineers' Fund, which shall be expended for carrying out provisions of this act.

The secretary shall give surety bond for faithful performance and premium shall be paid from Civil Engineers' Fund.

Sec. 6—Records, Roster, Reports and Clerical Assistance

The secretary shall keep all records, which shall be open to the public, and shall prepare annual roster of engineers.

Copies of roster shall be filed with state secretary and clerks of all counties, furnished to all registered engineers, and made available to applicants for same.

The board shall make an annual report to the governor and file a copy with state secretary.

The board may employ clerical assistance under civil service regulations.

Sec. 7—Application Fee and Necessary Qualifications

Each application must be accompanied by an application fee of $15, and under oath must contain satisfactory evidence that applicant (a) is at least 25 years of age; (b) is of good character; (c) has practiced as a civil engineer at least six years, including at least one year in responsible charge of engineering work as a subordinate to a civil engineer. Graduation from an approved college of engineering shall count as four years' practice, and each college year for a non-graduate as one-half year's practice.

Sec. 8—Examination of Applicants

Examinations for registration shall be held at such times and places, and shall include such scope and methods of procedure, as the board shall prescribe.

Examinations shall be conducted by at least two members, and a majority vote of the board shall be required to quality an applicant.

A candidate failing to qualify may be examined again after an interval of one year or more.

Sec. 9—Registration Fee and Issuance of Certificate

(a) The successful candidate, upon payment of an additional fee of $10, shall receive a certificate of registration authorizing him to practice as a civil engineer.

(b) A lost, destroyed or mutilated certificate may be replaced by new certificate upon payment of a charge of $1.

Sec. 10—Present Practicing Engineers to Receive Certificates

Any civil engineer who shall file with the board before June 30, 1930, an application under oath containing evidence satisfying the three qualifications of Sec. 9 of this act, and accompanied by the application fee of $15, shall receive a certificate of registration, providing he has been a resident of the state at least one year immediately preceding the date of application.

After June 30, 1930, the board shall issue certificates only after examining applicants.

Sec. 11—Reciprocity with Other States

The board shall examine engineer registration requirements of other states, territories and counties, and may arrange for mutual reciprocal registration where other standards are not lower than those provided in this act.

Any engineer holding an unexpired certificate in another state, territory or country having reciprocity arrangements with this state, shall, upon payment of the registration fee of $10, receive a certificate of registration under the provisions of this act.

Sec. 12—Revocation of Certificates of Registration

(a) The board shall inquire into the identity of anyone practicing as a civil engineer without a certificate of registration.

The board by two-thirds vote shall have power to revoke the certificate of any civil engineer found guilty of fraud or gross incompetency in his practice, or guilty of fraud or deceit in his practice, or guilty of fraud or deceit in obtaining his certificate of registration.

(b) Proceedings for revocation of certificate shall be begun by filing detail charges under oath with the secretary, and the board shall fix the time and place for hearing, furnishing the accused with a copy of the charges at least 30 days before the date of hearing.

The accused shall have the right of counsel, witnesses and cross-examination in his defense.

The board shall have power to compel attendance of witnesses and production of documents.

The board, by a vote or two or more members, may for reasons which it deems sufficient, reissue a revoked certificate of registration.

Sec. 13—Annual Fee and Renewal of Certificates

(a) All certificates shall expire on the June 30 following their dates of issuance.

(b) Renewal certificates shall be issued to those registered engineers who shall pay to the secretary the $5 annual renewal fee on or before June 30 of each year.

Certificates which have expired for failure to pay annual renewal fee may be reinstated within one year under rules prescribed by the board.

An unrevoked, or unexpired certificate, or endorsement of registry, shall be presumptive evidence in all courts that the person therein named is legally registered.

Sec. 14—Seal of Registrant

Each registrant may obtain a seal, authorized by the board, bearing his name and number of his certificate, and the words "Registered Civil Engineer."

Said seal may be stamped on plans, specifications, reports and documents during the life of registrant's certificate, but it shall be unlawful to use such seal when the certificate has expired or been revoked.

Sec. 15—Employees and Owners Exempted

This act shall not prohibit a civil engineer from practicing his profession as an employee of a partnership or corporation, providing plans, specifications and reports be signed and stamped with the seal of the registered engineers in responsible charge of the preparation of the same; and the same exemptions shall apply to partnerships and corporations.

This act shall not require registration for the purpose of practicing civil engineering, by individual, partnership or corporation, in connection with property owned or leased by such individual, partnership or corporation, unless the same involves the health and safety of its employees or of the public; providing no one shall represent himself as a registered engineer unless he be so qualified under this act.

Nothing in this act shall be construed as repealing or abrogating any provision of the act to regulate the practice of architecture.

Sec. 16—Exemptions from Provisions of Act

The folliwing shall be exempt from the provisions of this act:

(a) Officers and employees of the United States when so practicing.

(b) Subordinates to registered engineers, or to civil engineers exempted under this act, when so acting.

(c) Any architect registered under the act to regulate the practice of architecture, when so practicing architecture solely.

(4) Any person, partnership or corporation furnishing labor and materials for stone fronts, interior alterations, fixtures, furniture or other appliances or equipment, or for any work necessary for their installment.

Sec. 17—Violations and Penalties

Any person shall be deemed guilty of a misdemeanor who does any of the following:

Practices civil engineering in this state without obtaining authorization under this act, unless specifically exempted.

Presents, or attempts to file as his own, the certificate of another.

Gives false evidence to any member of the board in obtaining a certificate.

Falsely impersonates or uses the seal of any other practitioner.

Uses an expired or revoked certificate.

Upon conviction of any one of such offenses the punishment shall be a fine not to exceed $500, or imprisonment of not to exceed three months, or by both fine and imprisonment.

Sec. 18—Administration by Department of Professional and Vocational Standards

All duties and powers proposed for the several officers, deputies and employees of the board are vested in and shall be administered by the director of the department of professional and vocational standards.

The new department shall not, however, supplant or abolish the board of registration, and such board shall continue to set standards, hold meetings, issue certificates, pass upon qualifications of engineers, conduct investigations, issue citations, hold hearings for revocations and impose penalties; and the decisions of the board shall not be subject to review by the director of the department of professional and vocational standards.

The director of the department of professional and vocational standards shall have full authority to employ and appoint employees to administer the work of the board in accordance with civil service regulations.

Upon recommendation of the board, and with the approval of director of the department of finance, the director of the department of professional and vocational stand-

ards shall employ investigators and attorneys to assist the board in prosecuting violations of this act.

All moneys collected for and on behalf of the activities of the board shall be remitted to the state treasurer and credited to the civil engineers' fund.

The director of the department of professional and vocational standards, with the approval of the director of the department of finance, may levy a charge against the civil engineers fund, not exceeding the mount of the available balance in the fund, to cover the board's prorata share of the estimated administration expenses of the department of professional and vocational standards; but none of such moneys shall be used to pay the expenses of any other board in the department of professional and vocational standards.

The state controller shall, upon proper presentation of claims by the department of professional and vocational standards, draw his warrants against the civil engineers' fund to cover such estimated administration expenses.

TWO VALUABLE BOOKLETS

More and more it is becoming the work of the designer to pre-determine in advance of actual construction, the day lighting and airation characteristics of the industrial buildings he plans.

A non-technical presentation of the methods is given in two booklets, "Industrial Daylighting" and "Industrial Airation," recently published by the Detroit Steel Products Company, manufacturers of Fenestra steel windows.

The information given in these books is based on seven years of experimentation by Fenestra engineers in cooperation with the Department of Engineering Research of the University of Michigan. Thousands of tests have been made in the University Laboratory.

The principles of daylighting and airation are presented in these books in a form that will make them usable to (1) architects, engineers and plant owners or executives who are contemplating or preparing plans for an industrial building and (2) plant, maintenance and production engineers who wish to improve or alter daylighting and ventilating conditions in plants now operating.

In each book the material is divided into 18 subjects, some of which are: "How to Get Evenly Distributed Daylight," "Monitor Windows Versus Skylight," "How to Figure the Daylighting for Your Building," "Daylighting a Multi-Story Building," "What is Considered Good Ventilation," "Temperature Difference as a Means of Moving Air," "How a Typical Roof Monitor Operates" and "How Should a Building be Designed for Airation."

The books may be obtained, without charge or obligation, from the Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Michigan.

DAHLSTROM DOORS SAVE FIRE LOSS

The truth of the Dahlstrom Metallic Door Company's slogan, "No building is more fireproof than its doors and trim" was again shown in a fire on November 17th, at Waco, Texas. The fire broke out in a beauty shop on the tenth floor of the Amicable Life Insurance Company Building. It was prevented from spreading and probably gutting the entire floor, by Dahlstrom metal doors and trim. A clipping from a Waco paper states:

"The fire cooked the plaster from the walls, cracked the window panes and blistered the fireproof doors, but it did not break through into adjoining offices."

The 20 story Amicable Building, erected in 1911, was the first skyscraper built in Waco and is a landmark for the surrounding country. Sanguinet & Stoats, architects, of Fort Worth and the Westlake Construction Co., of St. Louis, contractors, met an unexpected difficulty while excavations for the building were being made. An underground lake was discovered, necessitating extensive pumping, sinking caissons and a complete revision of foundation plans.

When construction finally got under way, the Amicable Life Insurance Company, now one of the largest life insurance companies in the Southwest, ordered Dahlstrom metallic doors and trim. They realized the danger of fire and recognizing the fire-resisting qualities of metal, wished to protect themselves and their tenants from possible serious losses. Their foresight was completely justified by the recent fire. Confined to its place of origin by hollow metal doors and trim, it did a minimum of damage to tenants and to the building itself.

TELEPHONE BUILDINGS FOR NORTHWEST

The Pacific Telephone & Telegraph Company announces expenditures for 1930 for new buildings in the State of Washington, as follows:

Centralia—Office building	$ 120,000
Olympia—Office building	120,000
Seattle—Office and exchange building	2,100,000
Spokane—Central Office building—and new dial type equipment	1,000,000
Tacoma—Building for business section, central office equipment and exchange lines	600,000
Yakima—Completion of central office building and dial type equipment	500,000
Walla Walla—Central office building and new equipment	250,000

BUILDING INDUSTRY IS SOUND

"Increased efficiency in all phases of the building industry will be demanded from now on." This is one of the highlights in a timely article by Alfred E. Fountain, Jr., in the October issue of *Nation's Business*. Quoting further from Mr. Fountain's article we are informed that:

"The building industry presents opportunities for wealth and service exceeded in no other line of human endeavor. Because of its exacting requirements it may never become a young man's business in the sense that others are. But it can, will and must, take unto itself newer and more youthful ways, and in doing so offers to those who shoulder the burden of the change prizes commensurate with the effort.

"Let not the confused and bewildered manufacturer earnestly seeking the answer to his new market problem, turn aside from the task as unworthy. Such a shirking of responsibility would not be entirely unnatural from the older and richer of the industry, but building needs these older and more experienced heads as they were never needed before.

"The prize far transcends dollars. It is better shelter for the nation. An awakened industry will produce better products in the sense that they will be designed more closely for their needs. Better and more modern style will mean homes better adapted to human needs. Goods will be easier to get and easier to pay for. There will be a wider and better understanding of the proper use of building materials. Even if building prices do not go down, we will all get more for our money and will have better, more beautiful homes and factories.

"Another bright point in the picture is the inherent stability of the industry, based on the stability of land itself. Except for temporary setbacks, building has always enjoyed an increasing growth. It always has been, is and always will be, the second largest market in American industry—the market in which demand does not have to be created but always exists.

"In no other line of human endeavor does such vast purchasing power lie in the hands of so few people. This small group is divided into four clearly defined subdivisions—owners, architects, contractors and building supply dealers.

"In the entire country there are only about 8,000 architectural offices, nearly 200,000 contractors or subcontractors and approximately 25,000 material dealers. These men are easy to reach either by personal or printed selling.

"A little study will make it evident that architects, contractors and dealers are far more interested in and concerned about the purchase of material from the manufacturer than they are about its resale to the consumer. So, without loss of time or waste of money, the manufacturer can take his wares quickly and cheaply to three of the possible four buying factors.

"Nor need there be concern about spending money to reach this market. Architects, contractors and dealers may arrive at decisions about material slowly, may not even be able to buy at once, but when convinced can be counted on as customers who will say 'yes' at the buying moment with a conviction based on knowledge and experience, and not on passing impulse."

NEW TRADE LITERATURE

TILE FLOORING—A Johns-Manville product. This brochure describes this company's Type A flooring, a resilient type that is said to possess unusually long life, is easy to maintain and inexpensive to buy. Fully illustrated with specifications and other useful data.

FLORIDENE STONE—A Johns-Manville product. This brochure describes an American quarried decorative stone which is especially adaptable for church interiors, public and residential buildings. Possesses unusual structural and decorative qualities. Its color is a soft neutral buff.

CRITTALL CASEMENTS—One of the most complete catalogues of casement windows published in recent years. Standard size, conveniently compiled, well illustrated. Is published also in Sweet's Architectural Catalogue for 1930, Pages A-1131 to A-1200. Duplicate copies may be had on request.

WALLER TAYLOR HONORED

Confirmation of his election to the Board of Directors of the American Institute of Steel Construction, to represent the entire Pacific Coast territory, has been received by Waller Taylor, president of Consolidated Steel Corporation, Los Angeles, from Institute headquarters.

Mr. Taylor's elevation to the directorate of the national organization was a tribute to the leading part the executive has played in the upbuilding of the steel industry on the Coast, and to his work on behalf of the Institute. His election took place at the recent annual convention at Biloxi, Mississippi.

It was pointed out that largely through the efforts of executives like Mr. Taylor, the Institute was able this year at its convention to frame and adopt a code of trade practices which is calculated to be of inestimable benefit to the building industry as a whole. The code was considered one of the strongest ever adopted by any industry in its condemnation of unfair trade practices and its repudiation of those who practice them.

PASADENA OFFICE BUILDING

A nine-story Class A medico-dental office building to be erected in Pasadena, is being designed in the office of S. Charles Lee, Petroleum Securities building, Los Angeles. There will be ninety-two offices and three stores.

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THE ARCHITECT AND ENGINEER (R. D. Bunn, Representative)	410
ADAMS, Charles G.	1016
BASHFORD, Katherine	710
BUILDING MATERIAL EXHIBIT	First & Mezz.
COATE, Roland E.	701
DeAHNA, Manfred	806
DODD & RICHARDS	606
EAGER, W. W.	505
HEAD, Chalfant	806
HUTCHASON, Arthur	1102
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STANTON, REED & HIBBARD	1107
STAUNTON, Wm. S. Jr.	806
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WHARTON, Heth	802
WINSLOW, C. M.	1001
WITMER, David J.	903
WOOLLETT, Wm. Lee	802

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 3307 Wilshire Boulevard, Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

WHAT'S WHAT
IN MATERIALS

WHO'S WHO
AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 162

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Ruud Heater Co., (gas), 245 Mason Street, San Francisco.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles, (also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

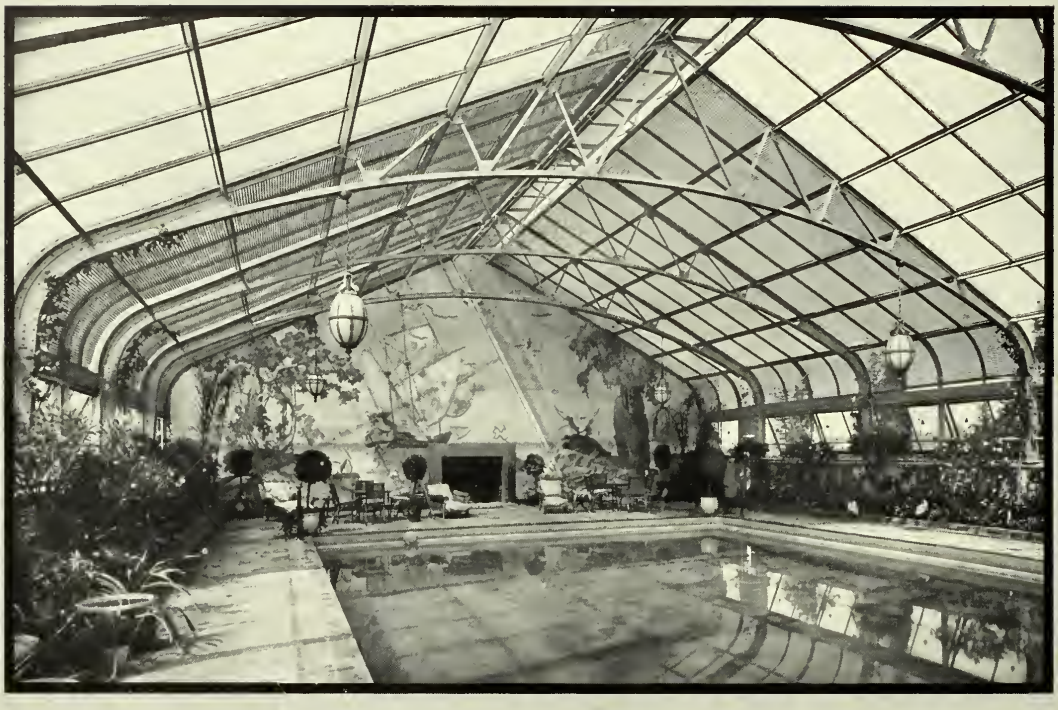
WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.



Architects, TREANOR & FATIO

LOUIS JAMBOR, *Mural Painter*

This Pool Glass-Over is a distinct departure

Decidedly Worth Your Thought

QUITE one of the most delightfully interesting Pool glass-overs on Long Island is that of J. P. Donahue at Southampton.

One of the secrets of its charm lies in the general color treatment. Everything is so handled as to reflect a feeling of the sea, which is further enhanced by the Louis Jambor seascape mural over the fireplace.

The pool itself is done in three shades of turquoise. The lightest color is at the bottom, the darkest at the top, duplicating in a surprising way the effect of the sea.

Ingenious concealed lighting on the sides turns the turquoise into midnight blue at dusk.

All the roof frame work is painted a softened blue-green. The furniture repeats this color, lined in cheering red. The lighting fixtures are gleaming globes of sea-green.

It is so much more than a flower and plant surrounded swimming pool, as at one end is ample place for lounge chairs where when inclined, one can literally soak oneself in sunshine. Or by drawing the Venetian blinds on the roof, agreeably soften the glare.

Your interest in all this, will doubtless prompt your sending for our special printment on Glassed-Over Swimming Pools and Plunges.

New York
Albany
Philadelphia
St. Catharines
Chicago
Boston
Buffalo

Lord & Burnham Co.
IRVINGTON, N. Y.

Cleveland
Denver
Detroit
St. Louis
Greensboro, N. C.
Montreal
Toronto

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

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.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Elliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Elliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 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 balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

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

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.		
1 1-16x2¼" T & G Maple	145.50 M ft.		
⅞x3½ sq. edge Maple	132.50 M ft.		
	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $92.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots ...14c
Less than 500 lb. lots.....14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.80
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $4.50 per 1000.

2.5-lb. metal lath (dipped)	.19
2.5-lb. metal lath (galvanized)	.22
3.4-lb. metal lath (dipped)	.24
3.4-lb. metal lath (galvanized)	.29

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

(Five Working Days)

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

The ARCHITECT AND ENGINEER

FEBRUARY
1930

OTIS

SIGNAL CONTROL ELEVATORS

IN

PACIFIC COAST CITIES

Merchants National Trust & Savings Bank Building
Los Angeles

*Southern California Telephone Company Building
Los Angeles

Board of Trade Building
Los Angeles

Russ Building
San Francisco

Hunter-Dulin Building
San Francisco

Pacific Telephone and Telegraph Building
San Francisco

Four-Fifty Sutter Building
San Francisco

*Shell Oil Company Building
San Francisco

Public Utilities Building
Portland

Paulsen Medical and Dental Building
Spokane

Fourteen-Eleven Fourth Ave. Building
Seattle

Shopping Tower Building
Seattle

Medical-Dental Building
Vancouver

OTIS ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

*Under Construction.

VOLUME C
NUMBER 2

The ARCHITECT AND ENGINEER

FEBRUARY
1930

Contents

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ENTRANCE DETAIL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS

ROY SELDON PRICE, ARCHITECT

The
ARCHITECT
AND ENGINEER

VOLUME C FEBRUARY, 1930 NUMBER TWO

HOUSE OF LITA GREY CHAPLIN BEVERLY HILLS, CALIFORNIA

WHEN one hears that an architect has been commissioned to prepare plans for a home for a motion picture star, the thought at once occurs that the architect is going to have unlimited funds with which to carry out his ideas. And it seems to be an accepted fact that he may proceed to give his client something out of the ordinary—a house that will be a show place for the owner's friends and visitors—more showy, perhaps, than comfortable.

In designing the residence in Beverly Hills, California, for Lita Grey Chaplin, former wife of Charlie Chaplin, the architect, Roy Seldon Price, has happily not attempted to follow the accepted idea referred to just because his client is a member of the motion picture colony. On the other hand he has striven for simplicity and comfort. Furthermore Price has demonstrated in his Chaplin house that it is not essential to slavishly follow even a traditional style. His aim has been for livability, convenience, outlook, exposure; to express simply the feeling of "homey" comfort in an informal way. The grounds, with their swimming pool, lawns, shrubbery and easy chairs, carry the same atmosphere of domestic comfort.

Close attention has been paid by the architect to all interior details that would in any way lend comfort to the occupants. Modern conveniences are embodied in the equipment of the house and an added feature that undoubtedly affords much pleasurable entertainment to its owner and guests, is a pipe organ. This was added when the house was almost completed and was made possible by a clever arrangement of the architect. The organ chamber was buried beneath the inner garden in a water-proof concrete room connected by a tunnel with the house basement.

The pictures illustrating the Chaplin house are the first to be published and THE ARCHITECT AND ENGINEER feels honored in being privileged to show in detail Mr. Price's latest, and we think, one of his best achievements, in domestic architecture.

ELEVATION, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

Photo by Miles Brue

HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS, CALIFORNIA
ROY SELDON PRICE, ARCHITECT

Photo by Miles Berne

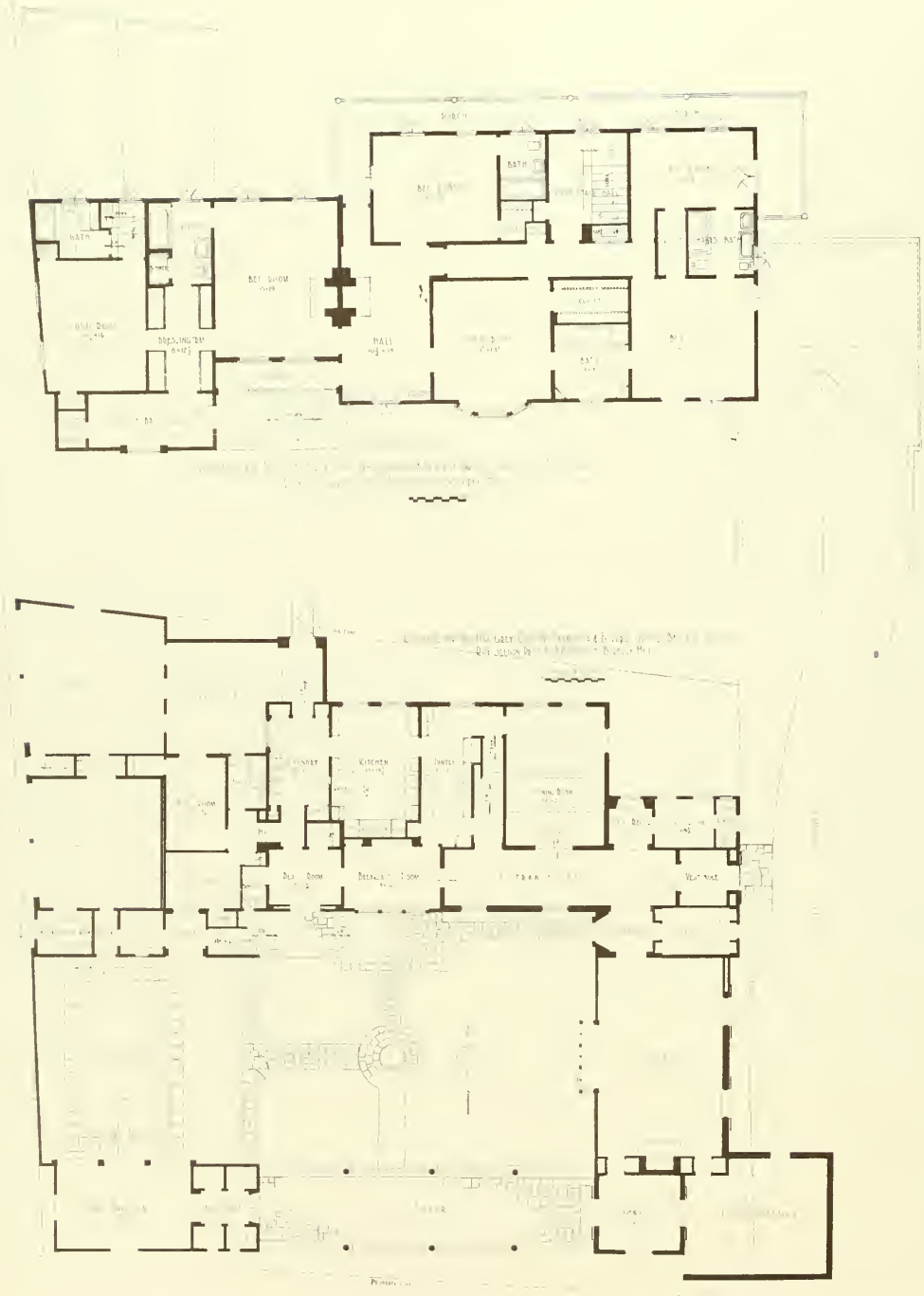
GARDEN ELEVATION, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

Photo by Miles Beaue

Photo by Miles Berne

THE POOL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS

ROY SELDON PRICE, ARCHITECT



PLANS, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
ROY SELDON PRICE, ARCHITECT

RECEPTION HALL, HOUSE OF LITA GREY CHAPLIN, BEVERLY HILLS
Roy Seldon Price, Architect

BREAKFAST ROOM

HOUSE OF LITA GREY CHAPLIN

BEVERLY HILLS, CALIFORNIA

Roy Seldon Price,
Architect

CIVILIZATION: METAL and ARCHITECTS

By Wm. I. Garren, A.I.A

AB'S eyes danced as he watched his father carefully build a fire against the wall of the cliff. Just outside the cave towered a huge cliff of red paint rock. For weeks the father had dried and baked logs of wood in an earth pit, until they were charred and black; and now a raised oven having been built, the charred wood was carefully piled against the wall of rock. Proudly Ab, with a braided rope around his sturdy little shoulders, dragged wood for the fire. Why should he not be happy — a new ax was to be his reward, heavier and stronger than his old flint weapons.

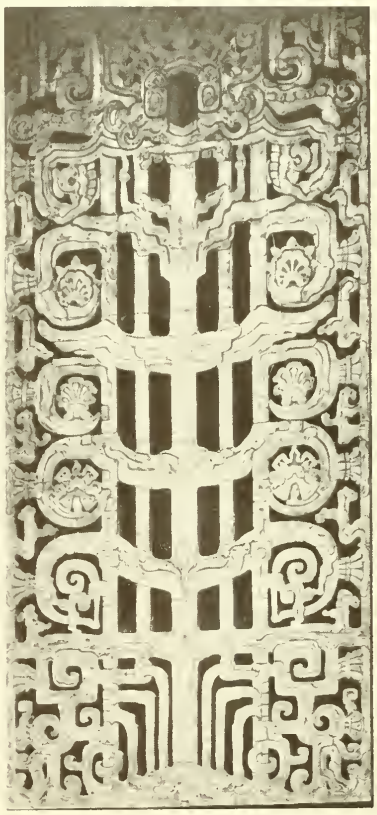
The two then waited for the strong wind to come that would howl and fan the flames, melting and reducing the rock walls of the cliff. After weeks had passed the wind came up and an ember from the permanent fire was carried over and the big oven fire was started.

At last the fire burned down, the charcoal was gone, the embers cleared. The child could hardly be patient any longer as the Wise One removed the small ball of black metal from the bed of coals and started pounding it between two rocks. Ab's ax was finished and lashed between a split limb. Civilization was beginning. Off to the forest he ran with glee, felling small trees and swinging his new ax about at random in play. On the walls of a nearby cave he carved, with the sharp point of his ax, the picture of a reindeer he had seen in the big stream. Tired and excited with ecstasy over his new, efficient weapon, sleep possessed him; and down through the ages he dreamed and played with his magic metal wand, puddling, welding, forging, casting and rolling, ever onward advancing through fifty centuries of man's struggle and play.

As his civilization progressed, Ab had time for leisure and thoughts of the beautiful possessed him. Now beauty and use combined, and his world was to know Architecture. In metal, as in structures, designing for use alone gave only industrial and commercial value, not art value. Thus the two families of metals separated into the commercial metals and architectural metals.

* * *

Today the architect is concerned both with structural metal or industrial metal, which he specifies or selects from standard products, also architectural metals, which he fashions for himself. Into the atoms and fibers of the slaggy structure he impregnates the art life of the form. That form should follow function seems established beyond question. The architect must budget his materials and select for each part of the structure that material which is best suited. What



The title for this door, executed in cast iron, should be "Nerve." The architect had it, the design possesses it. Strong, pulsating and yet withal static and architectural. Entrance detail, 450 Sutter Street, San Francisco, Miller & Pflueger, Architects.

Editor's Note: The descriptive titles are by "Garren."

function suggests to the architect the use of metal in his design? Is it the quality of permanence? Metal has that property, to be sure; however, permanence is hardly a function. Permanence is rather an inherent quality a metal instinct. Is it durability that suggests its use? Durability conots structure, rather than art, and architectural materials must possess art potentialities. Perhaps strength is a function. At least in metals, tenstile, compressive and malleable strength does function. It is further important that these characteristics are not only known to the architect but to the public and to the investor, to whom it has the advertising value of a known quality material. But strength alone does not explain the art of iron and bronze, nor its primary function. It appears upon study that architectural metals suggest themselves to the architect for one very important and simple reason. Iron, and any other architectural metal, is the one material that will permit the greatest reduction of cross section, or, inversely, it is the material in architecture that, because of its high tenstile strength, permits the largest area of free or open space in design?

Let us examine a few parts of the building where materials are to be chosen. The material which will function best should make the most beautiful form. A screen for the bank is required, the outsider must be able to see through to the wealth beyond, and yet he must be assured that his funds will be protected. Metal immediately suggests itself, the bronze screen functions perfectly. The gate to the property must indicate that privacy is desired; it must be durable and withstand rough use; but that is not all, for vanity and pride must be considered. We build beautiful homes partly for our own pleasure, and partly to receive the admiration of our neighbor who also must enjoy with us the house and its new tulip bed. Passing, he may glance beyond the gate. Just enough material for protection, just enough space through which to gaze. Thus the silhouetted pattern of leaves and bars of iron function, and form follows. The stair rail: already the stair projects its volume too greatly into the rotunda. The stair must be railed above the structure with material sufficiently heavy to protect, sufficiently open to lighten the form. Metal again suggests itself in cast or wrot scrolls or Renaissance pattern. In the early California or Spanish home the open rail, with wide spaced balusters, interrupts the com-

Conventional form carried almost to the point of the abstract: this design worked into aluminum casting throbs with its own life and holds the observers' attention. Panel over doorway, 450 Sutter Street, San Francisco, Miller and Pflueger, Architects.

PRESENTING A SOLID FRONT, TESTIFYING TO THE SECURITY OF THE INSTITUTION, AND TO THE INTEGRITY OF THE FOUNDER; THESE IDEAS SEEM CLEARLY TO BE THE FUNCTION OF THIS CAST IRON PLATED DOORWAY TO CENTRAL BUILDING & LOAN ASSOCIATION, OAKLAND, WILLIAM E. SCHIRMER, ARCHITECT. JOHN STOLL, SCULPTOR.

A METAL SCREEN AND DOORWAY POSSESSING DIGNITY, BEAUTY OF DETAIL AND SURFACE. LEAFAGE AND ORNAMENTS REFLECT A FINE APPRECIATION OF DESIGN AND SKILL IN CRAFTSMANSHIP. SUMMIT MEDICAL BUILDING, OAKLAND. ASHLEY, EVERS & HAYES, ARCHITECTS.

GROWING AND FLOWING THIS DESIGN IN WROUGHT IRON DISPLAYS A WELL BALANCED PATTERN WITH A FINE PLANE QUALITY; A BEAUTIFUL COMPOSITION. RESIDENCE IN OAKLAND, CHARLES W. McCALL, ARCHITECT

THIS RAIL IN IRON CLIMBS IN WELL ORDERED LINES AND FORM UP THE STAIR, FUNCTIONING AS A GUARD AND GUIDE AND FORGED WITH SKILL AND BEAUTY. RESIDENCE IN OAKLAND, CHARLES W. McCALL, ARCHITECT

position and in half-tone fashion composes the beautiful Moorish tiles and the graceful ascending line of wall and treads. The illustrations shown herewith, the work of California architects and craftsmen, demonstrate these uses.

So it is in metals the architect may design in freedom, with surface and space, modelling to his slightest pencil line to fill a need to please an eye. Grilles, cabs, window sash, screens, balconies and accessories, and the home present, from foot scraper to weather vane, romantic indications in metal bespeaking hospitality.

* * *

An old rediscovered art has interested architects of recent years. A love and appreciation of the latent qualities of materials has been renewed. Solid surface design, surface texture and physical or molecular structure are now given consideration. Natural color values and materials combined to create vibrations, to "click" as the slang phrase goes. Many new metals have come into use throughout the world in the modern style. With iron all are familiar. In bronze there are many developments of yellow brass, red brass, and phosphor bronze; all slightly different in color and properties and interesting in combination. These metals may be bent after casting; a property which iron does not possess. A new metal, benedict nickel and its ally monel metal, may be cast and extruded. Aluminum, the metal of modern design, gives new white color and ribbon textures and may be wrought, cast, or extruded and it bends after casting. These variations of color, black, yellow, red and white, offer the architect no end of possibilities in beautiful and intricate new designs.

* * *

Let us now half close our eyes and go back to the cave where Ab sleeps and dreams. We, too, can gaze into the crystal ball of Architecture and Art and into the future. With metals lighter than water and stronger than steel we will grille the windows of our air transports. Perhaps with copper appliqued over aluminum and painted with sensitized lacquer, we will design irridescent arabesques for night club mirrors. Chromium plated repoussè tracery over red griotte marble may line the walls of our baths. Benedict non-skid nickel castings, inlaid with California mosaic tiles in color and richness beyond the dreams of Persia, will pave our floors. Yes, with the assistance of skilled craftsmen, we will build into our works the history of an age of machines and inventions and industrial magic, all with lines and forms of alluring beauty. We will forge and spin and cast and draw our metals. We will plate them and chase them. Their forms await our hands, dreamers, creators, recorders of history Architects.

Medallion over entrance to Central Building and Loan Association Building, Oakland. John Stoll, Sculptor. William E. Schirmer, Architect.

Photographs illustrating this article courtesy Michel & Pfeffer Iron Works, San Francisco.

THE DEVELOPMENT of the GROUP HOME

By E. Kolikowska

IN spite of the increasing tempo of present-day existence, one trait man inherits from his earliest ancestors remains stubbornly dominant: the desire for a home. Merely a dwelling-place—a roof over his head and four walls about him—will not suffice, no matter how adequately lighted and heated, nor how well supplied with the electrical conveniences that are no longer luxuries. These may be the demands of his existence, but the need of his life is a home.

Sadly enough, for most men, it is not until their productive days are drawing to a close that they are able to realize this need, when they can provide themselves and their families with surroundings of grace and leisure, secure in the knowledge of performance. And yet, it is perhaps the active worker who has greater need of just these things, the man whose business is dragging him inexorably forward, who today may be here, and next month, next year, on the other side of a continent. He needs the stimulus of beauty in his surroundings to keep him fit for the swift pace, but he lacks the leisure to crystallize his dreams into the material form of a home.

He tries to content himself with the space-conserving unloveliness of an apartment, and is constantly unsatisfied, roving from one to another within the same city, in vain search of something that will meet his needs. Occasionally he finds what he seems to crave in a spacious old mansion, remodeled into small apartments, until he abandons its rattling casements and antiquated plumbing in disgust, for the efficient angularity of a newly-constructed building which is only a replica of his office.

It is but recently that he has been able to find the perfect compromise. Comfort and charm are not incompatible, as Casebolt Dakin has proved more than adequately in his design of Cielito Lindo in Oakland.

California, one must admit, owes most to her Spanish origins, and it is thus quite natural that a large number of her homes should make recognition of this debt. Especially so, since it is a prime means of enhancing natural advantages. Brilliant sunshine and cloudless skies call for the dazzling defiance of white stucco and red-tiled roofs, for luxuriant, semi-tropical growth and splashing fountains, for low-arched openings in thick masonry, beckoning to a cool interior.

In his finest achievement, Mr. Dakin has wisely turned to Spain for inspiration. He has taken an irregular piece of land, sloping from a hilltop where tall pines are still arrogantly defiant of the city streets hemming them in, and on it created a pattern that brings to the New World a homesick memory of the Old, with still a haunting promise of a world one has not yet known —Cielito Lindo.

It has an air of multiplicity and yet of unity. It might be a group of little homes clustered about a common garden; it might be the country villa of an Iberian don, with generous, hospitable additions.

And what attractions the interior reveals! Again one is impressed by the separateness

of each dwelling: each one has its own front door, each its own decorative treatment; most have, as well, individual staircases leading to upper levels. Here is the seclusion of the private home compressed into a space that secures the amenities of existence at the smallest expense of time and labor. Here is the desirable compactness of the modern apartment fitted cunningly into an exterior that does not suffer from the insignificance of the small house.

CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
Casebolt Dakin, Architect

An irregularly shaped hallway leads into a living-room whose proportions are almost majestic. Rough-textured walls of soft umber rise a full two stories to a dark-beamed ceiling of paler tone, stencilled in alternate panels of faded red and blue. At one end a magnificent oriel presents a view of the patio through tiny leaded panes; at the other, a low pointed arch, embellished with bright tiles, gives access to a small study, two steps below the level of the living-room. Above it, a studio balcony, supported on heavy carved beams, looks down upon the larger room.

One room is large, for the luxury that spaciousness gives; the others smaller, for the precious boon of convenience. The dinette, that delightful hybrid of dining and breakfast-rooms, belies its cosiness in permitting eight people to be comfortably served in it; and the kitchen has a nice regard for the housekeeper bent on step-saving. These very modern kitchens are electrically equipped throughout, with ranges, dish-washers, ventilating fans and refrigeration.

There are long, low rooms suggestive of a cottage in the Pyrenees, each with a semi-circular fireplace, tucked cosily in one corner. There are rooms with demure small windows; rooms whose end walls seem an

expanse of light. There are lighting fixtures throughout of hand-wrought metal, following various designs according to the spirit of the rooms which they adorn. There are stairways austerely straight and others graciously curved; there is one tiny spiral stair winding its way to a tower room that prides itself on being able to overlook the whole scene. Of all the various levels, this is the highest.

Hardly a home, from the largest to the smallest, of only three rooms, is built all on one level. The break from the polished boards, wide and hand-pegged, of a living-room, to the flagged flooring of a study, is softened by a tiled step or two. A small studio gains in apparent size by a wide opening into a bedroom beyond, but is effectively separated from it by the differing levels.

The smallest unit has its expansive qualities, achieved in other ways. There are extra baths, extra dressing-closets, and ingeniously concealed wall-beds to add desirable guest-quarters for emergenices. Servants' quarters are relegated to another part of the building.

If these homes of various dimensions are alike in anything, it is in the sense of gracious living pervading all. There is a similarity in all artistic surroundings, but a difference of detail sets each one apart. Every floor-plan is arranged to make the most efficient use of all available space, but the result in each case is arrived at after a different manner. Every detail of decoration is so harmonious that a single inspiration is pervasive of the whole. There is a likeness among the homes in that each one is unique.

Here, at last, is the perfect combination of small home and large. Spacious living

GARDEN VIEW, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
Casebolt Dakin, Architect

rooms and a dignified exterior emphasize a life of leisure and beauty; the mechanics of existence are removed to their properly subsidiary place, without being in the least neglected. The home-coming occupant, turning in at the wrought-iron patio gate, or passing more impressively through the opposite entrance—a high Tunisian arch elaborated with sgraffito, and hung with feudal oaken doors—feels himself a prideful owner of the whole, with a particular niche adapted to his own tastes.

He drops his worldly cares as he steps from city streets to the dreaming peace of the country, and marvels at the quiet and seclusion to be found in a spot not twenty minutes' travel from his downtown office. He may pause along the cloister, or mount to an overhanging balcony, to admire anew the beauty of the patio, rich with greensward, luxuriant with foliage, musical with the soft flow of water spouting from a stone lion's mouth and cascading a little distance to a stony pool, before he turns to the sanctuary of his own home.

The surest way to know the essence of Cielito Lindo is to see it under moonlight. Here are windows darkened, windows alight, windows with curtains drawn. The lights throw slanting beams, picking out a row of brilliant tile; the moon makes roof-peaks curiously iridescent, casts strange shadows down the pallid walls. The patio is wrapped in darkness; the irregular splash and ripple of water in the pool cuts the night into sharp definition of sound and silence. A wind whispers with gentle melancholy in the tops of the pine trees. A seemingly far-off thread of sound resolves itself into a tune. Somebody's radio? Perhaps; but, under the spell of this compelling magic, can one deny that it is a serenading guitar?

In Cielito Lindo, Casebolt Dakin has made real the dreams of the present and set an ideal for the future.

PATIO, CIELITO LINDO APARTMENTS, OAKLAND CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

PLANS, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

ENTRANCE, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

STUDIO, CIELITO LINDO APARTMENTS, OAKLAND, CALIFORNIA
CASEBOLT DAKIN, ARCHITECT

NEW OLYMPIC CLUB BUILDING, SAN FRANCISCO

ARTHUR BROWN, JR., JOHN A. BAUER AND JOHN BAKEWELL, JR., ASSOCIATED ARCHITECTS

SMITH-YOUNG TOWER BUILDING, SAN ANTONIO, TEXAS

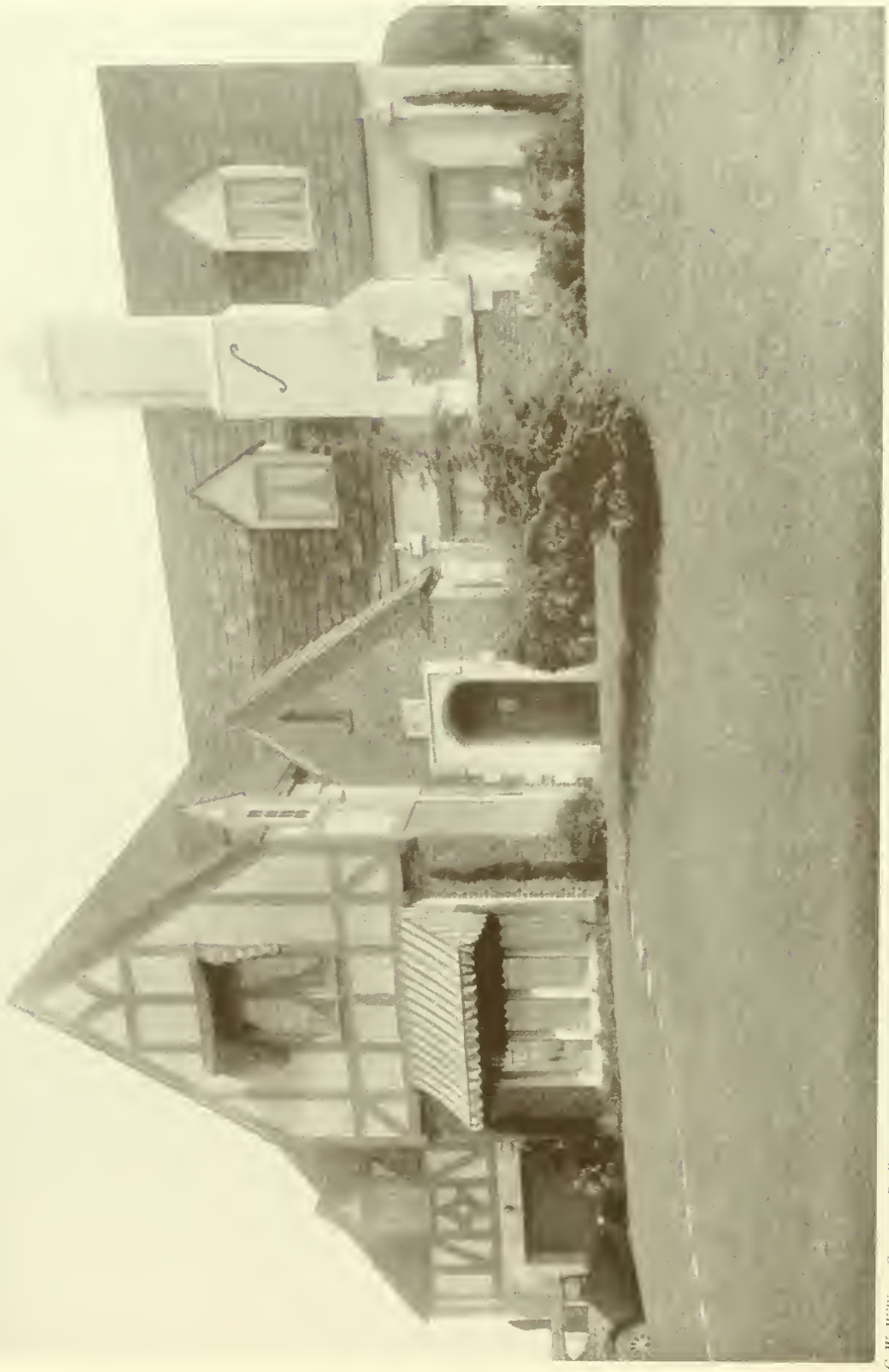
ATLEE B. AND ROBERT M. AYRES, ARCHITECTS

MAIN ALTAR, ST. DOMINIC'S CHURCH, SAN FRANCISCO
ARNOLD CONSTABLE, ARCHITECT

REAR ELEVATION, MAIN ALTAR, ST. DOMINIC'S CHURCH, SAN FRANCISCO
ARNOLD CONSTABLE, ARCHITECT

NEREID FOUNTAIN BY BEATRICE FENTON
PHOTO BY W. VIVIAN CHAPPEL

SEAWEED FOUNTAIN BY BEATRICE FENTON



HOUSE FOR JAMES S. COLE, SAN MATEO, CALIFORNIA

HERBERT ALDEN, ARCHITECT

G. W. Williams Company, Burlingame, Builders

GARDEN SCULPTURE

By
W. M. Strother

THE American Sculpture Exhibition recently conducted in San Francisco, presented many very beautiful specimens of statuary for garden decoration. It was the first time the Pacific Coast has had an exclusive sculpture exhibition of national importance. No location could have contributed more fully to demonstrate the possible harmony among the three arts of sculpture, architecture, and landscaping than that of the California Palace in Lincoln Park, San Francisco. Here, on the summit of a high hill among the green lawns of the golf links, stands the fine museum building, simple yet stately, with its background of the Pacific Ocean and the western sky—blue or gray or golden, according to Nature's mood—the straits and the Marin County hills, the Golden Gate, and the undulating City of San Francisco. Let us reflect and enumerate some of the interesting exhibits which seemed to appeal most to the landscape architect:

In front the large pool with its splashing fountain, and adorned with lively figures — Leonard Craske's "Joy of Life" and Beatrice Fenton's "Seaweed Fountain" and "Nereid Fountain." The lawns and balustrade which surround the building were set with pieces appropriate to their location; large monuments such as the Jeanne d'Arc and El Cid, by Anna Hyatt Huntington; the same artist's Guardian Dogs; Laura Gardin Fraser's "Reclining Elk"; and many others, including, also, wall and pool fountains, by Chester Beach and others.

