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The Important Point of the Raymond Method Is This—

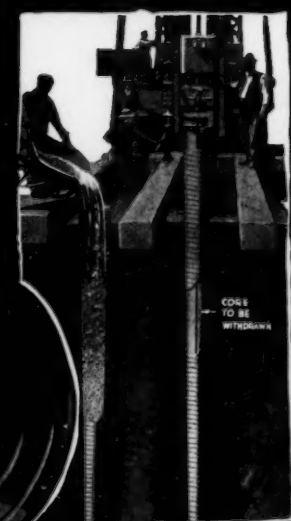
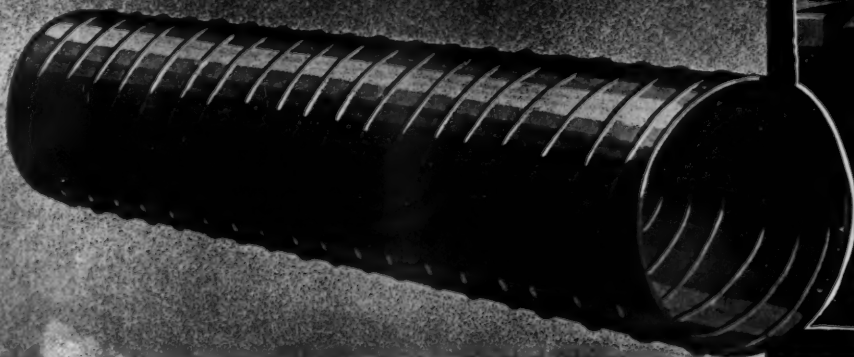
—that each and every standard Raymond Concrete Pile is cast-in-place in a spirally reinforced steel shell, the shell being left in place in the ground. Adverse underground conditions are thus powerless to distort the pile columns.

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GALLERY DETAIL OF ST. MARK'S, VENICE

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

VOL. CXVI

WEDNESDAY, AUGUST 20, 1919

NUMBER 2278



HOUSES AT GROTON PARK, GROTON, CONN.

Solving the Problem of the Low Cost House

WHAT architectural organizations have sporadically sought to do in supplying, at nominal cost, designs and plans for low cost houses, has in a most efficient manner been accomplished by the Housing Department of the Government.

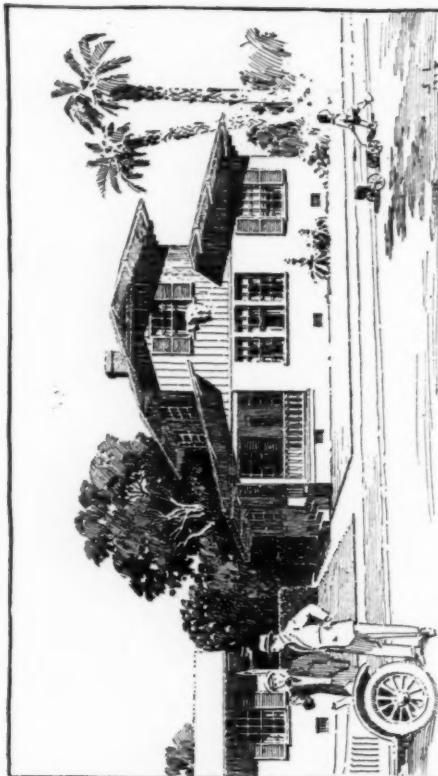
The very large and exceedingly valuable amount of information gathered during the war by its bureaus was secured mainly through the co-operation of architects attached to the various departments or by direct placing of commissions with various firms and individuals throughout the country.

Writing now specifically of the work in industrial housing undertaken by the United States

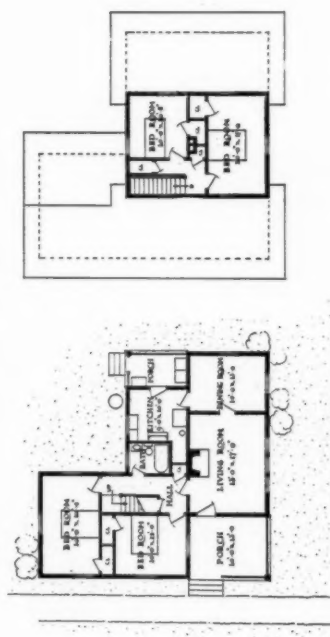
Shipping Board Emergency Fleet Corporation, Passenger Transportation and Housing Division, there has been secured and made available for general distribution an illustrated summary of typical houses designed for and erected at the various ship-building plants throughout the country. These designs and plans solve in a most practical manner the problem of the low cost house, not academically, giving a grouping of designs that would be subject to much alteration and restudy to fit varying conditions of location, but evolved in a manner particularly adapting them to the locality of their erection. Each group of designs and plans becomes regional, in fact, and, having been carefully studied with a view to a proposed location, may be

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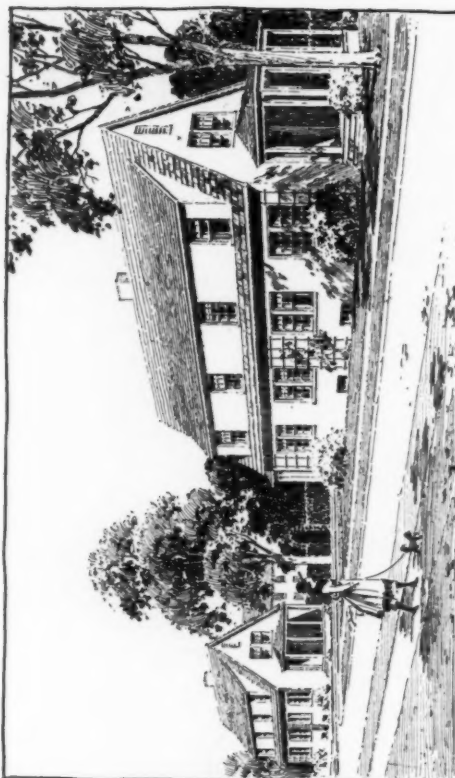
DETACHED HOUSE
Scale 1/8" = 1'-0"



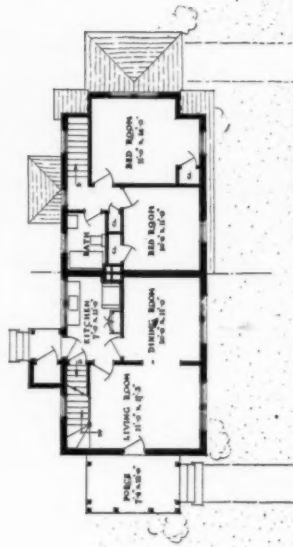
FIRST FLOOR PLAN

SECOND FLOOR PLAN

FLETCHER PARK SOUTH JACKSONVILLE FLA
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
H J KLUTHO RETAINED ARCHITECT JACKSONVILLE FLA



SEMI-DETACHED HOUSES
Scale 1/8" = 1'-0"



FIRST FLOOR PLAN

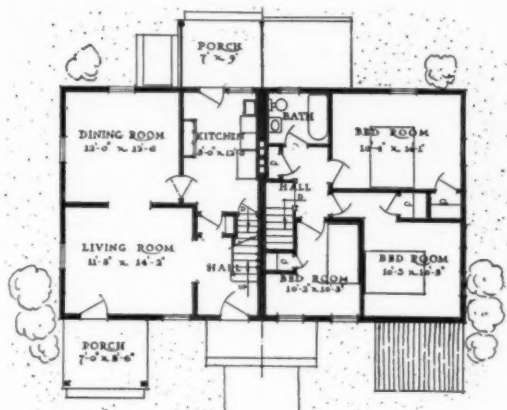
SECOND FLOOR PLAN

DUNDALK MARYLAND
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
EDWARD L PALMER RETAINED ARCHITECT BALTIMORE MD

THE AMERICAN ARCHITECT

adopted by any man in that section with the certainty that it is the result of the highest architectural skill, and that his house was designed by architects who had been engaged in the most expensive and comprehensive buildings erected anywhere in the United States.

It will not be necessary to make extended comment as to why, in the past, the designing of low cost houses has drifted into irresponsible hands and not been controlled by the architectural profession. From time to time THE AMERICAN ARCHITECT has



FIRST AND SECOND FLOOR PLANS OF SEMI-DETACHED HOUSE AT GROTON PARK, GROTON, CONN.

directed attention to this condition, and has printed in its columns letters from readers discussing plans whereby the man who wanted a low cost house could attain his purpose in the most satisfactory manner as far as its designing and planning were concerned.

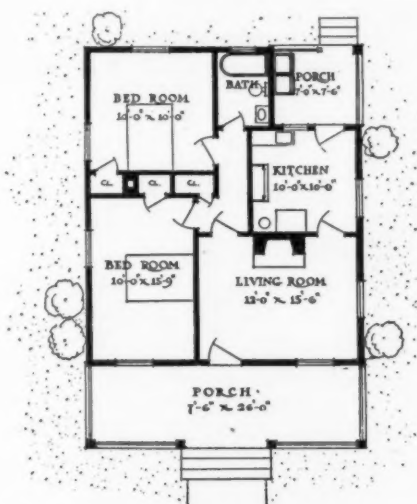
THE AMERICAN ARCHITECT has contended and is yet of the opinion that these matters are properly important ones for the Institute to consider. It has expressed the opinion that the various Chapters could inaugurate a plan of operation that would insure the most valuable results and materially advance the architectural excellence of these structures. Possibly the Institute will take up in a serious way a question which should seriously be considered. Meantime, in order to aid in a propaganda that it believes of the utmost importance, there is reproduced in this issue a series of detached and semi-detached houses, culled from the large amount of material now made public by the United States Shipping Board. These have been selected in order if possible geographically to cover the entire United States. Their character and design and the general aspect of their planning are in each case ex-



DETACHED HOUSE, FLETCHER PARK, SOUTH JACKSONVILLE, FLA.

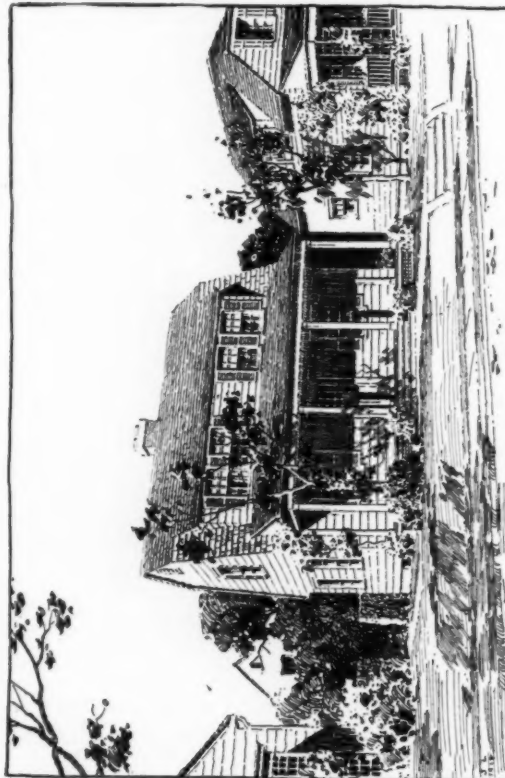
actly suited to the section of their location. They therefore become in the truest sense regional types.

While these houses were designed and built as a war necessity, it must not be inferred that they were brought to completion in a hurried or careless manner. As a matter of fact, each problem has had the most thorough and systematic study and the

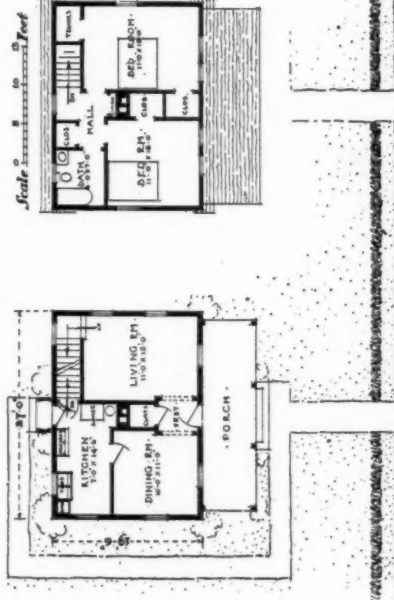


FIRST FLOOR PLAN OF A DETACHED HOUSE AT FLETCHER PARK, SOUTH JACKSONVILLE, FLA.

designs are as dependable and practical as if they had been conceived for an individual client. In making the selection reproduced in this issue, but one or two types from each region were taken. The material that the United States Shipping Board now makes universally available comprises hundreds of examples, so that the prospective builder of a low cost house is indeed hard to suit if he



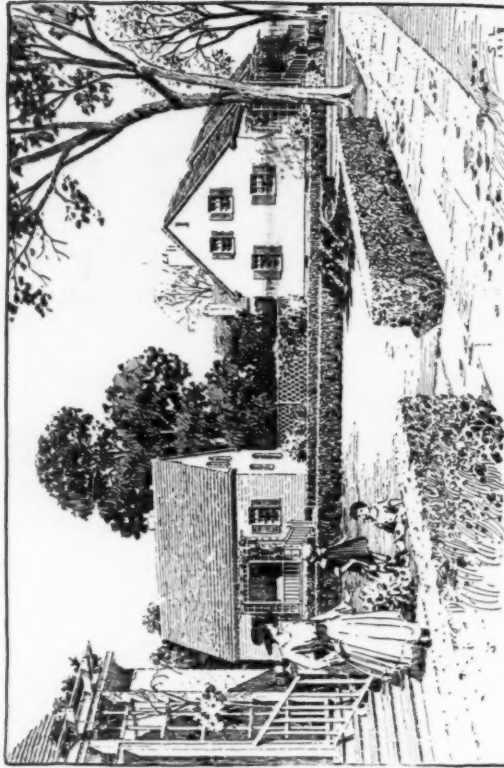
DETACHED HOUSE



FIRST FLOOR PLAN

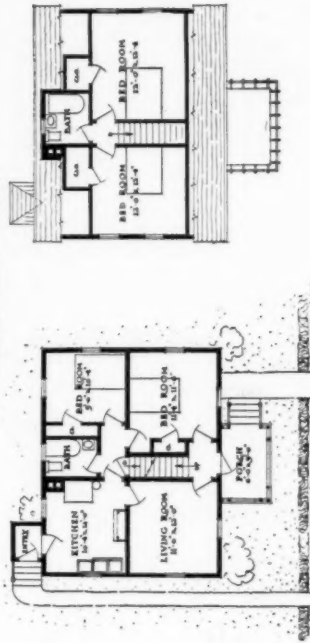
SECOND FLOOR PLAN

LORAIN OHIO
 UNITED STATES SHIPPING BOARD
 EMERGENCY FLEET CORPORATION
 ABRAM GARFIELD RETAINED ARCHITECT CLEVELAND OHIO



DETACHED HOUSES

Scale 0 5 10 15 20 Feet



FIRST FLOOR PLAN

SECOND FLOOR PLAN

WYANDOTTE MICHIGAN
 UNITED STATES SHIPPING BOARD
 EMERGENCY FLEET CORPORATION

THE AMERICAN ARCHITECT

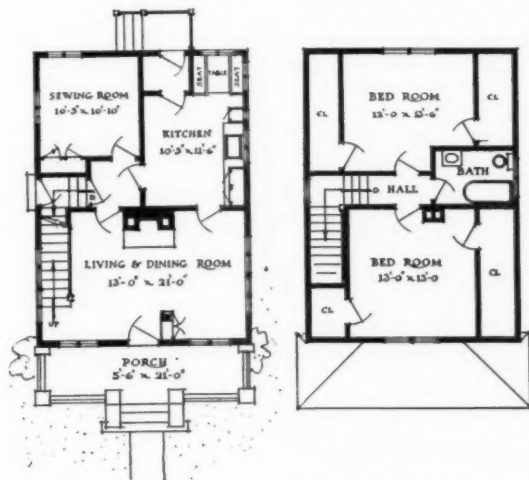
cannot find among such a wealth of good material the very thing required to meet his needs.

For the past ten years the problems of housing have been carefully considered by every thought-



DETACHED HOUSE, VANCOUVER, WASH.

ful architect. This great mental effort has advanced the science of housing in all of its aspects, economic, social, architectural. This widespread discussion has resulted in the education of those people who build and live in houses of moderate



FLOOR PLANS OF A DETACHED HOUSE AT VANCOUVER, WASH.

cost to a point where its influence is everywhere evident in the new types being erected. It becomes the duty of architects to see to it that this rapid movement is properly steered on a safe course. It will not do loudly to assert the necessity for the betterment of this type of house and then indolently sit and ignore the practical carrying forward of their own suggestion.

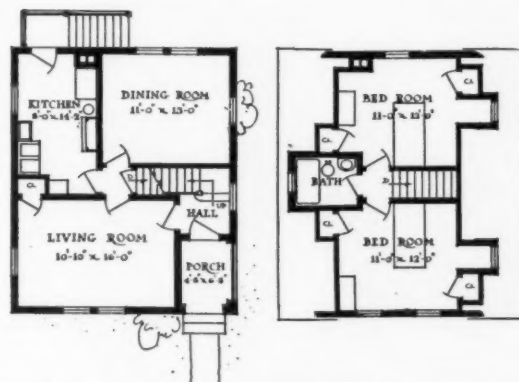
It might be well again to refer to the possibili-

ties that are afforded the Institute for a most valuable service. The Journal of the Institute has in the past given more space to this very matter than any other one topic. If, as the official and representative organ of the profession, it were to take up this question, it could fulfill one of the many functions that would seem to be particularly in its



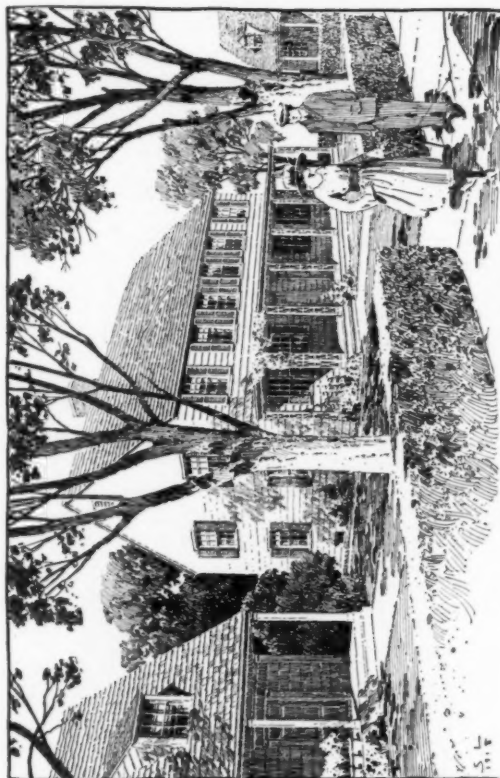
DETACHED HOUSE, PORT JEFFERSON, L. I.

field. Meanwhile, to start the matter on its way and to indicate a direction where the most valuable material is to be found, THE AMERICAN ARCHITECT opens a discussion of this important matter in the hope that it will suggest solutions of the problem of the low cost house that can be easily solved through the Government's bureaus on Housing, where the work has been entirely confined to members of the profession of architecture.



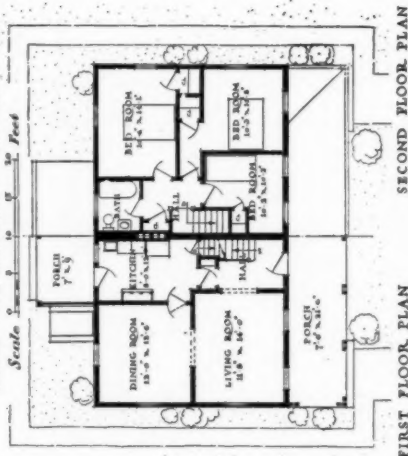
FLOOR PLANS OF A DETACHED HOUSE AT PORT JEFFERSON, L. I.

Or, is it proposed quietly to permit the mail order houses, the dealers in important materials and numerous publications, not architectural, to continue in the performance of this purely architectural service?



SEMI-DETACHED HOUSE

Scale 1" = 10' 0"



FIRST FLOOR PLAN

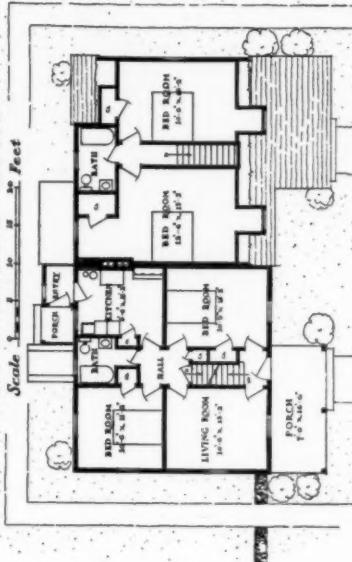
SECOND FLOOR PLAN

GROTON PARK GROTON CONN
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
EUGENE J LANG RETAINED ARCHITECT NEW YORK



SEMI-DETACHED HOUSE

Scale 1" = 10' 0"



FIRST FLOOR PLAN

SECOND FLOOR PLAN

GROTON PARK GROTON CONN
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
EUGENE J LANG RETAINED ARCHITECT NEW YORK

Architecture—Art, Profession or Business?

FOLLOWING the discussion in *THE AMERICAN ARCHITECT* as to whether the practice of architecture is an art, a profession or a business, the English architectural journals are now giving much space to this topic. *The Architect*, of London, in a recent issue, discusses the modern trend in architectural practice, and expresses the opinion that "more and more the practice of architecture is bound to become a business."

Further, it is equally insistent that men who fail to realize this condition must inevitably be pushed aside.

The article referred to states:

"Though mankind possesses many buildings in almost every country in the world which date back for centuries, it is only during the last hundred years that a very great amount of building has been carried out at any one time. Most of our cathedrals, and other great churches, represent the work of several centuries, work discontinued for years, and then restarted on other lines after intervals of rest. Further than our churches great buildings were few and far between. If anyone like the modern architect had been employed in the thirteenth century he would probably have had long terms of unemployment, especially when the slow progress of building in the past is taken into consideration. As it was, such building as was done absorbed the executive energies of a number of men who occupied a position intermediate between that of the designer and the master craftsman. But we can assume that the modern problem of building for an estimated and prearranged cost did not exist, and that the very important modern problem which determines the nature of most of our building operations now—that of building in such a way as to earn profits for the building owner—did not exist at all. Building was an art, or rather a craft, with no professional or business side.

"After the advent of the Renaissance the architect as we know him now was gradually evolved, and the gap between design and execution naturally grew greater and greater, the architect occupying an ever-increasingly well marked professional position which was that of a general surveyor and director of building operations who defined at first very generally, and, as in later times, with greater detail what should be done by the actual executants of building works.

"The general details of important features, which were all that the architect supplied in the time of Jones and Wren, gradually gave place to fuller detailed drawings, and at last to full sizes of every feature in a building. The older methods under which the craftsman-designer settled his own detail persisted for long side by side with the newer manner. At last it died, leaving a trade of constructive building and a profession of designers of buildings. In later years the good old title of surveyor of works, which indicated a broader and more important function than that of design alone, for the most part declined also, in many cases actually cutting off the architect from the realities of building as it appeals to the public.

"Side by side with later developments, men were learning the possibilities of building for commercial profit, and the Adam Brothers, Nash, and many others, were becoming the forerunners of the modern building speculator, though just as the function of designer and executant were combined in a preceding age the functions of designer and speculator were often combined a century ago, to the enormous advantage of the architectural amenities of many of our towns. But it would seem that the lure of the pencil and drawing-board were destined to cut off the architect from a promising field of enterprise, and he has become more and more purely a slave of the drawing-board.