"NARCISSUS" BY A. A. WEINMAN

Two wings of the building surround an outdoor colonnaded "Court of Honor", where lawns and shrubbery were appropriately adorned, as, for example, by Adolph A. Weinman's stone garden figure of "Narcissus", Harriet W. Frishmuth's "The Trio"—a bronze fountain of three frogs upholding lily pads—sun dials by Leo Lentelli, Brenda Putnam, and Willard D. Paddock, as well as fauns and pans and penguins, bird baths and fountains, decorative garden figures of birds and other kinds.

Inside the Palace building—which was adapted from the Palace of the Legion of Honor in Paris but was re-designed as a fine arts museum—in sixteen of the nineteen galleries were exhibits of sculpture of every conceivable kind and in all possible media from plaster and wood to brass, terra cotta, porcelain, limestone, marble, and bronze to name only part of them—and designed for all possible purposes from home decoration to civic monuments and architectural decoration. In size the exhibits

ranged from a couple of inches in height, as in the case of some of Louis Rosenthal's tiny bronzes, to large monumental and architectural pieces. The particularly fine lighting of the building—a matter of especial importance to a museum—enabled the adequate display of the exhibits.

other statues. A "Garden Figure" of heroic size, by Wheeler Williams, and carved in stone, represented the figure of a woman in simplified modeling—a piece designed to stand beside a pool.

Grace Talbot's wall fountain was a dainty example of the treatment of this subject: a

"THE TRIO," BY HARRIET FRISHMUTH

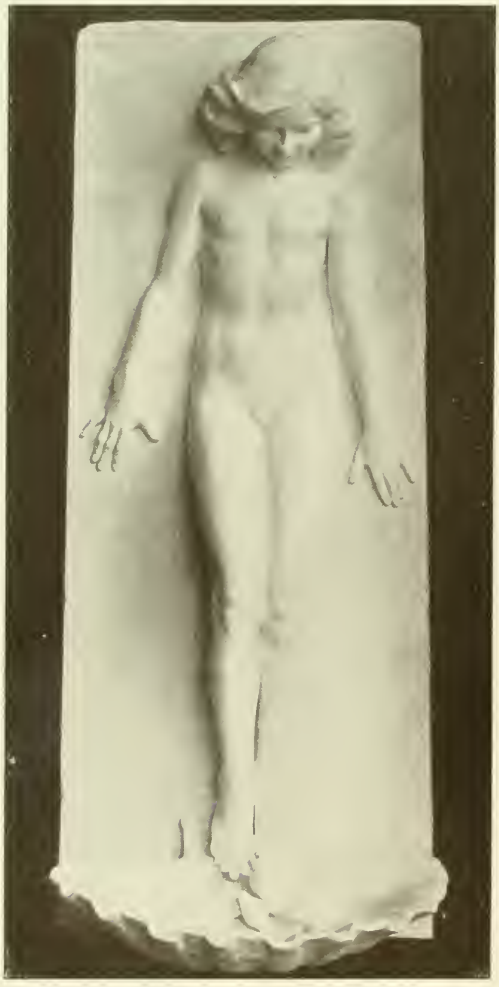
The inside sculptures, as well as those outside, illustrated very well the forms that may be used in connection with landscaping as well as architectural decoration and all other purposes. Paul Manship had two large gilded bronze outdoor groups in a distinctive style of modeling, one representing Diana and the other Actaeon. Edward McCartan also had a Diana in a more conservative style, and this Greek and Roman goddess was the subject of numerous bronze maiden stepping gingerly at the edge of a large shell and looking down at the smaller bivalves at her toes. The same type of large shell was used in a bird bath by Olympio Brindesi; in this case the artist has the bronze girl upholding the shell on her shoulder, while at her feet, at the edge of the circular base, are three fish from whose mouths spring streams of water.

Children's figures, serious or gay, were used in many fountains and other pieces.

FOUNTAIN, "THE FROG BABY," BY EDITH B. PARSONS

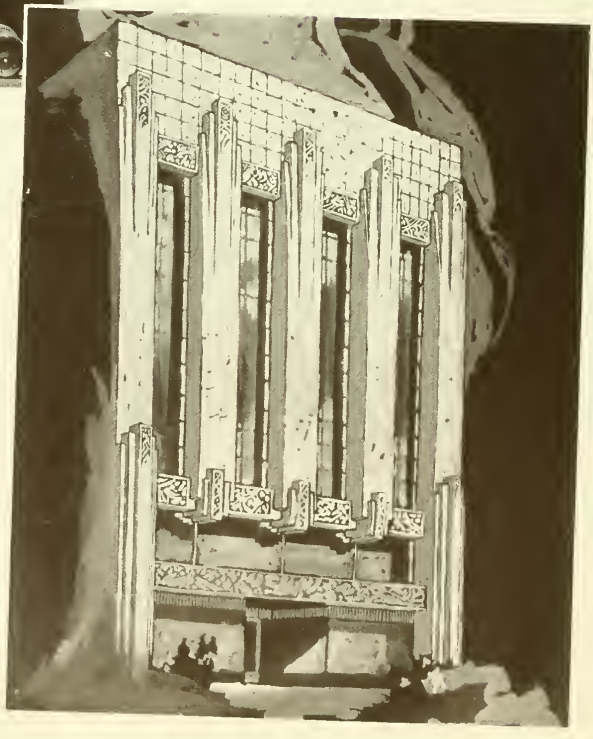
For example, one was a bronze baby with head thrown back in laughter, standing on a sphere, which, in turn, was supported by four frogs. Streams of water poured from the mouths of these animals. The baby in each hand also held a frog dangling by one leg. This piece was by Edith Barretto Parsons. A larger example was the "Neptune's Daughter" by M. Earl Cummings of San Francisco—a child standing atop the back of a sea horse—the whole being designed for the patio of a private residence.

The Exhibition was sponsored by the National Sculpture Society, whose headquarters are in New York City but whose membership is nation wide. The assembling of the show was financed by Dr. Archer Milton Huntington of New York, who volunteered to present the Society with $100,000 for this purpose. The Exhibition was opened to every American sculptor, whether a member of the Society or not, and regardless of what type of work he was doing, whether classical, academic, modernistic, or what not, so long as a high standard of artistic ability and craftsmanship was displayed, in the opinion of the Society's jury.



WALL FOUNTAIN BY GRACE TALBOT

THE PICTURE ON THE LEFT SHOWS THE OLD ARCADE BUILDING IN SAN DIEGO, BUILT TWENTY YEARS AGO, AND UNRENTABLE BECAUSE OF ITS UNDESIRABILITY



ON THE RIGHT IS ARCHITECT HERBERT J. MANN'S VISUALIZATION OF THE SAME BUILDING, WHEN ALTERED AND MODERNIZED

(See photo of completed structure on Page 76)

GOOD ARCHITECTURE MADE THIS BUILDING RENTABLE

HOW an architect may change the appearance of a commercial building so that it becomes a source of income to the owner and tenant, instead of a financial loss, is demonstrated in the accompanying views of a San Diego building. The architect, Herbert J. Mann of La Jolla, California, explains his problem and subsequent accomplishment in the following notations:

"This particular building, which was known as the old Arcade is 50x200 feet, running through from Fourth to Fifth street in San Diego. The building is about twenty years old and prior to the alterations, had never been a paying proposition.

"It was used as an arcade, dance hall and various other ventures, none of which were profitable. The previous tenant spent considerable money in building plaster columns, arches and various elaborate structures on the interior which only served to cut off the light and did not add to the appearance of the building. All of this work was torn out.

"In remodeling the exterior no structural changes were made, the columns, beams and girders being left exactly as they were. The old sash were taken out and the plate glass salvaged to go into the new steel sash. Five feet was added to the parapet wall, which was not a structural change.

"The exterior color is pink, the ornamentation silver and black.

"This building is located in the heart of the downtown district of San Diego, and the property is very valuable. The cost of the remodeling was a very small percentage of the actual value of the property and has resulted in creating, to all intents and purposes, a modern up-to-date building.

"The work was done by the tenant and has resulted in showing so profitable and active a business that he is now considered to have one of the leading furniture stores in San Diego."

CLOSE-UP VIEW OF REMODELED ARCADE BUILDING, SAN DIEGO
Herbert J. Mann, Architect

REMODELED ARCADE BUILDING, SAN DIEGO, CALIFORNIA
HERBERT J. MANN, ARCHITECT

Vacation Sketches

in

British Columbia

by

W. C. F. Gillam, *Architect*

San Mateo, California

ALTA LAKE, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

THE CREEK AT RAINBOW LODGE, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

THE FIREPLACE AT RAINBOW LODGE, BRITISH COLUMBIA

ROUGH SKETCH BY W. C. F. GILLAM, ARCHITECT

CHRIST CHURCH CATHEDRAL, VICTORIA, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

WOOD FIBRE PLANT, BRITISH COLUMBIA

SKETCH BY W. C. F. GILLAM, ARCHITECT

ENGINEERING

and

CONSTRUCTION

SUISUN BAY BRIDGE, DECEMBER 9TH, 1929

Featuring

The Southern Pacific $12,000,000 Steel Bridge
over Suisun Bay, California

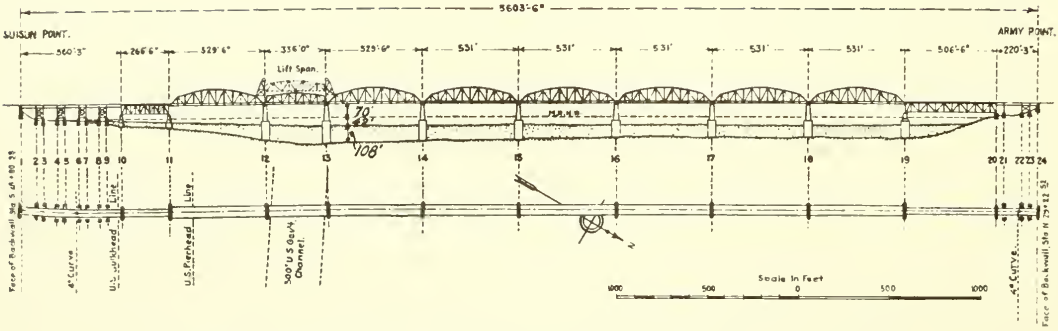


FIG. 2—SUPERSTRUCTURE, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

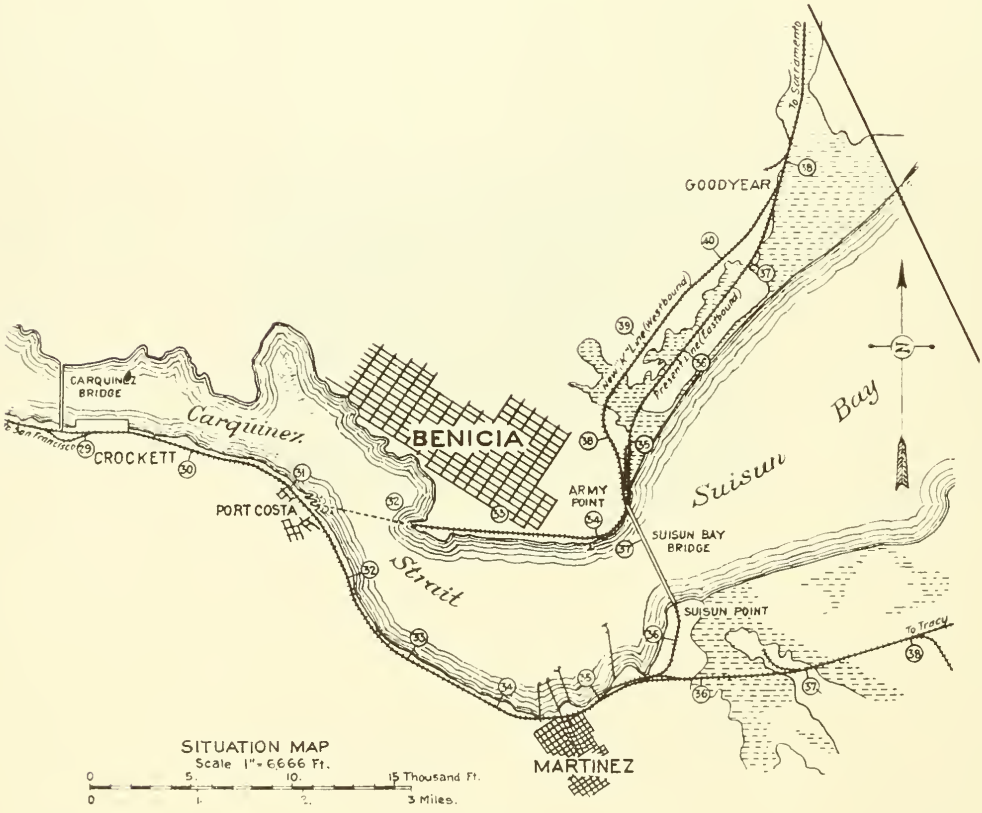


FIG. 1—SITUATION MAP, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

THE SOUTHERN PACIFIC SUISUN BAY BRIDGE

By C. R. Harding

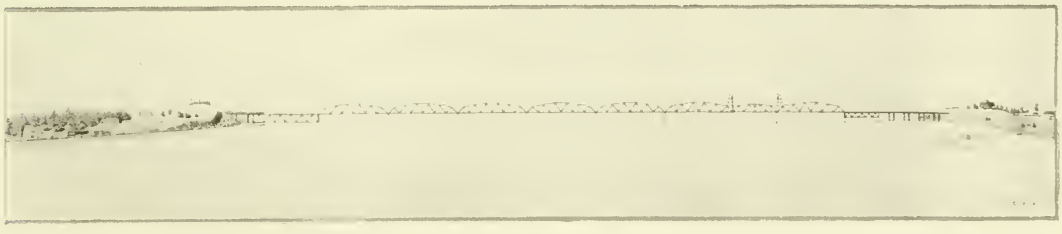
IN determining the location and design of the new $12,000,000 double-track bridge which is to replace the Southern Pacific's train ferry between Port Costa and Benicia, California, consideration was given to the proximity of earthquake faults and the probable intensity of shock that may be expected therefrom. The findings of noted geological and seismological authorities engaged in this study revealed the presence of two faults whose approximate courses extended under the waters of Carquinez Strait.

One of these, known as the Southampton fault, lies about one mile west of the town of Martinez and extends in a northwesterly direction, following closely the axis of Southampton Bay. As this is an important fault with large displacement, it was found extremely undesirable to locate the bridge across it.

The other, or Martinez fault, passes through the town of Martinez but can not be identified on the opposite side of Carquinez Strait or Suisun Bay. Its projected course under the water extends in a northeasterly direction toward Goodyear and, if existent, passes Army Point at a distance of about one-quarter mile from the shore line. Whatever displacement has occurred has been small and it was felt that the site selected for the bridge, across the lower end of Suisun Bay from Suisun Point to Army Point (Fig. 1), was a safe one.

In order to determine the depth and character of underlying rock and to preclude any possibility of founding the piers on the Martinez or any other fault line, a series of borings was made across the proposed bridge site. These borings showed a maximum depth of water of 55 feet, mud to a depth of about 90 feet below low water, and rock at a maximum depth of 143 feet and average depth of 116 feet below low water. The material encountered between mud and rock was, in descending order, sand or clay and firm gravel. Decision to rest the piers on rock was prompted by the extreme depth of mud and the necessity of providing for earthquake effects.

The superstructure of the bridge (Fig. 2) is to consist of 560 feet of viaduct approach at the south end, followed in order by one 264 foot deck Warren truss span, one 526 foot through Warren truss span, one 328 foot through vertical lift span, six 526 foot through Warren truss spans, one 504 foot deck Warren truss span and, finally, 220 foot of viaduct approach at the north end. Total distance from abutment to abutment



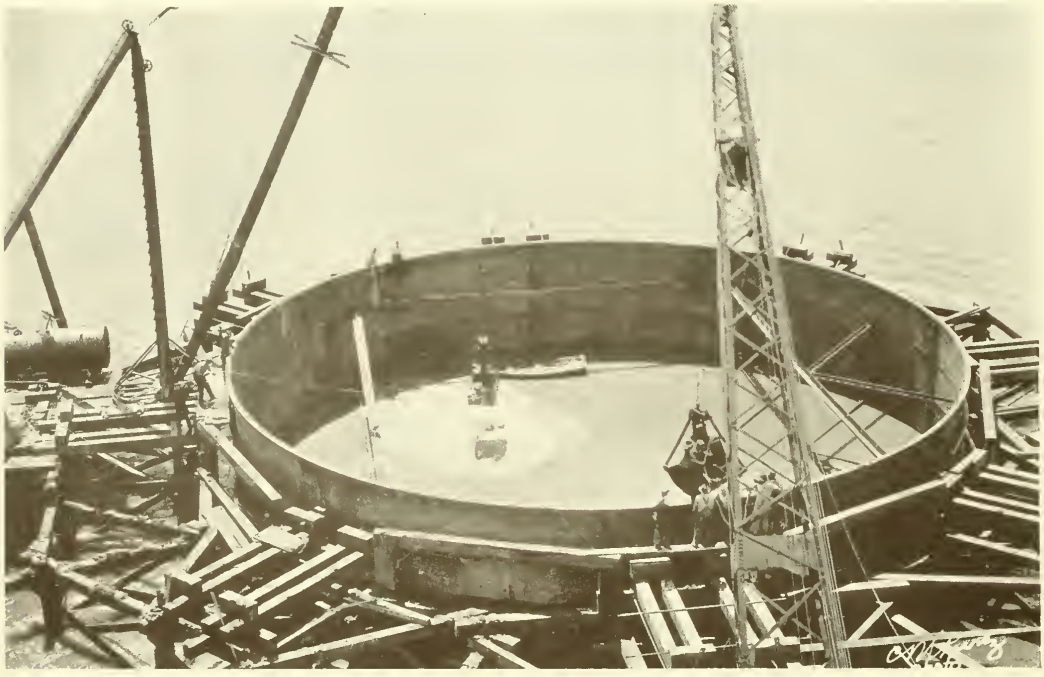
SKETCH OF SOUTHERN PACIFIC SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

will be 5603.5 feet, consisting of 5195.2 feet of tangent track with a 4-degree curve at each end. Grade will be level. Clearance above mean higher high water will be 70 feet for the fixed spans and 135 feet for the lift span when raised.

In addition at south and north ends of the bridge, the substructure is to consist of 16 pedestal piers for viaduct approach at the south end, followed by two piers (Nos. 10 and 11) constructed in open cofferdam and eight piers (Nos. 12 to 19, inclusive) constructed by a combination of the open dredging and open cofferdam methods. One pier (No. 20) and six pedestal piers for viaduct approach at the north end, all constructed in excavation, complete the substructure of the bridge proper. The deepest pier (No. 13) will be approximately 214 feet high from bed rock to bridge seat.

It is estimated that 22,000 tons of steel will be required for the superstructure, of which 12,500 tons will be silicon steel and 2,750 tons heat treated eyebears. A total of about 105,000 cubic yards of concrete and 1,500 tons of reinforcing steel will be used in the piers. Pier 13 will contain about 13,500 cubic yards of concrete and 175 tons of reinforcing steel.

To date, the south abutment, the south pedestal piers and Piers 10 and 11 have been completed. Piers 12 to 16, inclusive, are in various stages of completion, Pier 12 having been sunk to bed rock. At this writing, the pedestal piers at the north end are in course of construction and work is soon to start on the remaining piers.



DREDGING INSIDE OF STEEL SHELL, PIER NO. 12, SUISUN BAY BRIDGE

The bases of Piers 10 to 19, inclusive, are to be 38 feet by 60 feet in plan, except that the lift span piers (Nos. 12 and 13) will be 40 feet instead of 38 feet wide. The sides will rise vertically to elevation minus 20 at which height the smaller pier shaft will be started. As stated above, Piers 10 and 11, were constructed entirely in open cofferdam, while Piers 12 to 19, inclusive, will be constructed by open dredging up to elevation minus 20 and by the open coffer-

dam method above that height. The abrupt change in section at the beginning of the pier shaft was unavoidable in view of the method employed in sinking the deeper pier bases, it being essential that the dredging wells have vertical faces in order that free passage be provided for the dredging buckets while removing material from beneath the piers.

Study of the earthquake history in the vicinity of Martinez indicates that it is reasonable to expect shocks during the life of the bridge, although it has not been possible to obtain exact data as to the forces which will have to be resisted. Ordinarily, pier bases of the size being used for the Suisun Bay bridge would require no steel reinforcement, but in order to provide for earthquake effects it was decided to use not less than 30 pounds of reinforcing steel per cubic yard of concrete in the footings of these piers. Shafts will likewise be heavily reinforced. Vertical and horizontal reinforcement is being placed around the edges of the bases, dredging wells (Piers 12 to 19) and shafts of the piers. At elevation minus 20, where the abrupt change in section occurs, the steel will be extended from the pier base into the shaft above. Reinforcement consists of $\frac{3}{4}$-inch and 1-inch square and round deformed bars embedded to a depth of 8 inches at edge of pier bases and dredging wells and to a depth of 24 inches at edge of pier shafts.

FORMS FOR CAISSON, SUISUN BAY BRIDGE, NEAR BENICIA, CALIFORNIA

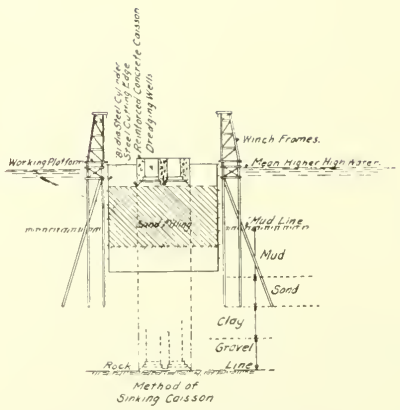
Construction of Pier 11 is of particular interest because of the depth of the cofferdam, consisting of but a single wall of sheet piling. First, falsework piling was driven to rock in the form of a rectangle around the pier site, using second-hand Douglas fir timber painted with Columbia pile preservative. Vertical piles were 65 feet long and spaced about 8 feet, 6 inches on centers across the current and 14 feet, 6 inches on centers in the direction of the current. Brace piles 70 feet long were driven to a 4 in 12 batter against the vertical piles, using two braces at corner piles and one brace at in-

termediate piles. The falsework was completed by bolting two sets of 12 inch by 12 inch wales to the piles, the first set being placed near the tops and the second set as far down as low tide permitted.

Bethlehem deep arch steel sheet piling 65 feet long, was then placed inside of the waling timbers and permitted to sink of its own weight into the mud. Before closure could be effected it was found necessary to provide a wedge-shaped pile, due to the fact that the first piles placed had canted somewhat at the top and it was not possible to bring them to a vertical position. Two piles were cut and their webs riveted together so that a pile wider at the bottom than at the top was formed. The wedge pile was placed in position and the remaining vertical closure pile driven, after which all sheet piling was driven to rock, forming an enclosure approximately 46 feet wide and 70 feet long. Sheet piling was then bolted back to outside walings and open excavation was made, almost to rock, by dredging through the water with clamshell buckets.

The next step was the construction of the interior bracing (Fig. 3), wales consisting of 12 inch by 24 inch timbers in combination with 12 inch by 12 inch timbers for the lower waling sets and 10 inch by 12 inch timbers for the upper sets. This was supplemented with 12 inch by 12 inch and 10 inch by 12 inch struts, 12 inch by 12 inch posts, 3 inch by 10 inch cross bracing and 10 inch by 14 inch corner braces, all timbers being well bolted together in eight

FIG. 3—INTERIOR BRACING AND STRUTTING



METHOD OF SINKING CAISSON, SUISUN BAY BRIDGE

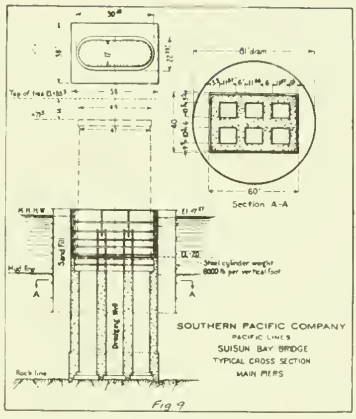
tiers which varied in height from 5 feet at the botton to 12 feet at the top.

In order to facilitate forcing of wales down to position, a slight clearance was left between the outside faces of wales and the inside face of the sheet piling. Wooden wedges were driven into this space after the wales had been placed in the right position.

Struts were used in pairs, two pairs per set of wales being placed parallel with the long axis of the cofferdam and four pairs per set of wales parallel with the short axis. All struts were continuous, the longer ones being 66 feet, 6 inches, in length and laid directly on the shorter struts which were 42 feet, 6 inches long. Steel bearing plates, ½-inch thick, were used between the ends of the struts and the wales.

Vertical posts were placed at the intersections of the two systems of struts and acted as spacers between each pair. It was decided to make the posts continuous only above the third tier in order that the lower waling sets and struts might be jacked down if necessary to take care of any great differences that might be found in elevation of rock at corners of cofferdam. It developed later, however, that the jacking was not required.

The timber cage formed by the interior bracing floated of its own buoyancy and no effort was made to sink it until all framing was completed.



TYPICAL CROSS SECTIONS, MAIN PIERS, SUISUN BAY BRIDGE

Mud was then jetted out from under the bottom wales, using, at first, a 2½ inch pipe tapered to a 1½ inch nozzle, average pressure at pump being 125 pounds per square inch. A diver was lowered to inspect the work but reported that this jet was not very effective. The nozzle was then plugged and eight 7/16 inch holes were drilled in the pipe, resulting in more satisfactory jetting.

When all material had been excavated and interior timbering rested on rock, the sheet piling was driven ½ to 3½ feet into rock. Lugs were bolted to the tops of some of the steel piles and short posts were inserted between these lugs and the top wales to hold down the timber cage. One hundred tons of rail were then unloaded and unwatering of the cofferdam started.

With four 8 inch centrifugal pumps working it was difficult at first to lower the water more than 2 feet in four hours, but better progress was made as the head on the cofferdam increased. Leached copper ore was deposited in the water outside of the cofferdam and was sucked in through the interlocks, proving very effective in stopping leaks.

Two days after pumping started, water blew in under the sleet piling at the closure point on the south side, filling the cofferdam in about 8 minutes, there having been a head of 19 feet at the time. Failure was due to the fact that the piles on either side of the closure pile were offset at the bottom and, consequently, farther apart at that point than at the top, resulting in cracking of the interlocks when closure was made.

To correct this leak, the sheet piling on the south and east sides of the cofferdam was driven deeper into rock, an average penetration of 1½ feet being obtained. The outside of the cofferdam at the point of the break was backfilled with gravel (in sacks) and mud, and pumping resumed. Water was lowered in easy stages by day and held constant at night, placing two of the 8 inch centrifugal pumps at the second and third wales to take care of the lower water.

When water level reached elevation minus 20, use of the 8 inch pumps was discontinued and four 5 inch pulsometer pumps were installed, leakage being easily handled by one of these pumps. At the completion of the unwatering process, mud remaining in the bottom of the cofferdam was removed by dredging and by sluicing into the pumps.

The rock surface was composed of shale, sandy shale and sandstone, the sandy shale predominating and being interspersed by ridges of sandstone which formed decided steps in the foundation. It was necessary to step the shale at several places in order to break any decided slopes. The rock sloped from an elevation of minus 46.4 at the southwest corner to an elevation of minus 50.7 at the northwest corner and was, in general, of excellent character, presenting all necessary requirements (Fig. 4).

FIG. 4—BED ROCK IN COFFER DAM

Before pouring of concrete commenced, the remaining 168 tons of scrap rail were unloaded. The foundation was carefully cleaned and, after erecting footing forms against the inside of the cofferdam wales, the surface of the rock was covered with 2 inches of grout.

Concrete mixing equipment and material were floated to the site on barges, fresh water being supplied through a submerged pipe line. Wet concrete was hoisted and poured through chutes into the forms. Reinforcing steel was placed in position and care taken to deposit all concrete in the dry, excess water being forced to the low corner and out of the forms.

The first 6 feet of footing was poured to the forms created against the waling but above that height the base was stepped back to the established dimensions, 38 feet by 60 feet.

The four lower sets of struts were left in the completed footing as they were well below the mud line and would have been difficult to remove. All timber above was taken out as the concrete was poured, struts being boxed out to form large keys at each construction joint. Wales were braced to the concrete before struts were removed. All concrete surfaces were cleaned and washed and construction joints covered with 2 inches of grout before pouring the next lift.

At elevation minus 20, construction of the pier shaft was started, using steel panel forms on the north and south sides of the shaft and wooden forms on the semicircular ends. The shaft was battered 1 in 24 on the sides and 1 in 48 at the ends.

Between elevations minus 8.0 and plus 8.0 the pier shaft was painted with two coats of "Inertol," after which the gate pile was pulled and the cofferdam filled with water. Pulling of sheet piling began immediately and was accomplished without difficulty, although most of the piles showed a decided bend in the lower 10 feet. This deformation at the ends of the piles was due to the fact that when driven the sheet piling was not exactly vertical but had an outward inclintion from top to bottom. When the cofferdam was unwatered, hydrostatic pressure on the outside forced the lower portions inward. As the piles were embedded in rock, they could not be forced in at the toe, resulting in the bending described above.

The average penetration in rock was approximately 2½ feet. This piling was used again in the construction of Pier 10.

Pouring of the coping and setting of the anchor bolts completed the construction of the pier. Location of the anchor bolts was checked by triangulation, a comprehensive system having been established as a preliminary step in the work. After stripping the forms, the concrete face on the shaft was given a smooth finish.

When the wooden falsework piling was pulled it was examined for evidence of teredo attack. These piles had been in the water about four months and although 80 per cent of them had been attacked, only 12 per cent showed any appreciable reduction in cross section. A section of the pile showing the most attack was cut 2 feet above the mud line, the diameter at this point being 15 inches. The maximum penetration into the pile was 1½ inches.

The only untreated timber inspected was a 12 inch by 12 inch outer wale placed at lower low water. The bottom of this timber was attacked to a depth of 1¾ inches but the top and sides, which were above water at low tide, were practically untouched.

Piers 12 to 19, inclusive, are being constructed by a method which, to the knowledge of the writer, has never before been employed in deep water work. Briefly, this consists in sinking a steel cylinder, 81 feet in diameter, from an octagonal dock built around the pier site, the cylinder being erected in sections as it is lowered. This steel shell is allowed to sink of its own weight and, when it finally comes to rest, the mud is dredged out from the inside and the shell backfilled with sand nearly to the top. On the sand island thus formed a steel cutting edge is laid and steel forms erected for the construction of a reinforced concrete caisson containing six dredging wells. After the first 25 feet of caisson has been poured, sand is dredged from beneath it through the wells, permitting the caisson to sink. This process is re-

peated, alternately building up the pier and dredging through the wells, until rock is reached, each lift of concrete adding about 10 feet to the height of the pier.

At the level at which the pier shaft starts, an open cofferdam is erected on the top of the pier base and, when completed, dredging is resumed. When founded on rock, dredging wells are sealed and, after water has been pumped out, filled with concrete. The shaft is then constructed in the open cofferdam. After cofferdam has been built the steel shell is unbolted approximately at the mud line and the upper sections used again in the construction of other piers.

The advantages of this method are that all concrete is placed in the dry, no timber is left in the pier, reinforcing steel can be properly set and the work can be carefully inspected at all times, thus insuring the highest grade of reinforced concrete in these piers.

The Suisun Bay Bridge is being built under the direct supervision of the writer and W. H. Kirkbride, Engineer, Maintenance of Way, with the assistance of C. W. Rear, Engineer of Bridges. All field work is in charge of H. I. Benjamin, Assistant Engineer of Bridges. Design of foundation and super-structure is being checked by S. A. Roake, Chief Designer.

Moran & Proctor are consulting engineers for foundation work; Waddell & Hardesty are designing the lift span and towers; Ralph Mojeski was consultant in the preliminary study of the project. Substructure is being constructed by Siems, Helmers & Shaffner, Inc., of St. Paul, under the direction of N. F. Helmers, Vice President; M. F. Clements has been engaged as their consulting engineer.

The ARCHITECT'S VIEWPOINT

- *A Plea for Better Town Planning*
- *Development of Two California Cities Compared*
- *Recent Published Books Indicate a Decided Tendency for Civic Righteousness*

TOWNS and cities of the West Coast are in the making, all of them are in their infancy, and there are probably many that are as yet unborn. Most of them are bound to grow and keep on growing and that is a fact which is hard for most people to realize. For we live in the present and the future is far away. It is difficult to think of our country mouldering into decay and becoming the happy hunting ground of archaeologists of some distant era.

Towns and cities of the past began and grew without self-consciousness and sophistication and, almost without exception, they developed into something lovely and always appropriate to the site. Today cities begin and grow under the same conditions, but without the same results. True they include the mechanical conveniences for comfort which were lacking in the past. Whether or not the ancient population were happy without them does not now matter. They have come to stay and we of the present day cannot get along without them. They are, however, an important and inevitable factor in the planning of modern towns and cities.

To repeat, the towns and cities of today are growing fast and generally without plan and forethought. Many of the larger cities have city planning commissions working hard and bravely in face of political opposition and popular inertia and unintelligence. The achievements of these commissions, though relatively small, keep the members sturdily at their tasks and undoubtedly pave the way to greater and easier success on the part of their successors.

How splendid it would be if these towns and cities of today would only waken to the seriousness of the problems and possibilities that are before them! If they would only realize that the problem of today will be increased tenfold in difficulty if left for a future generation to solve!

* * *

Let us consider the present status of a typical Californian small city. Such a one is Ventura, which, though one of the oldest establishments in California is, as a modern city, still in its infancy. San Buenaventura, to give it its true name, was founded in 1782 and the mission chapel well located on the main street, with its outbuildings, dependencies and gardens, formed the nucleus of the town. Within the memory of man, these extensive secular buildings connected with the mission have disappeared, and except for the new mission buildings which take up a comparatively small area, the old church domain is covered with singularly unattractive buildings of various sorts.

For the most part the city of San Buenaventura was laid out in quadrangular squares with an occasional block left for park purposes. Until about ten years ago, the city was ill paved and uniformly ugly and dull. Since then it has increased rapidly in population and wealth and new residence areas have been laid out over the plains and hills adjoining the old city's confines, the streets on the level land following the same dull right angled system, and the hill streets contoured in much more pleasing fashion. The business section is still practically confined to the main street and to Ojai Boulevard, running at right angles to it, and up the valley of the Ventura River to the North. A number of new buildings of considerable size have been built in this business area,

good in design but having no particular local architectural significance, except for some of the smaller ones which were undoubtedly inspired by what was being done at Santa Barbara following the earthquake of five years ago. An extension of Main Street to the easterly entrance of the city and laid out somewhat at an angle did much to improve traffic conditions and introduce a more pleasing entrance to the business section of the city.

A new boulevard was planned and built starting from the eastern entrance to the city and parallel to the ocean shore line, though some distance away from it, but stopping abruptly upon becoming entangled with railroad tracks after passing part way by the city. One delightful surprise in the development of Ventura, to those who follow its course, was the placing and design of a new church building erected to serve the needs of the community as a "community church." This building, honestly built of permanent materials, was located well up on the hillside and on the axis of the main street approach from the east. Its commanding position gave a much needed focus to the city in general. One wonders if this success was premeditated.

The development of Ventura is therefore a mixture of good and bad, the good work, however, indicating but little concerted action. The city has reached an acute situation where sound, intelligent city planning is needed if it intends to live up to its opportunities. The main artery must be widened. Diagonal thoroughfares should be cut through the city connecting focal points, and civic control of architectural design should be instituted.

Main Street must inevitably be widened if it is to hold its prestige as the main business street of the city, and it can be widened intelligently only by arcading. This method would undoubtedly engender opposition. The feasibility of compulsory arcading, however, with its benefit of widened pavement and minimum loss of usable area to individual owners, to say nothing of resulting charm and beauty to the street itself, is so obvious that general opposition to it would be incomprehensible.

* * *

As to harmonious architectural design for all buildings an intelligent Architectural Board of Control, working with a City Planning Commission, could see to it that all construction was designed in conformity with the city's ideal and in harmony with neighboring buildings. It is now generally accepted throughout the country that municipal art commissions can legally control the design of all public construction, and it is logical that this control be extended to all work *fronting* on public terrain, such as public streets.

Santa Barbara went farther than this and established a Board of Architectural Control which had supervision over everything built in the city and which stood the test of courts and public scrutiny for many years and which was only halted in its functions by petty politics.

Ventura has its great opportunity. It can become an example for right civic development more farreaching than can be prophesied. The first costs would be large but not unbearable and not nearly so serious as the timid taxpayer and selfish property owner would expect. The benefits to the community would be incalculable.

One thing is certain: some city will before long assume the program just sketched and make a world-famous success of it. San Francisco had her opportunity at the time of the earthquake-fire and was too busy with the joy of living to bother with it. San Diego had hers following the Panama-California Exposition and passed it by; Santa Barbara made the most successful experiment of it so far on record, though much to be desired was left undone, or rather undoable; the very new town of San Clemente is trying it out under quasi-public control which shows promise of being successful, and Palos Verdes, under strict private control, is showing a success beyond measure. These last two, however, have in no sense the problem faced by long established communities,

where a great amount of education of the public would have to take place before a deep seated civic conviction could be established.

Future generations will look back and wonder why we had to make a problem of right civic development.

* * *

RECENTLY published books such as *Middletown* by Robert and Henry Lynd, *New Towns for Old* by Dr. John Nolen, Harold Holt's *Building the City of God* indicate the forces which are at work for civic righteousness and the public weal. Hand in hand with civic sociological problems are those of city planning and control of civic architecture. Careful analysis demonstrates their interrelation and interdependence and serious study of a city's needs stimulates civic obligation.

The following lines from Dr. Justin F. Kimball's *Our City Dallas,* a splendid book illustrating civic progress in the Southwest, are not inappropriate to the questions just discussed:

> "My city wants my citizenship, not partisanship; friendliness, not offishness; co-operation, not dissension; sympathy, not criticism; my intelligent support, not indifference. My city supplies me with health, wealth, trade, education, morale, recreation. I should believe in my city and work for it."

CARLETON MONROE WINSLOW, A. I. A.
Los Angeles, California.

EDITORIAL CHAT

A SKYSCRAPER that will more fully justify its claim to title — a one-hundred-story tower, is planned by the Metropolitan Life Insurance Company for erection on an entire block of ground at Fourth Avenue, Twenty-fourth Street and facing Madison Square on its Madison Avenue frontage, New York. The present home of the company occupies the south block on Madison Avenue. Thus when completed the Metropolitan Life Company will have probably the largest home office in the world.

The above is one of the many misleading and erroneous statements that have been published in the daily press and technical magazines, regarding the Metropolitan Company's plans for a new building. It has brought this insurance company a great deal of free advertising but farther than that seems to have failed to accomplish the real purpose of its sponsors—that of presenting to the public a picture of the sort of building our next generation may expect to build. Explaining the published picture of a 100 story building, the company offers the following information:

"Faced with the problem of providing as nearly as possible ideal working conditions not only for its present force of more than 12,000 home office employees, but for as many thousands more as the conduct of its rapidly expanding business may require, the Metropolitan Life Insurance Company, before approving plans for its new building, has been forced to consider possibilities far beyond the present business requirements. Although the immediate project to be undertaken involves only the erection of a building of 32 stories in height, a thorough study of the complete future development of the entire area has been entered into, a study which foreshadows perhaps something of what urban architecture may become under the influence of rising land values and the pressure of economic necessity.

"In view of this purpose, it is not at all surprising that the studies made by the company's architects, Dan Everett Waid and Harvey Wiley Corbett, have departed far from tradition and have resulted in the conception of a building so different in its mass and detail as to be startling even to the ultra-modernist. Such a building might be carried to the height of a hundred stories, an obelisk-like structure of glass and steel set on a pedestal of steel and marble.

"Despite the fact that such a building may *never* be completed, that it exists only in plans and that these plans have not yet been approved in any detail, it is interesting to consider what such a building would be like and some of the problems that its architects have attempted to solve.

"Even the ultimate height of the building is tentative. Considering present land values, it has been demonstrated that in New York City, at least, it is increasingly profitable to build to the height of seventy stories. Beyond that, the law of diminishing returns becomes operative, construction costs rise disproportionately, usable area contracts, vertical transportation service becomes more costly. A depreciation in land values might lower that limit. An appreciation might raise it. Whether this particular building ever rises to a hundred stories, or even seventy, depends on not only these factors but on the question of whether the company's business will eventually reach a point where such an amount of space as one hundred floors offer would be required."

APPRECIATION

MR. F. W. JONES, EDITOR,
THE ARCHITECT AND ENGINEER
Dear Sir:

This office thinks that your presentation of the Northern Life Tower is unusually fine. I want to thank you for the obvious care and attention shown in the handling of the subject manner.

Yours very truly,
A. H. ALBERTSON
Seattle, Wash.

THE UNIT SYSTEM AND ELECTRIC REFRIGERATION

By Henry L. Eckenroth

AS far back as we are able to trace we have been compelled to sell over and over again as new ideas, the same old priciples as we apply them to some newer appliances or installation of equipment.

Many years ago the standard installation for power equipment in factories consisted of one large central plant, steam or electric, from which, through the medium of a maze of overhead shafting, belting, pulleys, reduction pulleys and throwout clutches, this power was transmitted to operate the various lathes, drills, grinders and general shop or factory machinery. Today we have the unit system which is being applied most successfully to refrigeration.

In the unit system dozens or hundreds of small electric motors are used, each of which drive some particular piece of apparatus or a small group of machines, usually these motors being embodied in the design of the machine they operate. This makes first, for a great saving in power as only sufficient power necessary to operate machines required for a short period of time is utilized, especially during extra shifts or night work when some particular types of machines only are needed for the department turning out this extra work.

For example, a factory using one hundred pieces of machinery driven by a hundred horse power central plant, might, to meet a rush on some particular class of work, wish to run extra shifts on ten lathes necessitating the operation of a one hundred horse power plant. With the unit system ten small motors with an *actual consumption* totaling probably five horse power would be used. This is due to the fact that as no power would be lost in transmission, a saving of approximately thirty per cent would be realized, while another saving of twenty per cent would be effected as the machines could be operated intermittently. In addition to the actual saving in power costs, we must add the saving by way of eliminating maintenance and replacement of shafting, pulleys, belts, etc., as these do not work but only transmit power from the power plant to the machines; the maintenance cost on individual units being very much smaller. Therefore, real economy and efficiency results throughout.

The second most important feature of the unit system is the safety factor. With the failure of a central plant an entire institution must lie dormant until necessary repairs are made. This in some cases, particularly in remote locations, has been a matter of days and weeks causing considerable loss of time and money.

This is not possible with a unit system as the failure of one or even two units would not seriously handicap the institution so we find the unit system most dependable and safe.

Next we have the matter of flexibility. Various pieces of machinery with their small self contained power plants may be readily moved about to conform to any changes or additions that may become necessary with the expansion of the business in which they may be involved; additional pieces may be purchased at a comparatively small cost or others readily disposed of as desired.

Last, but not least, the matter of depreciation and salvage must be considered.

Upon the dismantling of the average large central plant little return is realized, approximately seventy per cent being classed as "labor" and material, the labor naturally representing a total loss, and "material" must be removed, worked over or refitted to some other job or usage yielding a very small net return while the power unit when removed, overhauled and reinstalled might net from fifteen to twenty-five per cent of its original cost.

In the case of a unit system under the same conditions a net return of fifty or seventy per cent of the original cost could be secured for the reason that each unit represented a complete machine designed to do a particular class of work and could be readily removed, shipped any distance and reinstalled. We therefore have a real return on money invested.

Almost everywhere we look, particularly in mechanics, we see the unit system adopted. Therefore, we are not greatly surprised to find the mechanical refrigeration fraternity in the throes of "selling," once again the same old accepted principle of the unit system for refrigeration.

Everywhere hotels, restaurants, clubs, large homes

and institutions of every description are recognizing the economies and conveniences of the unit system as applied to refrigeration. This is proving particularly true of hospitals, for here, with human life at stake, the factor of dependability is paramount and the unit system has been accepted as the most practical installation if only for this safety factor. Furthermore, the units, of proper size, are so placed as to make them readily accessible for ice, etc., so that nurses or staff attendants need not walk any great distance to one central and sometimes congested location.

With the usual lapse of time required to recognize the superiority of the same old principle and once again being forced to realize the folly of allowing initial cost to be the deciding factor in selecting any equipment, apartment house owners, operators and builders are using the unit system of refrigeration.

In these enlightened days of safety, comfort and efficiency, employers generally are looking more and more to health and safety of their employees, making working conditions as comfortable and healthful as possible.

Therefore, we now have our rest rooms, lunch rooms, cafeterias, first aid service and every conceivable device to make the office, factory, shop, mine and farm a better, safer, healthier, happier place in which to work.

This was probably most ably presented by the personnel manager of a large corporation with this statement: "We have come to realize that if we give our employees nearly the care and attention we give our automobile they will run faster, easier and better, last longer and give more miles to the dollar."

For some time past the absolute necessity of cool, pure water to invigorate the body and insure a maximum working efficiency was generally recognized, particularly where hot weather prevailed or heavy fast work was required.

In every class of work, shop, factory, office and institutions of every character "bottled water service" using either an earthen container to cool the water or an "iced" container has been inaugurated.

These served fairly well where the high temperatures were not encountered, but at best no uniform temperature could be maintained, so the general results have not been entirely satisfactory.

Here again that great electrical industry, arising to the occasion and meeting a real requirement, has perfected the electric water cooler, which is now available to take its rightful place along the many other electrical appliances that have contributed so much to the comforts and conveniences of the present day.

Gradually the earthen or crock cooler is being replaced by a compact, attractively designed, electrically operated bottle water cooler.

Once again the unit system asserts its general superiority, for in addition to the facts already set forth herein, the saving in piping "ice water" from a central plant to various drinking fountains throughout a building, and the high cost of properly insulating these pipes alone go a great way in reducing the difference in even the initial cost of the two installations.

WEBB MAKES NEW RULING

Architects may enter into partnership with persons other than architects if they comply with stipulations of the new California State law regulating the practice of architecture, passed by the 1929 legislature, it was ruled by U. S. Webb, state attorney general.

The law permits such partnerships providing the name of the architect shall appear as the architect on all instruments of service and that in no case shall the other members of the partnership be designated as architects. These must be designated under their true title.

In many cases an architect associates in business with a construction engineer or a building contractor. The State Board of Architecture insists that in such cases the specific qualifications of each partner be listed clearly for public reference. The attorney general declared that it was illegal for a construction firm to use the name of a deceased architect in the firm name under the impression that his services were still involved.

ARCHITECTURAL DRAWINGS

An exhibit of architectural drawings, sponsored by the Beaux Arts Institution of Design, New York, was recently held in the Architectural Building, University of California, Berkeley. The collection represents work done by students who have won the annual fellowship for foreign study in recent years. The two-year fellowship, providing for study in Paris, was won last year by J. D. Murphy, student at the Massachusetts Institute of Technology.

HIGHWAYS OF STEEL

Highways made of one single strip of steel welded together and extending from coast to coast, are predicted by Bennett Chappel, vice president of the American Rolling Mill Company, who recently addressed the annual convention of the International Acetylene Association.

STEEL WINDOWS FOR ALL TYPES OF BUILDINGS

*by George P. Richardson**

THE growing popularity of steel windows on the Pacific Coast can be attributed to the many improvements that manufacturers have made in them during the last few years. While the steel casement has an architectural precedent dating back many hundreds of years, it has not been used extensively by architects in the United States until the last decade, for it was not until then that casements were perfected to a degree that would meet the demands of comfort and utility in the modern home.

With the growing volume of steel windows used, engineers have perfected many refinements. Not only have the windows been made weathertight, without the need for weatherstrips, easy to wash, easy to install, and easy to screen, but great strides have been made in making a window that can be easily adapted to architects' individual designs.

Types and sizes of windows have been standardized, yet in such a way that the architect has been given wide latitude in design. Wide windows for an English manor, tall narrow windows for a Norman tower, broad low windows for a Spanish Mission type of house, or semi-circular headed windows for a studio living room, all can be designed in wide variety from 50 types and sizes of standard casements.

HOUSE OF H. G. MEAD, BERKELEY
Gwynn Officer, Architect

An excellent example of a house based on English precedent is the Dr. W. C. S. Koebig residence at Los Angeles, designed by H. Roy Kelley, and which won the first prize in the 1928 House Beautiful Small Home competition. Standard Fenestra casements combined with heavy mullions, were installed in this house, making the windows economical yet architecturally correct.

The 1927 winner of the House Beautiful competition, the F. G. Meade residence at Berkeley, designed by Gwynn Officer, is the Spanish type with broad, low casements, some of them shuttered.

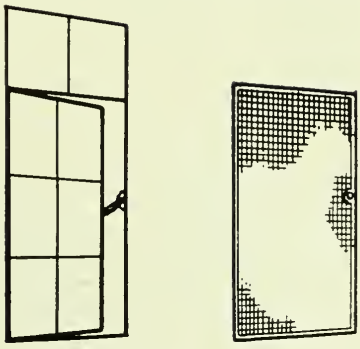
In the well-known Villa Riveria Apartments at Long Beach, California, designed by Richard D. King, Fenestra casements were used. At Mr. King's request the vertical muntins were omitted from the casements which gave a very pleasing effect. This magnificent apartment is one of the finest on the Pacific Coast, and the casement windows help materially in carrying out the design.

Of all the improvements made recently in steel casements the most notable is probably the Fenestra "Fenwrought" casement, (Screened), introduced last year by the Detroit Steel Products Company. The Fenwrought is a Fenestra open-out casement

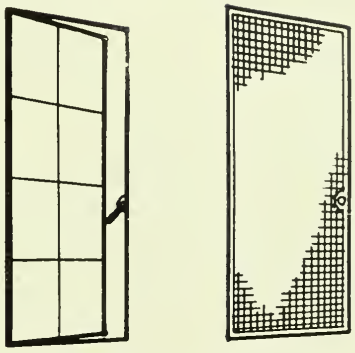
*Mr. Richardson is manager of the Pacific Coast office, Detroit Steel Products Company.

CASA RIVIERA APARTMENTS, LONG BEACH, CALIFORNIA

RICHARD D. KING, ARCHITECT



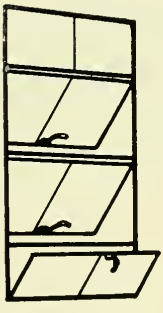
The Fenwrought (screened)



The Fencraft (screened)

The Fenbuilt (unscreened)

The Fenform (combination unit)



The Fenseal

The Fenmark

TYPES AND DESIGNATION OF FENESTRA STEEL WINDOWS

THE HOUSE OF DR. WALTER C. S. KOEBIG, PASADENA

H. Roy Kelley, Architect

equipped with an all-metal inside screen which fits flat against the steel window with a metal to metal contact. The hardware of the window is designed to permit the operation of the window through the screen without touching it. The screen is removed only when washing the window, and then it is easily done by simply releasing two spring clips at the top.

In the "Fencraft" casement this improved method of screening is offered for the first time in a heavier weight window. It is a quality steel casement which sets new standards of refinement for windows in this class.

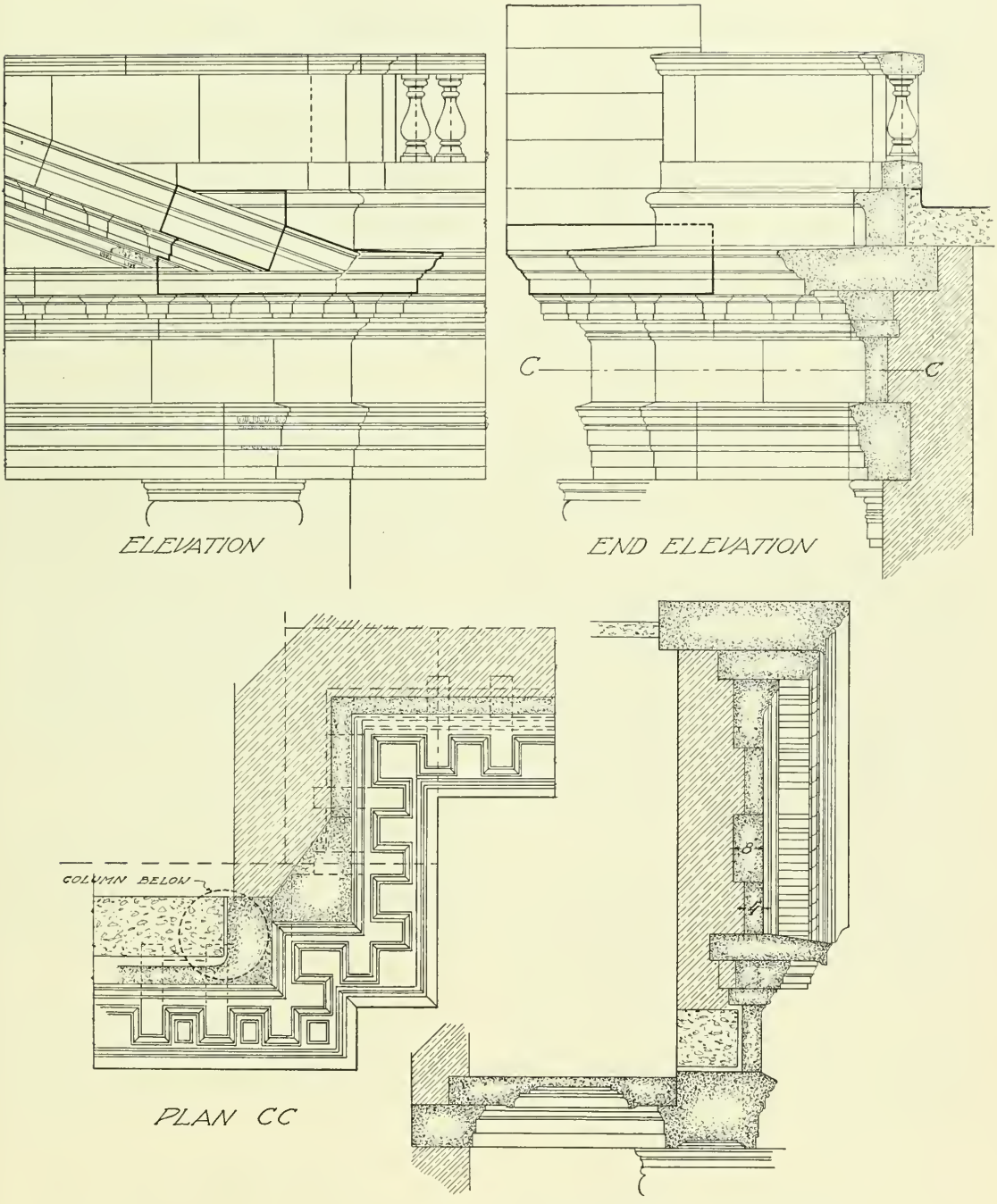
Not only do these windows give the advantages of Fenestra screening but, also they include several combination units, in which two swing leaves are used in a single unit, thus eliminating one mullion and simplifying the screening. Bronze operating hardware will be standard on these windows and bronze bushings will be used in the hinges to insure easy operation for the life of the building.

The Fenestra "Fenmark" window is another new window just announced by the Detroit company. This is designed for use in office buildings, schools, clubs, theatres, banks, etc. At the sill is an open-in projected ventilator which acts as a windguard and allows accurate control of ventilation in all kinds of weather. The upper portion of the window is composed of an open-out casement of medium weight sections, similar to the new Fencraft window. In some types where additional height is desired, a fixed transom will be used at the head.

Solid bronze handles will be standard. No operating hardware will be necessary as adjustable friction butts are used. The predominate line of the window is the vertical meeting rail of the casement which will conform to the prominent vertical lines popular in the new office buildings.

PRESERVE FEDERAL BUILDING

A telegram was submitted to the national body of the A. I. A. recently from the president of the Oregon Chapter, Jamieson Parker, asking the aid of the Institute in bringing about the preservation of the old Federal building in Portland, Oregon. It is the desire of the board to render all possible assistance to the Oregon Chapter in saving this building from destruction.



SCALE - ONE QUARTER INCH EQUALS ONE FOOT

Courtesy Vermont Marble Company

DETAILS OF MARBLE CORNICE IN ARLINGTON MEMORIAL AMPHITHEATER

CARRERE AND HASTINGS, ARCHITECTS

WITH *the* ARCHITECTS

EDUCATIONAL BUILDINGS

In the office of W. H. Ratcliff, Jr., Berkeley architect, preliminary plans are being prepared for the following group of academic buildings for Mills College, Oakland:

1. Two story reinforced concrete administration building.
2. Library building.
3. Academic building, faculty office and classrooms.
4. Two story reinforced concrete science building.
5. Two additional units to Art building.
6. Two story reinforced concrete infirmary.
7. A residence hall.
8. One story reinforced concrete corporation yards.

The cost of this program is estimated at $2,000,000 for which a building fund campaign is about to be launched.

APARTMENTS FOR SAN RAFAEL

S. Heiman, architect of San Francisco, has been doing considerable work in San Rafael, California, of late. Two commissions are a large apartment building and a new store for the Woolworth Company.

The firm of Carl Werner and S. Heiman has completed plans for a Scottish Rite temple in Reno, Nevada, which will be one of the outstanding pieces of architecture in Nevada when completed. The new temple will cost $500,000, the first unit to be completed at a cost of $150,000.

PROFESSOR HOWARD SPEAKS

John Galen Howard, a member of the faculty of the University of California, and the author of considerable poetry, was honor guest and speaker at the regular book review meeting of Berkeley Women's City Club, Friday afternoon, January 24, at the Town and Gown clubhouse. Professor Howard reviewed his latest poem. "Phidias," a book-length narrative dealing with the famous Greek sculptor and his times.

18 STORY PORTLAND BUILDING

Meyer-Frank Company will erect an eighteen story steel frame addition to their Portland department store from plans by De Young, Moskowitz & Rosenberg of Portland, Oregon. T. Ronneberg of San Francisco is the structural engineer. The building will cost in excess of $1,000,000.

BURLINGAME RESIDENCE WORK

The George W. Williams Company, 1404 Broadway, Burlingame, will build a two story English type residence on Woodstock Avenue, Hillsborough, from plans by Messrs. Grimes and Schoening. The Williams Company will also build a $10,000 home on Hale Drive, Burlingame, and a reinforced concrete garage for G. Adolphson, from plans by Russell B. Coleman.

NEW COUNTRY CLUB

The Union League Club of San Francisco plans the erection of a country club on their property at Millbrae, San Mateo County, and the office of Willis Polk & Company, architects, has been commissioned to prepare plans. This club building will cost in the neighborhood of $65,000 and will be in the Spanish style.

SCHOOL AND GYMNASIUM

N. W. Sexton, architect, with offices in the de Young Building, San Francisco, has completed plans and contracts have been let for a new school and a gymnasium for the San Rafael High School District. The general contract has been let to Young and Horstmeyer of San Francisco.

TWO NEW SCHOOLS

W. H. Weeks' office in San Francisco, announces the completion of plans for two new grammar schools in the state, one at San Jose and the other at Red Bluff. The San Jose school will cost $71,191 exclusive of heating, and the Red Bluff school, heating excepted, $76,318.

ARCHITECTS BUSY

Irvine and Ebbetts, of San Francisco, whose work has been almost exclusively the designing of apartment buildings, are at present engaged on plans for three new buildings to contain from ten to twelve three room apartments at a cost ranging from $45,000 to $60,000.

HALE BROS. STORE BUILDING

Retaining their own designers, Hale Brothers' Stores, Inc., are planning on the complete alteration to their property in Mission street, San Francisco, which is leased to the Oregon City Woolen Mills.

SOUTHERN PACIFIC HOSPITAL

Plans have been completed by Alfred I. Coffey and Martin J. Rist, Phelan Building, San Francisco, for a six story and basement Class A addition to the Southern Pacific hospital at Fell and Baker Streets, San Francisco. Contract for the work has been awarded to Barrett and Hilp for $450,000 plus a fee.

STORE AND OFFICE BUILDING

Meyer & Holler, Wright & Callender Building, Los Angeles, are preparing plans for a twelve story Class A store, office and loft building at 629 South Hill street, Los Angeles, for the Sun Realty & Finance Corporation. The investment will represent an expenditure of $750,000.

CLAUSEN & AMANDES BUSY

New work in the offices of Clausen and Amandes, architects in the Hearst building, San Francisco, includes extensive alterations to the Broadway theater, Oakland, and a three story studio apartment building at Kearny and Chestnut Streets, San Francisco, for Mrs. Carolyn Mayes.

OAKLAND THEATER

G. A. Lansburgh, architect of San Francisco, has recently returned from New York where he was commissioned by Warner Brothers to prepare plans for a $1,000,000 Class A store and theater at Broadway, Franklin and 20th streets, Oakland. The auditorium will have a seating capacity of 3500.

OAKLAND APARTMENTS

Chester H. Treichel, architect in the American Bank Building, Oakland, has prepared plans for an $80,000 three story apartment building with fireproof garage to be built on Merritt Avenue in the Lake district, Oakland.

BANK OF ITALY STORES

The office of H. A. Minton, architect of San Francisco, has plans for store buildings for the Bank of Italy in Southern California at Long Beach and Santa Monica, as well as a dormitory for the University of Santa Clara.

NEW BANK BUILDINGS

The office of A. F. Roller, First National Bank Building, San Francisco, has finished working drawings for two new bank buildings for The Pacific States Savings and Loan Association. One building is in San Francisco and the other is in Oakland.

PERSONALS

John C. Austin, elected president of the Los Angeles Chamber of Commerce for 1930, is the first architect to receive that honor. He was the architect of the present Chamber of Commerce Building.

Wilhelm Adrian, C. E., for a number of years associated with Pierre Zucco, C. E., with offices in the Whittell Building, San Francisco, has opened an office at 417 Market Street for the practice of his profession.

Willis Polk & Company announce the withdrawal of James R. Mitchell as a member of the firm, which hereafter will be composed of Angus McSweeney, architect, and Austin Moore, manager. Mr. Mitchell will continue to practice architecture under his own name.

Edwin Bergstrom, architect of Los Angeles, says that architects in the United States are receiving fees of not less than $80,000,000 a year.

J. J. Jessup of San Francisco, has been appointed city engineer of Los Angeles to succeed Maj. John C. Shaw, who filled that post for the last four years.

James S. Dean, of Dean and Dean, architects of Sacramento, has been appointed city manager of Sacramento at a salary of $10,000 a year.

RECEIVING HOME

Whitehouse & Price are architects for a new receiving home for the Spokane branch of the Washington Children's Home Society. The building is planned for two stories, and will be constructed of brick and concrete, with modern equipment.

ARCHITECTS STAFF DINED

The staff of John Graham, architect, of Seattle, was entertained at a dinner at Blanc's December 20. About thirty were present, and a most enjoyable evening was spent with Mr. Graham, who was assisted by Francis W. Grant as master of ceremonies.

ELECTED PRESIDENT

Andrew L. Mercer, of Gardiner & Mercer, architects, was chosen president of the Architectural Institute of British Columbia at the annual meeting in the Hotel Georgia, Vancouver. P. Leonard James is the new vice-president.

NEWSPAPER PLANT

The Scripps-Howard Press of New York has commissioned Messrs. Howell and Thomas of Cleveland, Ohio, to prepare plans for a $1,000,000 newspaper plant to house the San Francisco *Daily News*.

ARCHITECTS APPEAL COURT DECISION REGARDING PAYMENT OF PLANS

TWO rulings of interest to architects were made recently by Superior Judge Leon R. Yankwich of the Los Angeles county courts, in the case of Norman F. Marsh and De Wight I. Kindig against the Calvary Presbyterian Church of Wilmington.

Marsh and Kindig sued the building committee of the church for $3065.95 alleged to be due on account of architectural services rendered on the new Presbyterian Church at Wilmington, which is now in process of construction. The church committee, in a rather novel answer, without admitting or denying liability, stated that the architects had been paid $2500 and asked that the court grant the plaintiff such relief "as shall seem meet and equitable to the court."

The church did not put on any testimony, but contented itself with the wording of the contract itself. The two architects told the usual story of church building financing: At first a sketch was made which contemplated a very pretentious church. Unable to raise the necessary funds, these sketches were abandoned. New sketches and plans were made which embodied the use of the old church edifice. That edifice burned down. Then the second sketch had to be abandoned. Final plans were drawn which were accepted and on which contracts were awarded in the sum of $62,644.51. Alternate bids were also received (which were not accepted) calling for additional work which would have brought the cost up to $81,649.

Work was begun on the church according to the contracts. The building committee paid the architects $2500 on account. Then a dispute arose and the architects brought suit.

Two contentions were made by them: The first was that they were entitled to the reasonable value of the work done on the sketches which were not used. "The agreement contemplated that these sketches should not be paid for separately, but should be part of the compensation on the completed plans," said Judge Yankwich in ruling against the contention of the architects that they were entitled to $3000 for this work.

The architects also contended that their percentage should be based on the church as contemplated, not on the church as built. But Judge Yankwich ruled that the contracts actually awarded are the basis of the compensation.

"As, if and when," said Judge Yankwich, "the additional work is done, and the architect's supervision on such work completed, he will be entitled to additional compensation."

Norice of appeal from the decision of Judge Yankwich has been given by Clay & Handy, attorneys for the architects, and the case will go to the appellate court. The foregoing statement of the case is given from the viewpoint of the court. According to Thomas L. Clay, one of the attorneys, the evidence showed "that plaintiffs completed plans for a church building, under the instructions of defendants, which plans incorporated existing buildings, which plans were approved and accepted by defendants at a cost of $2000 to plaintiffs. After the above had taken place, the buildings burned, making the plans of no value. Defendants then instructed plaintiffs to make new plans for a church which should cost in the neighborhood of $85,000, which plaintiffs did. The defendants used the said plans and erected a building according to them with the exception that a wing was left from the building, making the cost of erection some $20,000 less than would have been the cost had the building been built as per the plans drawn and accepted.

"Plaintiffs' contention is that they should be paid the reasonable value of the plans that could not be used because of the fire, and that the fee to be paid them for the plans used should be based upon the cost of a building erected according to them and that the fee should not be based upon the cost of erection of a portion thereof."

As the architects interpret the ruling of the court, it will, if affirmed, establish a precedent of great concern to the architectural profession. It would permit an owner, after having plans prepared for a building, to put in a foundation, defer the project indefinitely and pay off the architect on the basis of the cost of the foundation. This would leave the architect holding the bag for the major expense of the work until such time as it might suit the owner's convenience to go ahead with the project.

ARCHITECT WINS FEE

"If the lowest bid is not accepted because it exceeds the amount which the owner proposed to spend and the house is not built, the architect is not entitled to the agreed percentage on such a bid.

"However, the architect is entitled, notwithstanding the abandonment of the project, to the agreed per-

centage on the maximum cost which the owner intended to spend and within the limits of which he wanted the architect to keep."

This is the gist of a recent decision by Judge Leon R. Yankwich of the superior court of Los Angeles county, in awarding a judgment of $1300 to Marbury Somervell of the architectural firm of Somervell & Putnam against E. B. Rivers, produce merchant, for balance of fee claimed for preparation of residence plans. Rivers contested the suit, claiming he had already paid the architect $2000 for plans which he could not use because the lowest bid exceeded the maximum amount he desired to spend by $12,500 and the residence had not been built.

COMPETITIONS

WINNERS OF HOUSE COMPETITION

Los Angeles architects were prize winners in the small homes competition recently conducted by the Midwest chapters of the American Institute of Architects and sponsored by the Monolith Portland Midwest Company. Fifty-one of the 337 designs submitted in the competition were shown in the exhibit room of the Architects' Building, Fifth and Figueroa streets, Los Angeles.

Designs were submitted from nearly every state in the Union and from many foreign countries, including England, Canada, Cuba, Porto Rico and Mexico. While rules for the contest called for a home for a family of moderate means suitable for use in the Midwest sections and not more than six main rooms, 106 of the plans submitted were from California. It is interesting also that three Los Angeles architects won first, second and third places.

The winners are Walter L. Moody, H. Roy Kelley and Arthur R. Hutchason, who were awarded first, second and third honors, respectively. Among those honorably mentioned for their designs are Edward W. Kress and Harold H. Weeks, San Francisco; Normal L. Low, Rivera; Florence Wright, Santa Monica; J. Robert Harris, Hollywood, and Yandell W. Nibecker, Los Angeles.

The winner of first prize will receive a three months trip abroad, first class, with all expenses paid and $500 in cash for incidentals; the second prize is a two months' trip abroad on a regular tour or cruise with all expenses piad and $300 in cash for incidentals; third honors call for a three weeks' trip anywhere in the United States with all expenses paid and $150 in cash for incidentals. Those receiving honorable mention will be given $50 in cash each and copies of Richard S. Requa's book, "Old World Inspiration for American Architecture." Mr. Requa was the architectural advisor for the contest.

AMERICAN ACADEMY IN ROME

The American Academy in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, sculpture and musical composition.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1,500 a year with an allowance of $500 for transportation to and from Rome and $150 to $300 for materials and incidental expenses. Residence and studio are provided at the Academy, and the total estimated value of each fellowship is about $2,500 a year for three years, with opportunity for extensive travel.

The Grand Central Art Galleries of New York will present free membership in the Galleries to the painter and sculptor who win the Rome prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until March 1. Circular of information and application blanks may be obtained by addressing Roscoe Guernsey, executive secretary, American Academy in Rome, 101 Park Avenue, New York, N. Y.

JAMES HARRISON FELLOWSHIP

The Governing Committee of the James Harrison Steedman Memorial Fellowship in Architecture announces the fifth competition for this Fellowship, to be held in the spring of the year 1930.

This fellowship is founded in memory of James Harrison Steedman, M. E., Washington University —1889, First Lieutenant U. S. Naval Reserves, Assistant Engineer Officer U. S. S. Oklahoma in 1917 and 1918, who at the age of fifty, suffering from a malady curable only by rest, refused to quit his post and knowingly made the great sacrifice.

SCULPTURE IN SOAP

The sixth annual competition for prizes offered by the Procter and Gamble Company for small sculptures, using white soap as a medium, is announced by the National Soap Sculpture Committee, 80 East 11th Street, New York. The competition closes May 1. For amateurs ninety-six prizes totaling $1,850 will be awarded.

PACIFIC COAST AND SOUTHWESTERN BUILDING FORECAST

THE optimistic forecasts of activity in the building field which have been made for and by President Hoover are entirely supported by the 1930 Building Forecast recently made public by a group of leading building publications. In building activity it is apparent that an expenditure of at least seven billion dollars will be reached and with the addition of engineering projects and public works, the total may run to over nine billion dollars.

In considering the possible building program of 1930 we must emphasize the immeasurable factor which has been introduced suddenly into the picture. This is the great construction program fostered by the government and supported in theory at least by states and municipalities. President Hoover turned in a very natural manner to the construction industry as a means of stabilizing the business welfare of the American public. There exists today a tremendous demand for public buildings, and civic improvements. There is great pressure being exerted for public utilities, for increased facilities and service. There is great need for better roads, bridges, transportation facilities and various other types of engineering projects which come within the scope and control of national, state and city officials. So definitely has this program been presented and so enthusiastically has it been supported that it cannot help but contribute a great volume of building activity to the totals of 1930.

Summing up the general situation, therefore, and considering the figures of the Pacific Coast Building Forecast as presented herewith, we find the following significant facts for consideration:

1. The general demand for new building construction is approximately the same as it was at the beginning of 1929.

2. The trend toward a far greater supply of mortgage money is very definite.

3. The deliberate program of construction which is being started by the government, by states and by municipalities, will evidently assume very large proportions.

This combination of factors would seem to provide reasons for optimism regarding the building activities of 1930. It would seem that we can assume at least as much building construction during this new year as we had in 1929 and probably more. In fact if mortgage money becomes really much easier and if the great schedules of public improvements are carried out, it would seem to be quite within reason that 1930 might exceed all building construction years.

It is true that never before has the human element entered so strongly into the picture of the building industry. Who can foretell mass psychology? We believe that everyone senses a returning spirit of confidence based on hard work and intelligent planning. The signs of the times are pointing favorably. Even in the self-sustaining statements of captains of industry there is to be found an intelligent realization of the great things which can be accomplished by the American public when it really goes to work—and it has gone to work.

For the American public to work it requires tools and the greatest tools of industrial and commercial activity are the buildings which house the multi-fed operations involved.

Before turning to an analysis of the change in public demand for buildings of various types we cannot well leave the stage of prophecy without commenting on the existing trends which are under way in the field represented by the designing of buildings and the materials and equipment which are required.

In the first place, the influence of mortgage loaning interests on plans and specifications has never represented such significant control as it is now assuming. The very scarcity of mortgage money assumes that the collateral on which it is placed must be most carefully scrutinized. There is coming a far greater volume of mortgage money financed through bond issues and certificates issued by large loaning companies. This is a more flexible type of mortgage investment from the point of view of the individual investor and as it is handled through large central organizations it is obvious that the facilities for provision of plans and specifications will be greatly improved. It is quite apparent that as mortgage money mounts again in volume it will be more scientifically handled and the natural result will be better quantity in design and in the types of materials and equipment selected. We are to have better buildings regardless of type. First, because of a more intelligent demand on the part of the public and second, because of the more scrutinized control of mortgage money.

This is a significant condition for architects because it means a constantly increasing demand for the better type of architectural service. An investing public is learning more of the value of good architecture because the architectural profession is learning to render a more valuable service. The economic condition of the architectural profession is strengthening

constantly as architects assume a broader relationship with building projects and with the economic structure which casts its shadowy lines over the drafting board. More and more in successful building projects of all types of architect, the engineer and the contractor are finding the recognition which always develops for practical contributions. Withal there is no decline in the art of building design. The esthetic phase is mounting, too, in its practical contribution to American business and social life.

There have been tremendous developments in the manufacturing side of the building industry. Not only have great capitalists become actively interested but the very size of the industry has forced added vision, and together with an intricate combination of research and technical improvements, which is completely changing many of our construction methods, materials and equipment, some of the great basic divisions of the building industry, such as steel and lumber, are being forced to the development of hundreds of specialties for the building industry. There has been a tremendous increase in the application of engineering skill to the solution of building problems. All of these, while they require far greater study and more comprehensive understanding on the part of the architect, contribute in turn to the quality of the finished buildings.

The detailed figures of the Building Forecast for the Western and Southwestern States are shown in the accompanying tabulation and indicate total construction activity, exclusive of public works, roads and utilities of $1,099,583,100.00. This tabulation will also show proportionate building activity in each respective zone and in each of the bulding types. They have been carefully developed in the same manner used successfully for the past eight years and while no human forecast can be accurate, at least they have the advantage of indicating average possibilities for 1930.

WESTERN STATES

Type of Building	Requirements for New Buildings by Percentages 1929	1930	Change	Forecast in Dollars, 1930	
Automotive	2.4	2.7	+ .3	16,859,200	
Banks	2.2	1.2	—1.0	7,281,600	
Apartments	14.3	11.1	—3.2	68,355,200	
Apartment Hotels	7.1	5.9	—1.2	36,367,000	
Clubs, Fraternal, etc.	2.7	2.5	— .2	15,243,800	
Community, M'm'rial	1.9	4.3	+2.4	26,752,500	
Churches	3.4	3.9	+ .5	23,993,200	
Dwellings (under $20,000)	4.1	2.6	—1.5	15,846,500	
Dwellings ($20,000 to $50,000)	2.5	2.5	—	15,571,800	
Dwellings (over $50,000)	2.2	1.8	— .4	11,041,300	
Hotels	11.2	17.0	+5.8	104,468,000	
Hospitals	5.6	3.9	—1.7	24,190,000	
Industrial	4.9	4.8	— .1	29,725,000	
Office Buildings	14.8	11.8	—3.0	72,426,500	
Public Buildings	4.7	7.1	+2.4	44,062,700	
Schools	9.8	12.1	+2.3	74,374,000	
Stores	3.9	2.4	—1.5	14,509,900	
Theatres	1.5	1.5	—	9,056,900	
Welfare Y.M.C.A., etc.	.8	.9	+ .1	5,510,400	615,635,500

SOUTHWESTERN STATES

Automotive	2.9	3.9	+1.0	18,978,000	
Banks	1.6	2.2	+ .6	10,688,900	
Apartments	5.7	5.4	— .3	26,026,800	
Apartment Hotels	4.3	5.1	+ .8	24,571,300	
Clubs, Fraternal, etc.	3.6	3.7	+ .1	17,978,000	
Community, M'm'rial	1 6	1.2	— .4	5,608,800	
Churches	6.6	7.2	+ .6	34,784,400	
Dwellings (under $20,000)	3.1	2.4	— .7	11,676,800	
Dwellings ($20,000 to $50,000)	2.1	2.1	—	9,983,500	
Dwellings (over $50,000)	1.6	1.4	— .2	6,810,100	
Hotels	12.5	15,9	+3.4	76,711,000	
Hospitals	3.5	9.6	+6.1	46,649,800	
Industrial	9.8	4.4	—5.4	21,381,500	
Office Buildings	11.4	8.7	—2.7	41,922,500	
Public Buildings	5 1	3.9	—1.2	18,876,400	
Schools	16.5	15.9	— .6	77,174,300	
Stores	2.2	2.1	— .1	10,282,800	
Theatres	2.1	3.1	+1.0	15,260,200	
Welfare, Y.M.C.A., etc.	3.8	1.8	—2.0	8,581,300	483,947,600
Totals					1,099,583,100

HASTINGS DISAPPROVED SKYSCRAPERS

The skyscraper, as it has been developed in this country, did not meet with the approbation of Thomas Hastings, foremost architect, whose death occurred last month. On several occasions he expressed himself as deeply regretting that New York had not forbidden by law the erection of high buildings. He believed that an eight-story building was high enough. Skyscrapers he considered an engineering rather than an architectural triumph. A skyline such as New Yorkers sometimes boast about he considered more of a novelty with no real appeal to the eye. He urged that waste spaces be utilized rather than piling up height in congested districts thereby increasing traffic with injurious effects to the health of the public. It might be added that Mr. Hastings was best known for his works that are far removed from the skyscraper class.—*Stone.*

CONTRACTORS SHOULD ADVERTISE

Many contractors are not sold on the idea of publicity for the construction industry. They ask us what good it will do. Well; we are told there are twenty-eight mountains in Colorado that are higher than Pike's Peak. We can't name any of them. And neither can you. But we all have heard of Pike's Peak because it has had so much publicity. So business is good in Pike's Peak and the twenty-eight higher peaks just stand there, and, we imagine, complain that business is poor and wonder why people flock to Pike's Peak and refuse to believe in publicity.—*Construction Advisor.*

LEGALITY OF FIRM NAMES

The attorney general of California, U. S. Webb, at the request of the State board of architecture, has passed upon the conformance of certain names of firms with the statute regulating the practice of architecture.

The full text of the ruling follows:

In your letter of Dec. 4, 1929, you state that your board is having some difficulty in determining whether certain designations of firm or partnership names are in accordance with the law, and you therefore present the following cases to us for our opinion as to the legality thereof:

"(1) A. MacDonald, architect, in partnership with Oliver Olds, nonarchitect, and Mrs. Bates, nonarchitect, operating under the name of 'Wm. Bates & Company, A. MacDonald, Architect, Oliver Olds, Manager.'

"William Bates was a certified architect, but has been deceased for five years. Is this in accordance with the law?"

This firm designation would be legal providing that the name of the architect appears as the architect on all instruments of service and no other member of such partnership be so designated.

"(2) A. and B. O'Grady, nonarchitects, and W. A. Jones, architect, operating under the name of 'O'Grady Bros., and W. Jones, Architect.' "

We believe that the firm name herein sufficiently designates Mr. Jones as the only architect of the partnership.

"(3) S. C. Hardacher, nonarchitect, conducting a business designing golf courses and styling himself, 'Golf Architect.' Can the word 'architect' be legally used in this connection?"

Section 9 of the act in question provides that the word 'architect' means a person who holds a certificate to practice architecture in the State of California under authority of this act. We do not believe therefore, that one should style himself "golf architect" unless the provisions of the act have been complied with.

"(4) Williams-Ravens, nonarchitects, engaged in the real estate business operating a home planning department under the title of 'Williams-Ravens Co., Architectural Dept." Is this a violation?"

It would not be permissible for the Williams-Ravens Co. to use the designation "architectural department."

"(5) John Smith, architect, B. Johnson, nonarchitect, operating under the title of 'East Bay Planners,' would the board be right in prosecuting this man?"

We believe this to be a legal designation.

"(6) The following firm is operating under the style of "Curby & Rivets, Architect and Engineer.'

Mr. Curby is an architect, and Mr. Rivets, nonarchitect. The question with us is, how will we be able to tell which is the architect and which is the engineer. Is this a legal style of firm name?"

We believe this designation to be legal.

"(7) John Gray, architect, operating under the fictitious name of Gray & Gray, architects, his brother Paul Gray, architect, formerly associated with him, having died about a year ago, in this connection we would like to know if it is legal for John Gray to operate under the name of Gray & Gray, Architects."

This firm should designate itself "Gray & Gray, Architect," in order to comply with the provisions of the act regulating the practice of architecture.

INFORMATION ABOUT REGISTRATION LAWS

Information as to registration laws now in force in the following states may be obtained from the National Council of Architectural Registration Boards, 175 West Jackson Boulevard, Chicago, Illinois, and, from the state agencies named below:

Arizona—State Board of Registration for Architects, Phoenix. California—State Board of Architecture, N. D., 537-538 Phelan Building, San Francisco; State Board of Architecture, S. D., 1124 Sun Finance Building, Los Angeles. Colorado—State Board of Examiners of Architects, Chamber of Commerce Building, Denver. District of Columbia—Board of Examiners and Registrars of Architects, Room 422, Municipal Building, Washington, D. C. Florida—State Board of Architecture, 32 West Forsyth Street, Jacksonville. Georgia—State Board of Registration of Archtects, Atlanta. Hawaii—Territorial Board of Registration, Honolulu. Idaho—Department of Law Enforcement, Boise. Illinois—Department of Education and Registration, Springfield. Indiana—State Board of Registration for Architects, State Capitol, Indianapolis. Iowa—State Board for Registration of Architects, 810 Hubbell Building, Des Moines. Louisiana—State Board of Architectural Examiners, Hibernia Building, New Orleans. Michigan—State Board of Registration of Architects, Detroit. Minnesota—State Board of Registration for Architects, 801 Phoenix Building, Minneapolis. Mississippi—The Mississippi State Board of Architecture, Gulfport. Montana—Board of Architectural Examiners, Bozeman. New Jersey—State Board of Architects, 219 E. Hanover Street, Trenton. New York—State Board for Registration of Architects, Albany. North Carolina—State

ADVERTISING ARCHITECTURE AND THE ARCHITECT

IN the September number of *The Octagon,* official organ of the American Institute of Architects, there was reference to consideration given by the Executive Committee of the Institute, to the subject of advertising architecture and the architect. A letter from Merritt Harrison, of the Indiana Chapter, in favor of local advertising by Chapters, was printed.

The Board of Directors, at its November meeting, ordered the inclusion of this subject on the convention program—at Washington in May. Time will be given then to those in favor of advertising by Chapters, or local groups, and to those opposed.

The following letter by S. Bruce Elwell, of the Boston Chapter, discusses the subject in an interesting way:

There seems to be three reasons why the architectural profession balks at the thought of advertising architecture and the architect. The first reason is because the architect, by education, training, and natural inclination, dislikes any suggestion of advertising as unprofessional and smacking too strongly of the "go-getter" spirit of business to be dignified. In fear of any suggestion of advertisement the architects have failed, I think, to realize the difference between advertising and the possibility of educating the public in a dignified way. Make this change in the presentation of the matter and I am sure it will change the point of view of many architects.

The second reason why architects object to any form of so-called advertising and may even question the advantage of trying to "Educate the Public" is because they do not see the need of it.

Conditions have changed rapidly since before the last war, we will all agree, and the profession of architecture has felt the changes together with all the other professions, businesses and trades.

Of late years there is a decided tendency from a number of sources to belittle the work of the architect. Even in the larger types of work there is a growing tendency to make the architect only a subordinate part of a large organization. Many contractors feel they can work fully as successfully for the client from a set of drawings made by their organization or some draftsman. The material men show attractive designs which can be constructed without the need of an architect. The building magazines even include Service Bureaus in their organizations, which bureaus are really competing with the architect and have the advantage of direct advertising from which the bona fide architect is prohibited.

Can we blame the public then for wondering what the architect does or why he should be paid a commission when from so many sources they hear that building can be well done without an architect, but from no general source do they get the vital information as to what the architect really does to give his clients something which the client can get in no other way.

Architecture, too, is a profession about which many private individuals, promoters and business men feel they know a great deal. They are not ashamed to say as much to their friends and colleagues, even if they do not always go quite so far with the architect himself. How can the public understand the vast amount of thought, training, experience and technical knowledge required in connection with the successful building, unless they are given this information?

If there is any doubt as to these facts, please compare the amount of work done in this country without architects to the amount done by them.

The third reason appears to be that many architects doubt whether it is possible to present to the public in an interesting and dignified way, the information as to the scope and value of architectural services. That this program can be made a success I have not the slightest doubt, for architects have imagination, an unusual appreciation of the fitness of things; and a willingness to give unstintingly of themselves to their problems.

To determine the best course of procedure will take time and thought, of course, together with the advice of experts in the line of publicity. It is evident, however, that such a campaign cannot be the work of individuals, but must result from the cooperation of a group of reputable and established architects in each community.

Yours very truly,
S. BRUCE ELWELL.

Board of Architectural Registration, Greensboro. North Dakota—State Board of Architecture, Bismarck. Oklahoma—State Board of Examiners of Architects, Stillwater. Oregon—State Board of Architectural Examiners, Portland. Pennsylvania—State Board of Examiners of Architects, Harrisburg. South Carolina—State Board of Architectural Examiners, Columbia. South Dakota—State Board and Architectural Examiners, Mitchell. Tennessee—State Board of Architectural and Engineering Examiners, Nashville. Utah—State Board of Architecture, Salt Lake City. Virginia—State Board for the Examination and Certification of Architects, Professional Engineers and Land Surveyors, Lynchburg. Washington — State Board for Registration of Architects, Olympia. West Virginia—State Board of Examiners and Registration of Architects, Charleston. Wisconsin—Board of Examiners of Architects, Madison.

Registration laws are pending in Ohio and Missouri.

Copies of the "Model Form of Law for the Registration of Architects" will be sent complimentary on request addressed to the Executive Secretary, A. I. A., The Octagon, Washington, D. C.

LICENSING CONTRACTORS

At a mass meeting of over 500 general contractors in Portland, meeting at the Builders' Exchange on December 7, a vote was taken which favored a repeal of the city ordinance in Portland requiring license for contractors, in that it is unnecessary and unconstitutional, according to arguments made.—*Washington State Architect.*

SOCIETY and CLUB MEETINGS

SOUTHERN CALIFORNIA CHAPTER

Restriction of the height of buildings to a minimum of 150 feet in the county of Los Angeles and all cities of the county, is advocated in a resolution passed by Southern California Chapter, A. I. A. at its January meeting. A resolution was also adopted congratulating John C. Austin on his election to the presidency of the Los Angeles Chamber of Commerce.

Annual reports of the outgoing officers were read and the officers for the new year were installed as follows; H. C. Chambers, president; Carleton M. Winslow, vice-president; H. Roy Kelley, secretary; Ralph C. Flewelling, treasurer; Gordon B. Kaufmann, director for three years.

Rabbi Magnin was the speaker of the evening, taking as his subject the origin and development of the Jewish synagogue. After the meeting, which was in charge of A. M. Edelman, the members adjourned to the main auditorium of the temple where several organ numbers were played by Edouard Nies-Berger and an explanation of the mural paintings, which feature the interior decorations of the auditorium, was given by Rabbi Dubin. Pierpont Davis, outgoing president, was presented by the Chapter with four volumes on "Architectural Antiquities of Great Britain."

Members and guests present were: Stiles O. Clements, Reginald D. Johnson, R. Germain Hubby, David J. Witmer, J. E. Allison, John P. Krempel, John W. F. Binderheim, J. J. Backus, S. Charles Lee, Ronald Campbell, Dwight Gibbs, C. H. Cheney, Warren Cheney, Breo Freeman, Wm. H. Harrison, H. C. Chambers, J. T. Zeller, Henry F. Withey, Robert B. Stacy-Judd, Charles F. Plummer, Edgar H. Cline, George J. Adams, Henry R. Davis, A. C. Zimmerman, R. D. MacPherson, G. Stanley Wilson, Douglas Honnold, Robert H. Orr, Roy C. Mitchell, C. Harold Hopkins, Eugene Dertout, Leland F. Fuller, E. L. Taylor, Floyd Mueller, Fitch H. Haskell, A. S. Nibecker, Jr., A. M. Edelman, D. C. Allison, Myron Hunt, Horatio W. Bishop, H. Roy Kelley, W. F. Risley, Ralph C. Flewelling, Carleton M. Winslow, Earl T. Heitschmidt, J. E. Kauthen, Claud Beelman, Arthur R. Hutchason, Edwin Bergstrom, Wm. Richards, Sumner Hunt, W. J. Dodd, Pierpont Davis, J. J. Miller, Dr. D. W. Edelman, Rabbi E. F. Magnin, Rabbi Dubin and Edouard Nies-Berger.

Following is the resolution on height limit of buildings adopted by the Chapter:

Whereas, The Southern California Chapter, American Institute of Architects, after an intensive study of the subject of height limit of buildings and of zoning requirements in relation thereto, has concluded:

(1) That comprehensive protective measures or zoning laws for regulating the establishment of zones or districts and limiting the height, bulk, character and use of buildings in each such zone or district, should be enacted to the end that similar zones or districts in the city of Los Angeles and in the county of Los Angeles and, as far as possible, in all other cities of the county of Los Angeles shall have uniform or closely related requirements.

(2) That in framing such requirements special attention should be given to requiring adequate permanent light courts for all classes of buildings which use windows for their supply of light and air and that such light courts in all cases should be within the confines of the property on which each building is erected, and further that such requirements should require proper setbacks to furnish light and air to streets and alleys and on (side) property lines. Now, therefore, be it

Resolved, That the Southern California Chapter of the American Institute of Architects urgently recommends to the proper authorities of the city of Los Angeles and to the county of Los Angeles and of other cities of the county that they adopt building and zoning requirements in conformity with the requirements set out in the preamble hereof and that will unify building requirements throughout the various territories, and be it further

Resolved, That this Chapter further recommends that the maximum limit of height of buildings in the said cities and county shall be fixed at not to exceed 150 feet.

WASHINGTON STATE CHAPTER

The regular meeting of the Washington State Chapter, A. I. A., for December was held at the College club, Seattle, Thursday, December 5, with a good attendance, and after enjoying the usual dinner the meeting was called to order by Vice-President Narramore.

Communications were presented by the secretary as follows: From Jacobs & Ober, consulting engineers, replying to a letter from the Chapter relative to cooperation in designing the proposed Aurora Avenue bridge, Seattle, the Chapter being advised that Messrs. Jacobs and Ober would be glad to confer with the Chapter Committee; also communications from the county and city officials acknowledging receipt of the

Chapter's resolution regarding the proposed bridge from Mercer Island to the main land. These matters were referred to the Civic Design Committee by a vote which provided for increasing the size of the committee by the addition of two more members.

A letter was read from Regional Director Fred F. Willson, informing the Chapter of a proposed visit to the Northwest of President Hammond and Vice-President Hewlett of the Institute some time in February, and suggesting that the annual meeting be postponed to that date.

Treasurer Allen presented his report of the finances, which was accepted. Reports from committees being next in order, Mr. Lockman presented a resolution proposed by the Ordinance Committee of which he is chairman to the effect that all plans filed with the Seattle building department be certified by a licensed architect. This resolution was adopted.