"We go through our great towns and see a small number of buildings which have been the outcome of the competition of many architects, and side by side with them a far greater number of buildings, and often among them buildings which would give equal architectural opportunities and have been erected by building speculators to make business and to earn dividends. Very naturally, the building operator wants the co-operation of a class of professional men who understand the principles in which they have to work and who are alive to the business aspects of architectural practice. If they can only obtain them among men who are deficient in artistic knowledge and education, as sometimes happens, the fault would not seem to be the want of appreciation of the speculator, but the failure of the average architect to understand that if he occupies a purely professional, and not also a business position, he is only able to sell a commodity which is required by a very limited number of the public, while far greater opportunities might be his. The

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conclusion to which we are inevitably driven is that architecture, if it is to be a great factor in modern life, must primarily be a business which can be carried out on lines which need not offend what we term reasonable professional instincts, nor need fail in fulfilling the demands of art; but chiefly it must be considered as a business unless we are to be content to let it become an exotic fit only for a limited class who possess private means.

"It is difficult to predict all the changes which are likely to arise in the wake of the great war, but it is clear that recent events have seriously increased

the difficulties of building, and that the calls on the architect will be of an increasingly practical character necessitating greater business aptitude than was required in the past. More and more the practice of architecture is bound to become a business needing far more than artistic aptitude, for the architect, to be successful, must be a man who can cope with heavy responsibilities. Those who fail to do so must inevitably be pushed aside, for there is little room for them in the modern world unless they are willing to act as underlings to others who are ready to usurp their functions."

A Spanish Tower The "Giralda" at Seville

A GREAT tower is one of those features in cities which remain longest in the memory of a visitor, writes a correspondent from Seville. The "minars" and "minarets" of Eastern and Saracenic countries, particularly of Constantinople, are not only beautiful in themselves, but add greatly to the architectural effect of the city. The Campaniles of Italy are of endless variety in design; the light external galleries of the minarets are wanting, but the highest story is generally of openwork, and crowned, like the tower of St. Mark at Venice, by a statue or some striking terminal.

The gallery of the minaret is for the "muezzin" to utter his call to prayer; the open story of the campanile was designed for the city watchman to look out for an approaching enemy; here or in a belfry chamber beneath was the alarm bell to call the citizens to arms. This was the principal tower, but Italian cities, particularly those of the north, were provided with many more, often built by private families, and it is said that Pavia had no fewer than a hundred and twenty. An instance better known to the ordinary traveler is Verona, a general view of that beautiful city being largely composed of towers, domes, and other lofty features.

In Western Europe, where Gothic prevails, the spire is perhaps more in evidence, but in the vast majority of cases it is an afterthought, added to a square tower in the late thirteenth or fourteenth century, and culminating in the "Decorated" period. The tower, however, is the distinctive English feature; in the cathedrals a great central tower, with two smaller ones at the western end; on the Con-

tinental, a pair of towers flanking the principal front.

Perhaps the most familiar object in an English landscape is the square tower of the village church; in the Eastern Counties often of considerable height, with openwork or well marked parapet and fine angle pinnacles. An attempt not without interest has been made of late years to introduce the Italian campanile into London. The tower of the club at one extremity of Whitehall-court is the boldest and best designed of these, though one may doubt if many people will make use of its open "loggia" commanding the river. That of the cathedral in Westminster is very lofty, but best seen from a little distance. Sir Charles Barry's noble towers of the Houses of Parliament, familiar and popular objects, seem more "English" to us, as, indeed, they are, and have a strong hold on the popular imagination.

Spain derives her building art largely from two sources: in the north her architecture is Gothic, it is literally derived from the Goths; in the south it comes from the Moors, and bears their name; yet widely different as the two systems are, they have much in common, especially in possessing the pointed arch and a system of intersecting vaulting, a style which was developed among the Saracens long before it was known in the West. It spread along the shores of the Mediterranean and settled itself in Spain for several centuries. Granada possesses, in the Alhambra, its most famous work; but Seville is its greatest city, and here, at the north-eastern angle of the Cathedral, and virtually detached from it, stands the Tower of the Giralda.

The foundations are partly composed of crushed

(Concluded on page 241)

Editorial Comment

The Military Art Training Center At Bellevue, France

THE report of the Art Training Center at Bellevue, Seine-et-Oise, France, of the American Expeditionary Force has been made and issued in printed form for limited distribution.

In the spring and early summer of 1919 our army of citizen artists found itself at the end of a long campaign in a foreign land which is a treasure house of every description of art. To these men the army authorities granted the high privilege of temporarily dropping their arms to take up the implements of their art.

It was under such unusual conditions that this art school at Bellevue came into existence. The report of the work of this school is one that will be of the most fascinating interest to every artist, and particularly to architects. It bears testimony to the versatility of our soldiers of every military rank and the results attained are evidences that the opportunity presented has been availed of to the fullest extent. It is not possible to over-estimate the value of the artistic training these men received, nor the good and lasting effect in many communities all over these United States.

The students were selected on the basis of a questionnaire and represented more than twenty grades of enlisted men, and officers of every rank from second lieutenant to major. It is interesting to read in the report, that the policy of putting all the men on the same military status in their studies, while observing the distinction between officers and enlisted men at all other times, was carried out. The added statement that while this policy satisfactorily worked out from the scholastic point, it resulted in an insurmountable laxness as to military courtesies, will be read with quiet amusement by men who have worked in large ateliers.

Lloyd Warren, through whose untiring efforts much of the success of this undertaking is due, was appointed Director of Education, or Dean, and has made two very full and interesting reports. Particularly as to the Department of Architecture where the courses of study are fully outlined and the results obtained carefully considered.

Associated with Mr. Warren and acting as professors and instructors, was a group of men all drafted from the Expeditionary Force, all prominent in their respective branches and showing in

the most emphatic manner the high personnel of our military forces abroad.

The excellent character of the work in the various courses is shown in the report by a series of illustrations. It is difficult to express without an ebullition of superlatives the large degree of satisfaction that is conveyed in reading this report and acquiring a true sense of the great value of the work that was carried forward in this school. Considering the limited time that its history covered, it is simply marvelous that so much was done, and it speaks in the most insistent manner to the credit of that group of men who organized and carried forward the work of this school. There was in attendance a grand total of 350 students, of which 160 were architects and 131 painters, the remainder being distributed among sculptors and interior decorators.

What Is an Architect?

WHAT is an architect and just what can he do? Does the public know the answer?

During a recent session of the Post-War Committee, C. H. Blackall of Boston pertinently asked these questions.

Out of the melting pot of this war comes, as Mr. Blackall very well stated, a new crop of the public and also a new crop of architects. Possibly before the war neither the public nor the architects thoroughly understood one another and possibly much of what happened during the war in the architectural profession, and about which so much ink was spilled, was due to this lack of intimacy.

What the public needs to know is just what the architect can do. If there is a "hang over" of a legacy of misconception as to where the architect properly and necessarily functions, the public must be taught.

How shall the public be taught? The national government has already received sufficient grounding to learn the architect's true worth, his exact place. The group of men of the profession of architecture who so unselfishly labored for the government while we were at war, have left a record that will be enduring. But the public, the people at large, how shall they learn, and thoroughly, just what an architect is, just where he exactly fits in as a professional man. The logical answer is through a campaign of education conducted by the American Institute of Architects, the various State

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Societies and local organizations of the profession. Does the public know that in addition to the responsibility for the design and plan of a building the modern architect will very often finance it, and perform every duty of a master builder? Just how long could the manufacturer of a commodity remain in business if he failed to make known the quality and the adaptability of his product for the purposes intended?

Can the profession of architecture surround itself with a stockade of exclusiveness, present as a body an attitude of indifference as to just to what extent the public knows of its ability to supply a much needed and extremely valuable service, and continue properly to function?

It is very probable that when the Post-War Committee of the Institute starts on its work of publicity it will be very largely along the lines of an education of the laity. In fact, it would seem that this is the most important and valuable service it might render.

Financial Encouragement to Promote Building

DIFFICULTY experienced in obtaining the necessary financial assistance for the more rapid construction of homes, while greatly lessened in the past few months, is still demanding the keen attention of architects, builders and bankers. While action by the Government in enacting legislation to materially relieve the situation will undoubtedly be supported in any reasonable measures, it will be considerable time before existing conditions can be fully met.

There are two bills at present awaiting enactment by the Senate, which are the only practical ones so far advanced to secure financial encouragement that will cause great building activity in spite of the prevailing high labor wage scale and material prices. One is to encourage the building of homes by providing for exemption from taxation of the income on mortgages on real estate, the total principal of which does not exceed \$40,000 when held by an individual, and the other the home loan bank plan. It is proposed that the Government license these building associations to form into group organizations or local home loan banks, with which they may deposit their mortgages and receive long-term loans upon them, the funds becoming available

through the issuance by the district home loan banks of salable bonds against mortgages deposited.

Licensing of the Federal Government would function to standardize these bonds and make them most attractive to the investor. At the same time it would have all the security of the well-placed first mortgage, and, in addition, the security of a collection of such mortgages backed by a reserve fund against possible loss. It is to be hoped that these securities may be sold on such favorable terms as to permit a minimum charge of interest to the home builder and save him the annoyance and hardship of commissions and bonuses so frequently suffered.

Vandalism in City Parks

A PARADOX in the park-going American public is to be seen in the fact that while they eagerly accept all possible benefits of city parks, they at the same time make no apparent effort to maintain them in the orderly, wholesome condition which it may be assumed attracts them in the first place.

The destruction of park property as reported by the Park Commissioner of New York is almost unbelievable. To be sure there may at any time be seen papers which have been thrown on the lawns, broken bottles on the paths and picnic refuse generously scattered in every available place. The presence of refuse receptacles does not seem to impose the restraint it should inspire.

Legislation exists, but is not adequately enforced. The careless public is not careless enough to be "caught in the act." And when fines are imposed, they do not seem to have a deterrent effect.

In addition to the \$100 a day which the mere removal of refuse is estimated to cost in Bronx Park alone, there is the destruction to property which cannot be stated in dollars and cents, but which is nevertheless a large element, and the ever-present slovenly aspect of the parks, defaced and abused.

Perhaps the only course that will ever be successful will not be punishment but education. The appeals to personal and civic pride should be more insistent. They should be seriously and systematically undertaken, and a public opinion created that would for all time preserve the dignity and beauty of the parks.

Civic beauty may be created by architects, but it must be maintained by the co-operation of the public. Here is common ground.

Criticism and Comment

Planning the Low Cost House

The Editors, THE AMERICAN ARCHITECT:

Our attention has been called to your editorial "Plan Service by Institute Chapters" and to letters dealing with the same subject by Mr. R. S. Whiting, Architectural Engineer, National Lumber Manufacturers Association, and Mr. Edwin H. Hewitt of Minneapolis, all of which appeared in the June 18 issue of *THE AMERICAN ARCHITECT*. We have read these communications with great interest and wish to offer a statement in furtherance of the discussion, having in mind that which may be best from the viewpoint of the public.

So-called plan services for use by retail lumber dealers had their inception perhaps eight or ten years ago. Such service was offered to retail lumber dealers by commercial enterprises and consisted quite exclusively of stock plans. In the course of several years there were several such stock plan services on the market and available for use by retail lumber dealers. The demand for that sort of thing was especially developed and increased through the fact that concerns, other than retail lumber dealers, in various parts of the country were publishing books of house and farm out-building designs, offering consumer customers plans free of charge. The retail lumber dealer needed something in his business to counteract that sort of competition. It can definitely be stated that the majority of lumber dealers who incorporated a plan service in their sales schemes did so not at their own election but rather because deemed essential as a competitive sales measure.