Mr. Thomas presented the report of the City Plan Committee relative to the city's disposition of Denny Park, Seattle. The report advocating the retention of this park area by the city until a comprehensive plan of park development should determine the future park needs in this locality. The report was adopted.

The Contact Committee with the contractor's organization reported monthly meetings at which construction problems were discussed in a friendly cooperative spirit and President Ford read telegrams he had sent for the Chapter urging early construction of Seattle's new federal building.

The Chapter listened to a very interesting address by Butler Sturtevant on European Gardens with some reflections of them in local work. Some fine examples of gardens in Spain, England, France and Italy were shown and it was explained how the natural mode of living affected garden design.

EXAMINATIONS FOR ENGINEERS

A large number of qualified civil engineers will be added to the California state department of public works in the near future by means of civil service examinations to be held by the civil service commission. Vacancies in both office and field positions are located throughout the state, with salaries ranging from $100 to $230 a month.

Written examinations will be given at Sacramento, San Francisco and Los Angeles, and at such of the following points as the number of applicants may warrant: Bishop, Fresno, San Bernardino, San Luis Obispo, Eureka and Redding. Oral interviews will be given at Sacramento, San Francisco and Los Angeles.

SAN FRANCISCO ARCHITECTURAL CLUB

The annual meeting of the San Francisco Architectural Club was held January 8th and was well attended. Theo. G. Ruegg was elected president, Ira H. Springer was elected vice president and W. J. Alexander, secretary. Waldon B. Rue and C. Jefferson Sly will serve as directors.

Much interest was manifested in the future of the club and a spirit of fraternity and good fellowship prevailed, with the promise to make the year 1930 the biggest and most profitable in the history of the club.

A feature of the evening was an address by Harry Langley, retiring president in which he reviewed the work of the past administration stressing the high ideals that the officers had set before the membership and reporting successful accomplishment of a number of important problems.

As a token of appreciation for his administration Mr. Langley was presented with a beautiful watch charm.

In making the presentation Felix Raynaud paid glowing tribute to Past President Langley and to the officers serving with him during the past year.

L. A. ARCHITECTURAL CLUB

The annual meeting of the Los Angeles Architectural Club was held January 21st, in the banquet hall on the 8th floor of the Chamber of Commerce building. Dinner was served at 6:30.

Following the business meeting Monroe Butler spoke on the subject of "Democratizing American Business." Mr. Butler, who is the assistant to the president of the California Reserve Company, was enthusiastically received. The dominating point of his talk was that the architectural profession and building industry have a human side.

S. H. Taylor of the Lincoln Electric Company, Cleveland, Ohio, gave a lecture on electric arc welding illustrated with a motion picture of that process as applied in the erection of the Upper Carnegie building in Cleveland.

The club decided to hold a costume dance some time in March.

Officers were elected as follows: President, Sumner Spaulding; Vice-presidents, Fitch Haskell, Ralph Flewelling and Luis Payo; Treasurer, Kemper Nomland; Secretary, Rene Mussa; Manager, George P. Hales; Directors, J. E. Stanton, Julian Garnsey and Robert Lockwood.

CONVENTIONS AND EXHIBITIONS

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March-April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20-October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21-23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

October—Third annual meeting California State Society of Architects, Del Monte and Monterey, California.

NEW SOCIAL HALL

George Rushforth, architect of San Francisco, is preparing plans for a reinforced concrete social hall and classrooms to be built adjoining the Trinity M. E. Church at Durant and Dana streets, Berkeley, at a cost of $100,000. This comprises the second unit of the church's new building program.

STOCK BROKERS' OFFICES

Messrs. Kent and Hass, architects, have been preparing plans of late for several new offices in San Francisco, Sacramento, Los Angeles and Portland for brokerage firms. These offices will contain the latest equipment in stock boards, as well as electrical fixtures, floor coverings and office furniture.

GRACE CATHEDRAL

Work is progressing on the first unit of Grace Cathedral and the chapel, nearing completion, will be joined to this unit, which will bring the Cathedral proper up to "the crossing" after which it is hoped new interest will be greatly stimulated so that other units may follow.

YOSEMITE VALLEY WORK

E. T. Spencer, architect for the Yosemite Camp Curry Company, is working on plans for the enlargement, improvement and beautification of this company's holdings in the valley proper and for its hotels in the mountains nearby.

WASHINGTON STATE SOCIETY

The annual meeting of the Washington State Society of Architects held in December resulted in the election of the following officers:

John S. Hudson, of Seattle, president; Robert M. Thorne, Renton, first vice-president; Julius A. Zittle, Spokane, second vice-president; Stanley A. Smith, Pullman, third vice-president; Paul Bergfeld, Tacoma, fourth vice-president; O. F. Nelson, Seattle, re-elected as secretary; H. G. Hammond, Seattle, re-elected treasurer, and William J. Jonas (junior past president) trustee, with term expiring in 1933. The hold-over trustees are T. F. Doan, Bellingham, T. Buchinger, Seattle, and Harry H. James, Seattle.

The January meeting was held at the Builders Permanent Exhibit, 721 Virginia street, Seattle, with dinner served at 6 p. m., following which the architects passed the evening in business session and social conversation.

LANDSCAPE ARCHITECTS MEET

The annual meeting of the Pacific Coast Chapter, American Society of Landscape Architects, was held at the studio of Cook-Hall-Cornell, Los Angeles, on December 27th, 1929, and the following officers were elected for the ensuing year:

President: George Gibbs
Vice-President: L. Deming Tilton
Secretary: J. W. Gregg
Treasurer: Chas. H. Diggs.

SOCIETY OF ENGINEERS

At the annual meeting of the Society of Engineers of San Francisco, held January 11th in the California room of the Palace Hotel, officers for the year 1930-31 were elected as follows: President, A. E. Zimmerman; Vice-President, H. T. Sutcliffe; Treasurer, Wm. G. Rawles; Secretary, Harvey D. Miller; Directors for two years, Robert S. Clark and John H. Sheusner.

QUANTITY SURVEYORS MEET

The Quantity Surveyor's Association held their monthly dinner at the Classic Grill, San Francisco, Tuesday evening, January 7. The meeting was well attended. Arthur Priddle was elected president and Gus A. Thollander, secretary.

ARCHITECTURAL QUERY

Where should the corner stone in a round house be laid?

BOOK REVIEWS

By Edgar A. Kierulff

OUR CITIES TODAY AND TOMORROW (A survey of planning and zoning progress in the United States). By Theodora Kimball Hubbard (Hon. Librarian, American City Planning Institute) and Henry Vincent Hubbard (Professor of Regional Planning, Harvard University). Published by Harvard University Press, Cambridge, Mass. Price $5.00.

To the metropolitan architect in general and to the specialist in city planning in particular, this volume makes a direct appeal. Nicely balanced, well arranged and thought out by its authors, both of whom are authorities on this subject, it conveys a message that should be read and heeded by those interested in the proper progress of American cities. Excellent diagrams and photographs illustrate the book and the chapters embrace practically every angle of a very broad problem, concisely and pointedly.

"SMALL HOMES OF ARCHITECTURAL DISTINCTION." (A book of suggested plans). Designed by the Architects' Small House Service Bureau, Inc., Robert T. Jones, A. I. A. Harper & Brothers, publishers, New York and London. Price $5.00.

A splendidly arranged volume on small houses with photographs, drawings, sketches and plans. Well printed, a large paper copy bound in stout tan buckram, there is sufficient description to make the book interesting and clear to the lay reader who should be interested in the small home and its possibilties, as well as to the architect, designer, builder or contractor. Among some of the interesting studies are homes for the average purse; bungalows with attached garages; small homes in brick; porches and sleeping porches, cottages; the small house in concrete, from footings to roof, and many other similar details for the prospective owner and designer of smaller homes of the better class.

"TODAY'S BUILDING ESTIMATOR," By I. P. Hicks. William T. Comstock Company, publishers, 1929.

This small slender book of pocket size furnishes the estimator with a reference guide of great value, insuring him the making of accurate estimates. It contains instructions as to use and such items as "estimating by the square, lenial foot and by the piece." Some chapter headings are "Estimating Cement Work," "Timber Measure," "Rafter Table" and "Material Quantity Tables." A number of pages ruled and containing space for notes, etc., are also provided. The book should prove time saving to contractors, specification writers, estimators and architects.

DETROIT COMPANY EXPANDS

A merger of two pioneers in the building material field is announced by the Detroit Steel Products Company, makers of Fenestra steel windows. Effective January 1, the Detroit Steel Products Company purchased the Holorib Company of Cleveland, Ohio, including all manufacturing rights and patents to its product, the Holorib insulated roof deck.

Through the purchase of "Holorib," the first insulated roof deck manufactured in the United States, Detroit Steel Products Company gains a product closely allied to its industrial windows and sold through the same channels to the same market. This is the first unit to be added in the development of the company's recently announced expansion program, which included the purchase of 40 acres and the erection of a million dollar factory building.

BATHROOM HEATING

An electric heater can now be installed in a bathroom at a lower cost than that of installing a hot air duct or radiator. No special wiring is required as the heater can be connected to a convenience outlet circuit. Heat is available at all times. A heater qualifies for the combination lighting and heating rate which gets as low as 1½c per k. w. hour.

The Apex Manufacturing Company of Emeryville, California, has recently placed on the market a 1000 Watt 110 volt porcelain enamelled bathroom heater in any of eight colors.

CONGRESS OF ARCHITECTS

The Fourth Pan-American Congress of Architects and its contemporary Architectural Exposition will be held in the city of Rio de Janeiro, Brazil, from the 19th to the 30th of June.

The arrangements for participation by Institute representatives will be under the general direction of the Committee on Foreign Relations, Kenneth M. Murchison, 101 Park Avenue, New York City, Chairman.

ADDITION TO NEWHALL BUILDING

A two story Class A addition, costing $180,000, is being planned for the Newhall Building at 260 California Street, San Francisco, Lewis P. Hobart, architect.

BYERS COMPANY EXPANDS

Reorganization and expansion of sales and distributing facilities throughout the entire country was effected January 1 by the A. M. Byers Company as a further step in the sweeping program inaugurated some time ago to meet the steadily increasing demand for wrought iron pipe.

Realignment of sales territories, involving the promotion of nine members of the Byers organization to division managerships, is a basic feature of the new program.

"Figures just compiled for the close of the calendar year show a continued and marked growth of demand for the special services rendered by wrought iron, particularly where corrosion and vibration are problems," said L. M. Johnston, executive vice president. "The increases are especially notable in standard sizes for home and building installations and replacements.

"The unprecedented expansion of manufacturing, represented by Byers' new ten million dollar plant just north of Ambridge, Pa., is nearing completion rapidly. This, the world's only modern wrought iron mill, will be devoted exclusively to the production of wrought iron by the 'Byers New Process' developed by Dr. James Aston, our consulting metallurgist and director of the department of mining and metallurgy at Carnegie Institute of Technology.

"The new program we have undertaken with regard to our sales and distributing organization is designed to improve and speed up service for builders and contractors, as well as for the marine, railroad and oil industries and other special fields."

NATIONAL STEEL FABRIC

The National Steel Fabric Company, Pittsburgh, Pa., recently concluded one of its most successful and interesting sales conventions. It was held in the spacious Rose room of the Keystone Athletic Club. Delegates from practically every section of the country were present. The sales convention was unlike any of the other previous ones in that men from every trading area were permitted to relate their actual experiences in their respective selling fields, what they do to get an improved business, and just what should be done in 1930 to produce more profitable sales for dealers selling the products of National Steel Fabric Company.

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American Hair & Felt Co., 1615 Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St. San Francisco.

DOORS—FREIGHT ELAVATOR
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 16th St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y. Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

DRAWING PENCILS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.

« CLASSIFIED LIST of ADVERTISERS for ARCHITECT'S REFERENCE »

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Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS
Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.

ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Reed & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter St., San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 590 Folsom St., San Francisco.
Sandoval Sales Company, 557 Market St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor; Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Ind.; represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES and EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco.
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall St., Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company 385 Clementina St., San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco, general offices and works, East Pittsburgh, Pa.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.
The Peelle Co., Brooklyn, N. Y.; represented by Persons Dwan & Co., 534 Sixth St., San Francisco.
Richards-Wilcox Mfg. Co.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring St., Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FAIENCE TILE
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUISHING APPARATUS
"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems; represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
Inlaid Floor Company, 600 Alameda St., San

FLOOR TILE
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles. Francisco and 4067 Watts St., Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
White Brothers, 5th and Brannan streets, San Francisco; 500 High St., Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan St., San Francisco.
Mullen Mfg. Co., 64 Rausch St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Bldg., San Francisco.
Young & Horstmeyer, 461 Market St., San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Del Monte white sand, Del Monte Properties Co., Crocker Building, San Francisco.

GREENHOUSES
Lord & Burnham Co., Irvington, N. Y., and 208 S. La Salle St., Chicago, Ill.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring St., Los Angeles.
Sargent Hardware distributed by E. M. Hendley, 662 Mission St., San Francisco.

HARDWOOD LUMBER
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th St., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco; 500 High St., Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC,
Apex Air and Water Electric Heaters, Sandoval Sales Company, 557 Market St., San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush St., San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma St., San Francisco; works, West Alameda, Calif.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOME BUILDERS
G. W. Williams Co., 1404 Broadway, Burlingame, Calif.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 637 Minna St., San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny St., San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, and 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.

INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

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INTERIOR DECORATORS
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana; San Francisco office, 765 Mission Street.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LANDSCAPE ARCHITECTS
Neal T. Childs.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 3307 Wilshire Boulevard, Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York, also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteentn St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves. and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.

MONEL METAL
"Ineo" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron and Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 248 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.
Walworth Company, Boston, Mass., San Francisco office, 235 Second Street.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 5220 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana;; San Francisco office, 765 Mission Street.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; show room, 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

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RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

STEEL FABRIC
Wickwire-Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. S. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethlehem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco, shops, San Francisco and Oakland.
McClintic-Marshall Company, 2050 Bryant Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STORE FURNITURE
Berger Manufacturing So., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., Crocker First Nat. Bank Bldg., San Francisco; general offices and works East Pittsburgh, Pa.
and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric, Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

TELEPHONE SERVICE ARRANGEMENTS
All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francesco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE CLAY
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Nilee; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Baass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Ruud Heater Co., (gas), 245 Mason Street, San Francisco.

WALL BEDS, SEATS, ETC. (See Beds),

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
Rip Van Winkle Wall Bed Co., 51 Second St., San Francisco, and 792 22nd St., Oakland.

WALL TILE
The Mosaic Tile Company, Zanesville, Ohio; West Coast Offices: E. K. Porter, 563 Second St., San Francisco; O. M. Bendure, 2470 Enterprise St., os Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCracken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

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.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 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 balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

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

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $92.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots 13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots.... 14c
Less than 500 lb. lots 14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch ..... $1.00 lineal foot
8-inch ..... 1.50 lineal foot
10-inch ..... 1.85 lineal foot
12-inch ..... 2.10 lineal foot

Pipe Casings — 14″ long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $4.50 per 1000.
2.5-lb. metal lath (dipped) ..... .19
2.5-lb. metal lath (galvanized) ..... .22
3.4-lb. metal lath (dipped) ..... .24
3.4-lb. metal lath (galvanized) ..... .29
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place..
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

(Five Working Days)

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

BUILDING PAPER MEN MEET

The Sisalkraft Company, Chicago, manufacturers of Sisalkraft, reinforced building paper, held the annual sales convention in Chicago December 28 and 30. The field organization which was brought in for this meeting included more than 40 men covering the entire country. The rapid expansion of uses for the product, particularly in the field of concrete curing, has produced a very rapid growth during the past year and still larger plans were laid at the meeting for 1930 sales. One of the features of the convention was an illustrated talk on concrete curing by W. E. Hart of the Portland Cement Association.

COLOR IN DRINKING FOUNTAINS

The Haws Sanitary Drinking Faucet Company, Berkeley, manufacturers of drinking fountains, are now pioneering in the field of color in their products. A vitreous china drinking fountain head, model 4E-2, is manufactured in green, orchid, pale blue, cobalt blue, ivory, brown, and black, as well as white, in fact most any shade to fit in with the architect's color scheme.

While color has been used extensively in other plumbing fixtures for some time, and has proven very popular with the public, color in drinking fountains is something new. The new type of fountain is already in great demand.

IN LARGER QUARTERS

The Oakland Branch of the Walworth California Company, in order to take care of their increasing business and be able to give better service to their customers, have moved to larger quarters at 2635-2645 Peralta street, Oakland. The new quarters have 20,000 sq. ft. under one roof and include all new equipment together with the pipe crane and spur track which will make it possible to give quicker service on all commodities. F. Harrold Gnarini is manager of the Oakland branch.

NEW PRESIDENT PERMUTIT COMPANY

At a meeting of the Board of Directors of The Permutit Company held December 30th, H. Kriegsheim, who has been president of the company for the past seven years, was appointed chairman of the board, and W. Spencer Robertson, formerly secretary of the American Locomotive Company, was appointed president. Mr. Kriegsheim will continue to take active interest in the management of the company.

ADDITION TO MOUNT ZION HOSPITAL

Arthur Brown, Jr., 251 Kearny street, San Francisco, has prepared preliminary plans for a six story Class A hospital wing at Post and Scott streets, San Francisco, for Mount Zion hospital.

BAN UNSIGHTLY BILLBOARDS

Abolishment of billboards and kindred forms of outdoor advertising throughout the United States except within limited areas, is demanded by the Board of Directors of the American Institute of Architects, according to an announcement by C. Herrick Hammond of Chicago, President of the Institute.

The board, it was stated, acted upon the initiative of Secretary Frank C. Baldwin of Washington, who, "called attention to the multiplication of signboards, billboards, and related structures and devices now in evidence on the roads, highways, and boulevards of the United States, and to the resulting destruction of the natural beauty of the face of the earth, with its secondary but equally disastrous effect upon the sensibilities of the people of the United States."

"This selfish desecration of the landscape," a resolution adopted by the Board declared, "has aroused the antagonism of those whose journeys by boat, train and automobile are rendered disagreeable and dangerous by such blatant and obtrusive ugliness.

"The Institute, through its Chapters and its individual members resident in all sections of the country, is convinced that this type of advertising is highly objectionable to a great majority of good citizens.

"The Board hereby calls to the attention of the civic organizations of the country, the public, the press and the legislative bodies of the several states, a national condition which we regard as inexcusable on either esthetic or economic grounds.

"The Board earnestly urges that those agencies which are properly concerned with the cultural and spiritual welfare of the American people, as well as those concerned with their material well being and safety, take vigorous action through the various means at their command, to bring about by regulation, legislation or the force of public opinion, the complete removal of billboards, signboards and related structures from the roads, highways and boulevards of the country, except in such limited areas as may be set aside for such advertising by direct action of the proper authorities."

BEAUTIFUL HOMES

To meet the demand of the present day, buildings must not only be efficiently planned, and soundly built; they must be beautiful.

"It is being found that good architecture in commercial and apartment buildings is a real asset and a sound investment," Rollin C. Chapin of the Minnesota Chapter of the American Institute of Architects points out.

"Rental agencies are confronted with an increasing demand for space in buildings which have 'style' and refinement. The many excellent homes which have been built in Minneapolis in recent years bear witness to a lively appreciation of what is fine in domestic architecture. They are a definite contribution to the beauty of the city."

CLAY PRODUCTS INSTITUTE

Ceramists and authorities on all branches of the clay products industry gathered in Los Angeles January 20th from far and wide to attend the annual convention of the Clay Products Institute of California, held in the Architects Building.

More than 50 of the outstanding leaders of the industry, representing about $100,000,000 of invested capital, listened to addresses on the latest trends in construction from such authorities as John J. Jessup, City Engineer of Los Angeles, W. E. Hotchkiss, Dean of the Graduate School of Business Administration of Stanford University, W. S. Dickey, head of the W. S. Dickey Clay Mfg. Company, San Francisco, Fred B. Ortman, Vice President and General Manager Gladding McBean & Co., Presiding President Robert Linton of Clay Products Institute, and Norman W. Kelch, Secretary-Manager of the Institute.

Among the many addresses given, that of Mr. Linton reviewing construction prospects for 1930 in which he declared that construction in the West involving the use of clay products is decidedly on the up curve, created the closest interest. Optimistic forecasts of the amount of construction in the West coupled with the assertion that buildings of the future will be erected for permanence of both materials and earning power featured his talk.

A large gathering assembled for the annual convention luncheon at the Elite cafe.

BUYS DWYER EQUIPMENT COMPANY

Purchase of the business of Dwyer Equipment Company, Chicago, makers of unit heaters for many years, is announced by the C. A. Dunham Co., Chicago, manufacturers of the differential vacuum system of steam heating and of low pressure steam heating appliances.

The Dwyer twinfan unit heaters are made in four types and in a full range of sizes for all requirements of industrial and commercial building heating applications. The exclusive design of Dwyer twinfan heaters handles large volumes of air at moderate temperatures, which has proved to be extremely desirable in modern factory installations. Dwyer twinfan radiators are made entirely of non-corrosive metal and have seamless drawn copper tubes with a copper fin surface metallically attached.

Acquisition of the Dwyer unit heater line is a part of the Dunham expansion policy. Dunham sales and financial growth have shown a steady annual increase during the past 27 years. The Dwyer purchase includes a number of patented designs of unit heater equipment particularly suited for use in conjunction with the Dunham differential heating system in industrial plants, garages, and buildings with large open spaces, as well as certain locations in office buildings, hotels, apartments, etc.

SAN FRANCISCO ENGINEER HONORED

Carl E. Grunsky of San Francisco, past president of the American Society of Civil Engineers, was elected president of the American Engineering Council at the opening session of the annual meeting of the Council held at the Mayflower hotel, Washington, January 10-11. Mr. Grunsky, who will serve during 1930 and 1931, succeeds Arthur W. Berresford of New York, past president of the American Institute of Electrical Engineers.

Reports of officers and committees showed the Council to be in a flourishing condition. Mr. Berresford, in an address as retiring president, pointed out that during the ten years of its existence the Council had fulfilled the hopes of its founders, and was firmly established as the instrumentality through which the engineering societies of the nation may actively function in public affairs. A statement issued in behalf of Mr. Grunsky, who is returning from a trip around the world, called upon engineers to realize the obligation of public service which rests upon the profession.

"The American Engineering Council," Mr. Grunsky declared, "will continue, as in the past, not alone to participate in the study and solution of problems affecting the welfare and general progress of the nation, but also to stimulate individual and organized efforts to a better understanding of the relation of the individual engineer and of engineering organizations toward such problems, and to the public in general, all with the purpose of strengthening and broadening the nation's social and economic structure in the interest of progressively higher civilization."

Notable among the accomplishments of 1929, it was pointed out, was the issuance of the report of the Council's committee on street traffic signs, signals and markings. This report, the recommendations of which are already being employed in practice in many of the states of the Union as well as in foreign countries, has, it was stated, commanded worldwide influence. It has been accorded public recognition equal to that of the famous report of the committee on the elimination of waste in industry.

RUSSIAN ARCHITECTURE

Feodor P. Ponomareff, famous Russian architect, has an interesting display of his renderings in the Exhibition rooms of the Architects' Building Material Exhibit, Fifth and Figueroa Streets, Los Angeles.

Mr. Ponomareff is Russian by birth, graduated from Beaux Arts in Moscow, was city architect in Chita, Siberia, for twelve years, where he designed and built over three million dollars worth of commercial buildings, schools, residences and churches, in private practice.

The exhibit is unusual, in that this is the first time that Los Angeles has had the opportunity to view typical Russian renderings. They are typical of Russian Architecture of the 16th-17th and 18th centuries.

THE FIVE-DAY WEEK FALLACY

Apropos of the recent action of the San Francisco and Oakland Builders' Exchanges in declaring for a five day week, the following editorial desparing the movement appeared in a recent issue of *The Improvement Bulletin* of Minneapolis.

Organized labor in many populous centers is making a strong drive for the five-day week in the building industry. The apparent purpose, as suggested by the leaders of the movement, is to lessen unemployment. There can be little objection to that phase of it. But it is something of a question whether that is the primary purpose of the move. Building has outgrown the early habit of fluctuating between seasonal periods of great activity and periods of extreme depression. The peak in building activity occurs in spring or early summer. Late summer usually sees a cessation of activity The fall may see some awakening or it may not, depending largely upon commercial and industrial conditions, and to some extent, upon weather conditions. And winter, despite vigorous efforts to make it otherwise, is a period of relatively little construction activity.

The result of this is to throw pressure upon the active months. And the five-day week would unquestionably result more in over-time work at premium rates. It is doubtful if it would have any appreciable effect in distributing the work over a greater number of months. The attitude of organized labor suggests that after all, the primary purpose behind the campaign is a raise in labor costs. There has been no indication of a willingness to meet employers on the basis of the same schedule per hour for the five-day week. Instead, the demand has been coupled with a higher hourly wage, increased sufficiently to make the proposed 40-hour week pay as much as the 44-hour week. So instead of the move being what it purports to be—one for a better distribution of labor— it is a move to attain a higher wage scale directly for the regular hours of employment and indirectly by reason of the over-time which would result from the demand for early completion of construction projects.

Building is handicapped by the fact that many construction investments fail to offer an attractive return. During recent months, the stock market has deterred many from investing in new building, because stocks held out a golden promise of early and rich rewards. The hopes of speculators have been rudely dashed. They bought stocks not on a basis of the legitimate earnings to be divided in dividends, but because they believed the popular demand for the stocks would send them to higher levels. Investments in buildings did not offer any such illusory promise. But investment building would be even less attractive if construction costs were to be advanced by further wage increases granted in the guise of the five-day week.

The proposed five-day week, with increased construction costs, would work against new building rather than for it. It would serve to reduce the probable volume of construction and would create a vicious circle that would reduce employment.

CERTIFICATES TO PRACTICE

At the meeting of the State Board of Architectural Examiners, Northern District, on January 28th, the following were granted provisional certificates to practice architecture in California: J. Lloyd Conrich, 630 Lake Street, San Francisco; Sigvald L. Berg, 917 Curtis Street, Berkeley.

ARCHITECT VS CONTRACTOR

(Bulletin Illinois Society of Architects)

Perhaps the easiest way to compare the functions of the architect and contractor is to turn for a moment to the medical field. Here, the architect is comparable to the doctor and the contractor may be likened to the druggist.

In other words, it is the duty of the architect to diagnose the client's building problem and to prescribe a correct treatment based on his highly specialized training and experience. And after the treatment is specified, it is the architect's further task to watch the development of the building project, see that the treatment is correctly administered, and to make such changes as circumstances dictate. The architect is a *professional man* whose plans and specifications are but symbols of his natural talent and the skilled service he renders.

It is commonly the duty of the contractor to assemble the material exactly as prescribed, to organize capital and labor, and to execute the work specified in a prompt and efficient manner. With his technique of organization and construction he must convert the practical developed formula of the architect into a beautiful and useful building. The contractor is primarily a *business man* whose merchandise is the brick, stone, pipes, wiring and so forth, properly placed.

Because each has a separate and distinctly essential function to perform, we believe you will agree with us that *both* the architect and the contractor are necessary to a thoroughly satisfactory building.

GLADDING, McBEAN NEW OFFICIAL

Appointment of George P. Fackt, formerly vice-president and general manager of the Northwestern Terra Cotta Company, Chicago, largest manufacturers of terra cotta in the mid-west, as assistant general manager of Gladding-McBean & Company's entire operations, has been announced by Fred B. Ortman, vice-president and general manager.

Mr. Fackt, who will act as chief lieutenant to Mr. Ortman, will have his offices in the company's Los Angeles headquarters in the Pacific Finance Building. A national authority on terra cotta, its uses and production, the new Gladding, McBean official is a graduate ceramic engineer of Ohio State University. He was organizer, founder and builder of the Denver Terra Cotta Company, of Denver, Colo., which later merged with the Northwestern Company.

"Mr. Fackt's entrance into the Pacific Coast terra cotta field will interest all ceramists," Mr. Ortman said in announcing the appointment. "My company feels fortunate in securing his services, as it strengthens the policy to which Gladding, McBean & Company, has adhered for years, that of taking the lead in any move calculated to foster the progress of the clay products industry in the West."

WHO'S WHO In This Issue

CASEBOLT DAKIN, architect, whose Cielito Lindo is shown in this issue, is a native of California. He has been connected with the architectural profession as an instructor and also as a practicing member in Oakland and its contiguous territory for many years. Mr. Dakin graduated from the University of California, College of Mines, in 1902, and after pursuing a career of engineer for several years, became interested in architecture. He began to study in 1904 and in 1913 obtained his certificate. Mr. Dakin is well known as an instructor, having taught drawing and engineering in the Shasta Union High School from 1915 to 1919 and later became head of the Drawing Department at Lowell High School, San Francisco. In 1927 he re-established offices in Oakland and is now specializing in apartment house and residence work.

WILLIAM C. F. GILLAM, whose ineresting sketches appear in this issue, is an architect in Burlingame, California. Mr. Gillam was born in Brighton, England, and received his early architectural training in the London offices of Thomas W. Aldwinckle, F. R. I. B. A., and was later assistant to Thomas Simpson. F. R. I. B. A., for twelve years. In 1903 Mr. Gillam started to practice under his own name and eight years later sailed to Canada where he opened offices in Vancouver, B. C. The year 1922 found him practicing in Burlingame, California, where he is now located and where he designed the beautiful St. Paul's Episcopal church. Mr. Gillam is a water color artist and has interested himself in clay modeling, wood carving and etching. During his career as an architect he has won several architectural competitions which he stauchly advocates for all buildings erected from public funds. Mr. Gillam is a member of the Northern California Chapter A. I. A.

C. R. HARDING, assistant to President Paul Shoup of Southern Pacific Company, at present supervising construction of that company's $12,000,000 railroad bridge across Suisun Bay, California, was born in Hallowell, Me., July 4, 1888. He matriculated at Cornell University, where he achieved scholarship honors, winning membership in Tau Beta Pi, honorary engineering fraternity, and graduated as civil engineer in 1910. Before entering employ of Southern Pacific in 1913, Mr. Harding worked for the American Bridge Company; also he made several surveys in Alaska, Michigan and Costa Rica. Joining the Southern Pacific Company, he rose rapidly from draftsman to assistant to the president. Mr. Harding is member of many engineering societies, the Bohemian Club, San Francisco Commercial Club, Commonwealth Club, California Golf Club, Engineer's Club of San Francisco, New York Railroad Club and Pacific Railway Club.

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Who's Who in this Issue

MILLER & PFLUEGER, who planned the new San Francisco Stock Exchange building, are of the new school of architecture, specializing in the development of building design based upon the use of present day material, rather than following traditional, classical styles.

Among their other achievements in San Francisco are the new Pacific Telephone & Telegraph Building, Metropolitan Life Insurance Building, San Francisco Curb Exchange, a number of schools and theaters and the recently completed structure known as Four Fifty Sutter.

The latter is an unusual building, built for the accommodation of physicians and dentists and embracing an 8-story garage. The telephone building was the first of its design and served as a prototype for a large group of other buildings erected throughout the country.

J. R. Miller, senior member of the firm has practiced architecture in San Francisco for more than a quarter of a century. For several years he served as a member of the State Board of Architectural Examiners, Northern Division. Timothy Pflueger, junior member of the firm, is recognized as one of the foremost designers among the younger members of the profession on the Pacific Coast.

RALPH STACKPOLE, whose talents as a sculptor will be reflected in black granite figures at the base of the pylons of the San Francisco Stock Exchange, was born in Williams, Oregon, in 1885. He is of pioneer stock. His forebears crossed the Atlantic in the sixteenth century. His grandfather, leaving New England, came to the Oregon territory in 1848 and in 1850 brought his family to settle in the fertile Oregon valley. When Stackpole was in his early teens, a newspaper circulation solicitor called on his mother. She showed him the drawings young Stackpole had made. The solicitor told her they were excellent and that the boy should have training, for which encouragement, the mother subscribed for the paper. This was the planting of the seed. Afterwards the mother arranged that he should come to San Francisco and study. At the age of 16 he started at the Mark Hopkins Institute with Arthur Mathews. After about four months his money gave out and he went to work, on a survey gang. Later he studied with Arthur Putman, sculptor, and Gottardo Piazzoni, painter. After the earthquake, he went to Paris and studied in the Ecole des Beaux Arts-Atelier Mercie. In 1908 he returned to San Francisco and under the patronage of Bruce Porter and W. B. Faville started to work on small commissions. Stackpole is an artist and sculptor of international reputation having exhibited in the Salon des Artistes Francais, Salon des Independents and Salon des Tuileries. At the present time, he is instructor of sculpture in the California School of Fine Arts. Some of his best works are near at hand. They are the Coleman and Swanston Memorial Fountains—both in Sacramento, the bust of George Sterling which has been exhibited in San Francisco and his most recent work for the New York Exchange.

ROBERT BOARDMAN HOWARD was selected by the San Francisco Stock Exchange to design the six sculptured panels that decorate the walls of the trading room and to carve the massive door of the Governing Board room. Mr. Howard is one of the younger of the modern school of sculptors and was born in New York City in 1896. He took his training at the California School of Arts and Crafts in Berkeley, finishing at the Art Students League in New York City.

He has worked and traveled extensively in both Europe and the Orient and has exhibited in the Paris Salon. He was awarded the first medal in sculpture in 1923, and the Ann Bremmer prize for painting in 1925 by the San Francisco Art Association.

Among some of his better known works are the decorative sculpture for the theater at Port Chester, New York and the sculptured monuments which he did for the Persian government for their Sesqui Centennial Exposition exhibit in Philadelphia. He has also done several sculptured stone fire places in the West and has a number of sculptures, carvings and paintings on exhibit in New York and San Francisco.

MARTIN A. CHARLES, author of the article on Turkey appearing in this month's issue, was graduated from Princeton University in 1926 and from the School of Architecture of the same University two years later. After working in the office of Schultze and Weaver in New York he went to Turkey as architectural assistant to Dr. R. M. Riefstahl of New York University and made measured drawings in Anatolio. He is at present engaged in similar work in Persia.

STAN POCIECHA PORAY, whose mural paintings were exhibited the past month in the Architects' Building, Los Angeles, and a portfolio of which appears in this issue, is a native of Poland where he studied under the famous painter of soldiers and horses, Adelbert de Kossak. Pociecha Poray was forced to leave his country by a Bolshevist uprising. With two bullets in his body he escaped through Siberia to Japan and for seven years he traveled, painting and lecturing in many of the large foreign cities. Later he went to South America and Cuba and finally his travels lead him to California where he has painted a number of the Missions besides portraits of such well known characters as Hoot Gibson, motion picture actor, and Mae Murray, actress.

EDWARD F. O'DAY, who describes the San Francisco Stock Exchange Building in this issue, has contributed before to **The Architect and Engineer.** He edited in 1906 the Burnham Plan for the Improvement and Adornment of San Francisco. Mr. O'Day was editor of "San Francisco Water" for the Spring Valley Water Company until that organization passed out of existence a short time ago. Mr. O'Day edits the quarterly "Shapes of Clay" for Gladding, McBean & Co. He is a member of the advertising and publicity firm of O'Day & Prosser of San Francisco.

CHAS. H. CHENEY (See issue of January, 1930.)

LEWIS P. HOBART (See issue of March, 1929.)

JULIAN C. MESICK (See issue of October, 1929.)

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Photo by Moulin

SANSOME STREET ENTRANCE, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

The
ARCHITECT
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March, 1930

The ARCHITECT AND ENGINEER

VOLUME C MARCH, 1930 NUMBER THREE

THE SAN FRANCISCO STOCK EXCHANGE

By Edward F. O'Day.

A broad flight of steps leading up to ten Doric columns—that was the fixed quantity in the problem to which Messrs. Miller & Pflueger turned their attention when they were asked to create a Stock Exchange for San Francisco upon the site of a Sub-Treasury Building. Around that problem of esthetics the two architects wheeled their imaginative flight, with the result that San Francisco may now boast of an unique example of the ultra modern in architecture perfectly accommodated to a "portal of the past" that is uncompromisingly classic.

When the gentlemen of the tape and ticker acquired the Sub-Treasury Building —it had lost its intended function with the coming of the Federal Reserve system — they bade their architects spare the beautiful Roman entrance way and raise about that nucleus a structure that would not only serve their needs for at least a half century to come, but would also express their ethical aims as set forth thus in the constitution of the San Francisco Stock Exchange:

"To develop and maintain just and equitable principles of trade and business . . . to promote and enforce high standards of commercial honor and integrity."

Architects of that enskied masterpiece, the San Francisco Telephone Building, and of that impressive monument to the humane sciences of medicine and dentistry, Four Fifty Sutter Street, Messrs. Miller & Pflueger brought delicate perceptions to the consideration of their newest problem.

DETAIL, SANSOME STREET ENTRANCE, STOCK EXCHANGE, SAN FRANCISCO

Rendering by Michael Goodman

PERSPECTIVE, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

Photo by Moulin

Lindgren & Swinerton, Inc., Builders

STOCK EXCHANGE BUILDING, SAN FRANCISCO

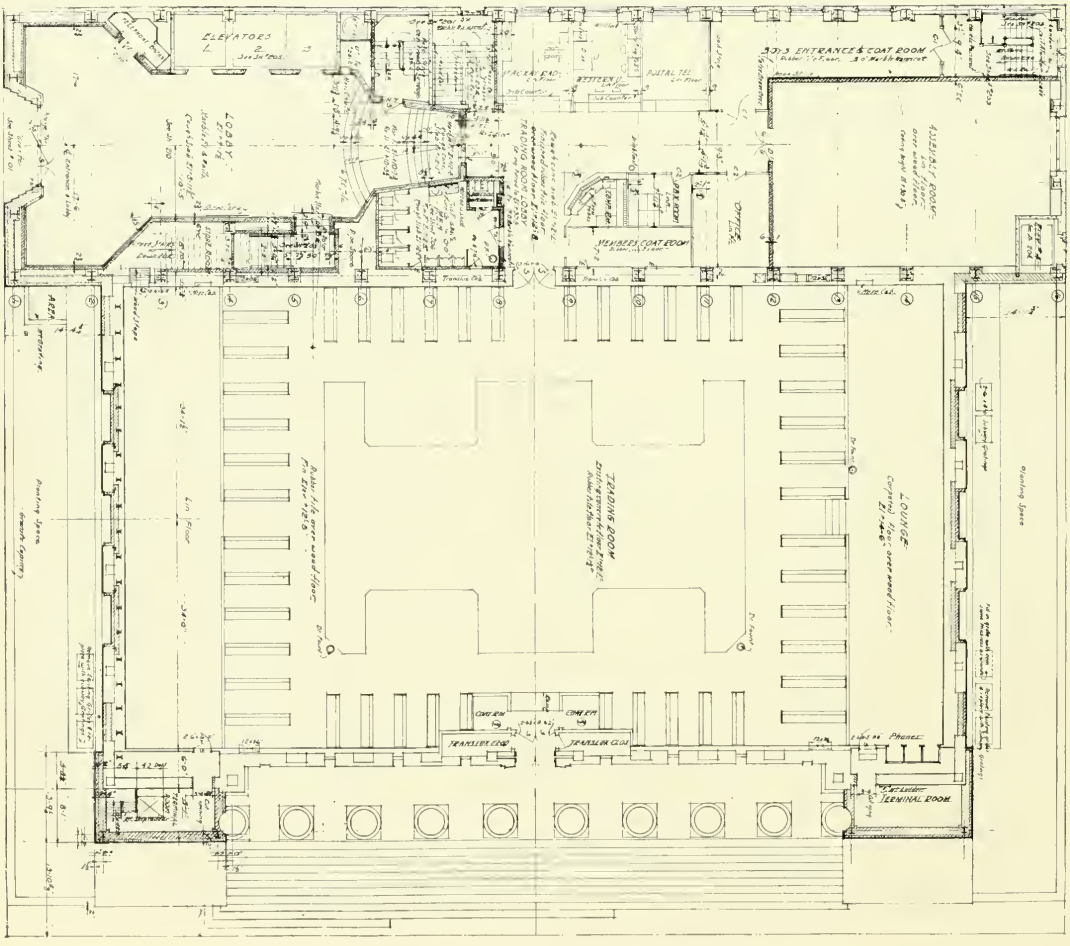
MILLER AND PFLUEGER, ARCHITECTS

Conquest of the Land

Conquest of the Sea

The Building Industry

MEDALLIONS BY ROBERT STACKPOLE ON PINE AND SANSOME STREET PARAPETS, STOCK EXCHANGE
Miller and Pflueger, Architects



GROUND FLOOR PLAN, STOCK EXCHANGE, SAN FRANCISCO
Miller and Pflueger, Architects

Those ten Doric columns looked back to the temple glories of antiquity. Could they not, figuratively speaking, be made to front two ways, like an old image of Janus? Let them hark to the past, but let them also face the onrushing future with its amazing possibilities of progress. Thus that row of columns became at once background and forefront for what the architects determined to accomplish. As the plan took form the columns were blandly persuaded, without violence to their past, to enforce the symbolism of a building that serves the very practical needs of today and tomorrow.

The Stock Exchange Building consists of two elements—the trading room which occupies the entire area of the former Sub-Treasury, and a twelve story structure designed to house every executive and institutional activity of the organization. Aside from the colonnade nothing remains of the Sub-Treasury above the sidewalk level except parts of the east and west walls. In the basement the huge vault constructed by Uncle Sam for the housing of gold and silver remains intact.

The colonnade is of white California granite, and this fact dictated the investiture of the entire new building. Structurally of steel and reinforced concrete, its surfaces are classically white, yet its feeling is decidedly modern. Those arresting columns, lifted sturdily above the broad flight of steps on Pine Street, have caught the spirit of their new environment, and plainly utter the message of a concern that is one of the most powerful ramparts of San Francisco's financial preeminence. They are flanked by two great pylons, soon to be completed by placing of monolithic sculptures.

The modernistic note will be strongly sounded in these sculptures. It is from Pine Street that brokers enter the Exchange. They will not enter too quickly to grasp the import of the heroic sculptures, one representing the fruitfulness of Mother Earth and the other the inventive genius of Man. Two medallions on the parapet above the colonnade supplement these groups. This is all the work of Ralph Stackpole, a San Franciscan, who is as modernistic in sculpture as his colleagues, Miller & Pflueger, are in architecture. There has been an ideal blending of purpose in the collaboration, and profitable study may be made of the quiet strength wherewith two arts have learned to breath forth one soul.

On Sansome Street is the public entrance both to the trading room and to the office structure. The portal is of deep reveal surmounted by another Stackpole creation symbolizing the "progress of man," while the ceiling of the entrance carries still another Stackpole carving of an eagle with outstretched wings. It may be confidently predicted that as time goes on all this work will be found exerting an important influence upon Pacific Coast sculpture in architecture.

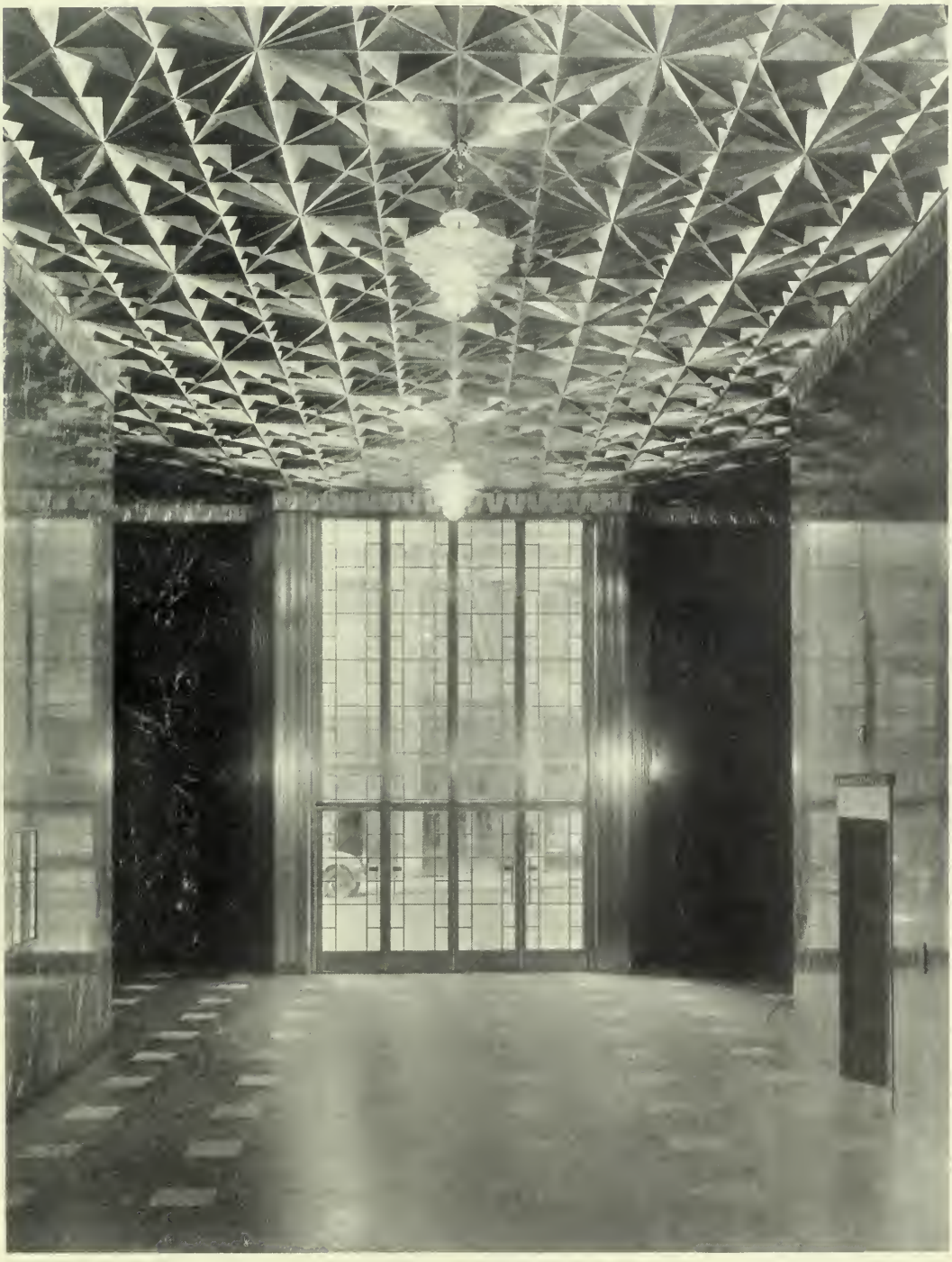
The twelve story unit of the building that looms broadly above the trading room on the Pine Street side, is comparatively narrow on Sansome Street. Both elevations of snowy white are pleasantly relieved by window openings, while excised ornament has been but sparingly used. There is a simple belt course above the tenth floor and the two top stories have an ornamental motif expressive of the Club purpose to which these floors are devoted, while at the same time recalling the colonnade on Pine Street. The parapet of the roof is perforated at intervals in a foliated design.

The ornamented doorway on Pine Street opens directly upon the trading room. This is an area of magnificent spaciousness — 122 by 68 feet from wall to wall and 45 feet from floor to ceiling—and equipped to the last minute of progress with the mechanical devices of a most complicated business. This room is not only fascinating as the arena of finance, but is actually breath-taking in its consummation of beauty. The glory of the room is diffused-like light from the ceiling. To quote from an authorized description:

"The ceiling is designed to meet the three requirements of decorative effect, acoustics and lighting. To accomplish these the architects devised a method of treatment never

Red Levanto marble by J. E. Back Co., Inc.

LOBBY, LOOKING TOWARD ENTRANCE TO TRADING ROOM, STOCK EXCHANGE,
MILLER AND PFLUEGER, ARCHITECTS



LOBBY, LOOKING TOWARD SANSOME STREET, STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS

Carved panels by Robert B. Howard

PANELS OVER WINDOWS IN TRADING ROOM, STOCK EXCHANGE
Miller and Pflueger, Architects

TRADING ROOM, STOCK EXCHANGE, SAN FRANCISCO
Miller and Pflueger, Architects

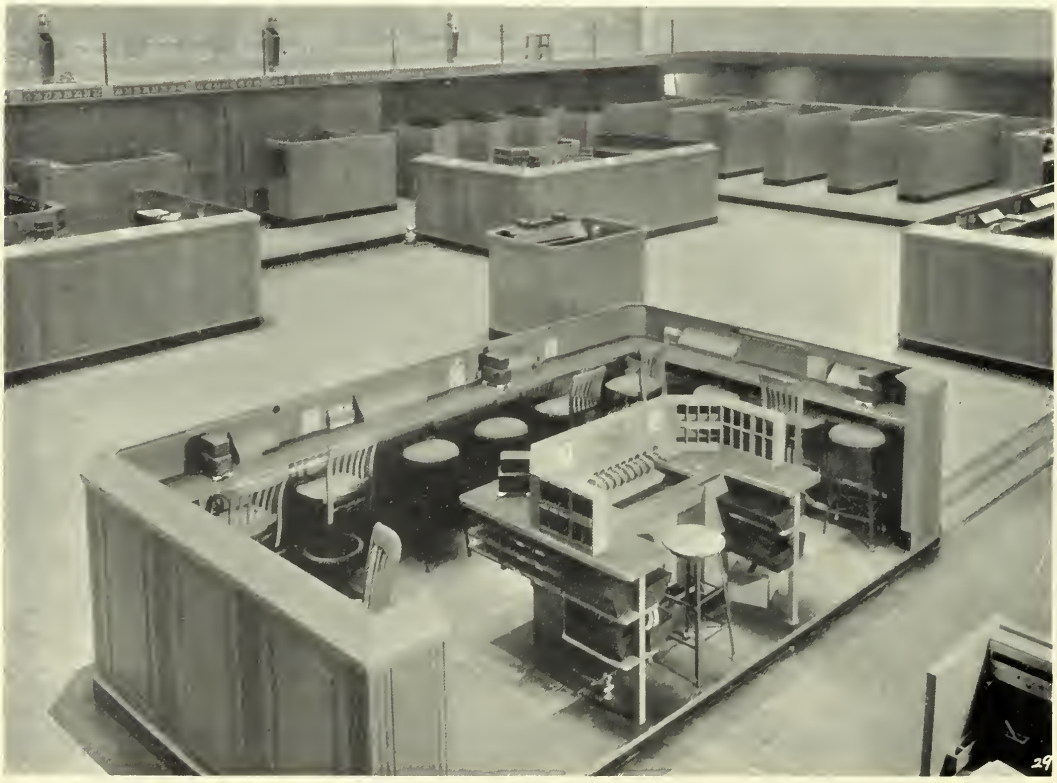
Photo by Moulin

DETAIL OF CEILING IN TRADING ROOM, STOCK EXCHANGE, SAN FRANCISCO

MILLER AND PFLUEGER, ARCHITECTS

before used — they constructed the ceiling of strips of silvered metal placed perpendicularly some 5 inches apart in parallel lines and in concentric circles and half circles. The effect from the floor is that of a huge canopy of lace-like pattern through which the day light is reflected by the shining metal strips or 'fins' and diffused into a soft radiance that penetrates the remotest corners. The metal 'fin' ceiling supports a glass subceiling above it and conceals the steel trusses of the skylight roof. When, because of weather conditions, daylight is insufficient, electric globes placed at intervals above the 'fin' ceiling will supply brilliant illumination." The acoustics of this room are said to be perfect.

The walls, of light gray plaster, carry, north and south, the great green quotation boards that tell the minute-to-minute history of American finance, while east and west they have tall windows surmounted by symbolic panels done by Robert Boardman Howard, a sculptor whose style is delightfully harmonious with that of Ralph Stackpole.



CLOSE UP OF TRADING FACILITY, STOCK EXCHANGE, SAN FRANCISCO

Miller and Pflueger, Architects

The public lobby of the building, entered from Sansome Street, has walls of dark red Levanto marble, and a ceiling richly ornamented in gold. This lobby gives access to the trading room, the visitors' gallery and by three elevators to the twelve story office unit of the Exchange. These floors house the executive offices, the personnel department, and all the administrative functions of the Exchange, together

with a combination auditorium and gymnasium, classrooms for the educational department of the Stock Exchange Institute, and rest and recreation facilities. The governing board and officials of the Exchange have their offices on the ninth floor. The board room is of dignified beauty, paneled to the beamed ceiling in walnut, with a fire

the appeal that resides not only in artistic but in natural beauty. Along the Sansome Street front the building was generously set back to provide space for planting, and the young trees that spread their foliage against the white chasity of the wall must quicken the heart of every sympathetic passerby. They have builded well, these wise men of

AUDITORIUM, STOCK EXCHANGE BUILDING, SAN FRANCISCO
Miller and Pflueger, Architects

place at one end. Over this a mural will be placed; meanwhile the only ornament is a carved door, the work of Robert Boardman Howard. There is in this unit of the building ample room for expansion as the business and membership of the Exchange grow with the growth of the city.

The wise men who authorized the erection of this great building were mindful of the Stock Exchange — they are promoting high standards of esthetics as well as of "commercial honor and integrity."

EDITOR'S NOTE—Advent of the firm of Miller and Pflueger into the Stock Exchange picture came about as a result of their winning a competition for a building on the site of the old Exchange. After the competition, which was participated in by six selected architectural firms, the Exchange bought the Sub-treasury Building at Pine and Sansome Streets out of which the present home of the Exchange was developed.

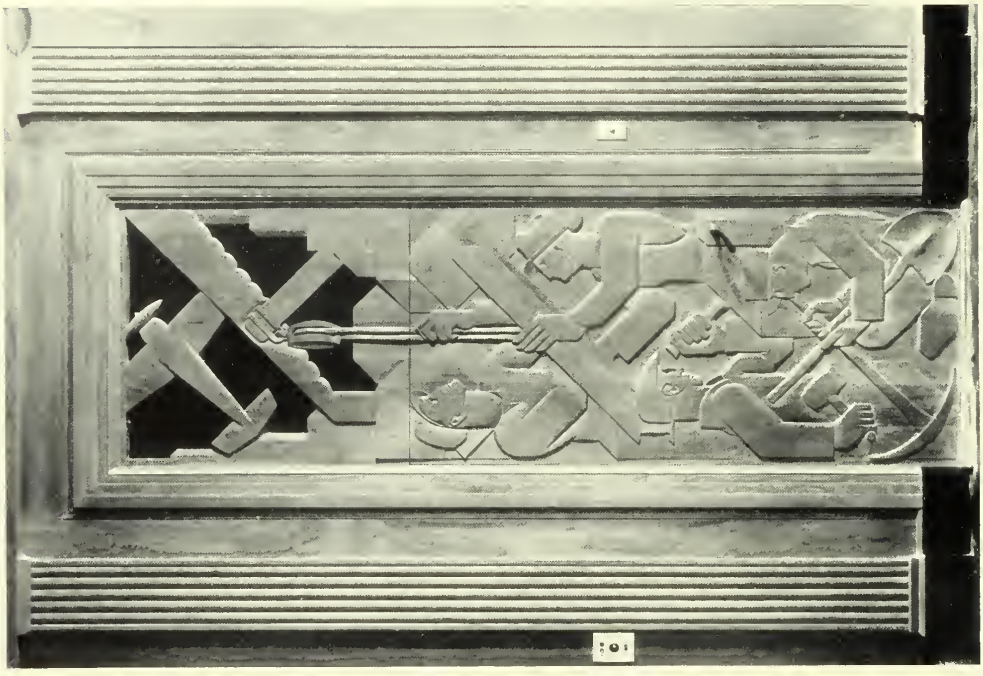
EXECUTIVE CORRIDOR, NINTH FLOOR, STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS

Governing Board Room, Stock Exchange Building, San Francisco

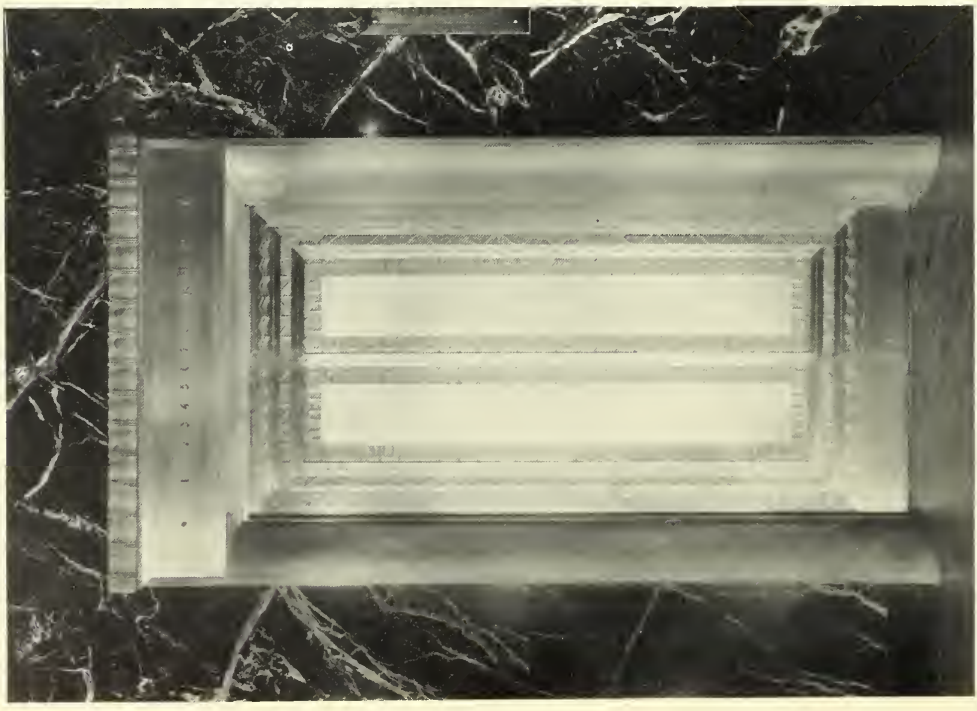
Miller and Pflueger, Architects

Office of Assistant to the President, Stock Exchange Building, San Francisco

Miller and Pflueger, Architects



CARVED DOOR IN BOARD OF GOVERNORS' ROOM



DETAIL OF ELEVATOR DOOR, STOCK EXCHANGE, SAN FRANCISCO

Photo by Morton & Co.

SAN FRANCISCO CIVIC CENTER

City Hall on left; State Building (center); Library (right); Wm. Taylor Hotel (extreme right)

HOTEL AND CHURCH A WELL SOLVED PROBLEM

By Fred'k. W. Jones

"WE would like to have a beautiful church in the Metropolitan area of San Francisco but the economic conditions make such an ambitious undertaking prohibitive."

Thus we find that more than one religious organization has been obliged to forego its cherished plans and content itself with a more modest building program in a less expensive neighborhood.

It remained for the Temple Methodist Church, however, to overcome the financial obstacle and to evolve a scheme that would not only give San Francisco a downtown church but would add one more high class hotel to its already enviable string of splendid hostelries. By combining church and hotel under one roof the prohibitive costs of a central location were overcome and the hotel, by sharing in the expense, made it possible for the church to realize its cherished dreams. Through the clever planning of Lewis P. Hobart, the Hotel William Taylor and Methodist Temple are a reality.

A twenty-eight story hotel and a great religious temple all in one, yet distinctly apart, here is a building that has no duplicate except in two other great Metropolitan centers—New York City and Chicago.

The building has been thoughtfully designed in the modern Gothic. Faced with light colored Richmond brick, with trim of terra cotta, it is at once a building of beauty and dignity; modern but not distressingly so. The upper stories of the tower, which dominate the mass, are arranged into suites for permanent guests, the rooms commanding a splendid view of the city and adjacent country. The regular hotel

Photo by Ralph Young Studios *T. Ronneberg, Structural Engineer*

WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

Photo by Ralph Young Studios

WILLIAM TAYLOR HOTEL, LOOKING NORTH, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

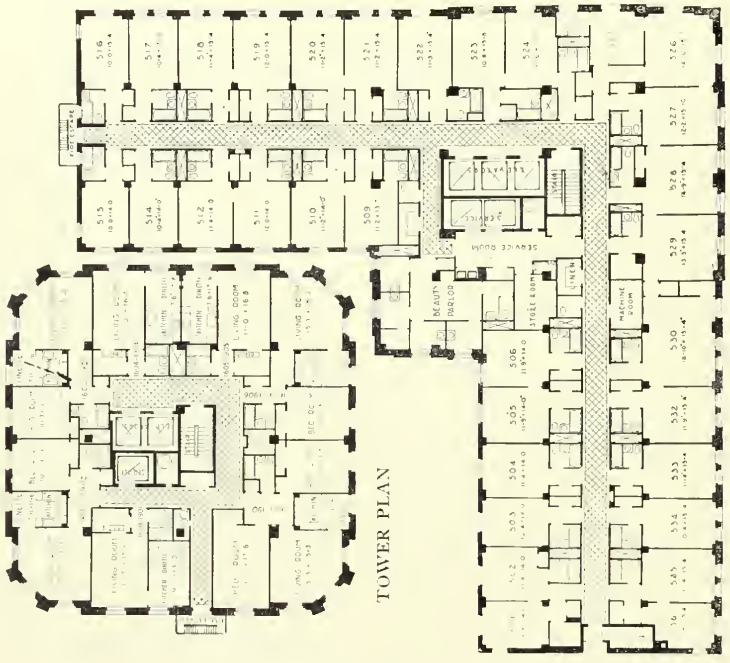
Photo by Ralph Young Studios

WILLIAM TAYLOR HOTEL FROM SEVENTH STREET, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

VERTICAL VIEW, WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE

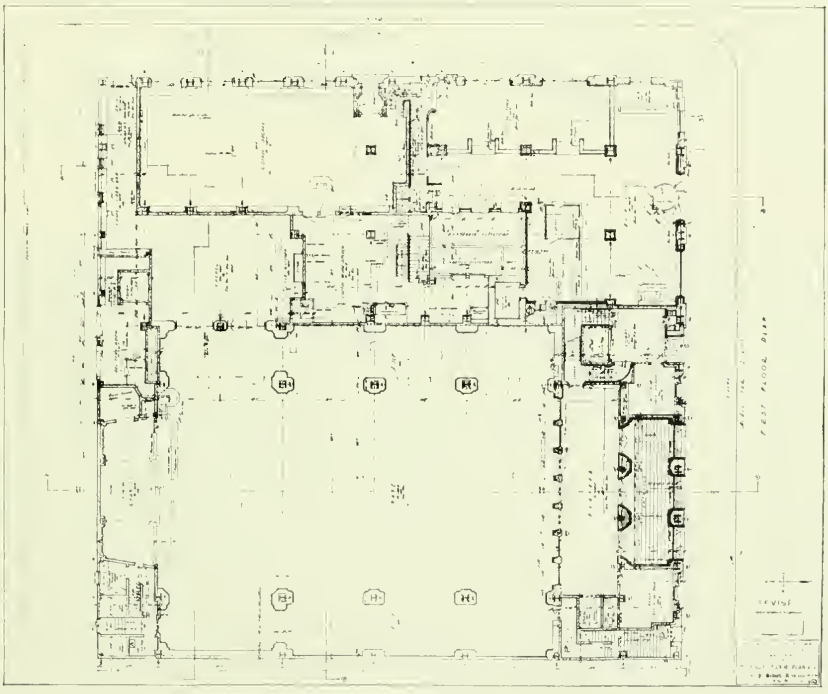
LEWIS P. HOBART, ARCHITECT

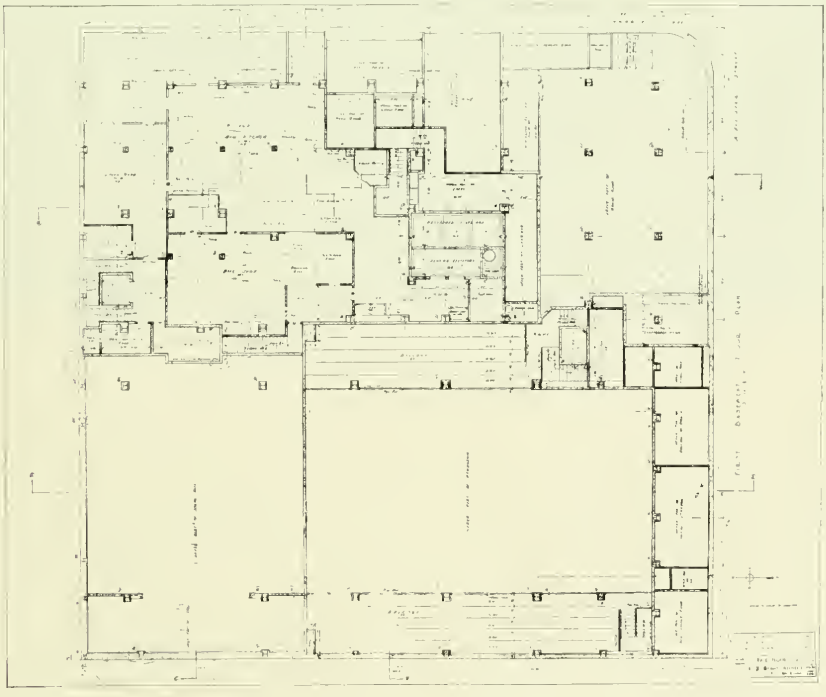


TOWER PLAN

TYPICAL PLAN, WILLIAM TAYLOR HOTEL
Lewis P. Hobart, Architect

CORNER OF COFFEE SHOP, WILLIAM TAYLOR HOTEL
Lewis P. Hobart, Architect





PLANS, WILLIAM TAYLOR HOTEL AND METHODIST TEMPLE, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

guest rooms are on the fifth to the fourteenth floors.

For either church or hotel purposes the location — McAllister and Leavenworth Streets—is ideal. Street car connections make access easy. Parking facilities are most convenient. Only a block from Market Street and the same distance from the Civic Center, the situation offers everything that hotel and church would need.

LOBBY, WILLIAM TAYLOR HOTEL, SAN FRANCISCO
Lewis P. Hobart, Architect

While the exterior elevation and finish are masterly in treatment and awaken admiration as the dignified pile rears its outlines against the sky, it is in the interior planning and arrangement that the most consummate skill has been shown—always bearing in mind the dual nature of the building and the fact that two such different purposes must be served. The church section must express dignity, reverence and inspiration. The hotel must bespeak comfort, cordiality and good cheer. Skillful technical designing, inspired by good judgment, worked out the bi-fold plan to give perfect freedom and individuality to each factor.

The accommodation of conventions and other large public gatherings has been especially considered in the plans for the William Taylor. Two auditoriums down

stairs seat five hundred and four hundred respectively; on the fourth floor are private banquet rooms and on the third floor are assembly and committee suites.

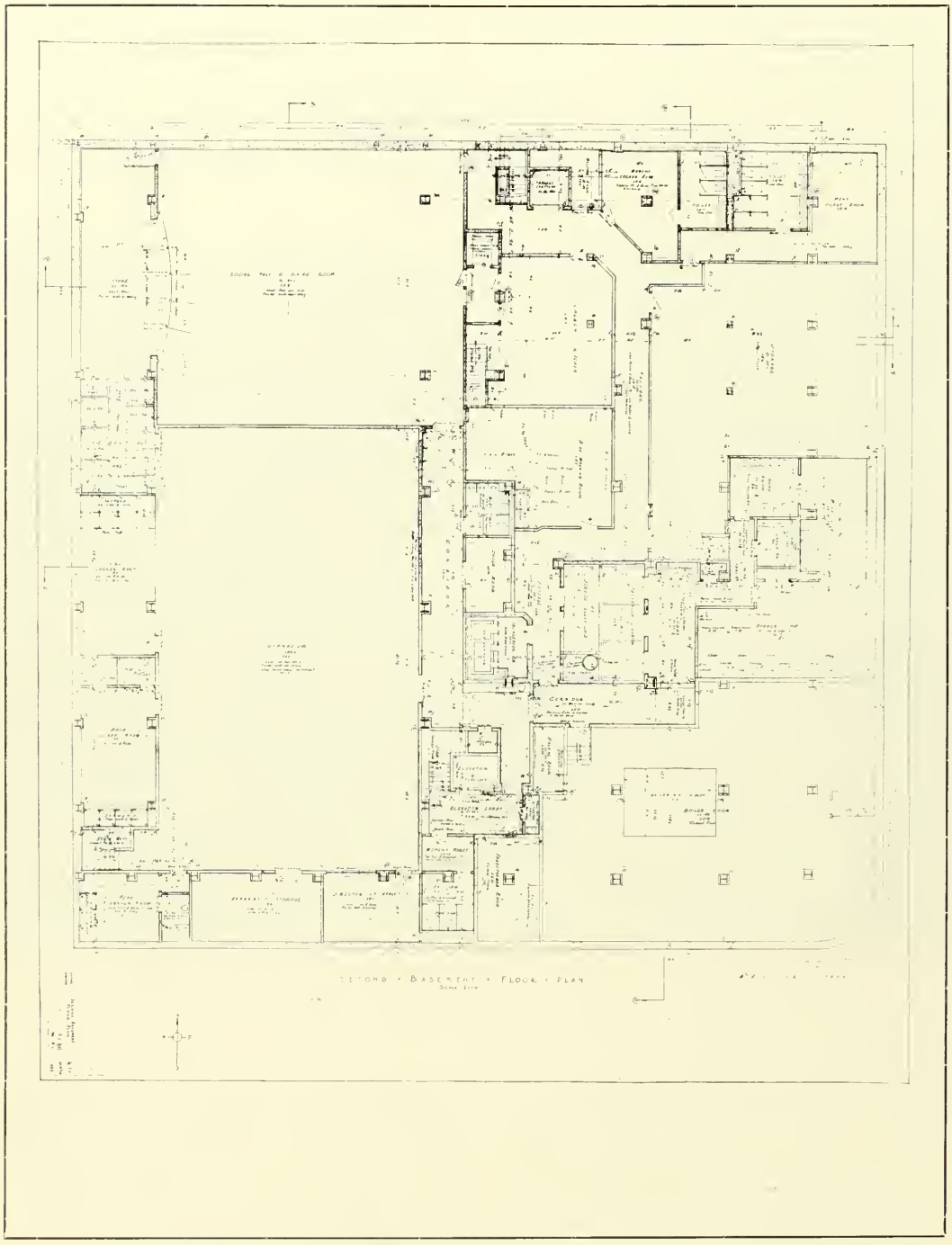
The main dining room, with a decorated ceiling and side panels, occupies the Leavenworth Street side of the second floor.

On the ground floor of the Leavenworth Street side, is a spacious coffee shop with finish of antique wood, richly panelled. The lobby is finished in pink, with ornamental ceiling, and has one section elevated as a lounge. The mezzanine is conveniently located with regard to dining room and lobby.

In the church unit, four stories high, over which one wing of the building is carried on steel girders, the section devoted to church purposes is planned and finished in a general style of modified Gothic. The church auditorium proper is impressive in its restrained simplicity. On the Leavenworth Street side of the building is a small chapel to be used for church occasions which do not require the large auditorium. The main entrance of the Temple, entirely removed from the sections devoted to the purposes of the William Taylor Hotel, is on the McAllister Street side, with imposing triple doors in Gothic lines.

DINING ROOM, WILLIAM TAYLOR HOTEL, SAN FRANCISCO

Lewis P. Hobart, Architect



SECOND BASEMENT PLAN, WM. TAYLOR HOTEL AND METHODIST TEMPLE

LEWIS P. HOBART, ARCHITECT

Photo by Morton

LOBBY, WILLIAM TAYLOR HOTEL, SAN FRANCISCO

LEWIS P. HOBART, ARCHITECT

EFFECT OF SEATING ON THEATER ACOUSTICS

By W. Keith Friend

UNTIL recent years, the subject of architectural acoustics has been surrounded by a veil of mystery. The late Professor Wallace C. Sabine of Harvard University, however, starting with his classic investigations in the Fogg Art Museum in 1895, brought light to the subject. He proved that many of the old methods of supposed acoustical correction were without foundation. The idea of stretching wires in an auditorium he showed to be of no benefit. He also disproved the theory that the dimensions of a room should bear a definite mathematical relationship to each other, such as a ratio of 1:1:2 or 2:3:4. As a result of his intensive research, he placed the subject on a firm mathematical basis so that we can now accurately compute the acoustical properties of a room even before it is built, or prescribe its correction after it is built.

The acoustical conditions surrounding a talking movie in a theater can be no better than the acoustics of the room itself. By faulty acoustics in the room, the best talkie may sound poor; also, any recorded defects in the talkie, due to improper studio conditions, are reproduced and show an additive effect upon the auditors. This discussion will be limited to the acoustics of the room alone. It is assumed that reproduction, as such, is satisfactory.

The usual acoustical defects in a theater are — first, improper distribution of the sound energy in the room and second, excessive reverberation, which will be defined later.

There are several things that may cause improper distribution of the sound energy in a room. First to be considered are such defects as echo, dead spots and sound foci. Echoes arise by regular reflections of sharp quick sounds from hard smooth walls, ceilings or proscenium arches of considerable area. There is a lapse of time before an echo is heard, which is due to the fact that the reflected sound has traveled a longer path than the direct sound. In the case of speech, this difference in time may cause much disturbance and confusion to the listeners. Due to the more continuous nature and blending qualities of music, an audience is less disturbed by echoes when listening to this form of sound than when listening to speech.

Dead spots and sound foci are produced as a result of concentrated echo producing conditions. Curved walls or ceilings are often of such a nature as to focus or concentrate sound energy directed upon them, to a central point. This is undesirable. Sound travels through the air in spherical waves of alternate compressions and rarefactions. It may so happen that a compression of the direct sound wave, coming from the sound source and a rarefaction of the reflected wave meet at the ear at the same time and thus tend to nullify each other, causing a

lessening of intensity. If the reflected sound is retarded a little more, it may happen that two compressions or two rarefactions coincide, thus tending to reinforce each other, producing unusually loud sound. This is termed interference. It is impossible to avoid distortions of the original sound in a room due to interference because of the infinite paths of reflection. The distribution of the intensity of a steady sound in a room is called the interference pattern. Sabine showed that there were pronounced maxima and minima of sound intensity throughout the entire interference pattern due to the form of waves as pointed out above. This interference pattern, he showed, shifts with each change of intensity or pitch of sound. Unless there is good distribution of the sound energy, it can be easily visualized how pronounced maxima and minima, shifting with each slight change of sound from the sound source, would cause undue modulation of the original sound with consequent poor hearing conditions.

The most usual causes of poor distribution are hard curved walls and ceilings. Floors should be sloped so that each auditor is well located in the direct path of sound; balconies should be arranged so that the openings at the front between floors are adequate for the entrance of sufficient sound energy to the auditors. Domes have been generally condemned but there are conditions under which they can be used with fair results. In general, if curved surfaces are used, they should have a radius of curvature, either less than half or more than twice the ceiling height, and should be covered with a sound absorbing material of high efficiency.

The second acoustical trouble mentioned was that of excessive reverberation. Excessive reverberation is the cause of probably 90% of the acoustical troubles in the auditoriums and theaters of today. When a sound is produced in a room and spreads out, striking the interior surfaces, not all of it is reflected but a portion is absorbed at each impact. The amount of the sound energy absorbed depends upon the nature of the reflecting surfaces. The sound, however, continues to reflect back and forth between the walls, ceilings, chairs, floor, etc., until its intensity is so reduced that it becomes inaudible. Owing to the high speed of sound, which under ordinary conditions, is around 1120 ft. per second, or about that of a rifle bullet, there may be many of these reflections in the course of a single second in a theater or auditorium of ordinary size. The effect is to prolong the sound in a room after the actual source of sound has ceased. This accumulation of continued reflections is termed "reverberation." If the reverberation is excessive, the trail of sound, following one syllable of speech or tone of music, will not die out before succeeding syllables or notes are uttered. The result is a confusion of sounds in which nothing appears clear and distinct, and audition is difficult and tiresome. In this discussion, it has been assumed that the reverberation period of the room in question is excessive and needs to be reduced in order to give good hearing conditions. This is always the case in ordinary theatres and auditoriums.

There is a time to which or below which the reverberation period for each particular room should be reduced in order to have most satisfactory hearing conditions. This maximum time allowance for the continued reflection of the sound for good hearing is termed the optimum or satisfactory reverberation period. The remedy for an excessive reverberation period is found in placing the necessary amount of sound absorbing materials in the room such as absorbent wall coverings, heavy drapes, carpets and upholstered seating, to make the sound stop reflecting or, in other words, become inaudible in the desired or optimum length of time.

Sabine concluded that the period of reverberation in a room is almost independent of the location of the sound absorbing materials and of the source of sound. Wallace Waterfall, however, has shown that Sabine was discreet in qualifying this statement, by pointing out cases where the reflections of sound back and forth between non-absorbent parallel surfaces continues after the normal reverberation of the room. These continued reflections, Waterfall pointed out, appear as a localized "flutter"

and may or may not be disturbing, depending upon its location relative to the auditors. In these cases, additional absorbtion in the "normal" parts of the house does not reduce the flutter proportionately. These cases are not frequently found.

Professor F. R. Watson of the University of Illinois, in some recent experiments, has shown that musicians particularly enjoy reflecting surfaces about them to intensify the sound. This probably, Watson states, also applies to the speakers as they usually dislike to stand directly in front of absorbent stage curtains. The important point of his findings, however, is that listeners, on the other hand, seem to want to be near absorptive material. In general concordance with Sabine's and Watson's conclusions, it is possible to please both performers and audience and, at the same time, maintain the same period of reverberation in the whole room by placing the acoustical material near the audience. This can be very conveniently and efficiently done by installing the right type of theater chairs. In the smaller theaters, all the necessary acoustical treatment can usually be obtained by installing the proper chair. In the larger theaters, this is not the case. The reason for this will be pointed out later.

Professor F. R. Watson has worked out a set of optimum periods of reverberation for good acoustics in rooms for various room volumes. This table is given below:

OPTIMUM PERIODS OF REVERBERATION

	Seconds
Below 7,000 cubic feet	1.0
7,000 to 20,000	1.1
20,000 to 45,000	1.2
45,000 to 85,000	1.3
85,000 to 145,000	1.4
145,000 to 225,000	1.5
225,000 to 330,000	1.6
330,000 to 465,000	1.7
465,000 to 630,000	1.8
630,000 to 835,000	1.9
835,000 to 1,100,000	2.0

The optimum reverberation period for the room in question can be taken from this chart. If this new value is substituted in the equation, a new and larger value will be obtained for "A" and the difference between these two values for the absorption will give the necessary amount which must be placed in the room to give the desired optimum conditions.

The second method, in arriving at the amount of treatment necessary is first to compute the absorption already in the room. Professor Sabine and others have worked out the coefficients of absorption for various building materials, furnishings, etc. By computing the various areas of materials of different kinds and multiplying them by their corresponding coefficients, the absorption for the various interior surfaces and furnishings of a room are found, the summation of which gives the total absorption in the room. Having computed the volume and having found the absorption, the existing reverberation time can be computed. Then, as in the first method outlined, the desired optimum time can be taken from the chart and the suitable computations made to determine the additional absorption necessary in the room.

A word might be said about the optimum values given in the adjacent table. These values are somewhat lower than the values for similar volumes computed by other investigators. Professor Watson, however, has recently gone into this matter very thoroughly from the standpoint of the needs of the talking movie. In view of his findings, the reverberation times given by him have been generally adopted for theater and auditorium corrections.

It was pointed out earlier that, in general, the reverberation period in a room is independent of the location of the sound absorbing material, providing the other conditions necessary were fulfilled. There is, however, an advantage in placing absorption in the theater chairs for reasons which will be pointed out further. Thus far, nothing has been said about the size of audience for which optimum conditions should be obtained. Human beings are high absorbers of sound energy and, for this reason, the

reverberation period in a room decreases rapidly with increasing audience. In view of this, it is necessary to choose an audience for which optimum conditions are to be obtained. Correction is usually given which will produce optimum conditions somewhere between one third and one half maximum audience.

The ideal theater, acoustically, would have an unvarying reverberation period; that is, the optimum would exist regardless of the size of audience. Upholstered seating of the right type tends toward this constant reverberation time because the absorption built into the theater chair is practically all cancelled when the chair is occupied, the absorption of the chair being replaced by the absorption of the auditor occupying the chair. This prevents the absorption from piling up rapidly with increasing audience and thus tends to maintain a more balanced and uniform sound condition, independent of the size of the audience. It will be readily seen that this treatment has an advantage over wall treatment. In the case of wall treatment, there can be no cancellation of its absorption with increasing audience and there is consequently a rapid accumulation of absorption. Sabine found that the average absorption of an auditor seated is 4.7 units, or, in other words, equivalent to 4.7 sq. ft. of open window. The ideal chair, acoustically, would possess 4.7 units of absorption unoccupied and occupied. This requirement has been very nearly fulfilled and with the latest type chairs, there is very l i t t l e additional absorption obtained through increasing audience. The proper chair, acoustically, is scientifically designed with due consideration given to its effect on sound when both occupied and unoccupied. In addition, it has the correct shape and distribution of materials and possesses the proper amount of porosity and compressibility. It is a fortunate coincidence that these last two features are both obtained through the use of correct upholstering materials, which give added comfort and luxury as well as acoustical properties.

The new Chicago Civic Opera House is probably the most perfect house, acoustically, of its kind. The acoustics of this house were computed before it was built and many artists, as well as engineers, awaited the opening night, which was Nov. 4th, 1929, to see if this great house was to be a success acoustically. The results were very gratifying. The house was designed to have practically the optimum reverberation period when empty in order that artists might have the same conditions acoustically while rehearsing that they would have during performances. This is a very great help to artists, not only from a temperamental standpoint, but because it removes the necessity of having to change their expression and volume with changing audience size in order to get what they deem proper reaction to themselves. This house uses a special chair designed to meet the acoustical needs and the reverberation period, because of the cancellation of the absorption in the chair by the auditor, does not change noticeably from no audience to maximum audience conditions.

ABOUT TURKEY

by

Martin A. Charles M.F.A.

STREET IN OLD ADRIANOPLE

LET not the student of architecture, whom a kind fate places in Stamboul for a lengthy stay, regret his lot. He will find ample material for his study and his delight nor will many months suffice to exhaust the resources of that fascinating city. There he will find mosques and churches, palaces and castles, fortifications and cisterns, mosaics and faience, museums, tombs and many other lesser structures of great interest. But this is not all, for he will at the same time be living in one of the most beautifully situated of all cities, where daily he can be refreshed and astonished by the incredible blueness of the busy Bosphorus or the placid Maramora. Not to mention that the silhouette of Stamboul at sunset, seen from across the Golden Horn, with its skyline punctured by the pencil minarets and pyramided domes of the great mosques, is as romantic a sight as ever inspired a stage set. Let us approach more closely this city where genuine picturesqueness has not yet entirely yielded to progress.

Aja Sofia, still today called by the name it bore when a church and the glory of the Eastern empire, surely needs no mention here. No visitor, even an unfortunate Mediterranean cruiser brought to Stamboul for thirty-six cold, snowy, February hours by an unfeeling schedule, will miss that great structure; still less the follower of architecture. But Aja Sofia, no more than wisdom herself, is not to be be grasped in one visit or two. One must go again and again until even the pestering guides who haunt the courtyard know you and have given you up as a hopeless case, finally discouraged by your impassivity or your command of international swearing. And after each visit to the mosque there is the charming cafe in the outer court where to sip coffee and meditate on the fascinating structure just visited. The cafedji, long since accustomed to all forms of insanity, will serve you simultaneously with two or three tiny cups of excellent Turkish coffee which Western impatience may demand. With every visit Aja Sofia leaves a deeper impression of its greatness. There is scarcely a limit to what it has

to teach of composition with space. Stamboul, moreover, contains further illustrations of the same problems that the builders of Aja Sofia faced. There are six great imperial mosques from that of Sultan Bayezid in 1500 to Fatih in 1763 (Bayezid, Chahzade, Sultan Sulleman, Sultan Ahmed, Yeni Valide, and Fatih) which are inspired by Aja Sofia and present a unique opportunity of studying the problem of enclosed space dominated by a single great dome. I know of nowhere else in one city that such a comparative series may be found of seven structures of the same program, general similarity of solution and comparable magnitude. Much benefit may be derived from the study of a parallel like this, needless to say. With the imperial mosques, however, the study of the mosques of Stamboul is just begun. There are dozens of others of architectural interest, illustrating, as often by failure as by success, problems of dome, vault, arch, quinch, pendentive—to mention a few. In general the mosques are more interesting as examples of interior space composition than they are from the exterior. Outside the superposed domes pile up into a pyramidal mass in a fashion that is often more picturesque than architectural. This effect is always accompanied and frequently enhanced by the fanciful punctuation of the minarets. The photograph of Fatih gives an idea of the interesting massing that frequently results from their domical systems.

MINARET IN ADRIANOPLE, TURKEY

Most of the mosques are accompanied by their medressehs (Koran schools), their hammans, and the larger ones by their hospitals and insane asylums. There really are of course, Turkish baths in Turkey, hundreds of them, and they are among the most interesting specimens of the architecture. One finds in them, for example, domed chambers of fine proportion, sometimes intricately adorned by the so-called Turkish triangle and stalactites; or occasionally domed cruciform arrangements of great beauty. As a class the baths are well worthy of study. In many instances the simplicity of the exterior mass is more pleasing than that of the most complicated mosques. The medressehs, too, are worth looking into. Many of them are now abandoned, others filled with squatting refugee families. One, at least, serves as a sporting club, the trapezes and horses looking strangely out of place in their arcaded and domed surroundings. They are generally of one story, a series of vaulted rooms around a court, fronted by an arcade, each bay of which is crowned with a little dome. Search among them is rewarded by the discovery every now and then of a nicely proportioned arcade or a courtyard of great charm. More interesting than the medressehs are the imarets (charity soup kitchens) and the insane asylums.

In arrangement they are less uniform and often of a great refinement of design. It must be added that an essential simplicity of plan is common to the various types of buildings I have just mentioned.

Works of Sinan, the great architect of the Turks, are as plentiful in Stamboul as those of Wren in London. More than one hundred buildings throughout Turkey are ascribed to him. Many days may be spent following up his jobs in the former capital alone. One of the striking observations of such investigation is the uneven quality of his work. He must have had a huge office for the mid-sixteenth century and perhaps experienced difficulty in supervising everything that went out. In Stamboul his best known monument is Suliemaniyeh. Chahzade is another important one. To me, however, the finest is the Imaret of Hasseki Hurrem. In balance, proportion and scale, it is exquisite. Until a few years ago it performed its function as charity soup kitchen, but now it lies abandoned. Already the domes have been stripped of their lead and disintegration is well under way. It is a shame that this splendid monument will soon exist no longer. It forms a part of a group of hospital, school and asylum, all of similar design and now used only as shelter by poor families.

Then of course, there are all the Byzantine monuments (among which Aja Sofia should of course be included except for the convenience of mentioning it in connection with the great mosques) which are of at least equal interest to the Islamic structures. Few churches are now in good condition, centuries of use as mosques have naturally wrought great changes. But there are many of them and in nearly every one enough evidence of the original condition survives to make them of interest to the student of architecture. After Aja Sofia I would place Kutchuk Aja Sofia (Sts. Sergius and Bacchus) that close relative of San Vitale, next in technical interest and in success as space enclosure as well. Of a different and later type is the Parecclesion of St. Mary Pammakaristos, certainly one of the best preserved and most delightful of the surviving churches of old Byzantium. The photograph shows the eastern end of this church with its three apses. Particularly to be noticed is the "modernistic" character of the brick cornices. The palace, now known as Tekfur Serai, merits study for the brickwork in its facade. And of course mention must be made of the vast cisterns, Yeri Batan Serai and Bin Bir Derek, best known among them, with vistas through a forest of columns that are as dramatic as might well be imagined. The fortress of Yedi Kule and its Ottoman counterpart of Roumeli

BASE OF MINARET

FATIH, THE MOSQUE OF MOHMED, II

SAINT MARY PAMMAKARISTOS, STAMBOUL

Hissar are impressive for sheer mass. Finally, enclosing most of these monuments are the mighty walls of Byzantium, still today largely intact. The rythm of the great towers as they succeed one another far flung across the undulating hills is a striking sight.

So far I have mentioned monuments of architecture in the narrowest sense, the actual structures themselves. But there is of course much else of interest in Stamboul. Beautiful faience is common there; in Rustam Pasha, in Sultan Ahmed, in many another structure it abounds. Few mosaics are finer than those in Kariyeh Djami, known in the days of the Eastern Empire as St. Saviour in Chora. The collections contained in the National Museum are of great importance, but too well known to need further mention, as is that in the Evkaf Museum. Perhaps the most fascinating of all is the old palace of the Sultans, Top Kapu Serai where pavilions done in Levantine Rococo jostle gems like Bagdad Kiosk. But the list grows long and I make no pretense at being complete. I merely wish to suggest the wealth of interest that lies in Stamboul.

By no means does Stamboul hold all the material for the student of architecture, however. All Turkey, and Asia Minor in particular which was for centuries in the center of the civilized world, is crammed with reminders of a glorious past. Many places in the interior are easily accessible by train. Service, especially on the lines of the state, is good. The trains run on time and proceed with a calm deliberation that allows one to study thoroughly the country traversed. Where the railway does not go, a hired automobile can be obtained. The car, probably of familiar American make, will proceed with less deliberation, but no matter, time proverbially means little in the East. Not that I intend to waste it here in a too detailed account of places of interest. Just a few of the more important ones divided, according to a personal weakness for comfort, into those with possible hotels and those with less possible ones.

Cities with hotels in our conception of the word are two former Ottoman capitals, Brussa and Adrianople, and the present capital Angora. The latter of course has the finest hotel in the Republic, but architecturally the town is Western and modern, therefore of less particular interest to the modern Westerner. Brussa, on the other hand, is the oldest of the Ottoman cities (although the town itself is far older than they) and one of the most beautiful. It contains many fine monuments of the early days when the successors of Othman were carving out an empire at the expense of all their neighbors. There is a whole series of imperial tombs which are decorated inside with splendid faience, access to which is at present unfortunately denied by the government. Brussa has two fine old baths, Eski and Yeni Kaplidja, renowned for the medicinal qualities of their waters and with interiors of considerable architectural interest. The best known structure is, of course, the "Green Mosque," Yeschil Djami and its companion tomb, Yeschil Turbeh, so-called because of the quantities of Turquoise blue tile used. The latter, the tomb, is an octagonal construction, the exterior entirely clothed in light blue tile with striking effect. The entrance niche and the interior are magnificent examples of faience work. There is much fine tile, too, in the mosque, despite the havoc wrought by a nineteenth century restoration. The effect of the interior is of great richness. The photograph from Brussa shows a view in the court of Pirinj Han, one of those old hotel-warehouse-office buildings, noteworthy for quality of masonry workmanship, in which Turkey abounds. In the background appears the slope of Mount Olympus.

Equally fascinating a city is Adrianople which succeeded Brussa as the capital. The monuments there are larger, more imposing, as befitting an empire that is beginning to make its way in the world. Greatest of them all, the mosque Selimiyeh dominates the town. It was built by Sinan for

the Sultan Selim in commemoration of the capture of Cyprus and is the most original, if not the greatest, example of Turkish architecture. The imposing interior is almost entirely covered by a single drumless dome of almost the exact size of that in Aja Sofia, some one hundred and odd feet in diameter. But the exterior is more striking still, its harmonious dome, pinned down at the corners by four minarets, has a quality of style unsurpassed by any structure in the country. Adrianople is the place to study the minaret, for they abound in greater interest and variety than anywhere else that the Ottoman type is used. The photograph shows a particularly fine spiral fluted minaret from the Mosque Utch Sherefli (named from another of its minarets with three balconies). The masonry work is extremely well done. Two contrasting colors of stone are used, in general a golden brown with the half-rounds of the spiral and other trim set against it in a red stone. The detail of the base of this minaret is so interesting that I give a special picture of it. How strangely "modernistic" it is in character. The Piranesi-like street scene is a view in the old town, flanked on one side by one of the afore-mentioned hans and on the other by a besestan or market.

Not yet, however, having merely considered all the capitals, present and past, is Turkey exhausted. For one who will chance the extraordinary accommodations of the "Palas" hotels of the interior there is a vast amount of interesting material to be studied. In central Anatolia the monuments of Seljuk Turks are a storehouse of exquisite decoration, in carved stone, in faience, in brickwork, in brick and tile mosaic. There are lessons in the use of color and ornament of a strikingly "modernistic" appearance. Then there are the great hans, some of them with halls like cathedral naves. These, to mention only a few. Finally, a paradise for the classic scholar, is Southwestern Anatolia. The seven cities of the Bible, Smyrna, Sardis, Philadelphia and the rest are there. Such places as Ephesus, Pergamon, Miletus and Halicarnassus. The very names bring to mind the picture of a splendid civilization. Even today after so many centuries of silting up, of earthquakes, of war, of shameless quarrying the remains of such a place as Ephesus will stagger by their size and extent the mind of one accustomed to the skyline of New York. Even the meanest Turkish village there will have its rubble walls interlarded with classic fragments; an Ionic cap here, a length of egg-and-dart there. But it is useless to continue. The list already grows too long. I am not attempting an architectural guide book to Asia Minor. I shall be well content if my words suggest that Turkey holds much of interest to the student of architecture, not all of which has yet received the attention it deserves.