It may be interesting to learn that practically none of the plan services available up to several years ago accomplished what the retail lumber dealer hoped for. One plan service would incorporate largely bungalow house designs which failed to make the proper appeal in the Middle West. Another might have a better selection of house designs, but construction adapted to the climate of the Southern States rather than to the rigorous winters of the Middle West and Northwest. It was found, too, that nine times out of ten, a prospective home builder failed to find among ever so large a collection of stock plan designs exactly the house which fitted his needs and fancies.

The above in brief was the situation when this association organized its Special Plan Service in October, 1917. In establishing this department of association work we had in mind several things:

- (1) To supply the retail lumber dealer with plans fitting the exact wishes of his customer (and this might mean alteration of any stock plan design or plans based on the prospective builder's own ideas).
- (2) Not to conflict with the professional architect but rather to aid the retailer and consumer in towns where there is no professional architect.
- (3) To specify wherever possible millwork sizes and designs carried by sash and door houses as stock; this in order to hold down the cost of building to the consumer.
- (4) To develop a stock design plan book of dwellings and farm out-buildings, starting with designs now most frequently demanded by the consumer but gradually working, particularly as to dwellings, to better designs from an architectural and æsthetic viewpoint.
- (5) Not to prepare plans for buildings as would require personal supervision of an architect or engineer while under construction.

Commenting on the points just enumerated, it is interesting to note that architects who at first predicted that we might be cutting down the field of activity of the professional architect have long since stated that the class of architectural work our Special Plan Service is called upon to perform would never go to the professional architect; that, in fact, we are rather on the other hand, potentially at least, producing work for the professional architect, in that the man who builds a home from plans furnished by us and later builds a more expensive home will not think of building such further more elaborate home without plans. Having grown more prosperous, as no doubt would be the case, and educated to the value of plans, he will seek out a professional architect, actuated by the desire and need for repeated personal conferences with him before plans are drawn.

How the professional architect can reach the same field our Special Plan Service is supplying is not clear to us. "Types that would suit the various localities and placed at the disposal of the prospective interests and builders at a fair price" (as stated in your editorial) would in our opinion result in failure. Such standardized types, no matter how many variations of them might be offered, would still call for specially prepared plans because experience has brought out constantly that collections of building designs, standardized or otherwise, function mainly as a suggestion, as a means to an end. To meet the problem, an organization such as Mr. Whiting mentions, namely the Architectural Service Corporation, must be in position

THE AMERICAN ARCHITECT

to produce so-called special plans and these with exceeding promptness and at a moderate price, since the lumber dealer must have them promptly in order to help clinch the sale and without much expense since he must bear the burden himself.

If it can be shown that an architectural service corporation, conducted by professional architects, can fill the need of the retail building material dealers quite as well from every angle as performed by the plan service developed within the ranks of their own organization, there will be every disposition on the part of this association to co-operate.

Referring to some specific statements made in the communications appearing in your June 18 issue in this general connection, we may say that it is extremely doubtful that our Special Plan Service has devised plans for half a dozen houses even approaching \$10,000 in cost. Nor has our Special Plan Service, to the best of our information, ever approached draughtsmen within the organization of professional architects. While our Special Plan Service executes plan work for a very large percentage of our members, it is true that some larger concerns within our membership conduct their own private draughting rooms but none of these, to the best of our information, employ to exceed at most four draughtsmen. The statement, therefore, in Mr. Hewitt's communication, that "retail lumber dealers in the Northwest are maintaining large and expensive draughting rooms for the production of plans," cannot refer to retail lumber firms that are members of this organization, embracing over 70 per cent of the retail lumber dealers in the Northwest.

To summarize: This Association maintains a most cordial attitude toward the architectural profession. Our Special Plan Service has been eminently successful in affording a great sales help to the retail lumber dealer in a practical manner over a wide territory and without encroaching on the field of the professional architect but rather in a manner furthering his interests. If the need of the retail lumber dealer is to be equally well or better filled by an architectural service corporation conducted by professional architects, it will require the consideration of the following points: (1) extremely prompt work; (2) readiness to prepare plans answering the demands of the consumer even though far from ideal architecturally, at times, and in the hope of gradually improving the architectural tastes of the public at large; (3) the ability to furnish absolutely complete material lists very promptly and most frequently in advance of the

preparation of the plans themselves; (4) the institution of offices in connection with such work at various points throughout the country, so as to afford prompt mail service as between dealer and the architectural office; (5) readiness to specify stock millwork wherever at all possible, since stock millwork patterns and sizes will mean a saving of from 15 to 35 per cent to the consumer when compared to the price of odd sizes and patterns; an architect may figure out that openings of certain sizes are proper or ideal. Many and many a time these will require odd or specially made to order doors or windows, but reference to the sash and door catalogs would reveal that stock millwork, very close in size to what the architect figured out, was available and could have been used. For instance a window 24 x 22 is odd but windows either 24 x 20 or 24 x 24 are stock. A door 2-8 x 6-8 is stock, likewise a door 2-10 x 6-10, but 2-10 x 6-8 or 2-8 x 6-10 are both odd sizes. (6) readiness to furnish plans blue printed from pencil tracings and embodying only the chief essentials such as floor and basement plans, the four elevations, cross section of wall from bottom of foundation to cornice, but executing little drawing of detail, as a rule, since the use of millwork stock patterns and designs takes care of that matter; (7) familiarity in general with the several types of farm out-buildings but more in particular the distinctive characters of barns in use in this general territory; also the ability and readiness to furnish blue print plans for same with equal facility and knowledge of local requirements as in the case of dwellings. This includes the featuring of all barn equipment and preparation of material lists reliable for a basis on which to make the sale of building material to the consumer and practically guaranteeing sufficient material to construct the building complete.

The Northwestern Lumbermen's Association developed its Special Plan Service because of an urgent need of intelligent and efficient service to the consumer in the hundreds and hundreds of small towns from three hundred to three thousand in population in which over 95 per cent of the member yards are located. Relinquishment of activities along architectural lines will be gladly considered when the professional architect will prove that he is filling the need fully as well, as viewed from the interests of the consumer and the retail lumber dealer.

NORTHWESTERN LUMBERMEN'S ASSN.,
Adolph Pfund, Secretary.

THE AMERICAN ARCHITECT

A Spanish Tower

(Continued from page 236)

and broken up remains of Roman and other preceding structures, including, it is said, some statuary. To treat ancient remains in this fashion was not unusual; it was generally done in Rome, where old buildings were often pulverized and used in mortar. The tower rises from an old Moorish "Court of orange trees," with an ancient fountain; it is square in plan for the greater part of its height, in color a yellowish brown, with narrow mullioned windows, until broken by a slight projecting cornice. After this it changes more than once in form, but constantly diminishing; an upper story follows with another cornice, then an "ogee" inward curve under a small projecting gallery; above this an open belfry, a cupola, and lastly, the figure, "La Giralda," fourteen feet high, which acts as a wind vane, a noble finish to a stately structure. The tower dates from 1196, and was built by Abu Jusuf Jacob. Originally it was 250 feet in height, but this was increased by another 100 feet in 1568, when Fernando Ruiz added the richly ornamented belfry. It is 50 feet square at its base.

The ascent, like that of St. Mark's Tower at Venice, is by "ramps," or inclined planes. Of these there are thirty-five, the easiest of all methods of conducting the visitor to the open story

near the summit, which commands an immense panorama.

The bronze figure—"La Giralda" ("the turning one") was cast in 1568, at the same time as the raising of the belfry stage. Though weighing more than a ton, it turns with the slightest breeze.

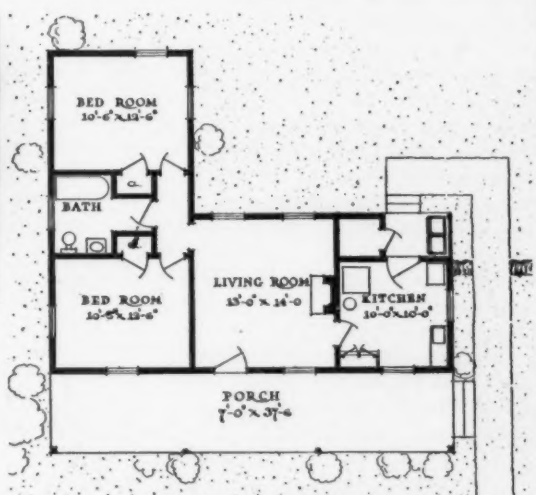
Seville still retains parts of her old Moorish walls in fair state of preservation, and many Moorish details. The characteristic window and balcony are really Moorish; iron and other metal work and many minor arts throughout the city exhibit Moorish handicraft, light but sound, and yielding little to time.

When Ruiz began his work the Renaissance had spread to Spain, bringing with it quasi-classical details; his belfry exhibits this, and so does the Giralda figure itself; but there is no abrupt break, it all forms one harmonious composition; his skill is the more noticeable when we remember that the main body of the tower had stood for nearly four centuries when he boldly added a hundred feet, with the possibility of spoiling it. But, with great judgment, his upper stories are smaller in plan and lighter, both in weight and appearance, one of them with a high, round-arched opening on each of its four sides. His cornices are used to give variety of outline, as is also the balcony. These upper stories add an unquestionable charm to the view of the entire tower.



DETACHED HOUSE, SAVANNAH, GA.

UNITED STATES SHIPPING BOARD, EMERGENCY FLEET CORPORATION



Two Factions in British Labor

The European Commission of the National Industrial Conference Board has just returned to this country and is busily engaged in preparing its report. Though this has not yet been completed, some general conclusions, based on visits to England, France and Italy, have been made by Charles W. Asbury, chairman of the commission.

While labor organizations had been pressing their claims in the several countries, Mr. Asbury said that in Great Britain the demands had been the most extreme and the effort to enforce them the most determined. He said questions affecting labor had been projected into politics, and the active Labor parliamentary group had gone to the extent of preparing a very definite political program under the heading of "Labor and the New Social Order," while the extremists were very active and resolved to win at any cost. On the other hand, according to Mr. Asbury, there is a large element in the older unions which, not swayed by radical passion, thinks more conservatively and is in favor only of regular procedure in accomplishing ends agreed upon as desirable. These opposing views have precipitated a contest between the radicals and the older type of union leaders for control of the labor organizations. The radicals had seized upon the machinery of the union organization in the effort to enforce their views and methods.

In France, too, the machinery of politics had been set in motion on behalf of labor issues. During the discussion of the eight-hour day the majority of French workmen evinced indifference. The eight-hour law was put through not so much because of a demand from the workers as by what was deemed to be a matter of political expediency. The employers were represented as accepting the wisdom of an eight-hour day, but as a matter of fact French employers issued a printed protest against it. A major point of this protest was that an eight-hour day would stimulate the movement of workers from the farms to the city and would badly cripple the country's agriculture. The fact that several energetic and noisy radicals were elected to the Chamber of Deputies had also been misconstrued. A busy minority was able to sweep them into office because of the indifference of voters who did not take the trouble to oppose.

Italian labor conditions, it was pointed out, were directly affected by the existence of a surplus of labor. Large sums were being spent by the Government for unemployment donations, the effect of which was to hire men to be idle. The army had been slowly demobilized so as not to add to the unemployment. There could be quick recovery in industry if Italy could at once obtain coal and raw

materials, but she had no means of payment for those and credit was not as yet available. If materials were available, goods for export could be produced, and improve the value of the lira in foreign exchange. Without doubt the interfering hand of politics had been working against the return of industry to normal conditions by which foreign exchange would rectify itself.

Cost of England's National Housing Scheme

An estimate of the probable expenditure involved under the Housing Bill has been issued by the Local Government Board. It is pointed out that the annual expenditure will depend, not only upon the amount of the capital expenditure and the rate of interest payable thereon, but also upon the production of a penny rate in the various local areas and the rents charged for the new houses. The financial assistance to be granted from public funds for housing schemes will take the form of a subsidy, the amount of which Parliament will be asked to vote annually; but the full cost of housing schemes will in the first instance be met out of a loan or loans raised by local authorities or public utility societies, as the case may be, and both local authorities and public utility societies will be encouraged to raise such loans in the open market wherever possible.