PIRINJ HAN, BRUSSA

PROGRESS IN CITY PLANNING

By Charles H. Cheney

MORE progress in laying the foundations of sound city and regional planning was made in 1929, than in perfecting the superstructure of our cities. With over 750 planning commissions reported in the country, and as many as 840 cities with some kind of building zone regulations in operation, the volume of planning work has become tremendous, even though the quality of most of that work is yet very inadequate and incomplete. But when we reflect that it is only a little over 13 years since zoning began generally to be applied and 20 years since the National Conference on City Planning was organized, it is evident that a distinct advance has been achieved.

Two hundred forty cities claim city plans in various stages of completion, but the remainder of the commissions are still planless. Pennsylvania and some other states report increasing local appropriations for city planning, but lack of funds is still the cause of inactivity on the part of most of these boards.

The country has entered a new era. This is a planning age, one that will brook no little plans, no tinkering, no dalliance with half-way measures. The emphasis today is no longer merely upon economic or social grounds. Esthetic considerations must be met. Beauty has become the watchword of business and industry and beautiful cities are demanded of our city planners.

America must build better cities. We are a rich nation but a tawdry one in appearance. Our station in civilization demands and requires a better dress. Our progress in education and culture insists upon a better environmental condition for our children and our children's children.

Our cities, their architecture and planting, are the chief measure of our civilization. Despite the falling off in building, during the past year something over four billion dollars in new structures was expended in cities and towns of this country. Yet it is estimated roughly that three billion dollars worth of these structures were so ugly, so badly planned, so inappropriately located or on such narrow or inconvenient streets as to have been a liability instead of an asset, almost from the day that they were completed. Building inspectors tell us that the number of plans which came to them designed by competent architects or designers were still approximately only about 10 to 15 per cent of the total number of new buildings erected, and that the proportion of good designs does not seem to be materially increasing. As this architecture that we leave behind us is what future generations will judge us by, America must act to ensure that in the future at least no more such tawdriness, ugliness, or lack of color shall be tolerated in new buildings. Man destroys the ugly buildings or ugly surroundings as fast as he can—only beautiful and attractive structures persist in the long run. This waste in careless, ugly, inappropriate structures is the greatest economic loss of our time and the hope of the future must lie in our city planning commissions, our architects and technically trained men.

Great Plans of 1929

A few really great plans were brought out during 1929. Most notable of these is the New York Regional Plan presented to the city last June after seven years of intensive study. Then there is that enormous

group of new public structures in Washington, on a scale befitting the National Capital, to go in the triangle between Pennsylvania Avenue and the Mall, and recently authorized by Congress at the urging of President Hoover and Secretary Mellon. The St. Louis riverfront development program, with its great plaza of buildings, is on a scale with the largest world projects. Meantime Chicago has been forging ahead with the enormous Lake front park system.

The year also sees Philadelphia at last authorized to have a city planning commission and to zone the city and give protection to real estate investments, to bring some order out of things as the other more forward looking cities of the country have been doing since the stupendous job of zoning New York was completed in 1916. Other great plans set underway during the year are those for the Chicago Exposition of 1933.

Ninteen Hundred Twenty-Nine will also be remembered as the year in which the first adequate school of city planning was set up as a graduate course at Harvard University through the aid of the Rockefeller Foundation. Prof. Henry V. Hubbard of the faculty of Landscape Architecture of the University was named first encumbent of the new Chas. D. Norton Chair of Regional Planning, and director of the new school.

Spaciousness in City Building

The demand for spaciousness in our city and regional plans is one of the most hopeful signs of the times. Harold S. Buttenheim, editor of *The American City Magazine* has been one of the most consistent and helpful advocates of this principle. Common sense relief of congestion and overcrowding goes hand in hand with it. The studies of Henry Wright, architect of New York, showing that better and more permanent incomes can be made for apartment houses covering only from 50 to 55 per cent of the lot than from those which cover 65 to 70 per cent or more because of the increased sunlight and air, form another contribution to the important data on this subject started by Andrew J. Thomas, architect, of New York City. The latter proved that u-shaped apartments which covered not more than 50 per cent of the lot were the most profitable and most sought after by permanent tenants. The social well being, the future stamina of our citizens requires that we give all families plenty of room, sunlight and air to breathe and that we do not allow them to congest too many under the same roof, rubbing elbows on the stairs, bringing about the looseness in living and morale which is so evident in the apartment house cities of Europe.

In outlying towns and the smaller cities of the country there are increasing numbers of zoning regulations that put a stop to this evil. City Planner Robert Whitten reports in the new Dallas, Texas, zoning ordinance a provision requiring one square foot of open space for each two square feet of floor area in one class of districts and the same in the Oyster Bay, Long Island zone ordinance. Under this rule a 3-story building can occupy not more than 40 per cent of the lot and a 6-story building not more than 25 per cent of the lot. Numerous small cities around New York and in New Jersey, California and other states have apartment house districts or zones permitting only 50 per cent of the lot to be covered and a number of them limit all apartment houses to 4 stories, some even to 3 stories maximum.

Most of the small suburbs around Chicago are now zoned with considerable portions of city area limited to single family dwellings. City Planner Harland Bartholomew reports that Winnetka, Wisconsin, has 95 per cent of its area limited to single family buildings, with remarkably generous area regulations, while Kenilworth near by permits no apartment houses except in the small commercial district and requires that every lot must be in excess of 12,000 square feet per family house.

Another notable step in zoning was the protection of Montecito, a high class suburb of Santa Barbara, California, by County zone ordinance which prevented drilling for oil. This is now being tested in the courts but should be sustained because other California communities have successfully prohibited this great blight.

Major Street Plans

Major traffic street plans are reported completed in 144 cities, according to the Civic Development Department of the United States Chamber of Commerce, and started in 64 cities. The Boston Major Street Plan by City Planner Robert Whitten is completed but not yet made public. The great major traffic plans of St. Louis, Detroit, Los Angeles and Chicago, are now being carried out with important new sections ordered built during the past year. Los Angeles has nearly $100,000,000 of proceedings completed or under way on the Major Street Plan adopted in 1924 and which will total finally something over $200,000,000.

The difficulty with major street plans is to establish future street lines so that new structures will not go up in the path of necessary openings and widenings. The splendid New York state law prohibits buildings where the official major street plan has been officially adopted by the city council. Schenectady has set the pace for the country by adoption of its complete plan. Several other states, including California, now provide methods for such adoption.

St. Louis continues to develop the most consistent and thorough city planning work of the country under the direction of Harland Bartholomew, city planner, and E. J. Russell, architect, chairman of the Commission, who have so faithfully and successfully carried the work on since its inception in 1916. The fundamental factors of this success in planning are (1) thoroughly complete and well prepared technical plans, (2) wide spread public understanding and support, and (3) sympathetic official cooperation in the execution of the plans. Additional units of the Major Street Plan were put forward during the past year and the great central riverfront development and civic center plans are spoken of elsewhere.

The smaller cities of the country, even the small towns, need major street plans and other comprehensive plans as badly as the big metropolitan areas. Everywhere the increased use of the automobile, demand for traffic relief, for airports, parks and new and enlarged business centers, is requiring enormous changes, particularly in the widening of streets laid out for a horse drawn era. Hence major street plans are everywhere causing the cutting down of great avenues of trees for street widenings and extensions. In many cases these tree cuttings are needless or avoidable. Our cities are being denuded of their fine old trees and shelters of greenery and thus become yearly uglier and more forbidding, as these very trees were the only saving grace to cover up the 90 per cent of bad design and poor architecture with which our municipalities are so carelessly filled. California now has a law authorizing replanting of trees in the same proceedings that undertakes the widening and improving of highways and the next few years must see much greater attention on the part of the public and city planners or this generation will long be known as the despoiling age.

Parks and Recreation

Parks, parkways and recreation areas now form a necessary part of the master plan of every city, county and region under the new California Planning Act of 1929. They have become increasingly so in plans of older states also during the past year. Westchester County, New York, undoubtedly has made the most remarkable recent contribution to the parkways and park systems of the country. The splendid work in Essex and Union Counties, New Jersey, and the metropolitan park systems of Boston, Cleveland, Chicago and other centers are still object lessons for the country.

Both small and large cities increasingly seem to appreciate provision of playgrounds for both children and adults with the centralization of children's playgrounds at schools. Adoption of the 10-25-40 standard, that is, ten acres for each elementary school, playground and park, about a mile apart in metropolitan areas; 25 acres for junior high schools and playfields about every 2 miles; and of 40 acres for senior high schools and junior colleges three miles apart; is spreading as evidenced by the recent published recreation report of Riverside, California, showing that city has recently acquired a number of sites of this size, as have Mil-

waukee, Fort Wayne and other eastern cities. Gary, Indiana, has a standard of 20 acres for every school site.

New Orleans reports over 5000 street trees, many of them live oaks, set out in the first quarter of 1929 and a program of adding 25,000 trees to the city streets in the next five years under direction of the Parking Commission. Los Angeles has at last appointed a city forester in charge of street trees but without appropriation and the city is sadly lacking still in public parks. However, a comprehensive report on parks, playgrounds and beaches for the Los Angeles Region is now on the press as a result of a two-year survey by Olmsted Brothers, landscape architects, and Harland Bartholomew, city planner.

Civic center plans were brought out during the year by Dayton, Ohio, Riverside, California, and a number of other cities and the scheme of grouping public buildings around a monumental plaza for the cumulative effect seems to have taken firm hold upon the public mind.

Riverside has also adopted a report establishing the esthetic objectives of the city as follows: (1) Plan for beauty in every item of the master plan or city plan. (2) Plan for color, because color can make or destroy even the best architecture; it can retrieve much of the worst. (3) Plan for individual character of the city. (4) Plan generously for the new flying age, where industry, housing, even business are certain to spread out over tremendous areas. (5) Plan for architectural control of all buildings, signs and physical appearances, both private and public. Enormous depreciation and waste result from the present unregulated system of building. (6) Plan to maintain the "town picture," because the community is entitled to preserve outward characteristics which develop as a result of its God-given natural beauty or of the conscious creations of man.

Definite architectural control is reported from a number of new places. Hollister, Mo., passes an ordinance declaring all buildings in future erected in the business district shall be of old English type architecture and that no other style of building shall be allowed. Wauwatosa, near Milwaukee, and several suburban towns of the Chicago region, under the leadership of City Planner Jacob L. Crane are employing various methods to scrutinize all new plans submitted for building permits to see that some standard of design is maintained. The splendid work of the Architects Advisory Council under Horace Peaslee, Chairman of the National Capital Committee of the A. I. A., in checking over all new applications for permits in the District of Columbia is a courageous piece of voluntary work which has produced some marked results. But the outstanding and most complete architectural control is still to be found in those communities that have been established by absolute deed restriction such as Roland Park, Guilford, Homeland District of Baltimore, Forest Hills, L. I., and Palos Verdes Estates in California. Here a permanent Art Jury, independent of any real estate project, composed of distinguished and competent architects, has veto power over the design and color of all new structures and stands guard to protect investors and home builders from the erection of carelessly designed and off-color structures.

Community Planning

The outstanding contribution in suburban planning for the year is undoubtedly at Radburn, New Jersey, advertised as "The New Town for the Motor Age" because the houses are all arranged for traffic safety in groups around cul-de-sac streets, with parks in the centers of the large blocks and sidewalks along the edge of the park, so that children and pedestrians do not have to walk along the traffic street to school. Here the City Housing Corporation of New York has already completed several hundred houses in good architecture, harmonious in arrangement and grouping and which fulfil their claim of "turning a city inside out" with each house facing a restful park or garden. Radburn is only 13 miles by air line from Columbus Circle in New York City, in that beautiful wooded area of New Jersey just west of the new Hudson River Bridge.

NEED OF GREATER COOPERATION IN BUILDING INDUSTRY

By Clarence L. Jay.

A FOX once invited a crane to dinner. The crane arrived on the appointed day with proper appetite, but when the dinner was served it came to the table in flat dishes, and because the crane's bill was not adapted to eating from such dishes he went home hungry, but not, however, until he had invited the fox to dine with him on the next day. The fox accordingly went next day to the home of the crane, and there the food was served in tall vase-like dishes, which the fox could not manipulate, because when he stuck his sharp nose down into the dish he couldn't open his mouth. The lesson in Aesop's fable might be stated by saying that the two animals attacked the problem with different methods of procedure, and with different viewpoints, the crane over a long bill, the fox across a sharp nose.

It is the same in relation to this group of problems that we call the building industry. We are all engaged in the same industry, our aims are as identical as were those of the fox and the crane—they intent on getting their share of the food, we on the construction of buildings to house this great civilization of ours. I think the crux of the matter; the reason why we don't get the measure of co-operation between the designing and the construction end of this industry is that we don't realize that our aims are identical. Consider the subject for a few minutes.

The final result of all our efforts is to provide adequate housing facilities at an economically sound cost for the activities of our day. Remember this, it is just as essentially the goal of the architect as it is of the contractor. There may be somewhere a writer who is satisfied to fill sheet after sheet of paper with words that he doesn't care whether anyone ever reads or not. There may be somewhere a composer whose sole ambition is to write notes on paper that will never be played by any instrument—but they are not poet nor musician. Poetry doesn't exist except as its rhythm and rhyme convey its beauties to our minds either through our eyes or our ears. Music cannot exist except as the composer's thoughts are translated to our ears by the performer. There may be an architect somewhere who is content to depict his creations on paper and stop there, but he is not, in so doing, creating architecture. The architect is just as dependent on the builder as the poet is on his reader and the composer on the performer. On the other hand, the reader or performer would not get very far without something to read or to play. You see, the thing works both ways, and the architect is just as much out of luck without someone to carry out his designs as a builder is without something to build.

Now if all this is true, there is no authority for the thought that architecture and building are separate industries, and any consideration of the one must necessarily include the other. And as members of this industry we are all concerned with the problem of providing adequate housing for the activities of our day at an economically sound cost.

No piece of machinery can operate at 100 per cent efficiency unless every part of it functions properly. We can all drive our automobiles down the street with one spark plug not firing. We can make average speed and have a reasonable degree of flexibility, but when we get in a jam or start up a hill we have to shift to second, with a consequent slowing up of progress, not only of ourselves, but also that of the people back of us. You all know the result, some hard-boiled cop comes up and not too sweetly tells us to get our crate out of the way, we're holding up traffic. Unfortunately, the building industry has no traffic cop; if it did he would surely be on our heels, yelling in no uncertain terms.

Now, don't misunderstand me, the building industry has made wonderful strides in the last few years, and I believe that nowhere in the United States has that progress been so apparent as it has been in California and the west generally. Our buildings are being used as examples in all lines of construction everywhere, and in concrete particularly we are years ahead of the east in our acceptance of it as a medium of expression. But we are not operating efficiently, and until we get a fuller measure of co-operation between the designing and the construction ends of the industry, we cannot hope to live up to the last part of our obligation to society, which I stated a few minutes ago in the words, "The final result of all our aims is to provide adequate housing facilities at an economically sound cost!" We are not doing it today, and the thing that stands in the way is the lack of realization that our aims are identical, a lack of appreciation of the other fellow's viewpoint, and a lack of desire to iron out our petty difficulties, and pull together.

These are not insuperable difficulties; they involve no intricate mechanical problems and no higher mathematics; but they do involve a large amount of human understanding and a large amount of that priceless ability to get the other fellow's slant at a thing. The individual can do much toward making his own projects operate smoothly and efficiently, but it is only through organization that the industry as a whole can be benefitted.

It is a common saying that America is over-organized. That we have organizations to carry on every activity that is imaginable. Perhaps that is true, and if so then we ought to have no difficulty in finding one or a group of them to handle the problem of making both ends of the building industry—the designing and the construction ends—meet on the common ground of mutual understanding. Inasmuch as I know of no organization that includes contractors and architects among its active members, I am going to suggest the use of two and outline a program, merely suggestive, for your consideration.

First, I would suggest that the Builders' Exchanges of every city, and your state organization, be strengthened as much as possible, carrying on the splendid work you are already engaged in of breaking down the barriers of suspicion among the contractors, convincing the little fellows that the big ones are not going to gobble them up, teaching the big fellows that, after all, the little ones have some good ideas, too; stressing the closer association, within your organization, of the different trades, through inter-association meetings at frequent intervals. There is no reason why the Master Plumbers' Association, the Master Plasterers' Association, the Electragists, the A. G. C. and all the rest of them should hold their meetings at different times. What a fine thing it would be if they could all meet in the same city on the same dates, and then have a great general meeting, under the auspices of the Builders' Exchange, to wind up with. What a great force that would be toward this co-operation that we are talking about in the building end of the industry. That is not my original thought, but it is better than any of my own that I could offer you.

Above all, let the organization stress the point that only through a strong organization like this can the crooks and the slickers be put out of business. The architects of this state have an organization, the State Association of California Architects, that includes on its membership rolls 100 per

cent of all the architects of the state. This association is working at the present time on similar lines and is a very active body.

I suggest a connecting link between the two organizations, a committee made up of members of both associations, whose duty it would be to foster friendly relations between the individuals of the two branches of the industry, putting on an aggressive program of inter-association meetings, at which time programs should be developed around the central idea involved, but greater stress laid on the opportunity gained for the individuals of both branches to put their feet under the same tables and talk over their coffee cups. This should not be a sporadic effort; it must be a careful, systematic and lengthy campaign, planned and directed by a central committee, at the state headquarters of our separate societies, and this committee, as well as the local committees for each city, should be made up of the most aggressive and perservering of our members, for they will have to lead a fight against custom, and a custom is a hard thing to upset.

I honestly believe you will agree with me when I say that a large portion of the inefficiency of the building industry at the present time is due to lack of co-operation on the job, and half our griefs are caused by the countless bickerings that are the result of this lack of cooperation. I bring you this suggestion for improving the situation as the result of some thought on the matter. I offer it to you for what it is worth, in a sincere effort to do what I can to help in the solution of a difficult problem that touches us all very closely.

Portfolio of

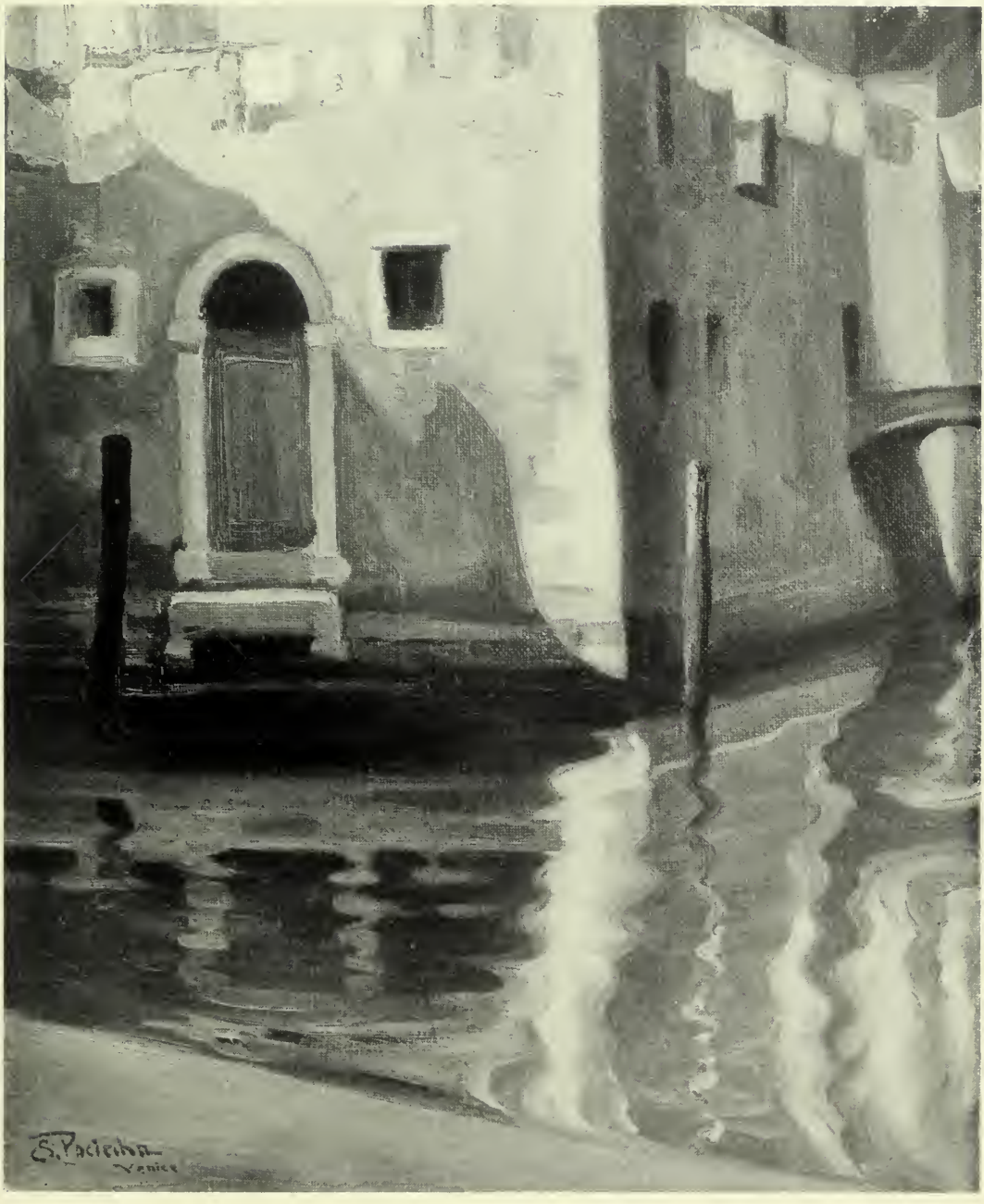
Murals *and* Paintings

by

Stan Pociecha-Poray

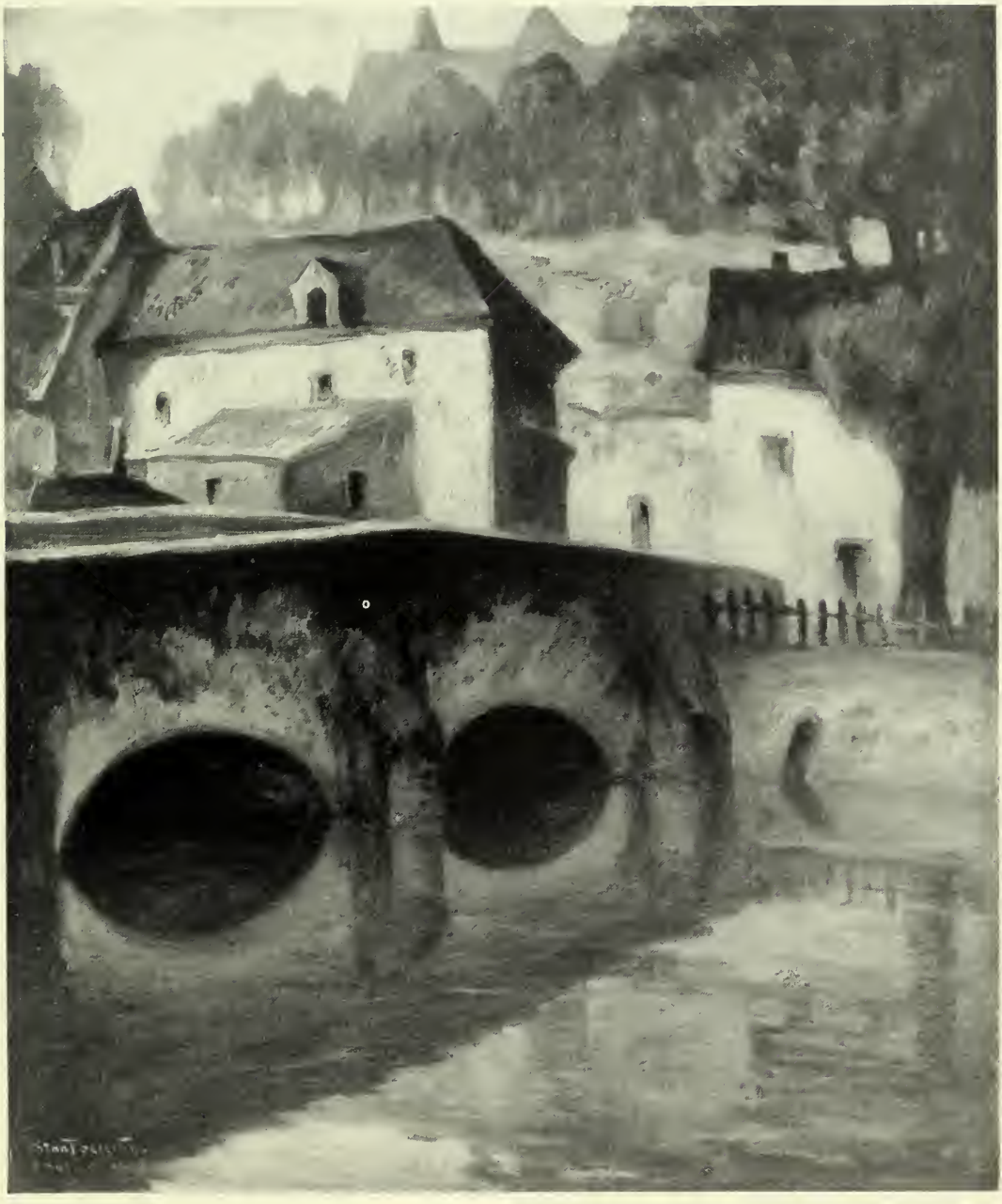
EDGE OF THE DESERT

A LITTLE STREET IN ROUEN, FRANCE



A DOORWAY IN VENICE

OLD HOUSES IN CHARTRES, FRANCE

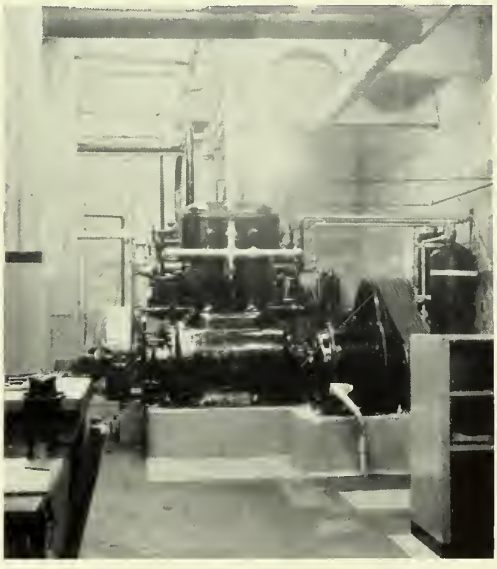


BRIDGE IN CHARTRES, FRANCE

ENGINEERING

and

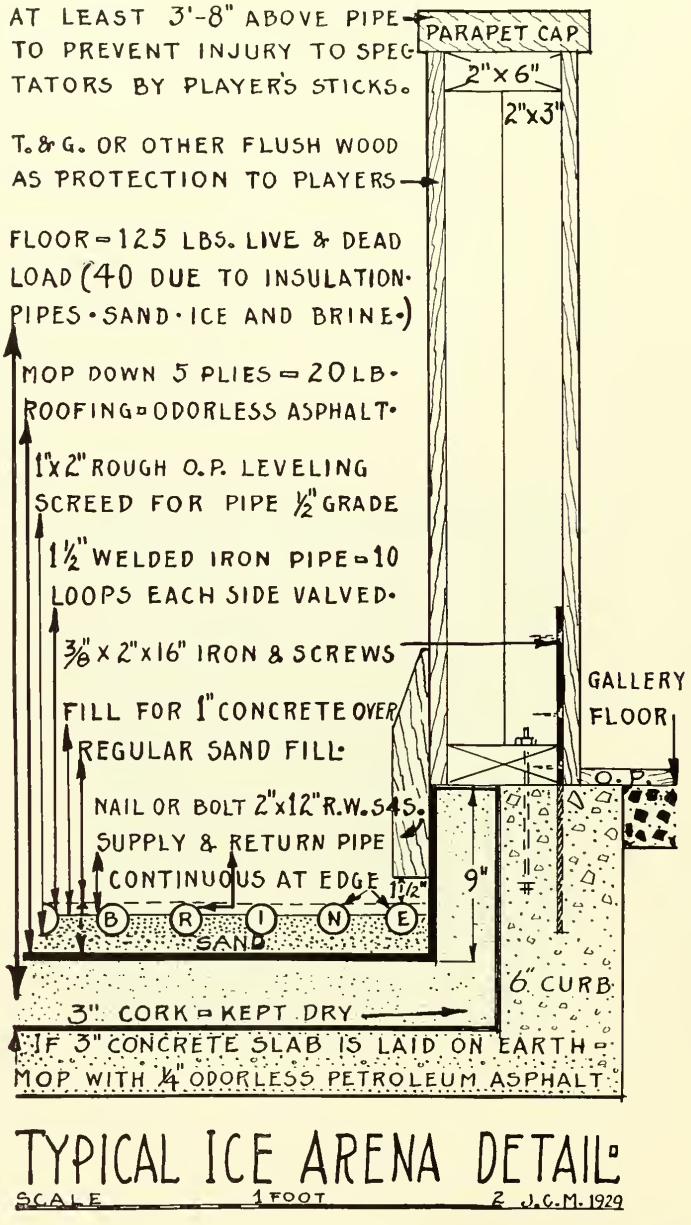
CONSTRUCTION



COMPRESSORS IN OAKLAND ICE SKATING RINK

Featuring

The Design and Construction of an Ice Skating Arena
in Oakland, California



DETAIL, ICE ARENA, OAKLAND, CALIFORNIA
WM. E. SCHIRMER, ARCHITECT

DESIGN AND CONSTRUCTION OF AN ICE SKATING RINK

By: Julian C. Mesick

ICE skating has always competed in recreation interest with even the theater, and today is riding on the popular sport wave. It holds a lure that does not vanish with our advent into an iceless country. A snowless arena, under temperature control, has definite advantages over the pond and bonfire. It has most successfully invaded the cold metropolis areas of this country. It serves to bring back picturesque memories and promote an ideal sport with its consequent benefits to community and individual. It becomes of interest to investors, and a problem to architects and engineers.

A rink may be a financial success in towns of fifty thousand and over, states H. R. May, engineer, consulted for data herein. Ten thousand less may support one if a college or other interested group is near, but each problem demands individual study of conditions. Public support comes through teams representing schools, fraternities, business and industrial organizations. These must furnish exhibition and match games weekly to a gallery of not less than four thousand. Skating and concessions supply the balance of the returns—about sixty per cent. Amusements should pay higher returns than standard business constructions; in this case, not less than twelve per cent on all money invested plus amortization: in frame buildings, ten to fifteen years — in concrete or fireproof buildings, fifteen to twenty years.

The minimum practical building is 175x 225 feet plus basement or machinery room 45x100 with thirteen foot ceiling (in the clear). Arena ceiling height depends on requirements for clear vision. Forty foot walls will include trusses. The cooling tower platform should conform to local ordinances and support not less than seventy pounds live load per square foot. Area eighteen by forty-six feet.

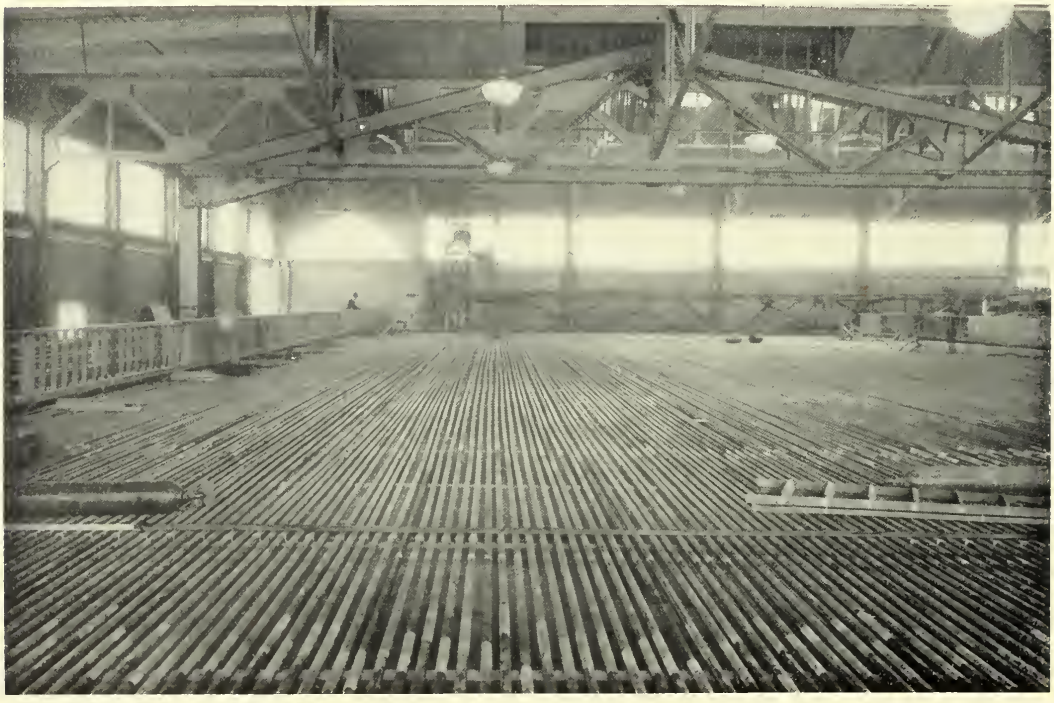
The minimum arena area, that for hockey, is one hundred eighty feet eight inches by eighty feet eight inches inside the curb insulation, which must be flush as shown by detail illustrating this and other important items. Corners of the rink are struck on twenty-five foot radii, but the brine pipes carry straight through to ten inch diameter supply and return pipes placed in a four and one-half foot pipe space added for the full eighty foot eight inch width, at the low distribution end. This space is bridged for continuous passage around the arena, with flush access doors in the floor thereof. A four by four by twelve foot drainage sump should adjoin the outside of the curb on one side.

Service, as office for business and skate rent, coat checkroom, and men's and women's toilet rooms with a lounge connected

with the latter, if space permits, may be placed under the seating area. Fountain counter service for food, tobacco and candies must be of easy access for those wearing skates. The hockey clubroom and a smoker for all men patrons may be placed in the portion of the basement not used for compressors and brine tanks. These latter require twenty and twenty-four foot widths respectively, each forty-eight feet long.

In large cities the development may be housed in several ways before a large arena seating fifteen thousand spectators is demanded. These adjustments to demand can only be advised by a refrigeration engineer, experienced in rink operation and construction. A practical and pleasing architectural layout always pays. A small rink needs the same services, lest the owners find themselves possessed of an ill considered building and equipment, expensive to keep up and operate. For instance it may prove fatal to have "soft" spots in the ice, portions which freeze too quickly, or variations of more than one-eighth inch in the half inch pipe grade from end to end of arena.

The banker and investor is interested in any project involving valuable land; and, building and equipment costing seventy-five to one hundred seventy-five thousand dollars. Minimum refrigeration alone costs from thirty-seven to forty thousand dollars. They want convincing proof that an arena floor should be concreted over the pipes for exhibition matches, as boxing. Then they must *know* that insulation will permit the removal or remaking of the ice sheet in eight to nine hours, for next day's use. Ice sheets are built up about one-half inch on concrete and 1½ on sand fill by spraying on hot water under hundred pound pressure. It freezes by the time it has found its level.



H. R. May, Engineer

TEN MILES OF PIPE, ICE SKATING ARENA, OAKLAND, CALIFORNIA

W. E. Schirmer, Architect

Other items to be provided are: Roof ventilation to prevent condensation dropping back on the ice; special hockey reflectors for and spacing of lighting units. Entrance to arena floor should be on corner curves only, through gates opening out. Compressor room must have an outside machinery entrance of five by seven and one-half feet if in the wall, and four and one-half by ten feet if in basement ceiling.

All rinks should be equipped with safety appliances and fire connections as provided by the Safety Code of the American Society of Refrigeration Engineers. This equipment is composed largely of ammonia diffusion and high pressure safety cutout devices on both high and low pressure lines. High pressure lines extend from the compressor to the expansion valve; low, through the brine tank. Brine of calcium chloride is used in the arena floor pipes for safety.

In Oakland, California, The 20th Century Market Company recently became convinced that a rink is the solution for the use of the major portion of their property—located three blocks from the business center on West Fourteenth Street. William Edward Schirmer prepared an architectural plan demanding few building changes. A large steel truss replaces the center bearings of three truss lines, giving a span of two hundred feet. Most of the plate glass has been removed as unnecessary and to prevent sun rays on the ice. The windows on Thirteenth Street have been eliminated. A Fourteenth Street entrance has become the main entrance.

The building by the Dyer Construction Company and refrigeration, including piping, by the Edwards Ice Machine Company, were completed three weeks ahead of agreed date.

Photo by J. C. Mesick

ICE SKATING ARENA, OAKLAND, CALIFORNIA

W. E. Schirmer, Architect

THE ARCHITECTURAL DESIGN *of* GRADE SEPARATIONS

By Walter Wright Alley, *Bridge Architect, in The Municipal Engineer*

THE architectural design of the different types of grade separations varies with the conditions of each problem. There is, however, one important point that must be kept constantly in mind. Grade separations, particularly highway over highway, are seen at close range from below as well as from above. As a result, careful study must be given to the undersides of arches and girder spans, and to the faces of piers, abutments and approach walls, in addition to the study usually given to handrails, pylons and lighting standards which are seen from above.

The public will no longer accept ugly structures when they can be made pleasing to the eye and become a lasting example of harmonious arrangement, at small additional first cost. Today, people are rapidly learning that money spent for beauty and harmony is a good investment. Therefore they are demanding that more thought be given to those utilitarian structures which mean so much to them in added safety and convenience. In this manner, beauty and harmony add to the pleasure of the travelling public and act as an advertisement of the city's charm.

Another factor is likewise forcing more attention to the architectural design. The problem of maintenance in these structures is bringing the use of more enduring materials into greater prominence. With the use of more permanent construction, it is a matter of simple logic to give more thought to the architectural design of the structures, in order that they may be harmonious throughout and beautiful in their details. A well-proportioned bridge or grade separation, built of lasting materials, remains pleasing to the aesthetic sense as long as it is in use.

The importance of visibility in grade separations is likewise drawing more attention to the need of proper architectural treatment of these structures. The more open and well-lighted these structures are made, for reason of safety and convenience, the more opportunity there is to see their various parts from different points of view. Therefore added care must be taken in their design. Also, in this connection, due thought must be given to the pedestrians, for they will be closest to the structure and will be impressed with the details and surface treatments. By contrast, those in the stream of swiftly-moving traffic will be impressed by the design as a whole and by the harmonious relation of its component parts.

The present efforts to aid and expedite traffic are bringing in the use of easier changes in grades and larger radius curves. This in turn makes for longer approach walls and more open roadway planning. Thus more of the structure is visible and more attention must be given to its design. The travelling public no longer looks with favor on any structure having the appearance of a tunnel, with the lighting and ventilation problems that go therewith. So all factors are tending to make these grade separations more open and visible, calling greater attention to their architectural treatment.

Still another influence which further emphasizes the architectural design is the attempt now being made to eliminate noise from these structures. The structural engineer, in his efforts to reduce noise to a minimum, finds it necessary to use larger members with greater provision for ballast; steel parts are encased in concrete and piers are made hollow whenever possible, thus increasing their bulk. As a result, such measures increase the importance of these members in the total scheme, and in turn, greater attention must be given to their architectural treatment.

In the consideration of the architectural design itself, the proportioning of parts and their ornamentation must constantly be considered in the light of the utilitarian character of these structures. Rarely are they of such size and importance that they can be treated in a monumental manner. In the unusual case where the grade separation may be in close proximity to, or within the boundaries of, a public park or parkway, such treatment may be logical and in order, but such cases are rarely met with in practice. This should not be construed to mean that full attention should not be given to the careful architectural study of the simplest of such structures. Often these are the most difficult to deal with, owing to unusual intersection angles or difficult clearances. But these are the very ones most used and consequently the most observed.

Materials of construction to be used in the particular structure under consideration should be the criterion for the determination of the method of architecturally treating the detail parts. Steel construction alone, limits the design in the greatest degree. Steel with concrete allows more freedom of design, and a reinforced concrete structure, being constructed of the most plastic and at the same time the most enduring form of construction, allows the greatest freedom of architectural expression. Marble, terra cotta and brick can rarely be used, and so the finer ornamentation associated with the use of these materials is usually out of place.

One phase of the architectural treatment of these grade separations, which thus far has received scant attention, is the landscaping. As these structures become more elaborated in the separation of the various traffic lanes, small triangles and other odd-shaped pieces of land are left. With proper planting, arranged so as not to impair the visibility, these can be made exceedingly attractive. Even in the simplest of grade separations there is space remaining along the approach walls where the sloping ground can be utilized for planting, thus contributing to the embellishment of the structure. The enhanced value accruing to the abutting property at such a grade separation should more than pay for the cost of the land used for such a purpose.

In a summary of the special conditions which have to be considered in the architectural treatment of grade separations, it is in order to emphasize properly the attitude which should be held by those who have to do with the design as a whole. The bridge engineer is interested in the safety of the structure, the strength of the materials and the economy of cost. He designs so that the structure will be safe, strong and enduring. The traffic engineer, however, deals with the use of the structure, the safety of the traffic and the economy of time. His contribution to the design enables traffic to be expedited and human life to be safeguarded. In addition to all of these, the bridge architect is concerned with the finished structure. He has to consider the relation of the parts to the whole design; he plans so that each part will express its purpose and at the same time harmonize and fully express the aims of the others. Above and beyond all else, however, the bridge architect is concerned with the beauty of the completed structure, beauty in this case consisting of the harmonious treatment of the structure, appealing to the eye of the beholder and spelling the ultimate success or failure of the bridge in so far as the public is concerned. For it must be generally recognized that the average man is most impressed by sight and not by a scientific sense of strength and safety.

The ARCHITECT'S VIEWPOINT

- *The Architect's Province as a Landscape and Interior Decorator*
- *Architectural Control as Applied to a Portland, Oregon, Project*
- *Dreadful Waste in Manufacturers' Literature*

SOMEONE, perhaps a speaker at a luncheon club, said that a man should have a hard head and a soft heart to properly cope with the present day world. To infer that a great many architects have soft heads as well as soft hearts might be just cause for protest. However, through natural temperament, the architects, for the most part, have taken far too many blows; blows often not included in the best traditions of the Marquis of Queensberry, for them not to retaliate with a few healthy wallops, if only in self defense. It appears that we would have to organize an Architects' Unit of Shock Troops, and when the organization is formed it is hoped that the officers will be men of spirit and dash, the type of Mr. Hays, a contributor to this column.

It is not as surprising for the architects to be flayed as they were by Mr. Flagler in *The Nation's Business*, as it is for *House and Garden*, as Mr. Hays says, "one we had looked on trustingly as a friend," to come out with cutting sarcasm regarding the activities of architects as decorators. To *House and Garden* we exclaim, as Caesar did, "Et tu Brute!"

The editorial in question is misleading as are all such, where statements are made that are so sweeping in their generalization. Granted that some architects are not fitted nor competent to advise on decoration and furnishing, the fact remains that many in our profession, past and present, have been eminently successful in this art and in landscape design as well. There has been such a host of architects in the history of architecture who could complete their visions down to the last detail, within the buildings and without, that it would take quite a volume to tell of them and their work.

* * *

NOT so long ago, the late C. F. A. Voysey, in England, not only designed houses and gardens, but also designed in his very individualistic style, furniture, textiles, rugs, tiles, lighting fixtures, silverware, wall paper, china, and so on, including almost everything in and about the house. To practically the same degree, Baillie Scott, English architect, has carried his designing ability, and has written a meaty book on all phases of house architecture, including decoration and gardens.

Many architects may not be fitted by experience or temperament to do decorating or to plan gardens or are prevented from so doing by circumstances, but to those who can and have may we make a gracious bow. This bow would not be unbecoming on the part of *House and Garden*. At just what stage of development should the architect wean his child and turn it over to a foster parent or guardian? Before the paint goes on or just after? Shall the colors be left to the decorator, the lighting fixtures, the floor coverings, the panelling—just where and when should the architect drop out of the picture?

IN the case of architects like Sir Edwin L. Lutyens, whose work has a highly personal quality, and whose ability is recognized the world over, who, other than Sir Edwin, himself, can anyone inform us, is better able to carry that character throughout the entire work? Quoting from Sir Lawrence Weaver, noted English critic and writer, in his book "Houses and Gardens by Sir Edwin Lutyens," we have this: "It is rarely the case as at Heathcote, that the architect has the opportunity of designing every piece of furniture for the house and choosing every hanging and carpet. The overruling unity which here prevails is not only a tribute to the skill of the designer, but to the unusual wisdom of the client." Perhaps the writer of the editorial in *House and Garden* is not also a decorator, let us hope not, for before the decorators assail the architects they must be sure their own house is as tidy.

In some of our smaller cities it is difficult to find a decorator who has the knowledge and ability to adequately fit him, or more often, her, for the job. Too often she has not had even "the four months practical training course," as advertised. In these localities when the architect would be grateful for competent help, where can he obtain it? Decorators and landscape architects of signal ability are not usually found in any but the largest centers. Then again there are architects like Voysey, Ernest Gimson, Baillie Scott, and Lutyens whose individualistic design has not followed the "periods," and since in the last decade, "period" has been the guiding star of most decorators, what else could the poor boys do, but roll their own?

* * *

IT was very interesting to read in THE ARCHITECT AND ENGINEER of the progress made in architectural control in the Palos Verdes project, and now civilization creeps upon Portland! The owners and developers of a new residential tract here, called The Highlands have appointed, through the Oregon Chapter, American Institute of Architects, a board which will pass on the design of all construction in the district. As far as known to the writer, this is the first time control of architectural design has been adopted for any subdivision in the State of Oregon. It is needless to say that the Oregon Chapter will give the project most whole hearted support. Most of the designs passed on to date have been of a pleasing type, and if the future ones are equally good, a beautiful district is assured, for The Highlands is a place of fine natural beauty.

* * *

DOESN'T it often occur to the architect, when he goes through that bewildering sheaf of documents; folders, followup letters, booklets, etc., that constitute the morning mail, that very much of somebody's good money is sadly misused, if not flagrantly wasted? Not entirely wasted, perhaps, because the printer, the paper maker, and the clerks must all live too, but if the manufacturer believes that his dollars spent on many of the "Steam Lines," "The Valve Eras," and "The Stone Ages," are producing for him, he is mistaken. No architect has the time to read these countless booklets, even if strangely, he has the inclination. Why doesn't the manufacturer put this money to better uses, and more profitable? Liberal advertising space in *The Architect and Engineer* for example. Thinking of one large company, in particular, manufacturers of a well known building commodity, if they would spend some of the thousands upon thousands of dollars which they now spend on waste basket fodder in the further improvement of their product, how much better it would be for them and for the architect.