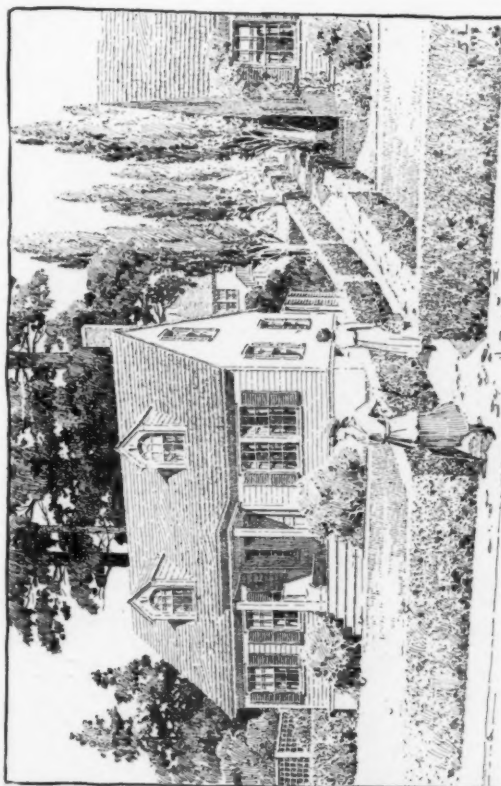
The capital expenditure on 500,000 houses at £500 each is estimated as follows:

1919-20	£50,000,000
1920-21	£100,000,000
1921-22	£100,000,000

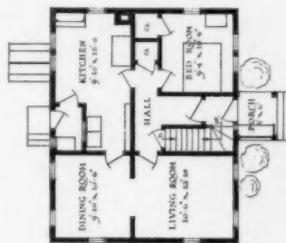
"Capital sums advanced by the Public Works Loan Commissioners will," continues the statement, "be ultimately recoverable. The amount of the annual expenditure to be met out of public funds will require to be voted annually by Parliament. In the current financial year loan charges will only fall due in the first half-year in respect of the small amount of capital raised before April 1. In the latter half-year loan charges will fall due in respect of the capital raised in the first half-year. It is therefore estimated that in the financial year 1919-20 the total amount of the charge falling on the Exchequer will not exceed £400,000.

The following table is given showing the estimated annual expenditure on 500,000 houses, based on various hypotheses:

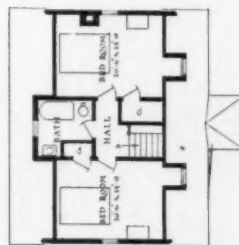
	Net deficit.
At £10 a year per house.....	£5,000,000
At £13 a year per house.....	£6,500,000
At £15 a year per house.....	£7,500,000



DETACHED HOUSE
Scale 0 5 10 15 Feet

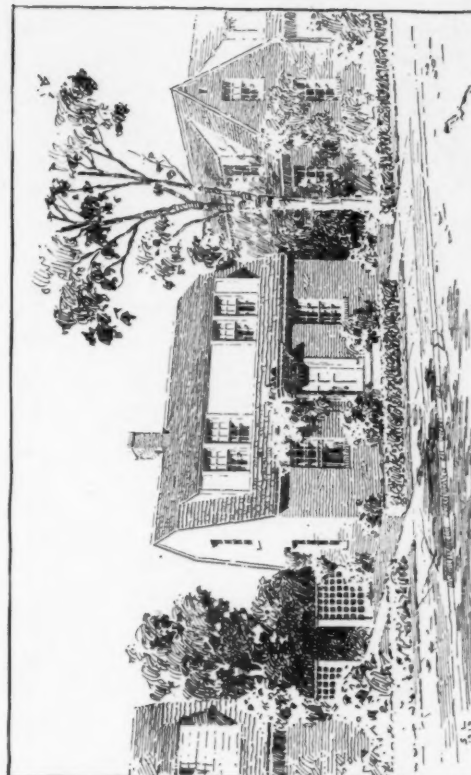


FIRST FLOOR PLAN



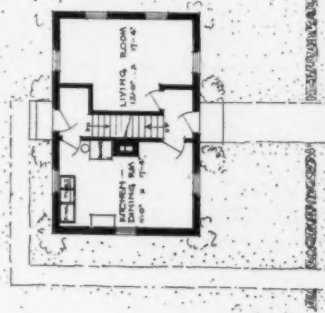
SECOND FLOOR PLAN

BATH MAINE
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
R. CLIPSTON STURGIS RETAINED ARCHITECT BOSTON MASS

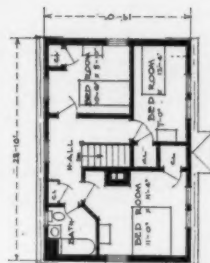


DETACHED HOUSE

Scale 0 5 10 15 Feet

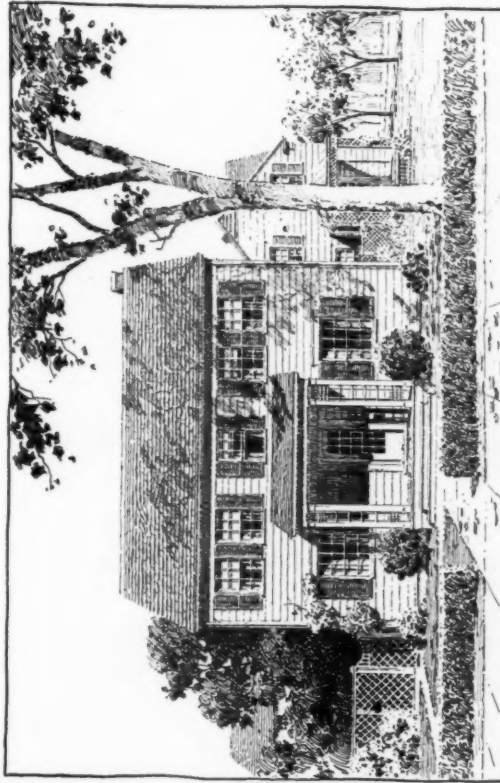


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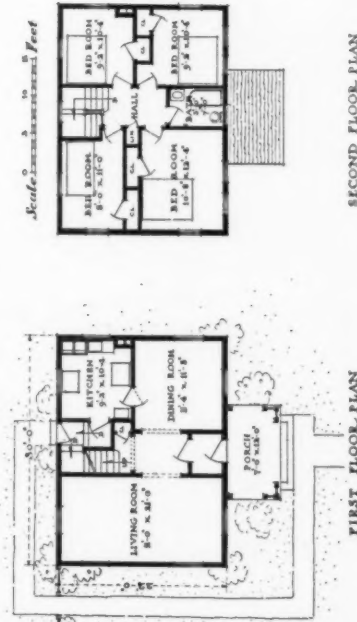


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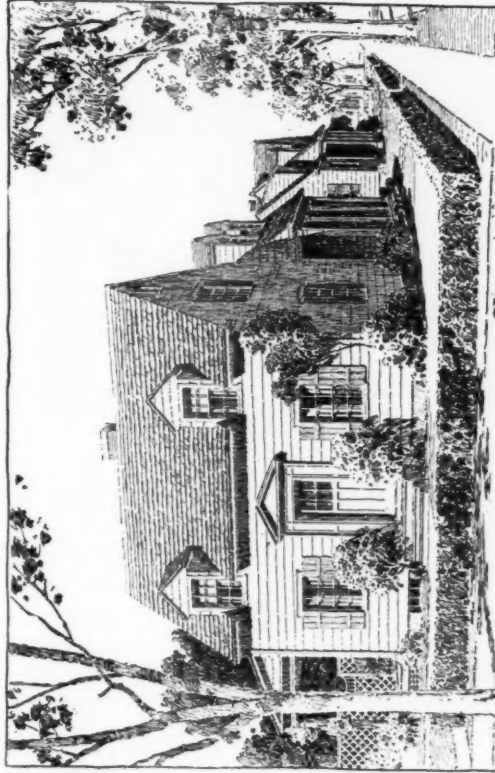
ATLANTIC HEIGHTS PORTSMOUTH NH
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
KILHAM & HOPKINS RETAINED ARCHITECTS BOSTON MASS



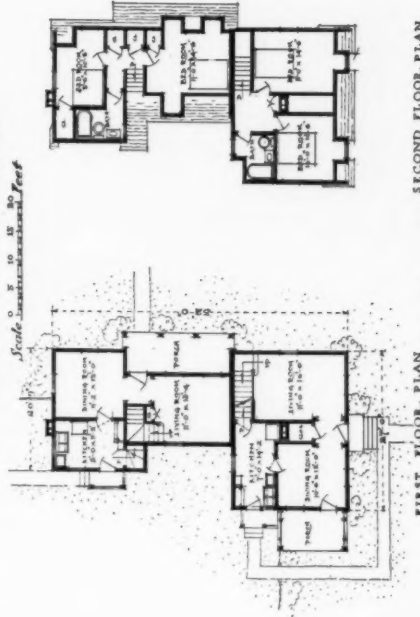
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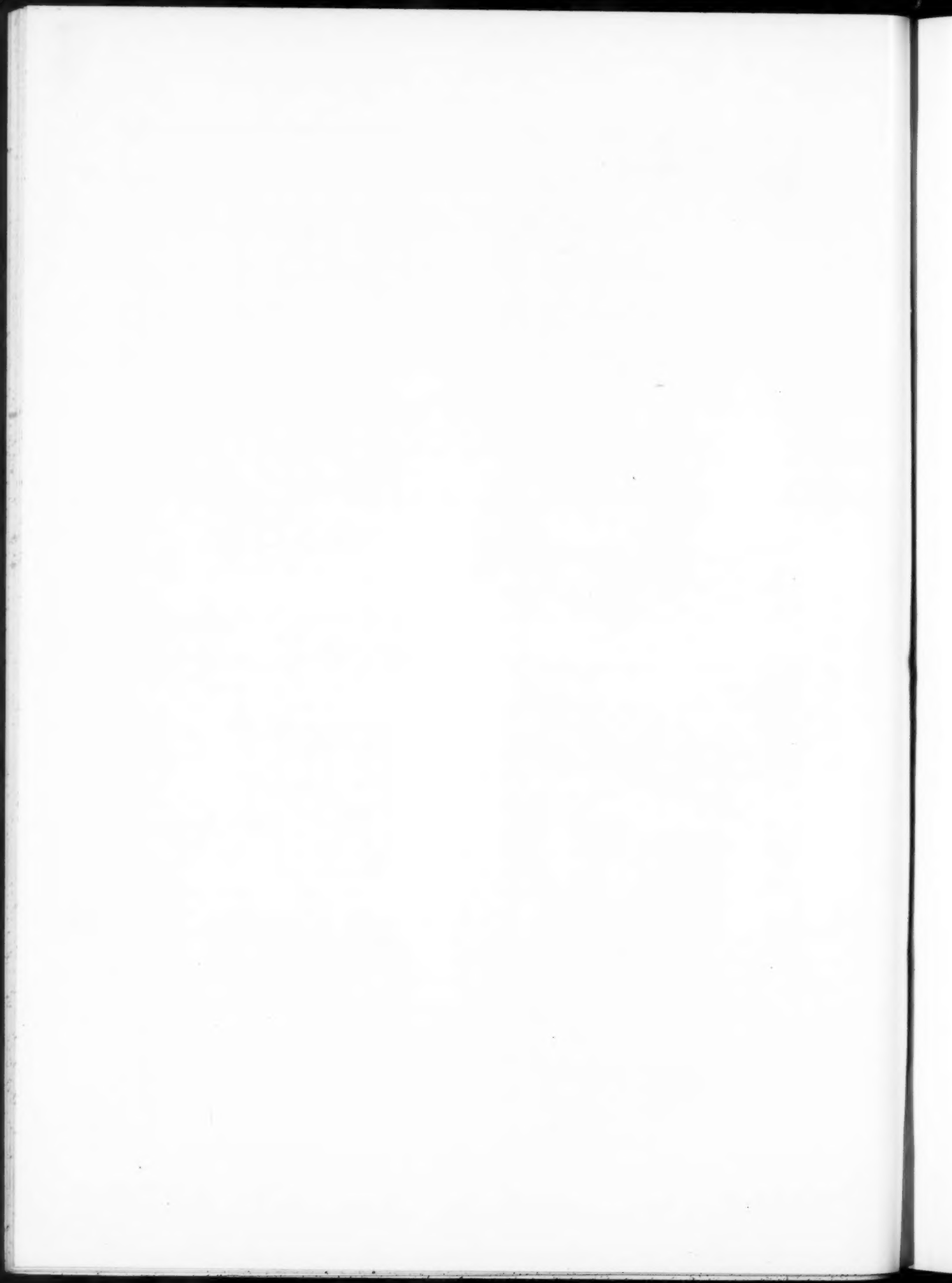
LORAIN OHIO
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ABRAM GARFIELD RETAINED ARCHITECT CLEVELAND OHIO

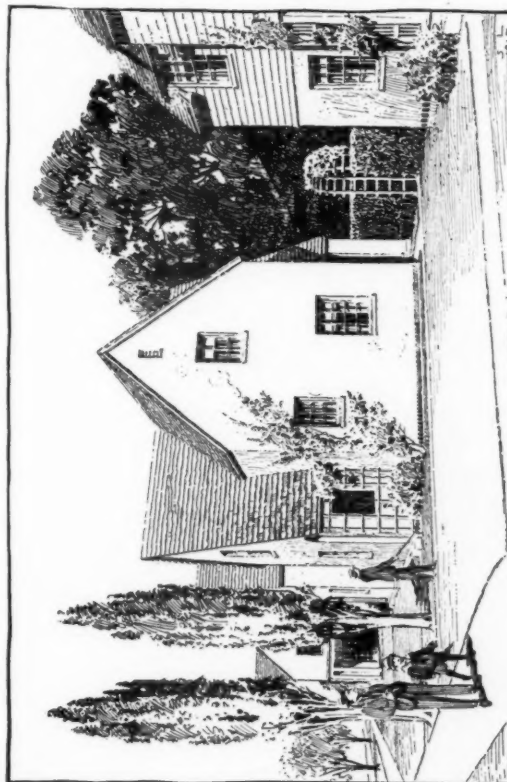


SEMI-DETACHED HOUSES

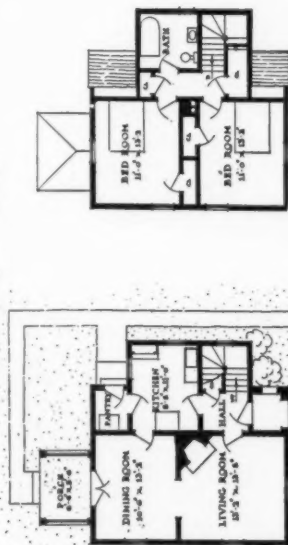


LORAIN OHIO
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ABRAM GARFIELD RETAINED ARCHITECT CLEVELAND OHIO





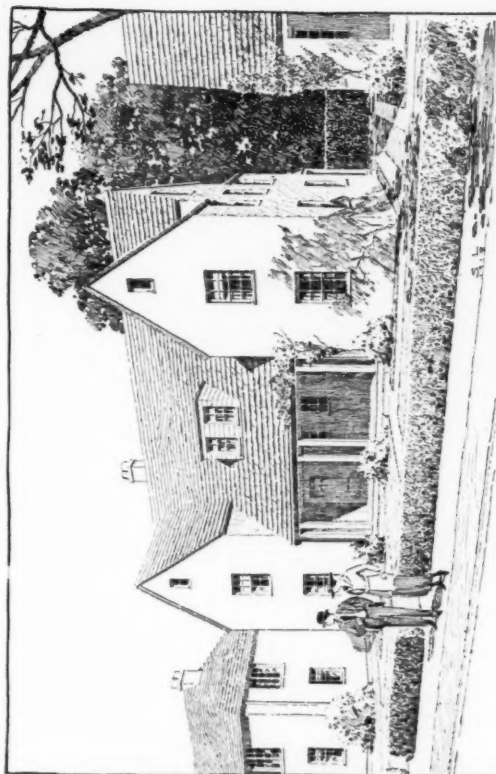
DETACHED HOUSE
Scale 0 to 20 Feet



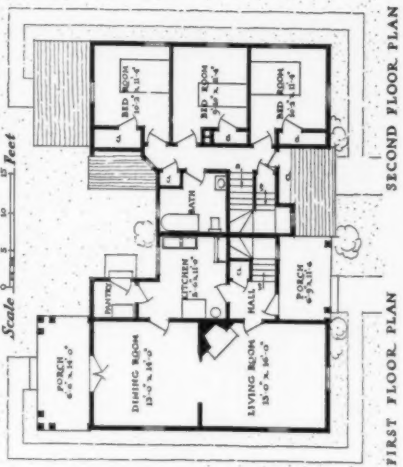
FIRST FLOOR PLAN

SECOND FLOOR PLAN

HILTON VILLAGE NEWPORT NEWS VA
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
FRANCIS Y JOANNES RETAINED ARCHITECT NEW YORK



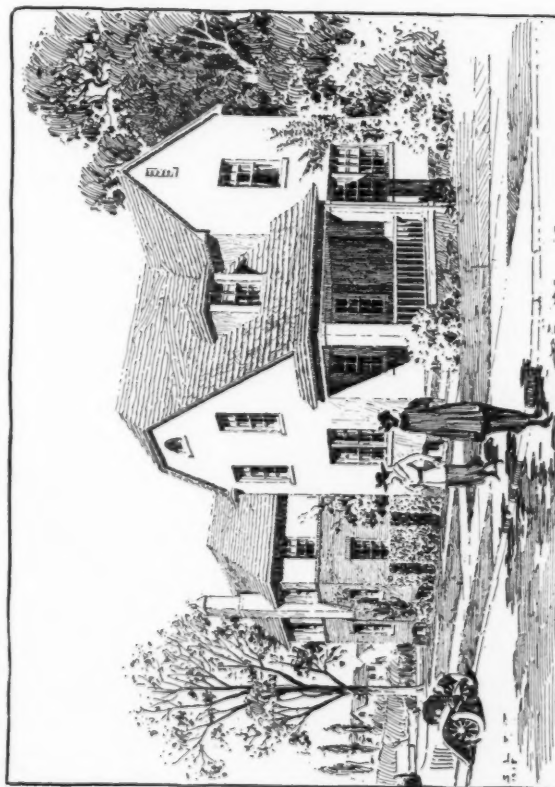
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Scale 0 to 20 Feet



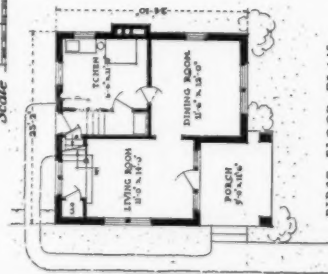
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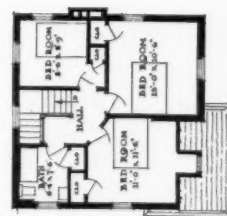
HILTON VILLAGE NEWPORT NEWS VA
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
FRANCIS Y JOANNES RETAINED ARCHITECT NEW YORK



DETACHED HOUSE
Scale 0 5 10 15 20 Feet

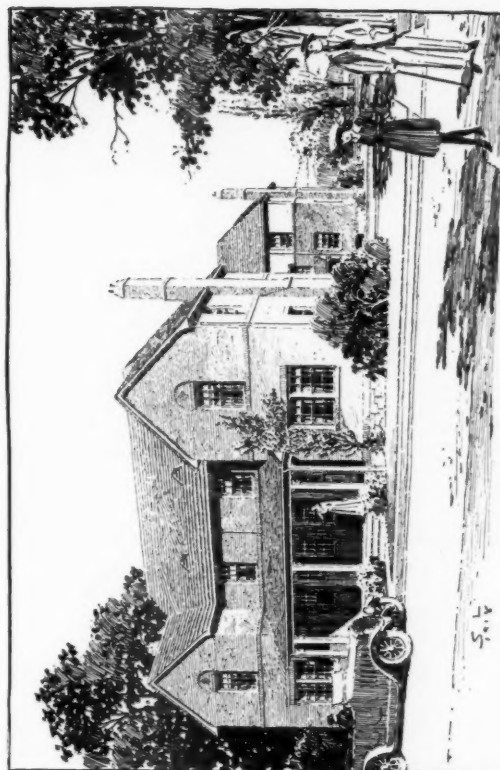


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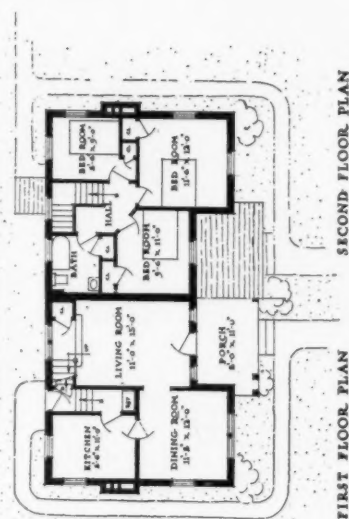


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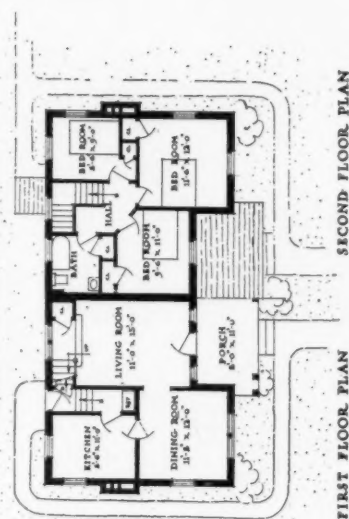
UNION PARK GARDENS WILMINGTON DEL
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
BALLINGER & PERROT RETAINED ARCHITECTS PHILA PA