HAROLD W. DOTY, Architect, Portland, Oregon.

EDITORIAL CHAT

A CLOSE-UP OF PORTLAND CHAPTER

THE California Chapters can take it from me they have to hurry if they wish to keep pace with their aggressive Oregon brethren. Outside the Duck State you don't hear very much about their activities but in and around the city of Portland the public is given a weekly, and sometimes daily, eye-full of news and general information about architects and architecture. No civic movement calculated to benefit the State of Oregon, or City of Portland, architecturally, is overlooked by the Chapter, while a continuous campaign of education is conducted with articles by leading members of the profession.

As evidence of this the Chapter's very efficient and untiring secretary, Fred Aandahl, volunteered to show me his scrap book, a bulky affair, filled to overflowing with newspaper clippings having to do with the Chapter's activities. We find in these excerpts, reports of meetings, signed communications by architects on questions of civic betterment, articles on the value of an architect's services, and pictures of well designed houses with suggestions to the layman as to proper procedure in building the small home. All this publicity, mind you, without monetary investment on the part of the profession. Just good publicity put over by an agrressive know-how-to-do-it committee.

* * *

IN a recent visit to the Web-foot city I had the pleasure of attending a Chapter luncheon. San Francisco and Los Angeles Chapters, by the way, find the dinner hour more convenient for their meetings, due possibly to more attractive menus offered at that hour. Some twenty or more architects were present at the Portland luncheon, which was splendidly presided over by the Chapter's new president, Folger Johnson, recently returned from Florida, and who, by the way, looks a deal like Regional Director Myron Hunt of Los Angeles. Reminded of the resemblance Mr. Johnson graciously replied that he felt quite honored.

Like the California Chapters, the Oregon State fellows are intensely interested in what the Government is going to do for the local architects in preparing plans for a new Federal Building to house the courts and other government officials. The Portland architects would like to see a competition for this building and a resolution to this effect was passed at the meeting with the stipulation that the contest be limited to members of the Oregon Chapter and that the program be prepared in accordance with the rules of the A. I. A. Just how the Government will receive this proposition is problematical. Several individual firms have already applied for the job and when all has been said and done the element of politics will undobutedly cut quite a figure.

* * *

I COULD not help but notice how the younger members of the profession are forging to the front in the Chapter activities. This is always a good sign, for we are living in a modern age and must look to youth to take the initiative in giving to architecture the new forms that are expressive of our own time. To quote Mr. Hewlett, first vice president of the Institute, "It is the responsibility of the present day architect to express in his buildings the civilization of this age, on which future generations will pass judgment. We have reached the point where reliance upon the knowledge of the old will not alone carry us on. We must combine with it the utilization of the present modes and give to architecture new forms expressive of our own time."

And while on the subject of youth the Portland profession has to be recognized for two outstanding accomplishments by its younger members. Herman Brookman, smallest member of the Chapter, (physically speaking) is credited with having designed the largest and best looking house in Portland, while Harold Doty, the largest

member (again physically speaking) has distinguished himself as architect of the smallest good looking house in the city—a house that reflects good design, a house with a full basement and two floors, seven rooms, two baths, a furnace and detached garage—all for $6,500, including a 10 per cent architect's commission.

* * *

AFTER holding two fairly successful Honor Award Exhibitions, the Oregon Chapter has decided that these contests are not the thing for a small city and the members as an organization will no longer sponser such contests. While judgment is usually made by a capable architect's jury from outside the state, the members feel satisfied that the judgments are not always well placed and for that reason are not promotive of the good heretofore generally attributed to them. It is felt that the jury is sometimes inclined to give an award more on account of the prominence of the architect than for the real merit of the work. It seems to sift down to a matter of judgment of two or three men, not infallible of course, as against the ultimate opinions of an entire Chapter membership. Members, however, believe in encouraging good craftsmanship and for such Honor Awards will continue to be made by the Oregon organization.

—F. W. J.

* * *

THE small house controversy seems still to be a live issue as evidenced from the following letter to the editor from Carleton M. Winslow of Los Angeles:

"I had intended to stay out of the small house controversy, but here I am airing my views. I have been interested and some times actively engaged in the small house problem and I occasionally "take on" a small house, always for some friend or client who is doing larger things. For the friends I have usually charged a minimum ethical rate of commission; for the clients —full rates 10 per cent or more. Strangely enough these jobs have always shown a profit, but of course they were all profitless in one sense as they took my personal time away from more financially remunerative work. They were always interesting and of some of them, I have been proud.

"Some architects of good practice would like to 'do' small houses but feel that their reputations would suffer if they stooped architecturally. Personally, I have little architectural shame.

"As to the books on the small house, and there are now many of them, I think their chief value is as study and reference books for the lay public and architects too.

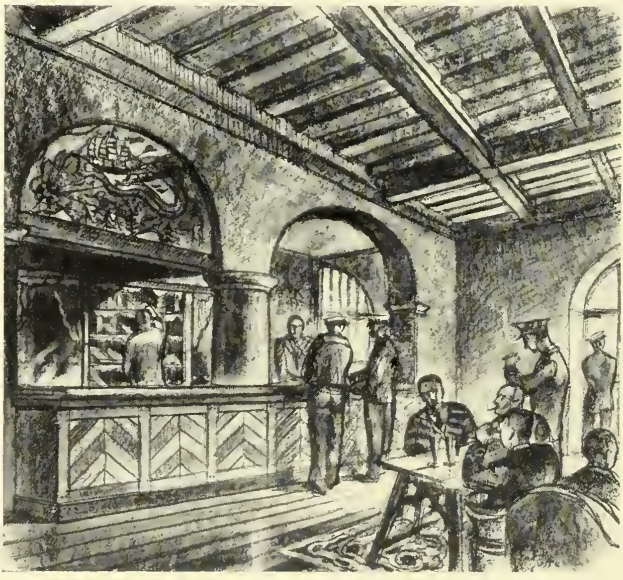
"I believe that the number of working plans and specifications purchased through them is small, and the number of houses built exactly as the 'stock' plans indicate, smaller still. Mrs. Smith thinks that the living room will get more sunlight if the house is turned over, and she needs a breakfast room (though why the devil anybody wants two eating places in a small house is beyond my comprehension) etc., etc. In any event, if Mrs. Smith *does* butcher the plans for her Germantown house built in Kansas she usually comes out better than if she purchased a set from the local lumber company.

"The policy of the Santa Barbara group interested in the small house (centering in the Small House Book published by the Santa Barbara Community Arts Association) is to get the prospective plan buyer to go to the young architect who contributed some selected design and have him go ahead with the house on a regular commission. He usually can afford to take it for 6 per cent. I think that this way of using the stock design is of great value to the profession and particularly to the young architect.

"As to duplication of houses from one design, this cannot be helped. Mrs. Smith, again, sees some house she likes and has her builder or some one make a snap shot of the finished product and copies it anyway.

"In general 'Small House' architecture has unquestionably elevated lay taste — enormously — also that of the speculative builder and 'carpentect', as Russell Ray calls him. There are technical and possibly ethical objectives to the movement — there also are to the anti-prohibition movement— but my vote is to keep on with it and help it all I can."

"ARK VILLA," ALAMEDA
Sketch by A. Hewetson



BAR ROOM, ST. FRANCIS YACHT CLUB, SAN FRANCISCO
Sketch for Willis Polk and Company, by Michel Goodman

THE DESIGN OF THE FERRY TOWER, SAN FRANCISCO

Editor THE ARCHITECT AND ENGINEER,
San Francisco.

An article appearing recently in a San Francisco newspaper gave credit for designing the Ferry Tower to the late Willis Polk. This statement is erroneous; he was not associated with the architect at the time is was designed. It is true that Mr. Polk made a very beautiful drawing of a project for a colonnaded fore-court in the front of the building and naturally included the tower in the design. He, however, made the perspective drawing of the tower as it should have been built with a much higher shaft and he only approximated the then existing design of the upper portion of the tower.

A. Page Brown was the architect of the Ferry Building. His chief draftsman was A. C. Schweinfurth, who naturally was in charge of the preparation of the drawings for the building. So far as my records are concerned, the facade was designed in elevation and plan only at scales of $\frac{1}{8}''$ and $\frac{1}{4}''$ to the foot. Structural drawings for the steel work were made from these designs, the contract let and the steel work practically completed before any further detail drawings were made.

Mr. Schweinfurth at that time retired from Mr. Brown's office and the position was taken by Frank S. Vantrees. Shortly thereafter Mr. Brown was killed in an accident. Edward R. Swain was later appointed architect of the Ferry Building. In the meantime, in order to protect the interests of Mr. Brown's heirs to the extent of the completion of such drawings as he would naturally have had made in the course of the construction of the tower, Mr. Ventrees and his staff prepared a set of scale and full size details of the interior portion of the structure. These details were naturally based upon the structural steel drawings and the steel structure itself, which was then practically all in place.

Newton J. Tharp was then chief draftsman for Mr. Swain. He resigned and I took his position. I found upon the boards a nearly completed large scale drawing (made by Mr. Tharp) of the architectural features of the tower, which also took into consideration the exact position of the steel structure with its relation to the various platform stages and setbacks, both vertically and horizontally. Assuming all data to be correct, I proceeded to complete the drawing.

About this time a representative of the company which furnished the clock decided to make an advertising display, consisting of a picture of the clock face, and asked Mr. Swain to prepare a perspective drawing for him in a certain position in the street. This work was assigned to Walter E. Pinkham, who was one of the most accurate draftsmen and careful architects I have ever known. The result was astonishing. The perspective indicated the tower to look like a half collapsed telescope. I checked the drawing over with Mr. Pinkham and found everything correct and immediately took it to Mr. Swain's apartments, where he was confined. Having convinced him of the correctness of the drawing, he immediately ordered a restudy of the entire tower, which was made (all former drawings and details being discarded.) This consisted in raising some of the platforms or setbacks many feet above the position of the horizontal steel frame, as well as making the circular portions of greater diameter, and alterations so far as possible under the contracts existing and the extras allowed by the Harbor Commissioners, to produce the result as now exists. Nearly all of these new drawings were made by myself, and such as were in existence in my files were destroyed in the fire of 1906. There were probably other draftsmen employed upon this work, but those mentioned above were the ones who were responsible for the final result.

CLARENCE R. WARD, A. I. A.

SANTA BARBARA ARCHITECTURE

The best examples of civic and commercial architecture in Santa Barbara, embodied in buildings erected during 1928 and 1929, will be designated by a jury selected by the plans committee of the Commuuity Arts Association of that city.

The judges will be Harold C. Chambers, Los Angeles, newly elected president of the Southern California Chapter, American Institute of Architects; Charles H. Cheney, Palos Verdes Estates, architect and city planner, who has served on many architectural juries; H. Philip Staats, a member of the plans committee and a member of the American Institute of Architects, Connecticut Chapter, and John M. Gamble, Santa Barbara artist, who has been particularly interested in the problem of color as well as design in architecture.

ROOFS OR ROOKERIES

(Bulletin of New York Public Library)

ENGLAND and the Continental countries have long been interested in ridding their cities and towns of slum sections and in getting all their people adequately housed. But it was not until after the War that labor conditions and increasing congestion in their already overpopulated cities, put vim and vigor into such activities. In spite of the numerous other pressing problems of reconstruction, certain of these countries have achieved housing programs that leave great, prosperous American cities, which happen to investigate them, speechless at their own "do nothing" policy.

Well, just what have London, Berlin, Paris, Vienna and other Continental cities actually done in the decade since the War in the way of providing new homes in place of rookeries?

London alone has erected new homes and modern tenements sufficient to house nearly 200,000 families. By 1933, Paris hopes to complete its housing project which proposes to create new homes for 130,000 families. Berlin since 1924 has provided for 100,000 families and plans to continue its construction program at the rate of 20,000 apartments each year until it has put all its inhabitants in sanitary new homes. Vienna, impoverished as that city is, has since 1919 destroyed its rookeries to the extent of providing 45,000 families with new roofs, and plans to complete its housing program by 1932, when it will have constructed apartments sufficient to house 60,000 families.

Naturally the question arises—How have so many roofs replaced so many old rookeries? What methods or means have England and Europe found to accomplish what we have been talking of doing but have never done? Government subsidy is in general the answer. Though the form of housing assistance has differed in the various countries it has nevertheless been a subsidy and American cities do not care much for this expensive form of promotion. If, however, the prosperous American cities do not face their acute housing shortage squarely, they may one day be forced to accept this plan, however much they dislike it.

Aside from the question of subsidizing housing there are, however, many phases of these foreign governmental and municipal housing projects that merit our attention. England has advanced farther in its housing program than any other country. Letchworth and Welwyn are the outstanding examples of what can be done in creating model cottage towns. If these projects have assisted only in a small way in relieving city congestion, they have, at least, popularized the cottage estate movement and given some excellent ideas on cottage building, which are being followed by many other countries. The London Common Council is London's most important landlord, as its tenement dwellings and cottage estates house nearly one-fifth of a million people. Here, as the aim is decentralization of population, much emphasis has been placed on cottage estates for the less populous outer London. For central London, four and five storied tenement dwellings have replaced the slum clearances. From April 1, 1919 to December 31, 1927, 24,085 houses and flats having 90,578 rooms were erected by the London County Council.

Vienna, a city which owns and controls all its public utilities, also is showing what can be done in municipal housing by a determined government. It provides money for its projects by taxing owners of houses which were in existence in 1918. Vienna confined its housing projects to municipal tenements. These occupy only about fifty per cent of the land. The majority of the apartments consist of two rooms, while the three-room apartments come next in number. Mr. Fink, writing of these dwellings, makes this statement:

"What makes these Vienna tenements stand out is their cheerfulness, their architectural beauty, wide courts, the balconies, the play spaces, the kindergartens, nurseries, laundries, gymnasiums, the fountains and flowers, and statuary. The combination of these create a home in the fullest sense—not a mere place in which to exist. Vienna leads the world in creating for her workers an atmosphere of culture and happiness."

A noted housing expert recently stated that "if one desires to study new building methods and the adoption of new materials in connection with mass production there is probably no place better than Germany in which to study these aspects of housing at the present time."

Berlin has stepped into a leading place by the manner in which it is improving the conditions of its working people. Louis H. Fink, Secretary of the Housing Committee of the Brooklyn Bureau of Charities, who has just returned from there, says that "the homes provided in Berlin for its workers are equal to the highest class buildings in American cities."

WILLIAMS SCHOOL BUILDING

The Williams School District has appointed Starks and Flanders, architects, Forum Building, Sacramento, to prepare plans for a new school building for which a bond issue of $105,000 has been voted.

WITH *the* ARCHITECTS

THE MODERN HOME

Increased building activity in the bay region is responsible for the inauguration of a course in "The Modern Home," which will be given by the University of California Extension Division beginning March 12.

The course will be under the direction of William C. Hays, who, besides being Professor of Architecture at the University, is well known for his architectural work throughout the Pacific Coast.

Prof. Hays will speak on house plans, the site and the relation of the house to it, equipment, arrangement, interior and exterior design, styles of homes, what constitutes a good house, some consideration of the investment, and value to be considered when purchasing a house. The class will be held at the Extension Building at 540 Powell Street, San Francisco.

PORTLAND WAREHOUSE

The MacMarr Stores, Inc., will have a new warehouse, office building, garage and workshop at Guilds Lake, Portland, from plans by Sutton and Whitney, Lewis Building. The structures will be of reinforced concrete, one and two stories, and will represent an investment of $400,000. The same architects are preparing plans for a warehouse in Los Angeles for the MacMarr Stores, estimated to cost $90,000. They are also making sketches for a hospital in Los Angeles, a hospital in Portland and a baby home in East Portland, the latter to be of brick and to cost $90,000.

SIXTEEN STORY DEPARTMENT STORE

Portland will have a sixteen story Class A department store building, consisting of a new wing to the Meier and Frank Company Store, from plans being prepared by de Young, Moscowitz and Rosenberg, New York, and Herman Brookman, Yeon Building, Portland, associated. The engineering will be handled by T. Ronneberg of San Francisco. The cost is estimated at $1,000,000.

W. P. DAY GRANTED LICENSE

At a meeting of the State Board of Architectural Examiners, Northern District, the following was granted a provisional certificate to practice architecture in California: William P. Day, Financial Center Building, San Francisco.

TROJANS TO EXHIBIT WORK

The entire second floor of the State Building in Exposition Park, Los Angeles, is to be devoted to a display of the work of students in the School of Architecture of the University of Southern California from April 2nd to June 1st.

In addition to building plans and designs, there will be freehand drawing, mural paintings, stained glass designs, water-color sketches, statuary, bas-reliefs, sketches of interior arrangements, ornamental iron work designs, friezes, and figurines clothed by co-eds to illustrate period costumes.

The same work will constitute a campus exhibit in the Architecture Building of the University of Southern California during the Semi-Centennial celebration of the Trojan University, May 29 to June 7th.

THIRTEEN STORY HOTEL

A 13-story hotel, to cost approximately $1,500,000 is being planned for a site on West Washington Street, between Seventh and Eighth Avenues, Phoenix, Arizona, for Mrs. Maude J. Kay. Plans are being prepared by Harrison B. Traver, of Los Angeles. The proposed hotel will be of modernistic design with a central unit and two wings, containing 304 guest rooms as well as a spacious lobby, dining room, coffee shop, beauty parlor, twenty-five stores and shops and basement garage.

TWO OAKLAND THEATERS

Two new theaters are promised shortly for Oakland. One is for the Paramount Players and is being designed by Miller and Pflueger of San Francisco. It will have a seating capacity of 3500 persons. The other playhouse is for Warner Brothers and is being designed by G. A. Lansburgh of San Francisco. The buildings will cost in excess of $1,000,000 each.

PORTLAND CHURCH

Working drawings are being prepared in the office of Morris Whitehouse and Associates of Portland for a $250,000 Christian Science Church in East Portland. Construction will probably start this spring.

PIEDMONT RESIDENCE

Plans are being completed in the office of Williams and Wastell, Oakland, for a $50,000 home in Piedmont for J. C. Witter.

H. A. MINTON BUSY

H. A. Minton, architect for the Bank of Italy, with headquarters in San Francisco, has been preparing plans for several alteration jobs for the Bank throughout the state, which comprise branch institutions and stores on property recently acquired by the Bank. Mr. Minton's office is also busy on a group of tennis courts for the Sacred Heart Convent in Menlo Park, and a convent building for St. Monica's Parish in San Francisco.

WILLIS POLK & CO. ACTIVE

Willis Polk and Company of San Francisco, reports that as soon as arrangements for a loan, being negotiated by the Union League Club, are completed, work on final plans for the new club house will go ahead. This office also reports plans being prepared for the first unit, to cost $50,000, of a new edifice for the First Baptist Church in Burlingame.

SEATTLE RESIDENCE

Lewis P. Hobart, Crocker Building, San Francisco, has been commissioned to prepare plans for a $400,000 residence to be built in Seattle for D. E. Frederick. The house will be designed in the French style. Olmstead Brothers of New York have been retained as landscape architects.

SAN BRUNO APARTMENTS

Messrs. Edwards and Schary, 605 Market Street, San Francisco, have completed plans for a two story and basement frame and stucco apartment building to cost $25,000 and to be built at San Bruno, San Mateo County, California. Prosper Bou is the general contractor.

SCOTTISH RITE CATHEDRAL

Plans have been completed in the office of Carl Werner and S. Heiman, associated, 605 Market Street, San Francisco, for the first unit of a Scottish Rite Cathedral to be built at Reno, Nevada. The estimated cost is $150,000.

BANK BUILDINGS

The office of A. F. Roller, architect of San Francisco, has been engaged in preparing plans for three bank buildings, one in Oakland, one in San Francisco and one in Redwood City.

PROVISIONAL CERTIFICATES

Provisional certificates to practice architecture in California were granted by the State Board of Architectural Examiners, southern district, January 28, to the following:

Welton David Becket, 801 S. Gramercy Dr., Los Angeles; Milton J. Black, 529 West Knoll Dr., Los Angeles; Gerald R. Colcord, 1538 Brighton Way, Los Angeles; Walter F. Fuesler, 539 N. Mansfield Avenue, Los Angeles; Richard F. King, 4515 Saturn Street, Los Angeles; Max Maltzman, 704 Union Bank Building, Los Angeles; Everett Ely Parks, 423 N. Claudina, Anaheim; Hayward Peirce, 3634 Jackdaw Street, San Diego; C. Waldo Powers, 318 W. Ninth Street, Los Angeles; Allen George Siple, 972 Arapahoe Street, Los Angeles; Raymond A. Sites, 427 Cedar Avenue, Long Beach; Lester G. Scherer, 1510 N. Vermont Avenue, Los Angeles; Don Uhl, 7024 Melrose Avenue, Los Angeles; William K. Webb, 1239 E. Tenth Street, Long Beach; Walter F. Zick, 135 N. Curtis Avenue, Alhambra; Theodore L. Pletsch, 146 S. Berkeley Avenue, Pasadena; Lloyd A. Steffgen, 51 S. Euclid Avenue, Pasadena.

ESTATES MERITED THE SHOWING

(From the *Palos Verdes Bulletin*)

The Architect and Engineer of San Francisco devotes fifty-one pages of its January number to reproductions of Palos Verdes architecture and articles on its progress by Chas. H. Cheney, J. C. Low, Jay Lawyer, David C. Allison and J. F. Dawson. This is the best and most complete showing of the Community's development yet made by any magazine and includes illustrations of the Malaga Cove, Valmonte and Lunada Bay Plazas and all of the houses selected last year by the Art Jury as the most notable on the Estates.

ARCHITECT GIVEN JUDGMENT

H. C. Baumann, architect of San Francisco, was given a judgment for $2,880 against Steve Carusa of Pittsburg by Superior Judge A. B. McKenzie in his claim for $5,700 architect fees, alleging that he had prepared plans for a $160,000 six-story building. Although the building was not constructed, Baumann demanded his fee, stating that he put in just as much work on the plans as he would have if the building had been built.

HARDWOOD DEALERS TO MEET

The annual meeting of the Pacific Coast Hardwood Dealers Association, will be held at Del Monte, March 20-24, inclusive. Jerry Sullivan, Jr., is president. The program will include talks on the hardwood industry by officials of the American Manufacturers' Institute, Walnut Manufacturers' Association, the California State Architects' Association, California Retail Lumber Dealers Association and the Millwork Institute.

APARTMENT HOUSE AND RESIDENCE

New work in the office of E. H. Denke, 1317 Hyde Street, San Francisco, includes a six story steel frame store and hotel building to be built on Hyde Street, near Turk, San Francisco, and a one story Spanish type restaurant, to be built on the State Highway, San Mateo. Bell Brothers are the owners of both buildings. The restaurant has been leased to Tait's, Inc.

KELSEYVILLE SCHOOL

Plans have been completed by William Herbert of Santa Rosa for a $35,000 high school building at Kelseyville, Lake County, California. Mr. Herbert has also completed plans for a new school building at Santa Rosa, consisting of an auditorium and three classrooms.

RUSSELL COLEMAN BUSY

New work in the office of Russell B. Coleman, Burlingame, includes an apartment house to cost $45,000 for A. J. Mullin; a residence in Hillsborough Hills for Brownlee Soward of Gilroy and a $30,000 house in Hillsborough in the Spanish type.

BRICK FACTORY

Plans have been completed in the office of Julius Kraft & Sons, Phelan Building, San Francisco, for a two story and basement, steel and brick factory for the California Supply Company. The site is the corner of 7th and Brannan Streets, San Francisco.

OAKLAND APARTMENT HOUSE

Chester H. Treichel, American Bank Building, Oakland, has completed plans for a three story frame and stucco apartment building to be erected on Park Boulevard, Oakland, at an estimated cost of $55,000. There will be eighteen apartments.

FOR HOME LOVERS

A beautiful and architecturally inspired booklet has been compiled by two Washington architects who are striving to give the public something fresh and new in home architecture. They hit on the idea of presenting simultaneously pictures of ideal and actual dwelling houses. The reader who is casually interested in home architecture or is definitely thinking of acquiring a home of his own, will find this dual presentation more inspiring and stimulating than the ordinary plan book —although this brochure is in a wood cut effect with striking poster treatment in three colors.

BRANCH BANK BUILDING

The Monterey County Trust and Savings Bank, Salinas, has been granted permission to open a branch at Castroville. Plans for a two-story building are being prepared by Stranahan and Butner, architects and engineers of Castroville.

Plans have been completed by the same architects for a two-story Spanish type store and apartment building to cost $60,000.

ALPINE HOTEL

The projected Alpine Hotel and Sanitarium, to be located at Warren's Well, near Morongo Valley, California, at a cost of $5,000,000, will be completed from plans by Albert H. Martin of Los Angeles.

There will be a 200-room Spanish type hotel and fifty 4-room cottages.

FORESTERS TO BUILD

Harold Stoner, architect, has moved to 220 Third Avenue, San Mateo. Mr. Stoner is preparing plans for a $75,000 fraternity building for the Independent Order of Foresters, to be erected on Valencia, near Market Street, San Francisco.

MONTEREY SCHOOLS

Plans have been approved by the Monterey School Board and Swartz and Ryland, 373 Main Street, Salinas, have started working drawings for a $265,000 expansion program for the Monterey Union High School District.

RESIDENCE AND APARTMENTS

The firm of Farr and Ward is very active at present in residence work, especially in Sea Cliff, San Francisco. They are also doing an apartment building in Carmel.

SOCIETY and CLUB MEETINGS

PRESIDENT AND VICE PRESIDENT OF AMERICAN INSTITUTE OF ARCHITECTS VISIT COAST CHAPTERS

THE Architect's Chapters of Seattle, Portland, San Francisco and Los Angeles, respectively, entertained the president of the American Institute, C. Herrick Hammond of Chicago and the vice president, James Monroe Hewlett of New York, during the past month. Banquets were tendered the visitors in each instance and the members were greatly enthused with the forceful addresses made by both Mr. Hammond and Mr. Hewlett.

Mr. Hammond paid a high tribute to the late Milton B. Medary for the work which he had done toward securing recognition for the American Institute of Architects at Washington and to Wm. Adams Delano, recently appointed a member of the National Capital Park and Planning Commission, who is carrying on his work. Mr. Hammond said that after 30 years practicing architects were on the eve of recognition in the planning and designing of Federal buildings. The Elliott bill, now pending in Congress, would give the Secretary of the Treasury authority to select private architects for such work. He had been advised by Mr. Delano that if this bill passed, the smaller buildings would be retained to keep the government architect's office busy. He warned that too much pressure at this time might be harmful to the interests of the architects.

Mr. Hammond referred to the work of the Producers' Council, composed of manufacturers and distributors of building supplies, in cooperation with the architects and said a meeting of the council with architects and contractors was about to be held which would take action assuring the architect of continuing leadership in the building industry.

In the course of his speech Mr. Hammond touched on the publicity work which the Institute is doing through its committee and urged that this work also be taken up by the Chapters. He referred to the recent convention of the Associated General Contractors at New Orleans and the action taken by that body in disclaiming responsibility for individual criticism of the architects by any of its members. He declared the relations between the architects and contractor generally were most friendly and that they would be further strengthened.

The unsightly billboard, which he declared marred the landscape along the highways, and the glaring electric signs which clutter the streets of cities, particularly on the Pacific Northwest, came in for denunciation at the hands of Mr. Hammond. He thought this was an evil which the architects should endeavor to overcome. He feared that because of the stories about his own home city—Chicago—he might be accused of casting stones. But he assured his auditors that Chicago was not as bad as it was pictured, and moreover was not bankrupt. It has, he said, a per capita debt only about one-third as large as that of New York City.

Mr. Hammond urged that the public be impressed with the fact that the present is a good time to build. It is too prone, he said, to buy when prices are high and neglect to take advantage of bargains. He declared that contracts had recently been let in Chicago for certain types of building at 42 cents a cubic foot which had cost ten years ago 65 cents a cubic foot.

James Monroe Hewlett, vice-president of the Institute, who is also president of the New York Chapter, spoke of the opportunities and the progressive, cooperative spirit of the architects on the Pacific Coast. In traversing Los Angeles and the country about he had noted the great open spaces about the beautiful buildings which he had seen and here were their opportunities to build more beautiful buildings.

Discussing the architectural trend which is influenced by a growing desire to create architecture more expressive of the times—more individualistic — he said that a revolution was quietly going on.

Mr. Hewlett told of the splendid work the American Institute of Architects has done in elevating the profession of architecture to its present high rank among the learned professions. "The Institute," he

said "is not, however, primarily for the profession itself, but for the advancement of architecture as an economic necessity. It is the responsibility of the present day architect to express in his buildings the civilization of this age, on which future generations will pass judgment. The necessity of utilizing in the process of building the constantly appearing new inventions, new materials, methods and processes, demands of the architect a technical and artistic knowledge scarcely equalled by any other profession.

"We have reached the point where reliance upon a knowledge of the old will not alone carry us on. We must combine with it the utilization of the present modes, and give to architecture new forms expressive of our own time." Mr. Hewlett urged the encouragement by architects of all craftsmen and manufacturers who are producing fine work and a cooperation of effort with all those engaged in building. "The architect is the conservator of beauty for all the people," he said.

NORTHERN CALIFORNIA CHAPTER

The January meeting of the Northern California Chapter, A. I. A., was held at the Clift Hotel on January 28th, at 6:30 P. M. President Frederick H. Meyer presided. The following members were present: Messrs. Jeans, Ashley, Coxhead, Wurster, McCool, Wyckoff, Birge Clark, Bakewell, Fairweather, Bruce, Upton, Farlow, Gutterson, Meyer, Kent, Klinkhardt, Ambrose, Evers, Garren, Roeth, Jorgensen, Maury, Angus McSweeney, Gillam, Allen, Michelsen, Donovan, Mitchell.

Announcement was made of the following changes in membership:

Elected to Associate Membership: Messrs. Thomas J. Kent, Chas. F. B. Roeth, Edwin L. Snyder, Louis Schalk and Angus McSweeney.

Elected from Chapter Membership to Honorary Associate: Arthur T. Ehrenpfort.

Resigned from Institute and Chapter membership: Walter C. Falch.

The calendar for the year, and programs as arranged for future meetings was read.

Following remarks by Mr. Ashley, a resolution was introduced by Mr. Allen, which was unanimously endorsed, namely:

BE IT RESOLVED, that the Northern California Chapter, of the American Institute of Architects considers that the economic interests of the Nation and of the building industry and the cause of good architecture will be best served by the employment of private firms in the localities affected, as architects of all federal office buildings and post offices.

The program for the evening was Building Investments.

"The Development of Building Projects" was the subject of Harry Allen, president of Allen and Company. He dealt with the four major phases to be considered, in any building investment, namely, determining if a need exists for the contemplated type of building; its strategic location; the income to be derived from the project; and the method of financing it.

The last item was very capably enlarged upon by C. Rodegerdts of S. W. Straus and Company who explained the "Financing of Building Projects." The various items of design, choice of materials, and maximum percentage of rentable areas, were presented as important factors in determining the financial success of the investment. An analysis of a typical business project had been prepared by him, showing the method of determining the size of the building proportioned to the demand for its particular usage, and continuing with cost estimates, financial set-up, income, expense of operation and return on the investment.

It was a privileged opportunity for the Chapter to have men who are leaders in their respective fields of realtor and financier, address us on a subject which is of such importance to all members of the profession. The very capable and interesting manner in which both speakers portrayed their investment phase of architecture was an extreme pleasure and of inestimable value to all present.—J. H. M.

OREGON CHAPTER

The February 18th meeting was held in the Multnomah Hotel, those present being Messrs. Johnson, Whitnew, Belluschi, Holford, Parker, Jacobberger, Roald, Legge, Doty, Brookman, Stanton, James, Logan, Herzog, Johnston, Bean, Church, Aandahl; Guests: Henry E. Reed, director of the Oregon Historical Society and Frederick W. Jones, editor of The Architect and Engineer.

On motion by Mr. Whitney, seconded by Jacobberger, and passed, it was resolved that the Chapter petition the Federal Treasury Department to the effect that a competition, to be conducted according to the rules of the American Institute of Architects, be held for the new Portland Federal Building.

Moved by Mr. Brookman, seconded by Mr. Stanton and passed, that the Chapter approach the proper authorities on the proposed Champoeg Memorial to the effect that the Chapter as a body be engaged as architects.

Mr. Jacobberger, chairman of the Legislation Committee, spoke briefly about proposed legislation for the Art Commission as drafted by a committee of the City club. This matter had previously been taken up by the executive committee and approved by them. This meeting also went on record approving the ideas as a whole and requested Jacobberger and his committee to be present when the ordinance is to be presented.

President Johnson read part of an editorial printed in the Oregon Journal of February 7 which referred to the resolution made by the American Institute of Architects regarding the retention of the old Post Office Building. Part of this resolution is as follows:

"It should be preserved because of the traditions surrounding it and because its architectural merit makes its destruction an act approaching vandalism. This building and the square on which it is located are of greater sentimental value to the State of Oregon and to the City of Portland than any private or commercial development of this property could possibly be. The state and the city are fortunate to have this old building, which in another generation will be looked on as an historic monument worthy of the greatest care."

A newspaper article appeared in the Sunday papers announcing that plans were being made for a market building to be built between the Morrison and Hawthorne bridges, east of Front Street and facing the river. This building, which, according to announcement, will start 100 feet south of Morrison bridge and continue for some 600 feet south, would jeopardize the water front development as outlined and fought for by the Chapter and Oregon Building Congress, and in view of the fact that the city government has appropriated $5,000 for the purpose of making a complete survey of the water front section in relation to this proposed development, the Chapter went on record opposing the construction of this building. It was moved, seconded and carried, that a petition be framed requesting the city council not to grant a permit for this or any other building until after such a time as the voters have had an opportunity to express their will.

Mr. Reed was then given the floor and was asked to further explain his plan for the retention of the Post Office Building. His plan, which hinges on the issuing of six million souvenir half dollars to be disposed of by the various societies interested in the building, received the hearty approval of the Chapter and the secretary was instructed to write the Oregon Historical Society recommending that they sponsor the idea.

SAN FRANCISCO ARCHITECTURAL CLUB

The February meeting of the San Francisco Architectural Club was held in the club rooms, 523 Pine Street. It was the first meeting under the new regime, with President Ted Ruegg presiding. It was very gratifying to see the number of so-called old timers present.

After the usual order of business, the new committees were introduced. W. B. "Hollowtile" Rue, chairman of the entertainment committee, spoke of his program for the near future and told of plans for a theater party in March and an initiation.

Rome Blas of the Atelier told of the progress the Atelier is making and of the great number of problems turned in. He also announced a class in History of Architecture which is to start soon. Ira Springer, editor of *The Esquisse*, the club's monthly publication, told of his plans for the expansion of same. He also reported on the trip to the Yosemite Portland Cement Company's plant, and the luncheons which are now being held every Thursday in the Wall Street Coffee Shop.

Robert Nordin, chairman of the exhibition committee, told of an exhibition of decorative tile to be held at the next meeting through the courtesy of Gladding, McBean Co.

Last, but not least, was an announcement by our house committee, Marcel Coutier, chairman, that we are to be properly fed this year.

Frederick H. Meyer, who recently returned from Europe, gave an instructive and interesting resume of his travels. As this was told from an architect's viewpoint, as well as in Mr. Meyer's frank and able manner, the talk was doubly interesting.

At the conclusion the members surrounded the lunch counter to do justice to the repast prepared by our new French chef.—A. N.

NEW PAYNE FURNACE DISTRIBUTOR

Rounding out its line of "All American" boilers, radiators, water heaters, etc., the Fox Furnace Company, 1123 Harrison Street, San Francisco, sales subsidiary of the American Radiator and Standard Sanitary Corporation, has been appointed Northern California distributor for Payne gas furnaces. The addition of the Payne furnace line is an important one for the Fox Furnace Company which is now likely to become a factor in the warm air heating and ventilating business in San Francisco and the bay region.

LOS ANGELES ARCHITECTURAL CLUB

The meeting of the Los Angeles Architectural Club on February 25th at the Elite was marked by the installation of new officers. Following an address by the retiring president the new officers were introduced to the members. They include: Sumner M. Spaulding, President; Fitch Haskell, Vice-President; Ralph Flewelling, Vice-President; George P. Hales, Vice-President; Luis Poyo, Vice-President; Rene Mussa, Secretary; Kemper Nomland, Treasurer.

Mr. Spaulding, in his initial appearance as president, stressed the necessity for a joint Council with the Institute and the State Association. He spoke of the importance of proper financial control in the Club and announced that Edwin Bergstrom, National Treasurer of the A. I. A. and a recognized authority on matters of finance, had agreed to act as a consultant in the establishment of a budget system.

Charles H. Cheney, chairman of the City and Regional Planning Commission, A. I. A., secretary of the Palos Verdes Art Jury, director of the National Conference of City Planning, and a member of the Hope Ranch Park Jury of Santa Barbara, entertained the club members with an interesting address on the development of Washington, D. C., pointing particularly to the need in every community of intelligent and comprehensive city planning.

At the conclusion of the meeting the universal opinion was that the system of city planning in Los Angeles is far from being above criticism.

SAN FRANCISCO CHAPTER

The regular monthly meeting of the Northern California Chapter was held at the Clift Hotel, San Francisco on the evening of February 25, President Frederick H. Meyer, presiding.

The following guests were present: Messrs. Harry Dixon, Simeon Pelenc, John Quinn, Howard Gilkey, Professor John W. Gregg, Thos. D. Church, Lee Randolph, Spencer Mackey, Horace Cotton, Edgar Walter, J. Gould, Mr. Wilson and Mr. Mick.

Announcement was made of the transfer to the Northern California Chapter of Stanton Willard, formerly of the Southern California Chapter.

There were no business matters for consideration, and President Meyer turned the meeting over to Mr. Gutterson, who presided thereafter as chairman of the evening.

The general subject as previously announced in the Chapter Calendar was "Allied Arts."

Enlarging upon the general theme, a most interesting series of short talks was presented by leaders in the various allied fields, covering landscape architecture, sculpture, painting, decoration, metal works and ceramics.

A general outline of the subjects and speakers follows:

LANDSCAPE ARCHITECTURE:

"Modern Problems in Garden Design"—Thos. D. Church, M. L. A.

"Ethics of the American Society of Landscape Architects"—Howard Gilkey, L. A.

CO-OPERATION IN THE ALLIED ARTS:

"Co-operation in the Allied Arts"—Spencer Mackey, Executive director of California School of Fine Arts.

"Architectural Sculpture"—With special reference to Ransohoffs—Edgar Walter.

"Wall Decoration"—With special reference to Murals—Paper by Maynard Dixon. To Sgraffito and Fresco—Simeon Pelenc.

"Interiors"—John Quinn.

"Metal Work"—Harry Dixon.

"Ceramics"—Stanton Willard. —J. H. M.

PERSONALS

Announcement is made that S. R. BURNS has retired from the firm of Hunt & Burns, architects, of Los Angeles. The practice will be continued by Sumner P. Hunt, under his own name, at the same address, seventh floor, Laughlin Building, Los Angeles.

WILLIAM MOOSER COMPANY, architects, announce the removal of their offices from the Nevada Bank Building to the Foxcroft Building, 68 Post Street, San Francisco.

JOHN STAFFORD WHITE, architect, has moved to to 521 Irving Avenue, Glendale, California.

HERBERT A. SCHMIDT

Herbert A. Schmidt, 43, architect, died suddenly while attending the annual dinner of the Bohemian Club in San Francisco.

Mr. Schmidt was born in Alameda and was the son of A. H. Schmidt, an official of the San Francisco Savings Bank. He was a student at the University of California and graduated in architecture from the University of Pennsylvania.

COMPETITIONS

TWO SCHOLARSHIPS

Two scholarships of four hundred dollars each are offered in the academic year 1930-31 for special students in the third or fourth year of the course in Architecture at the Massachusetts Institute of Technology. They will be awarded as the result of a competition in design under the direction of the Committee on Design in the Department of Architecture.

The competition is open to citizens of the United States of good character, who are between twenty-one and twenty-eight years of age, and who have had at least three years of office experience.

The competition will be held from May 17 to May 26.

Applications should be received on or before April 14, addressed to Professor William Emerson, 491 Boylston Street, Boston, Mass.

A. W. BROWN SCHOLARSHIP

Announcement is made of the third competition for the selection of a beneficiary for the A. W. Brown Travelling Scholarship, this competition to be held under the direction of a committee of the American Institute of Architects. Programs will be mailed to approved applicants about March 14th, drawings to be delivered a month later.

This Scholarship is the gift of Ludowici-Celadon Company and is a memorial to the late A. W. Brown, who was for many years president of that company.

Those wishing to compete should write for application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York.

ARCHITECTS AND SALESMEN

Architects are usually busy men. They have no time to waste. The salesman who comes to sell and remains to visit, makes a mistake unless the architect plainly indicates that he wants to visit. Perhaps an architect may accept a situation thus thrust upon him. But it is no indication that he relishes it. When the visitor is gone the architect may think regretfully of the neglected work awaiting him, and may register a silent vow to communicate with a competing sales organization when in need of that type of material or equipment.

The salesman who visits an architect should have a new idea, something worth while, for presentation when possible. Successful architects are successful because they are receptive to new ideas while retaining the best old ones. The salesman who calls on an architect is much more welcome if he can convey information of value.

Incidentally, architects who close their eyes and ears to new ideas are not apt to create a very big ripple in the architectural world. It is said of Theodore Roosevelt that he was an adept in drawing ideas from men. He talked to all classes and types from professional pugilists to world-famed scientists. He drew from each man's store of knowledge. He discarded the husks and retained the grain of valuable information. But Theodore Roosevelt had no time or inclination for idle chatter. He was wonderfully receptive to information on a myriad subjects from whatsoever sources he could gather it. But he denied himself to bores. Therein lay much of the secret of Theodore Roosevelt's wonderful versatility. He opened the doors to the man who had knowledge to impart. He closed the doors to banality.

The salesman who has only banalities to offer his fellow men is at best an order-taker, not a salesman. On the other hand, the architect who denies himself to salesmen who have valuable information to impart is narrowing his horizon and lessening his value to his clients.—*Improvement Bulletin.*

GREAT WESTERN EXPANSION PROGRAM

Expenditures for electrical service in Northern California and the San Francisco Bay district, amounting to $10,474,109, are to be made by the Great Western Power Company during 1930, according to A. Emory Wishon, vice president and general manager of the company. Construction of new facilities calls for the investment of $7,007,036. Operating expenses, including taxes, are estimated to amount to $3,467,073.

Additions and improvements to the transmission and distribution systems are the principal features of the construction program for this year. New substation capacity is to be added in San Francisco, Hayward and Sacramento.

Providing for the building of a new substation, a switching station at Moraga, and several transmission and distribution lines, the Hayward Substation project on which work was started during the past month, is the largest single item of the construction budget. Approximately $1,500,000 is to be invested in this work.

Additional service capacity for the business district of San Francisco is to be provided with the building of a two-story annex to Bush Street substation, doubling the present installation. This work will cost about $500,000. Weeks and Day are the architects.

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AMMONIA AND CARBON DIOXIDE COMPRESSORS, COLD STORAGE FOR HOTELS, HOSPITALS, ETC.
Edwards Ice Machine & Supply Co., Oakland, Seattle and Portland.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

BATHROOM ACCESSORIES
The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 654 Second St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 637 Minna St., San Francisco.
Kewanee Water Supply System. Simonds Machinery Co., 816 Folsom St., San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Calif.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way. Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.

BUILDING MATERIALS
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CARPETS AND RUGS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

CEMENT
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif.
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny St., San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma St., San Francisco.
Cannon & Co., Sacramento, Calif.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle, 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
United Materials Co., Sharon Bldg., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

CONCRETE CURING AND PROTECTION
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Bldg., San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire-Spencer Steel Corporation, 144 Townsend St., San Francisco.
National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco; 1358 Wholesale Street, Los Angeles; Seattle and Portland.

CONSERVATORIES
Lord & Burnham Co., Irvington, N. Y., and 208 So. LaSalle St., Chicago, Ill.

CONTRACTORS—GENERAL
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison St., San Francisco.
Lindgren & Swinerton, Inc., Standard Oil Building, San Francisco.
R. W. Littlefield, 337 17th St., Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLaren & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant St., San Francisco.
Anderson & Ringrose, 320 Market St., San Francisco.
G. P. W. Jensen, 320 Market St., San Francisco.
G. W. Williams Co., 1404 Broadway, Burlingame, Calif.
The Dyer Construction Company, 1924 Broadway, Oakland.

CORK TILE
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton, Calif., and Spokane, Wash.

DAMP-PROOFING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

DAMP-PROOFING AND WATER-PROOFING
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.

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The Condor Company, 58 Sutter St., San Francisco.

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Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented by Gunn, Carle & Co., 444 Market St. San Francisco.

DOORS—FREIGHT ELAVATOR
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 16th St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y. Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear rolling steel doors, sold by Gunn, Carle & Co., 444 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

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D. N. & E. Walter & Co., 562 Mission St., San Francisco.

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A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

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Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.

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DUMB WAITERS

Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.

ELECTRICAL CONTRACTORS

Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
H. C. Reed & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL

Hunter & Hudson, 41 Sutter St., San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS

Majestic Electric Appliance Company, 590 Folsom St., San Francisco.
Sandoval Sales Company, 557 Market St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

ELECTRIC REFRIGERATION

General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor; Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.

ELECTRICAL SUPPLIES and EQUIPMENT

The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco.
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall St., Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS

Northern Street Lighting Company 389 Clementina St., San Francisco.

ELEVATOR ENTRANCE DOORS

Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT

Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco, general offices and works, East Pittsburgh, Pa.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

ELEVATOR SIGNALS, DOOR EQUIPMENT

Elevator Supplies Co., Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco.
The Peelle Co., Brooklyn, N. Y.; represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

ENAMELS

Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES

Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FAIENCE TILE

The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

FENCES WIRE AND IRON

Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUISHING APPARATUS

"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE DETECTING APPARATUS

"Derby" and "Selex" Systems; represented by Hough and Egbert, Inc., 519 Robert Dollar Bldg., San Francisco.

FIRE ESCAPES

Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC

Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.

Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.

Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Oakland, Los Angeles, Portland and Seattle.

FLOORS—REDWOOD BLOCK

Redwood Block Floor Company, Bryant at 18th St., San Francisco.