SEMI-DETACHED HOUSES
Scale 0 5 10 15 20 Feet

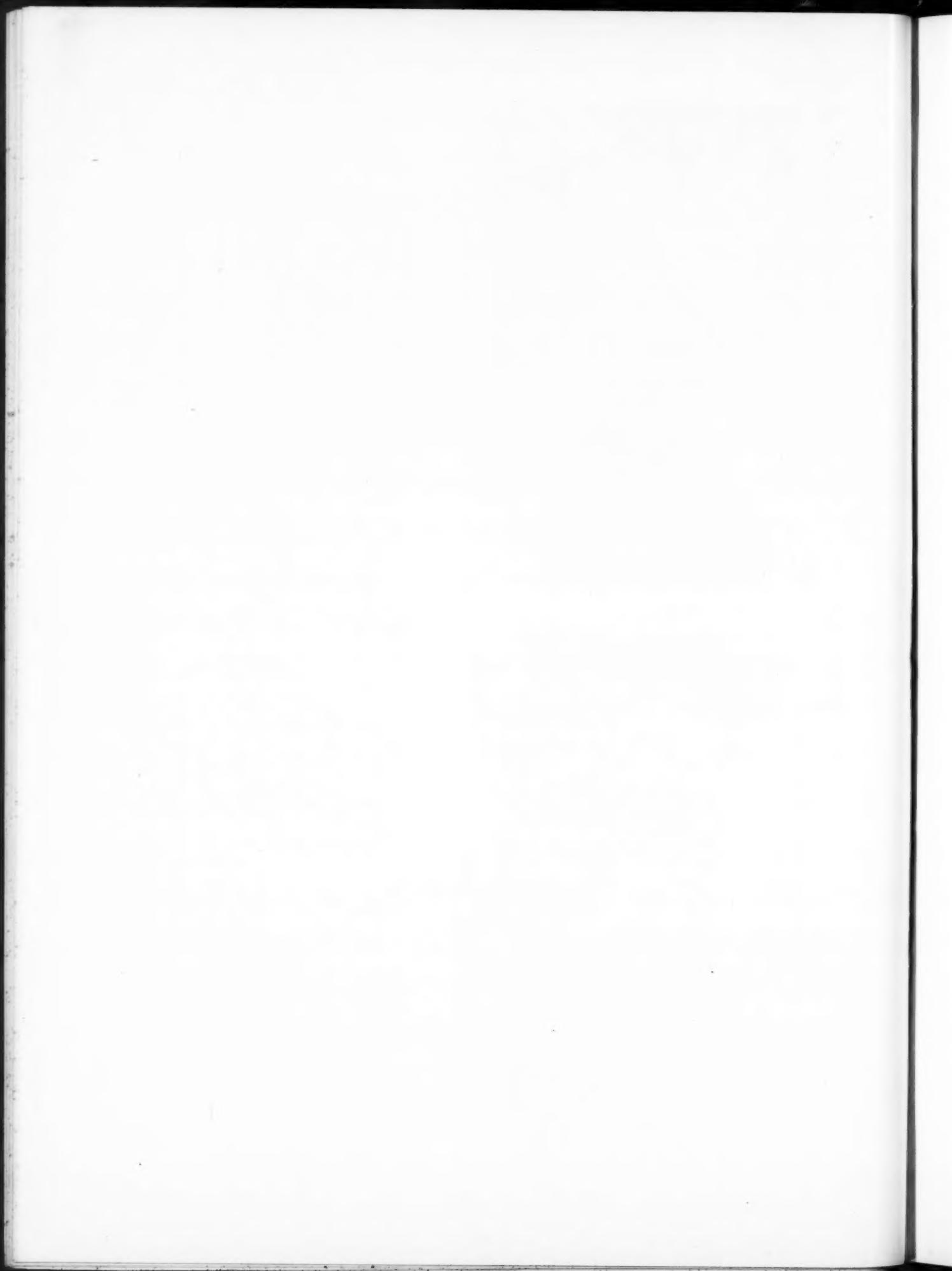


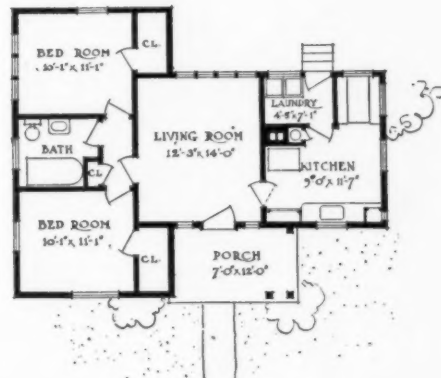
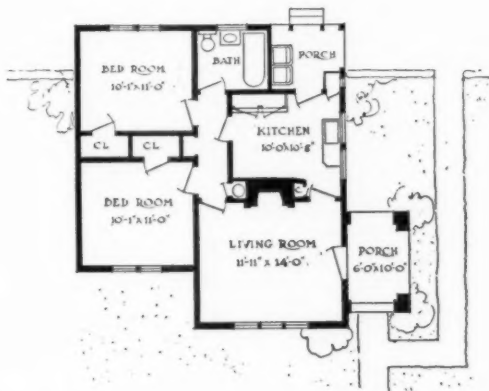
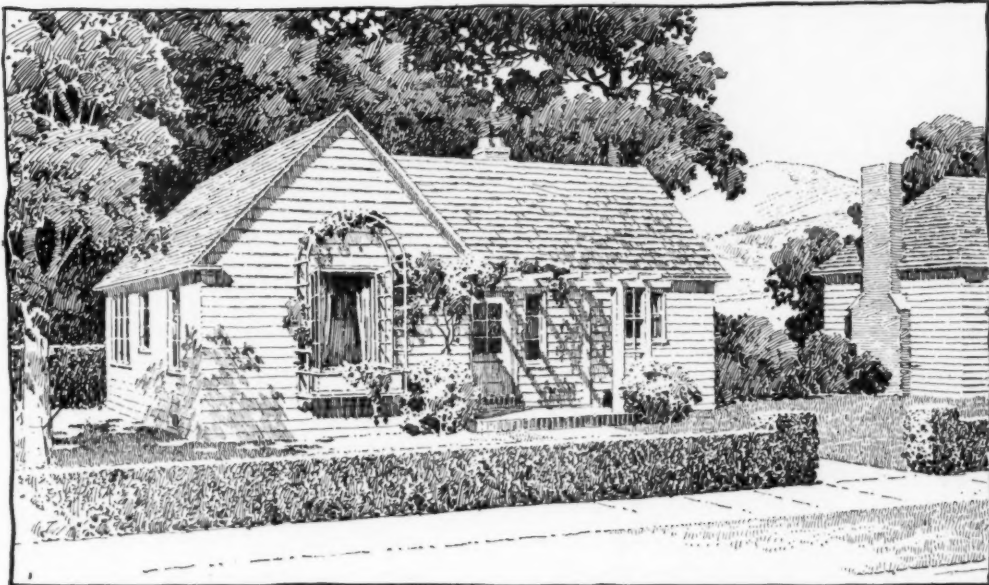
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SECOND FLOOR PLAN

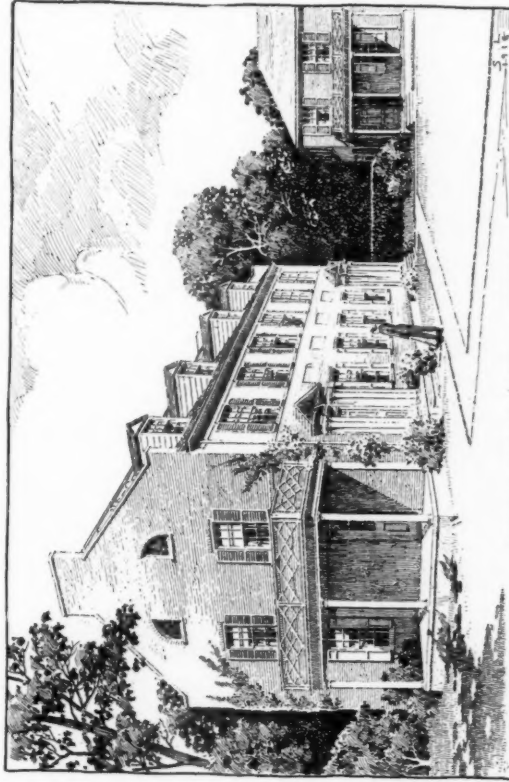
UNION PARK GARDENS WILMINGTON DEL
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
BALLINGER & PERROT RETAINED ARCHITECTS PHILA PA





TWO DETACHED HOUSES AT
SUISUN BAY, CAL.

UNITED STATES SHIPPING BOARD, EMERGENCY
FLEET CORPORATION



SEMI-DETACHED HOUSE

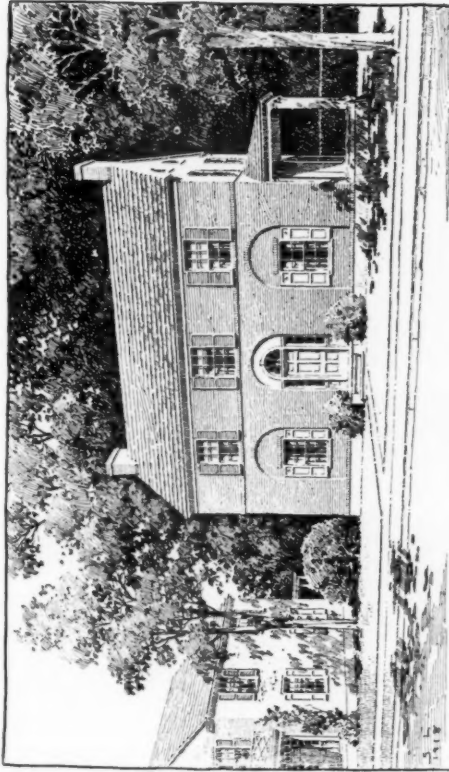
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FIRST FLOOR PLAN

SECOND FLOOR PLAN

YORKSHIP VILLAGE CAMDEN N.J
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ELECTUS D LITCHFIELD RETAINED ARCHITECT NEW YORK



DETACHED HOUSE

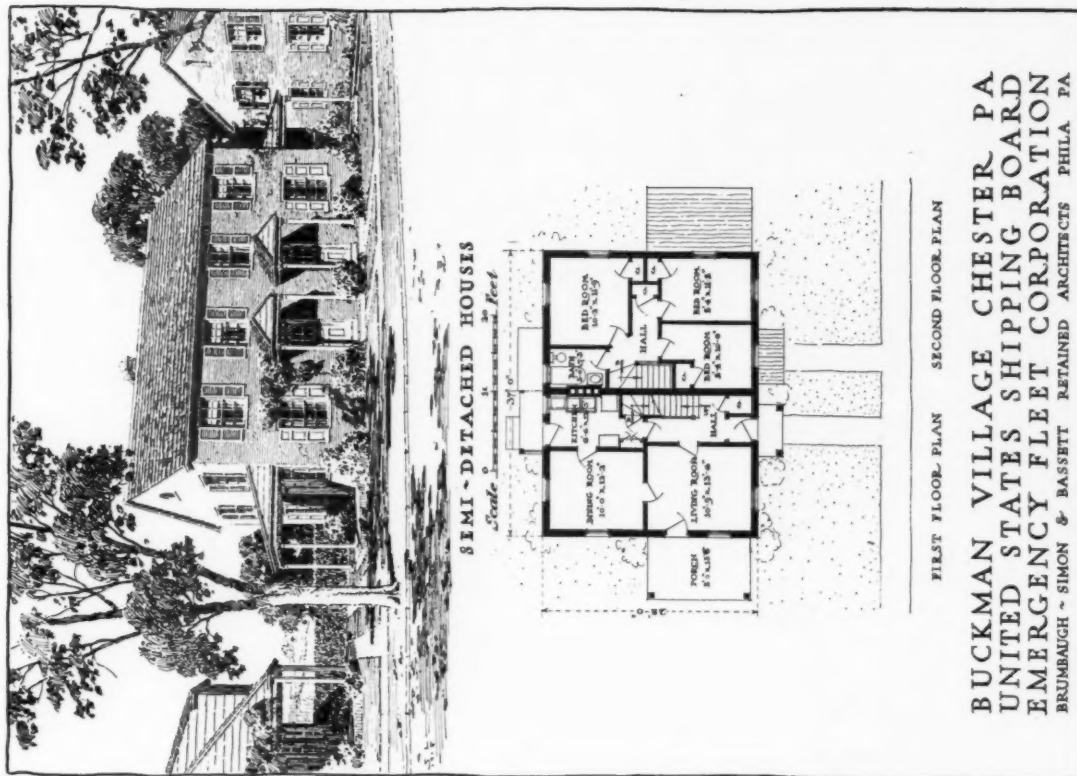
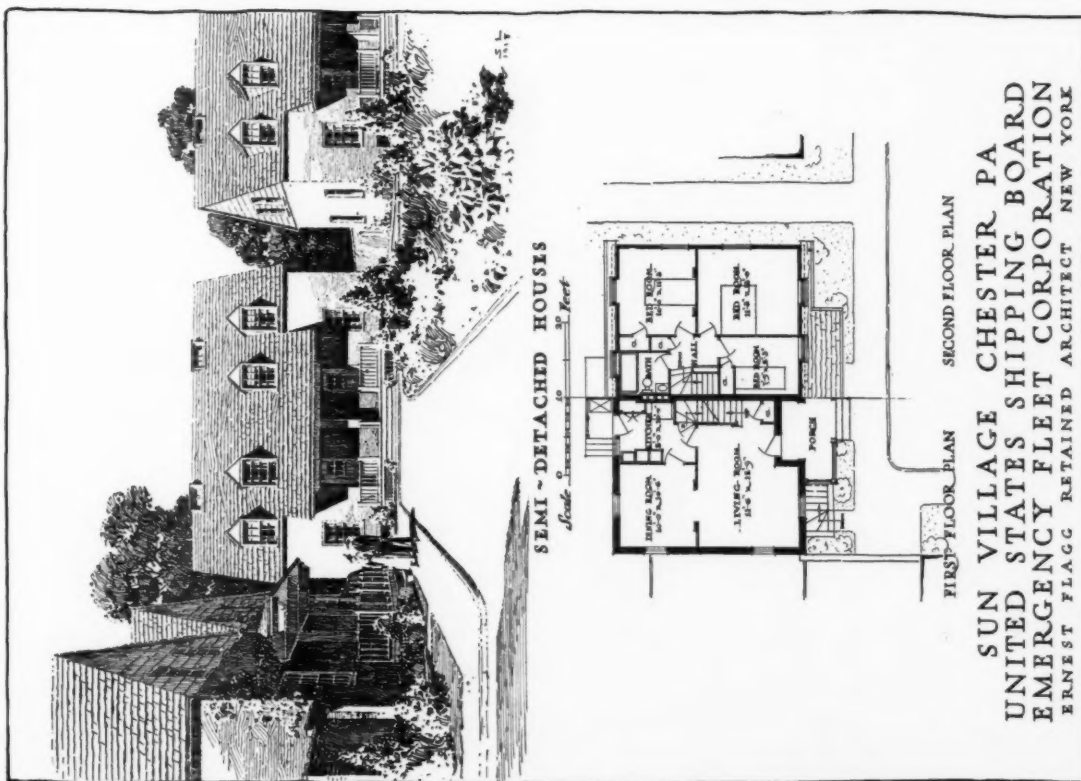
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FIRST FLOOR PLAN