FLOOR CLIPS

Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD

Inlaid Floor Company, 600 Alameda St., San

FLOOR TILE

The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS

The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth St., San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER

The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan St., San Francisco.
Mullen Mfg. Co., 64 Rausch St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS

Spivock & Spivock, Hobart Bldg., San Francisco.
Young & Horstmeyer, 461 Market St., San Francisco.

GLASS

Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND

Del Monte white sand, Del Monte Properties Co., Crocker Building, San Francisco.

GREENHOUSES

Lord & Burnham Co., Irvington, N. Y., and 208 S. La Salle St., Chicago, Ill.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.

Ellery Arms Co., 583 Market St., San Francisco.

HARDWARE

Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Sargent Hardware distributed by E. M. Hendley, 662 Mission St., San Francisco.

HARDWOOD LUMBER

G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th St., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco; 500 High St., Oakland.

HEATING—COAL FURNACE

Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC,

Apex Air and Water Electric Heaters, Sandoval Sales Company, 557 Market St., San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Sts., Oakland.
Wesix electric air heaters, manufactured and distributed by Wesix, Inc., 390 First St., San Francisco.

HEATING—STEAM

Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS

Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.

HEATING EQUIPMENT

E. A. Cornely, Inc., 1452 Bush St., San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

HOLLOW BUILDING TILE (Burned Clay)

Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma St., San Francisco; works, West Alameda, Calif.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOME BUILDERS

G. W. Williams Co., 1404 Broadway, Burlingame, Calif.

HOSE

The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS

American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS

Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

ICE RINK CONSTRUCTION

The Dyer Construction Company, 1924 Broadway, Oakland.

INCINERATORS

The Goder, sold by M. E. Hammond, 557 Market St., San Francisco.
Kewanee Boiler Co., 637 Minna St., San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT

Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS

Robert W. Hunt Co., 251 Kearny St., San Francisco.

INSULATION

"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, and 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.
"Torfoleum," distributed by Mailliard & Schmiedell, 203 California St., San Francisco.
Ric-wil distributed by H. G. Sperry Co., 74 New Montgomery St., San Francisco.

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INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

INTERIOR DECORATORS
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana; San Francisco office, 765 Mission Street.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.
"Nitrolac" manufactured by R. N. Nason & Co., 151 Potrero Ave., San Francisco.

LANDSCAPE ARCHITECTS
Neal T. Childs, Menlo Park, California.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.
"Steeltex" manufactured by National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco. 1358 Wholesale Street, Los Angeles; Seattle and Portland.

LAUNDRY MACHINERY AND EQUIPMENT
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 3307 Wilshire Boulevard, Los Angeles.
Bonded Floors—Sealex Linoleum and Tile manufactured by Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco; Broadway Department Store, Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York, also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves. and Spencer Street, Oakland.
E. K. Wood Lumber Co., Frederick and King Streets, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OBJECTS OF ART
S. & G. Gump Company, 246 Post St., San Francisco, and Honolulu, T. H.

OIL BURNERS
Rayfield Oil Burner, Coast Distributors, E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
Ray Burner Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
California Hydro-Oil Burner, Inc., 1714 Sixteenth Street, Oakland.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron and Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.
D. Zelinsky & Sons, Inc., 165 Grove St., San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
R. N. Nason & Co., 151 Potrero Ave., San Francisco.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PENCILS AND ERASERS
A. W. Faber Company, Newark, N. J., represented by Cahen, Davis & Company, 313 Severance Bldg., Los Angeles, Calif.

PIPE—WROUGHT IRON
Reading Iron Co., Reading, Pa., and Balbos Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 248 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Tay-Holbrook, Inc., 165 8th Street, San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.
Walworth Company, Boston, Mass., San Francisco office, 235 Second Street.

PLYWOOD
Port Orford Cedar Products Co., Marshfield, Oregon, represented by Dent & Russell, Inc., Porter Bldg., Portland, Oregon.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 5220 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.
McCray Refrigerator Sales Corp., Kendalville, Indiana;; San Francisco office, 765 Mission Street.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; show room, 55 New Montgomery Street, San Francisco.
"Malthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland and Seattle.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., Rialto Bldg., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
"Torfoleum" Insulation distributed by Mailliard & Schmiedell. 203 California St., San Francisco.
Pioneer Paper Co., 5500 South Alameda, Los Angeles; Hearst Bldg., San Francisco; offices in Portland, Seattle, Salt Lake City, Spokane and Denver.

RUGS AND CARPETS—IMPORTED
Kent-Costikyan, Inc., 485 Fifth Ave., New York City, with offices at 442 Post St., San Francisco and 816 South Figueroa St., Los Angeles.

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W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Price-Teltz Company, 683 Howard St., San Francisco.
Gunn, Carle & Co., 444 Market St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 604 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

SLUDGE BED GLASS-OVERS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

STEEL FABRIC
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.
National Steel Fabric Co., Pittsburgh, Pa.; 351 Bryant Street, San Francisco; 1358 Wholesale Street, Los Angeles; Seattle and Portland.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Gunn, Carle & Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.
W. S. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethlehem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco, shops, San Francisco and Oakland.
McClintic-Marshall Company, 2050 Bryant Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.
Consolidated Steel Corporation, 1200 N. Main St., Los Angeles.

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and Crocker First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SUN TAN ROOMS
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWIMMING POOL GLASS ENCLOSURES
Lord & Burnham Co., Irvington, N. Y., and 208 So. La Salle St., Chicago, Ill.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., Crocker First Nat. Bank Bldg., San Francisco; general offices and works East Pittsburgh, Pa.

TELEPHONE SERVICE ARRANGEMENTS
All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.

THERMOSTATS FOR HEAT REGULATION
Johnson Service Company, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.
Gladding-McBean & Co., San Francisco, Los Angeles, Portland and Seattle.

TILE—ENAMEL STEEL
Porstelain Tile Co., 66 Twelfth Street near Market, San Francisco, and 1410 Madison Street, Oakland.

TILE—RUBBER, CLAY, CORK, ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Nilee; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.
Armstrong Cork Tile, sold by Van Fleet-Freear Co., 557 Howard Street, San Francisco; 3307 Wilshire Boulevard, Los Angeles.
The Mosaic Tile Co., Zanesville, Ohio; West Coast offices: E. K. Porter, 568 - 7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

UNDERGROUND CONDUIT
Ric-wil distributed by H. G. Sperry Co., 74 New Montgomery St., San Francisco.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VACUUM HEATING SYSTEM
C. A. Dunham Company, Dunham Bldg., 450 Ohio St., Chicago, and principal Coast cities.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
R. N. Nason & Co., 151 Potrero Ave., San Francisco.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATER HEATERS—GAS
Pittsburg Water Heater Company, (gas), 478 Sutter Street, San Francisco.
Rund Heater Co., (gas), 245 Mason Street, San Francisco.

WALL BEDS, SEATS, ETC. (See Beds),

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WALL BEDS
Rip Van Winkle Wall Bed Co., 51 Second St., San Francisco, and 792 22nd St., Oakland.

WALL TILE
The Mosaic Tile Co., Zanesville, Ohio; West Coast Offices: E. K. Porter, 568-7th St., San Francisco; O. M. Bendure, 2470 Enterprise St., Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.
Gunn, Carle & Co., 444 Market St., San Francisco.
The Sisalkraft Company, 205 W. Wacker Drive, Chicago, Ill.; 55 New Montgomery St., San Francisco and Hammond Lumber Co., Los Angeles.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System — Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCracken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, Crocker First National Bank Bldg., San Francisco; general offices and works, East Pittsburgh, Pa.

HOLLYWOOD GETS BUSY

(From *The Lintel*)

The Los Angeles Architectural Club,
816 W. 5th Street, Los Angeles, Cal.

Dear Sirs:

"The Architects League of Hollywood" wishes to call your attention to a page in the Ladies Home Journal, concerning which it has this day passed a resolution providing for the writing of a letter to the editor of said Journal setting forth a protest, or rather a criticism. The page is (43) of the January, 1930, issue, and deals with a plan service carried on by said Journal.

Full plans and specifications of small homes are advertised for sale for the sum of one dollar, but no explanation is given as to what instruments are to be furnished. The "Architects League" feels that such advertising is in direct opposition to the present and future attempts of all architects to educate the public as to the value of the architect's services. Disregarding the fact that there can be little value to a dollar's worth of plans and specifications the publicity attending such widespread advertising will definitely cheapen the architect in the public mind and entirely negative such useful publicity as has been placed by our "State Association," by radio broadcast, and numerous other mediums.

This letter calling attention to what we consider to be an important matter of widespread consequence, is sent with the idea that the matter be brought up for discussion and possible action taken to express your views on the matter.

Very truly yours,
The Architects League of Hollywood
By V. B. McClurg, Sec'y.

Copies to:
State Association of California Architects.
Long Beach Architectural Club.
Pasadena Architectural Club.
Architects League of New Jersey.

Copy of Letter Sent to L. H. J.

Editor, Lorene A. Schuler,
The Ladies Home Journal,
Independence Square,
Philadelphia, Pa.

Dear Sir:

"The Architects League of Hollywood" acting as a body in regular meeting of January, 1930, discussed thoroughly page 43 of the January, 1930, edition of your periodical, devoted to small house plans for sale for one dollar.

This aforementioned page clearly set forth the fact that this particular small plan service, or bureau, was operated and sponsored by the "Ladies Home Journal," which definitely agrees to furnish complete plans and specifications of small houses, a few of which were pictured upon the page under discussion.

Several distinct phases of thought suggested themselves, both practical and ethical. On the former side the question arose as to what sort of working drawing could be furnished for one dollar for the actual construction of one of the houses pictured. Since it is the daily task of the architect to create plans, details, and specifications, from which structures are actually built and to pay out money for the preparation of such highly technical documents as designate the design, workmanship and materials which go into the buildings, it is difficult to imagine an adequate substitute for one dollar.

But far more important is the ethical side, the working in a publicity line directly opposite to that which the professionally trained architect is striving to put before the public, namely to educate as to the value of the architect's services.

While it is perfectly true that the practicing architect derives little of his business from the builder of small homes, nevertheless the broadcasting of cheap plans, which in reality are expensive for the results they obtain, is a menace to the profession of the architect, a profession old in years, and dignified in practice. Like the brother professions of medicine and law, efficiency is gained only through years of education and practice, yet many people who would hesitate considerably before employing a so-called quack doctor or lawyer, yet give little thought to spending their money for the services of a cut-rate practitioner in architecture. It is this problem that the architectural profession is up against and is seeking to remedy by its education of the public, through group advertising, to the actual value of the architect's services.

There are absolutely no personal reflections intended in the foregoing remarks, as the writer or no other member of the organization has seen the products advertised for sale. We simply deplore the creation of publicity which even inadvertently cheapens the services of the architect in the minds of the public and which is working absolutely at variance to our own earnest efforts at education. All expressed surprise that a periodical of such long standing prestige as your own should chance the antagonism of such a considerable body of persons as constitute the architectural profession with so little to be gained in return.

The "League" would be pleased to hear your side of the question if you will be so kind as to give it. We realize that there are different angles to all endeavors and shall remain open-minded for enlightenment upon this one, but we do wish to voice our opinion that the public would be better serviced by the trained architect even in the small house field as the winners of recent small house competitions were all established architects. We do consider the page in question a trifle misleading to the public in that it gives very little idea of what is to be expected in the way of plans and specifications from which to erect a building. We are also in considerable doubt as to the acceptance by our own and many other building departments of a dollar's worth of plans and specifications for perusal and check for the issuance of a building permit. We do not believe that there has been any deliberate intent to mislead the public, but we question the practical value of such a plan service and definitely regard with disfavor the cheapening of our profession in the mind of the public.

Trusting that at some future time you may see fit to publish an article setting forth our side of the question and assuring you of our heartiest co-operation along the line of architectural endeavor.

Enclosed find our check for $1.00, for which please send us a copy of plan No. 302, as advertised.

Very truly yours,
The Architects League of Hollywood
By V. B. McCLURG, Sec'y.

BOOK ILLUSTRATES SMALL HOMES

American prosperity since the war has been responsible for the most phenomenal growth in home building that the construction industry has ever seen. The work of erecting small homes has increased by leaps and bounds. Much of this development has been well done, and a new level of beauty, comfort and economy in domestic architecture has been attained. But some of it, also, has been poor in taste, and bad in construction, due to lack of sound professional guidance.

How to improve the quality of house architecture has been for some time the special concern of the Architects' Small House Service Bureau—a co-operative organization affiliated with the American Institute of Architects. It was formed in order to give professional aid to those who felt they could not afford a private architect, as well as to help architects doing home planning work, and builders wanting good house plans.

One valuable result of the work of the Bureau is now available in a beautiful and fully illustrated volume titled, "Small Homes of Architectural Distinction," which contains plans for 250 homes of from three to six rooms, designed for construction at prices ranging from $3000 to $10,000.

SAN MATEO ARCHITECTS BUSY

Messrs. Grimes and Schoening, 235-3rd Street, San Mateo, have completed plans for an eight-room house at Hillsborough Park for A. M. Schulte, 459 Carnell Avenue, San Mateo. The house will cost $15,000. The same architects have completed plans for a $9000 house for R. V. McIntosh of Palo Alto and an $8500 house for Mrs. A. Giraudo. A contract for the latter has been let to G. Soward, Peninsula Manor, San Mateo County.

IN H. C. BAUMANN'S OFFICE

New work in the office of H. C. Baumann, architect of San Francisco, includes a six story steel frame and concrete apartment house on Clay Street, San Francisco, for A. J. Falvey and estimated to cost $175,000, and a five story reinforced concrete apartment building on Sacramento Street, near Gough, San Francisco, for Lewis Stoff. The improvements will cost $100,000.

DESIGNING SCHOOL BUILDINGS

Two new school buildings are being designed by Norman R. Coulter, architect of San Francisco. One is at Mendicino City and the other at Fortuna, Humboldt County.

CONVENTIONS AND EXHIBITIONS

March 20-24—Pacific Coast Hardwood Dealers Association, Del Monte, California.

March 31-April 5th—Twelfth Annual Home Show, Grand Central Palace, New York City.

March-April—International Exhibition of Housing and Modern Industrial Applied Arts. Nice, France.

April 2-June 1—Students' Architectural Exhibition, State Building, Exposition Park, Los Angeles.

April 15-May 10—Third Annual Decorative Art Exhibition, Women's City Club, 465 Post street, San Francisco.

May 20-October 1—Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.

May 21-23—American Institute of Architects, sixty-third convention, Mayflower Hotel, Washington, D. C.

May 26-30—International Congress of Building and Public Works, London.

June 19-30—Pan-American Congress of Architects, Rio de Janeiro, Brazil.

September—International Architects' Congress, Budapest, Hungary.

October—Third annual meeting California State Society of Architects, Del Monte and Monterey, California.

FORM INTERNATIONAL FEDERATIONS

Emil Brisacher, president of Emil Brisacher & Staff, national advertising agency of San Francisco, Los Angeles and Portland, recently announced the formation of international federations. He states that the rapid growth of Pacific Coast institutions, both in the national and international field, has made this federation essential for the proper servicing of their clients.

Emil Brisacher & Staff is now federated with the Wm. H. Rankin Co., advertising agency of New York City and Chicago, and with G. Street & Co., Ltd., of London and Paris. An international service is rendered to all clients supervised by vice presidents of Emil Brisacher & Staff, located in Chicago, New York, London and Paris, who can profit by the pooling of the personnel of all three agencies.

The Wm. H. Rankin Co. has been established for thirty-one years, and is one of the leading eastern agencies, handling such accounts as Univent Radiators, Weatherwood Wall Board, Bright Star Batteries, Maple Flooring Association and Kitchen Maid Kitchen Cabinets.

Clients of Emil Brisacher & Staff now have their advertising supervised locally at the important international and national cities and can profit by the intimate knowledge of local conditions which will add materially to the efficiency of their advertising.

NEW ELEVATOR INSTALLATION

Extreme simplicity, combined with all the newest features of the elevator art, are incorporated in the three high speed elevators with General Electric control installed in the San Francisco Stock Exchange Building. Although pioneers on the Pacific Coast these elevators are of a type to be found in many of the largest buildings of our Eastern cities. Among features which contribute to safety and comfort of the passengers and to the speedy handling of the traffic of the building are: Regulated acceleration and speed, pre-register call system and pliotron tube leveling.

AUTOMATIC, PLIOTRON-TUBE, ELEVATOR-CAR-LEVELING UNIT

The most fascinating element of the control is the pliotron tube leveling device,. illustrated above. This device "savoring of the romantic age of radio," for a number of years has been used on what is called automatic train control. By this system, and as now applied to the elevator car, the pliotron tube, termed the eyes of the locomotive, causes the proper devices to function and slow down and stop the train. So in the elevator these rugged little tubes mounted in a device whose projecting arms sweep by signal vanes in the elevator shaft cause the car to slow down, level and stop with more than human accuracy. It becomes even more interesting when it is realized that no mechanical contact of any kind is made with the signal vanes; the pliotron device may be said to only glance at the signal. The vanes passing through the arms of the pliotron unit alter the resonant conditions of the tube thus changing the tube circuit to properly operate the necessary control relays.

Pre-register features and automatic dispatch insure speedy response to calls by the operator and a uniform dispatching of cars. Any and all of the automatic features can be used or not by the operator to meet special emergency conditions.

STOCK EXCHANGE CLUB

Miller and Pflueger, architects of San Francisco, have completed plans for elaborate quarters for the Stock Exchange Lunch Club on the top floor of the new Stock Exchange Building, San Francisco. More than $200,000 will be expended in fittings and furnishings.

BUILDING CONDITIONS IN CHICAGO

(*Bulletin,* Illinois Society of Architects)

October last the bubble burst with the result that money is now turning to sounder channels and as real estate and building offer a higher degree of stability it is but natural that the financial world should again look upon real estate mortgages with high favor.

With the new year only a few weeks old figures for 1929 have been collected and they show average per capita building construction expenditures of $52.08, as compared to $60.60 in 1928, $59.86 in 1927, $64.28 in 1926 and $65.77 (the peak) in 1925. In fact, 1929 averaged only a little higher than 1923 and below 1924.

This general four-year decline has not been confined to any locality, but has been country wide in its effects and business generally has suffered, for the construction industry is the backbone of business and when it is prosperous it is noticeable that other lines likewise enjoy prosperity.

During October and well into November the public saw the futility of expecting speculation and high money rates to be maintained to the detriment of business in general. Millions of dollars that changed hands in the fluctuations of the stock market might just as well have been invested in sound securities with the backing of real estate and buildings to insure a legitimate income, and it will be interesting to keep account of developments when the public, now looking more or less askance at any form of investment, turns to mortgage bonds, to home building and to other sound investments with little or no speculative attraction.

Money long withheld in the high speculative market will begin to find outlets and will return to fields of sound investments. The immediate reaction should favor the home builder and land developer, for the latter must of necessity have larger blocks of loans under systematized methods of financing that the smaller borrower will not meet up with. Mortgage money that has been tight for more than a year will begin to reappear as it is released from speculation and the entire country will benefit, the construction industry being about the first group to feel the change.

While there may be no immediate improvement in the building activity of the country, at least none that will be outstanding, it is generally agreed that money will be more plentiful for legitimate loans, that large banks, trust companies and insurance companies will begin to turn to the mortgage field for an outlet for surpluses in their treasuries. Within four or five months this abundant money condition will become manifest to a marked degree. Some over-optimistic observers predict a quickening in the building field almost immediately, but this hardly seems possible in view of the present conservatism that may continue for some time.

AN INTERVIEW ON AMERICAN ARCHITECTURE

A young London architect named Alister G. MacDonald landed in Gotham the other day. In the canyons of lower Broadway, he looked up eagerly at the tall buildings. He was not expecting the shower of ticker tape that had greeted his father and sister a few months before; he was studying American skyscrapers.

In fact, instead of staying at a swank New York hotel, he moved over to the Henry Street Settlement House on the tawdry East Side. There he was the guest of Miss Lillian Wald, prominent social worker, who extensively entertained his father and sister during their recent American visit.

In London he is what he styles a "practicing architect," has built several factories, a welfare center in Edinburgh, and has commissions to build some motion picture studios.

Hollywood studios will be objects of special attention from him, for he expects to learn much from American designs.

"America is the place to study new trends in architecture," he said, "because they are developing so rapidly here. Conservative England has so many traditions that it takes a long time to adopt new styles.

"I think England never will become a nation of skyscrapers. The people would resent them. Even the American people should call a halt on the height of their buildings, or they will face an unpleasant socialogical problem.

"After all, we are human beings, not ants. There is a limit to the jamming and packing we can and will stand. It gives me a distinctly unpleasant sensation to step out into the street and be in a cavern of stone and brick. I don't believe it is a natural development." — M. S. A. Bulletin.

NEW FAIRFIELD SCHOOL

Until 2 P. M., March 18th, bids will be received by Armijo Union High School District at Fairfield, for construction of a two-story reinforced concrete high school building at Fairfield, Solano County, from plans by Coffman, Sahlberg & Stafford, Forum Building, Sacramento. The estimated cost is $160,000. Bids are being taken for concrete, carpentry and masonry; plumbing; heating; electric work; sheet metal work, roofing; glass and plastering.

ARCHITECTS MOVE

Messrs. Clarence R. Ward and Harry Blohme, architects, announce the removal of their offices from 310 Sansome Street to 24 California Street, San Francisco.

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(Organized 1857)

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NEWTON, H. C.	502
NOMLAND, Kemper	615
PARKER, Llewellyn A.	804
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SIMPSON CONT. COMPANY	1007
SMITH, D. D.	516
SMITH, Glen Elwood	1210
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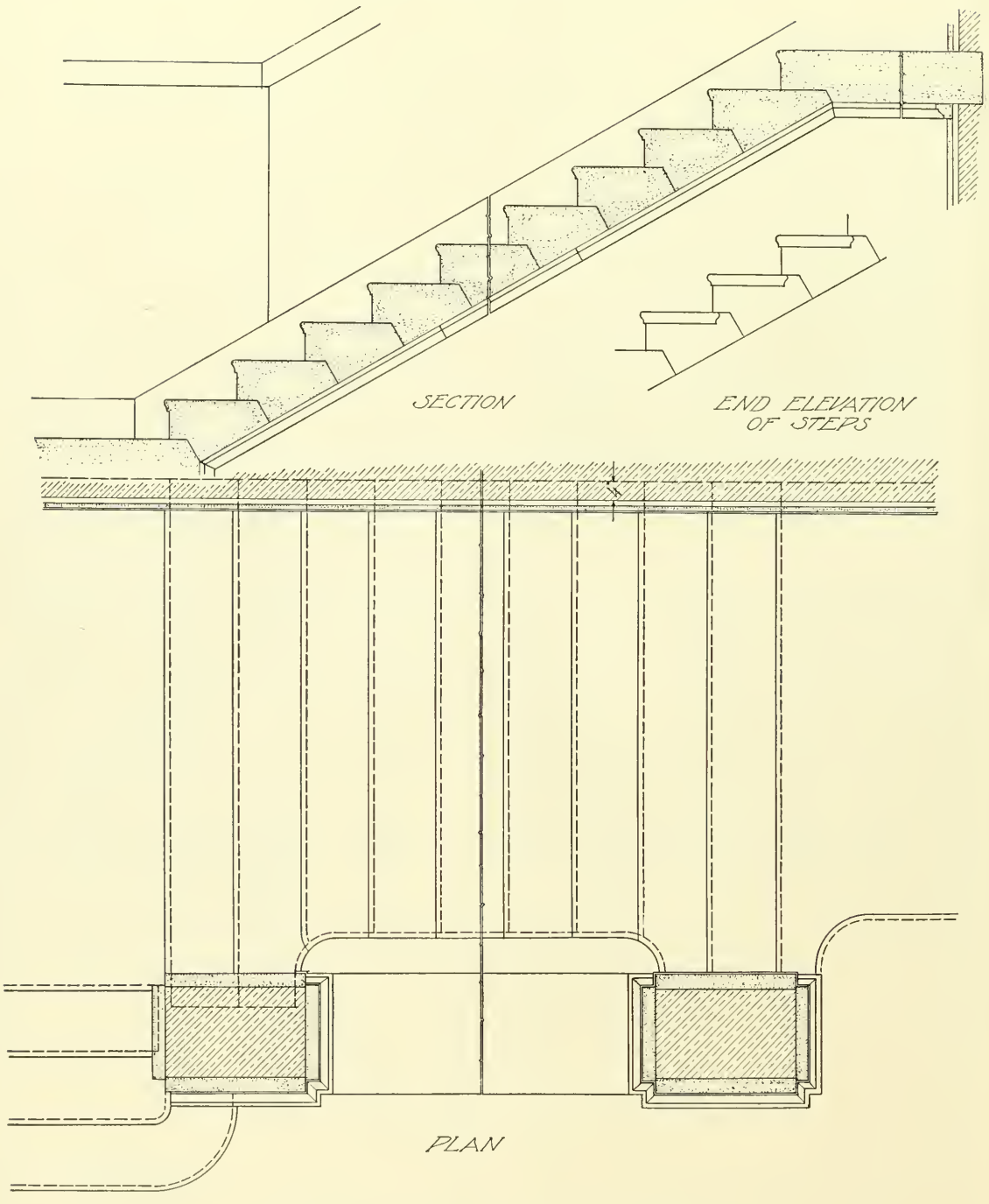
STAUNTON, Wm. S. Jr.	806
WATSON, L. F.	903
WHARTON, Heth	802
WINSLOW, C. M.	1001
WITMER, David J.	903
WOOLLETT, Wm. Lee	802



Courtesy Vermont Marble Company

DETAIL FOR SELF-SUPPORTING MARBLE STAIRS

Built About 1670
For the Famed Captain Eaton

FAMED Cap'n. Horatio Eaton built this Connecticut house about 1670. A decade ago it came into the possession of one who planned to demolish it as soon as his dream house on the hill was designed and built. Meanwhile he restored the old one somewhat and moved in.

He found in this sturdy old house a tranquilness. A simple comfort such as he had never known. To exercise his hobby of growing things under glass he built a greenhouse, about 18'x40', utilizing an ancient tool house for the workroom, and lining it up with the pergola.

Needless to add that the new house on the hill has never been built. And never will be.

It will soon be four score years since Lord & Burnham Co. first started building glass gardens.

Here's a happy combination of a Sunning Room and a Plunge. It's the Swimming Pool in sort of a Junior form.

New York
Albany
Philadelphia
St. Catharines

Chicago
Boston
Buffalo

Lord & Burnham Co.
IRVINGTON, N. Y.

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Denver
Detroit

St. Louis
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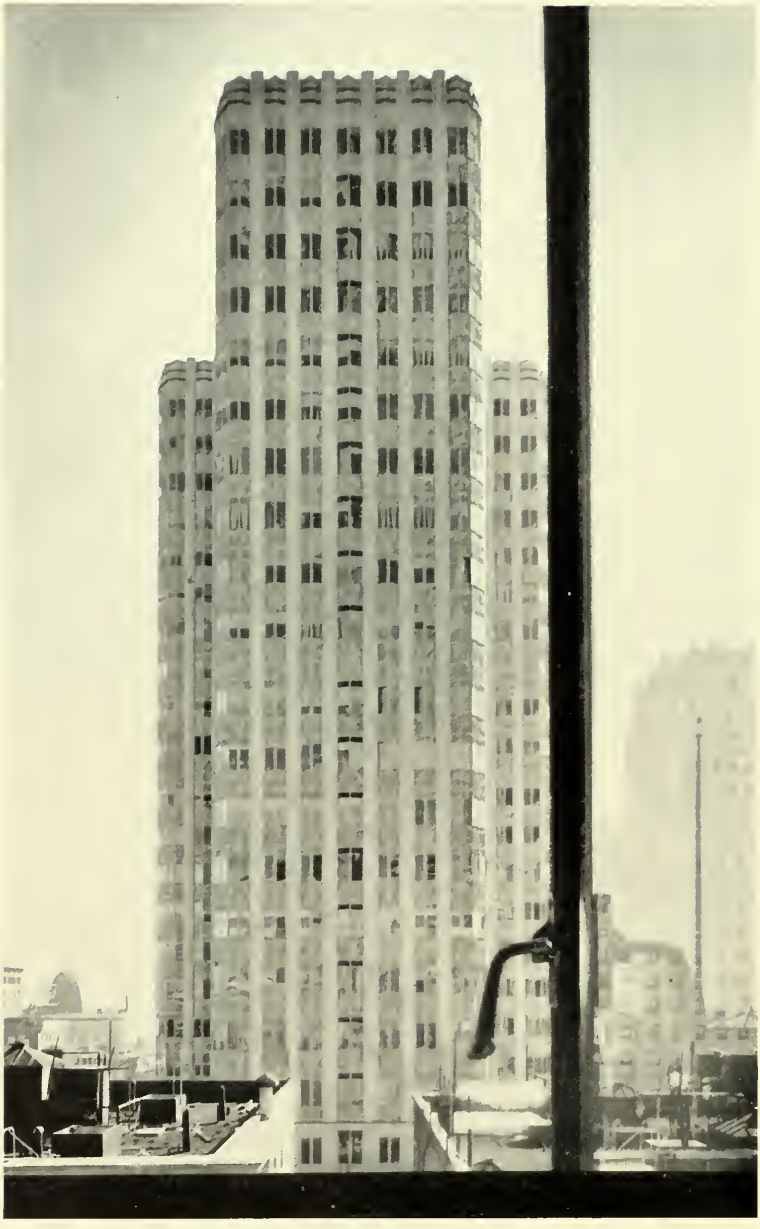
Montreal
Toronto

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES



ONE OF MANY INTERESTING VIEWS OF FOUR-FIFTY SUTTER STREET BUILDING TO BE SHOWN IN THE ARCHITECT AND ENGINEER FOR APRIL, 1930

Classic ornament in
TERRA COTTA
lives anew because of
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No SMOKE

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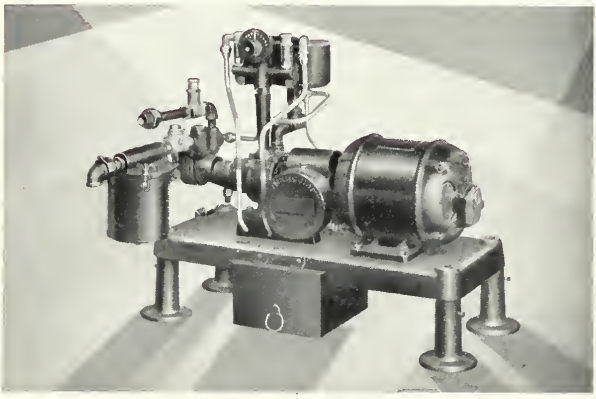

No CARBON

No ODOR

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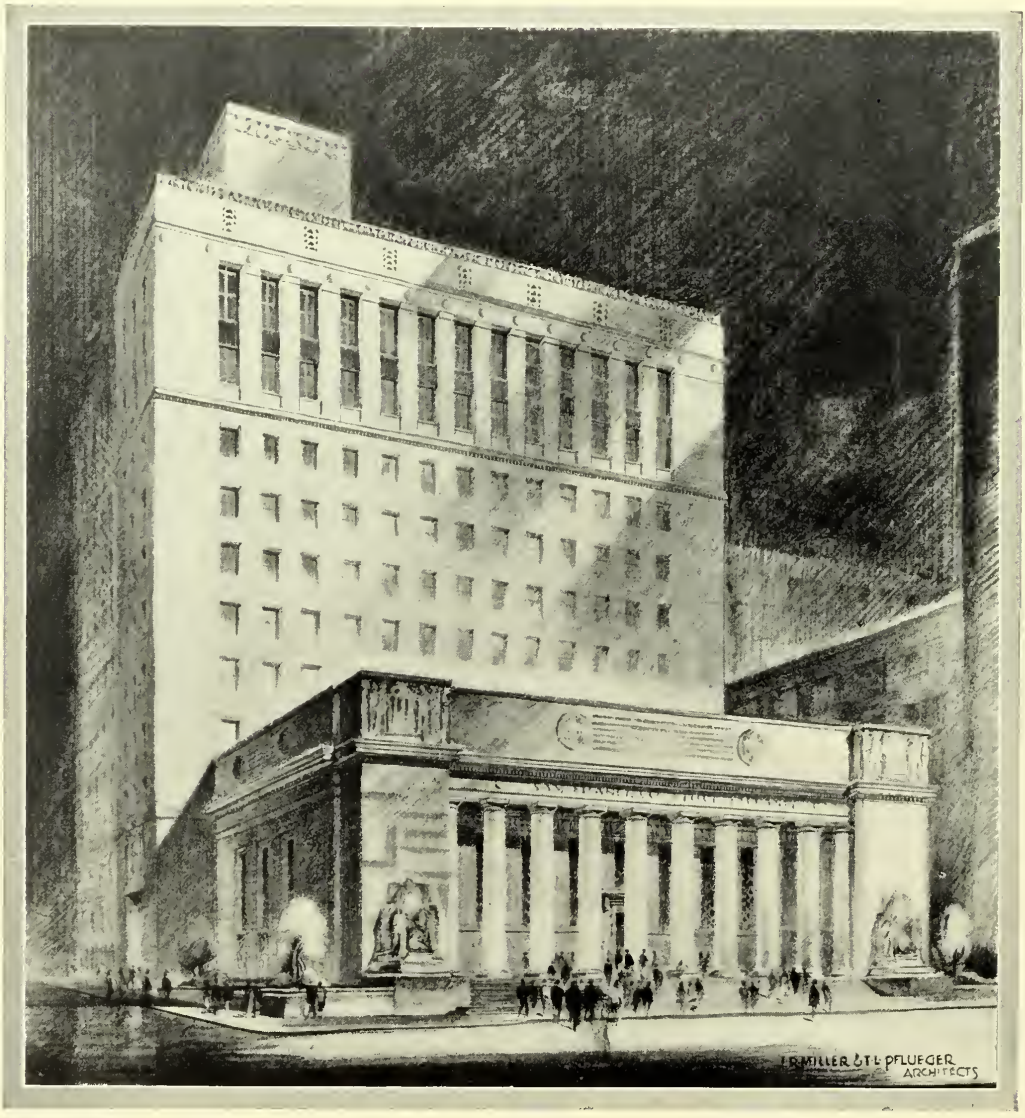
14 - 16th Street,

akland



There is an interesting history to the new San Francisco Stock Exchange Building : : : An architectural competition had resulted in plans for an unusual building of modern type, when it was decided to buy the old United States Sub-Treasury, a massive one-story granite structure, remodel it, and add an office wing : : : The architects, J. R. Miller and T. L. Pflueger, have succeeded in producing a coherent and imposing design, well-suited to its semi-public function : : : Construction and finish are of the highest character throughout : : : Lindgren & Swinerton, Inc., Builders : : : All lacquering, decorating, painting, by A. Quandt & Sons, Painters and Decorators (Since 1885) 374 Guerrero Street, San Francisco : : :

QUANDT SINCE 1885 QUALITY

THE FINANCIAL HEART OF THE WEST

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

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.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $32 to $38 per 1000 laid, (according to class of work).
Face, $90 to $115 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $ .90 sq. ft.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	255.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$108.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 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 balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

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

Lumber (prices delivered to bldg.site)
Common, $23.00 per M (average).
Common O. P. select, average, $33.00 per M.

1 x 6 No. 3—Form lumber	$20.00 per M
1 x 4 No. 1 flooring	42.00 per M
1 x 4 No. 2 flooring	40.50 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	41.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	33.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	4.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $85.00 per 1000. R. W., $87.50 per 1000 (delivered).
Double hung box window frames, average, with trim, $6.50 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.00 and up. each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 25c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $6.00 each.
Dining room cases, $7.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique .....$2.50 sq. ft.
Tennessee ..... 1.50 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 90c per gal. in cans and 75c per gal. in drums.
Raw Linseed Oil—$1.36 gal. in bbls.
Boiled Linseed Oil—$1.39 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 tou lots, 100 lbs. net weight 12¾c
500 lb. and less than 1 ton lots 12½c.
Less than 500 lb. lots 12c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 12¾c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots....14c
Less than 500 lb. lots.....14¼c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14″ long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $4.50 per 1000.
2.5-lb. metal lath (dipped) ..... .19
2.5-lb. metal lath (galvanized) ..... .22
3.4-lb. metal lath (dipped) ..... .24
3.4-lb. metal lath (galvanized) ..... .29
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft. (not

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 28c sq. ft. (not glazed).

Stone—

Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$85.00 per ton erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $82.00 per ton.

Reinforcing—

Base price for car load lots, $2.45 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 18c to 30c per square foot.
All makes, plant shipment, 18c to 30c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

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SPENCER ELEVATORS IN TAYLOR HOTEL

The Spencer Elevator Company of San Francisco made the entire elevator installation in the new twenty-six story William Taylor hotel at Leavenworth and McAllister Streets, San Francisco.

The elevator problem in a building of such magnitude naturally is given very serious consideration, and the awarding of the contract to Spencer Elevator Company is an indication of the rapid growth of the Spencer-Westinghouse product. Speaking of the installation, Franklin M. Spencer, president of the company, said:

"Spencer elevators were chosen because of their past reputation for dependability, simplicity of construction, quietness of operation and starting and stopping smoothness, all very essential necessities in hotel construction.

"While all of the mechanical equipment was designed and manufactured by the Spencer Elevator Company, the electrical equipment, consisting of the very latest type of elevator motors and controllers, was built and furnished by the nationally and internationally known Westinghouse Electric & Manufacturing Company, comprising a most modern unit which meets all of the very latest safety requirements of the State Industrial Accident Commission.

"This installation includes a total of seven elevators, consisting of three 2,500 pound capacity high speed variable voltage passenger elevators; two 2,000 pound capacity high speed variable voltage freight elevators; one 2,500 pound capacity electric service elevator and one 2,000 pound capacity hydro-electric freight elevator."

Other recent Spencer installations include the Sir Francis Drake hotel, O'Connor-Moffatt & Company's new department store, Pacific Gas & Electric Company building, and the Gaylord Hotel, San Francisco.

TRADE CATALOGS AND NEWS NOTES

HYDRO OIL BURNER—The California Hydro-Oil Burner, Inc., has moved into its new plant at 1714 Sixteenth Street, Oakland. This company is manufacturing a burner intended to answer every need for cooking ranges, warm air heat, etc. Its manufacturers say the burner has a special appeal to those who dislike smoke and odor as both of these offensive faults have been eliminated. The burner is also economically operated.

THE INVISIBLE HOME—An interesting 24 page brochure describing Johns-Manville home insulation. The book tells why insulation is necessary for a really comfortable and livable home. There are a number of good illustrations and general data on insulation.

[Please turn to Page 141]

New Sales Manager—M. F. Corin, who, for fourteen years, has been Philadelphia District Sales Manager for the Permutit Company, manufacturers of water treating equipment, has been appoined general sales manager. He will have supervision over 19 branch sales offices throughout the United States and numerous sales agencies in foreign countries.

Time Switches—"Sauter Electric Time Switches" (Bulletin B) are used to open and close main feeders for store and window lighting, and start and stop large electric signs. The Bulletin describes operation and construction. R. W. Cramer & Company, Inc., 136 Liberty St., New York City.

Nicalun For Safe Walkways—A new product has just been added to the line of anti-slip walkway surfaces by the American Abrasive Metals Company of 50 Church Street, New York City, the makers of Feralun, Bronzalun and Alumalun. This new product is called Nicalun and has for a base benedict metal with aluminum oxide incorporated in the surface at the time of casting, giving the same anti-slip surface as the other products. To those familiar with benedict metal, the bright and attractive color is likely to make an appeal for its use as elevator door sills, swing door saddles and stair treads in the highest type of buildings where architectural elegance takes precedence over cost.

Everywhere on the Coast—"Listen In" was the gist of a recent "Postalgram" mailed to every architect, engineer, building contractor and manufacturer on the Pacific Coast by the Pacific Portland Cement Company of San Francisco "and everywhere on the Coast." It was a reminder invitation of the Cement Half Hour over the National Broadcasting network, originating in New York City under the auspices of the Westinghouse Electric and Manufacturing Company, and dedicated to the Cement Industry, on February 18, at 7 p. m. It included, among symphonic selections, a 4-minute address by Frank H. Smith of the Portland Cement Association about its aims and ideals.

Massey Moves Canadian Office—The Massey Concrete Products Corp., and the Canadian Concrete Products Co., Ltd., have moved the Montreal office to Room 310 Dominion Square Building, 1010 St. Catherine Street, West.

Webster Syphon Attachments—It is generally conceded that modernization will play an outstanding part in the building industry during 1930. "Modernizing Obsolete Heating Systems with Webster Syphon Attachments" is the name of a new booklet just

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published by Warren Webster & Company, Camden, N. J. Every architect and mechanical engineer will find much valuable information in this book which will be mailed on request.

Cork Insulation — Cork insulation, used extensively in the building trades and refrigeration industry, will be manufactured in great volume at a huge new plant recently located at Wilmington, Delaware. Announcement of the $2,500,000 factory to be built on a thirteen-acre site there by The Cork Insulation Company, Inc., of New York, was made by the Chamber of Commerce of the Delaware metropolis. The company will start production from the first unit of eleven large buildings early this spring. Raw materials will be brought from Spain and Portugal by the shipload up to the Delaware River into Wilmington's new Marine Terminal, which adjoins the new cork insulation plant.

American Walnut For Interior Woodwork and Panelling.—A sixteen page brochure beautifully illustrated showing examples of walnut finish in American buildings and homes. Published by the American Walnut Manufacturers' Association, 616 South Michigan Avenue, Chicago, Ill.

INTERESTING MASONRY WALL TESTS

Editor THE ARCHITECT AND ENGINEER,
San Francisco:

Readers of THE ARCHITECT AND ENGINEER may be interested to know that the Clay Products Institute of California has undertaken a very extensive series of tests upon brick and loadbearing clay tile masonry to determine the flexural (bending) values of masonry walls. While the information is chiefly desired for determining wall thicknesses and heights in consideration of earthquake forces, it will also be of great value in other considerations such as wind pressure, retaining walls, etc. The tests will be upon various kinds of brick and loadbearing tile, some specimens wet and others dry, using various mixtures of cement-lime mortars.

Specially designed tests to determine the adhesion of various mortars to various surfaces will be made and studied, as well as volume changes in the built up masonry assemblies over a long period of time. A sufficient number of specimens are being made to permit testing at the ages of 28 days, 2 months, 6 months and 12 months.

A careful study of the results obtained from various kinds of adhesion and modulus of rupture tests which have been made by the Bureau of Standards and other testing laboratories, has convinced this Institute that these tests invariably made at two months, have been under aged and in programming the present series of tests to extend to an age of one year, it is felt that we may expect results more nearly comparable with actual wall strengths of buildings.

Some of the specimens are being loaded each day after being assembled which loading will be slowly and uniformly applied for a period of time which will simulate the condition of the first story of a four story bearing wall building while under construction until the full height of the wall is attained.

The three kinds of mortars to be used are as follows:

No. 1 Mortar, 1 cement, 1 lime putty, 6 sand.
No. 2 Mortar, 1 cement, ½ lime putty, 4½ sand.
No. 3 Mortar, 9-10 cement, 1-10 lime putty, 3 sand.

The testing is being conducted at the testing laboratories of the University of California at Berkeley under the personal direction of Raymond E. Davis, Professor of Civil Engineering, who is an eminent authority on mortars, masonry, volume changes, etc.

Yours very truly,
NORMAN W. KELCH,
Secretary-Manager.

REMOVAL NOTICE

M. E. Hammond, building specialties, announces the removal of his office to the Building Material Exhibit, 557 Market Street, San Francisco.

1930 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Craft	Journeymen Mechanics
'Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finisbers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five days, consisting of eight hours on Monday to Friday inclusive, commencing January 31, 1930, shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

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All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

EXCEPTIONS TAKEN BY INDUSTRIAL ASSOCIATION OF SAN FRANCISCO

Editor The Architect and Engineer,
San Francisco, California.

Our attention has been called to the table entitled "Estimator's Guide" appearing on pages 133 and 134 of your February, 1930, issue and including therein what purports to be the 1930 Wage Scale for San Francisco building trades mechanics.

We desire to call your attention to the fact that since 1921 the building trades wages have been established through the medium of an Impartial Wage Board and that this Board, which last met in 1928 and promulgated a scale for 1929, gave serious consideration to the matter of the five-day week and determined that, on account of the diversity of testimony at that time, no recommendation in regard to the five-day week should be made.

The Board further stated that because of the possible interference of crafts unless all were operating on the five-day week basis, it appeared to be impractical for some crafts to be operating on this basis and others to be operating on the 5½-day week basis.

At a meeting of The Builders' Exchange held on December 20, 1929, a resolution was adopted calling for the establishment of the five-day week and setting forth that work performed on Saturday morning should call for the payment of double time. Many contractors who are members of the Builders' Exchange were not present at this meeting and it was felt by these, as well as some contractors who were present at the meeting, that the action taken by the Exchange was hasty and that insufficient consideration was given to all of the factors involved in changing to the five-day week.

At the present time, investigation discloses that many contractors are operating their jobs 5½ days per week and are paying straight time for Saturday morning.

This Association has consistently taken the position that until such time as the Wage Board may alter the working conditions as established by it in relation to the five-day week, we must abide by the decision of the Impartial Wage Board.

We feel that, so long as this situation prevails and so long as contractors in San Francisco are working both on the 5-day and 5½-day week basis, the apparently authoritative data contained in your valuable publication should conform to the actual facts and not misrepresent the local situation.

Very truly yours,

INDUSTRIAL ASSOCIATION OF SAN FRANCISCO
ARTHUR E. BOYNTON,
Managing Director.

WASHINGTON STATE CHAPTER

The thirty-fifth annual meeting of Washington State Chapter adjourned from the usual date in January to take advantage of the special visit of Institute officers, was held at the Olympic Hotel, Seattle, Saturday, February 8. The proceedings began with a luncheon at which the Chapter had the pleasure of meeting the Institute officers, President C. Herrick Hammond, First Vice-President J. Monroe Hewlett and Regional Director Fred Fielding Willson of Bozeman, Montana.

After the luncheon the meeting was called to order by President Ford, who welcomed the distinguished guests, expressing a hope that they would consider themselves a part of the meeting and would favor the members with some remarks.

The minutes of the meeting in January were read and approved. The President then gave his address, which was a resume of the Chapter's activities and accomplishments during the year. Mention was made of the Chapter's efforts to assist in getting the new King County Hospital properly under way, of the work in conjunction with the Institute on the ever important subject of publicity and efforts to expedite the construction of federal buildings in Seattle with some measure of participation by local architects. The financial condition of the Chapter was favorably commented upon and the work of the Civic Design Committee especially commended. The president said he entered upon the duties of his office with some reluctance, but had found the experience interesting and thoroughly worth while.