SECOND FLOOR PLAN

YORKSHIP VILLAGE CAMDEN N.J
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ELECTUS D LITCHFIELD RETAINED ARCHITECT NEW YORK



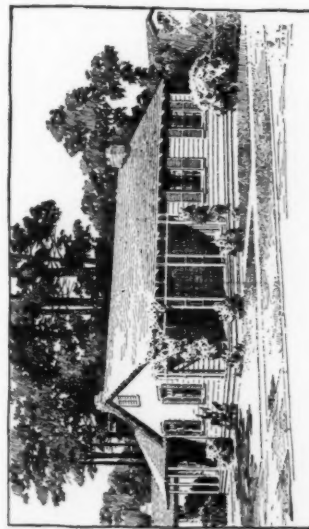
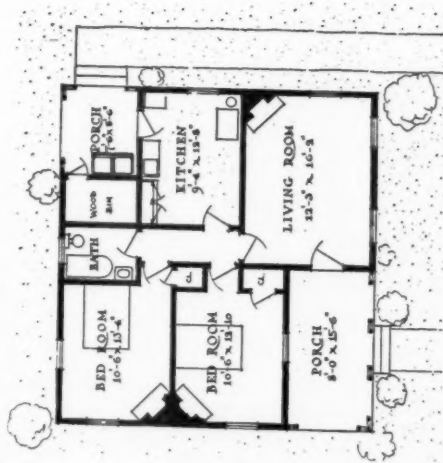
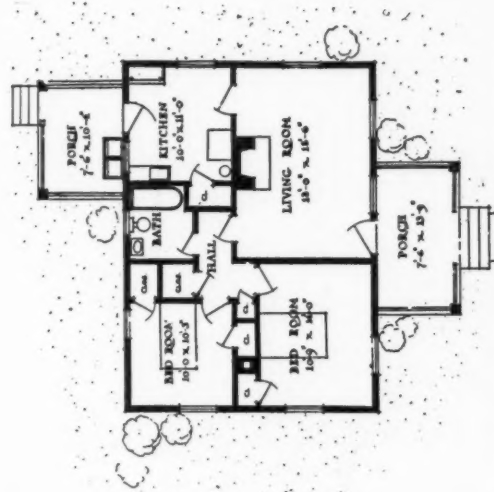
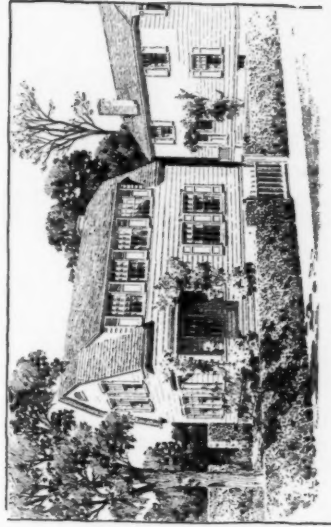
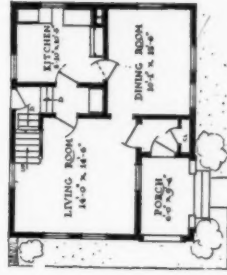
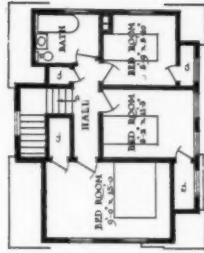


PLATE 72

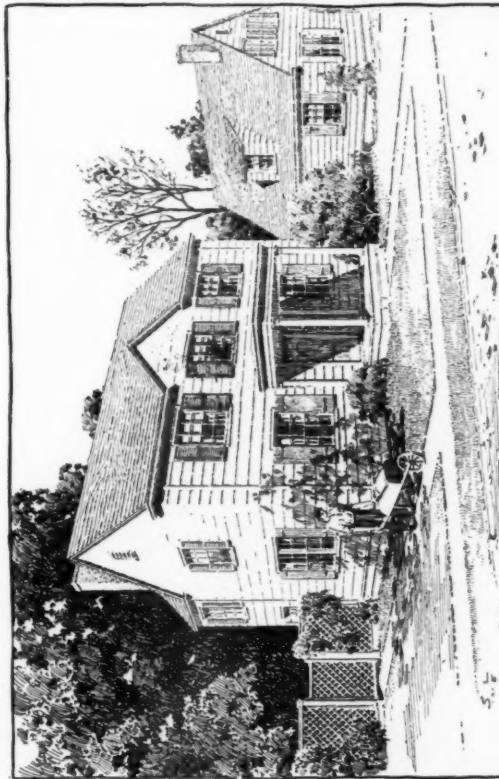
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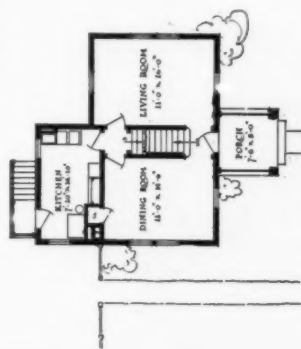
DETACHED HOUSE, FLETCHER PARK,
SOUTH JACKSONVILLE, FLA.



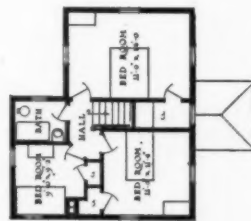
DETACHED HOUSE, MANITOWOC, WIS.



DETACHED HOUSE
Scale 1" = 10' Feet

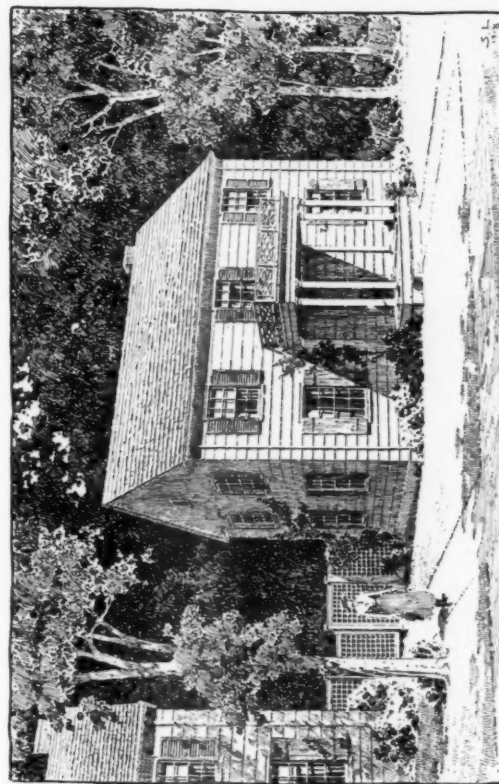


FIRST FLOOR PLAN

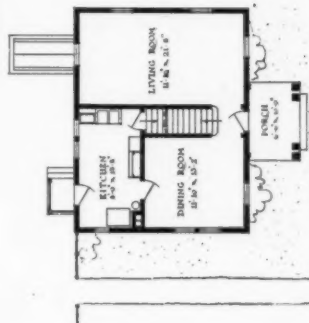


SECOND FLOOR PLAN

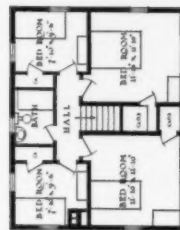
PORT JEFFERSON LONG ISLAND
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ALFRED C BOSSOM RETAINED ARCHITECT NEW YORK



DETACHED HOUSE
Scale 1" = 10' Feet



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PORT JEFFERSON LONG ISLAND
UNITED STATES SHIPPING BOARD
EMERGENCY FLEET CORPORATION
ALFRED C BOSSOM RETAINED ARCHITECT NEW YORK

Current News

Describe Methods to Stimulate Building

Two plans for stimulating building are proposed by Councillor Edward F. McLaughlin of Boston. One plan contemplates a corporation of public-spirited citizens to finance a housing scheme and the other contemplates the carrying out by the city of some such plans as that used by the Government in housing war workers.

The councillor has introduced an order into the City Council, requesting the mayor to consult with the Chamber of Commerce, Real Estate Exchange, Master Builders' Association, Central Labor Union and any other organization that he may consider advisable to "examine into the feasibility of forming a corporation of public-spirited citizens who will undertake and finance the project of providing housing facilities for the great number of people in this city who are not properly provided for."

The other plan he has offered to the Legislature. This act concludes with the following paragraphs:

"Said city, for the purposes specified in Section 1, may acquire by purchase or by right of eminent domain land or buildings situated within the limits of said city, and may erect suitable buildings for dwelling house purposes on land owned by said city or acquired under the provisions of this section. Land acquired by right of eminent domain shall be taken after the manner prescribed by law for the taking of land by the city for highway purposes.

"The said city may sell or lease any land or building acquired or erected under the provisions of this act to such of its inhabitants who are citizens of the United States as may make application for the same in accordance with the rules and regulations to be prescribed by the City Council.

"For the purposes of this act the said city may borrow, on note or bond issues, in excess of the statutory limit and for periods not exceeding twenty years from the date of the passage of this act, a sum or sums not exceeding \$5,000,000."

Veterans to Press for Public Works

In order to provide employment for discharged service men who are searching for work, especially in congested centers of population, Col. Arthur Woods, assistant to the Secretary of War, asks the American Legion, the national organization of American veterans of the war, to co-operate with his group of officers from the Public Works Section in urging the immediate undertaking of \$3,000,000,000 worth of public works pending in this country.

In response to Col. Woods's appeal, re-employment officers of State branches and local posts of the legion will assist his men in canvassing the principal cities where public works projects are pending in the endeavor to stimulate immediate activity. Already contracts amounting to approximately \$75,000,000 have been undertaken as a result of the activity of the Government officers, but Col. Woods informs the American Legion that his representatives will be unable to cover all the pending enterprises without the co-operation of the legion.

Through Dr. Richard Derby, head of the national re-employment bureau of the legion, instructions will be issued to State branches and local posts throughout the country to communicate at once with Col. Woods's travelling

officers, to make arrangements to canvass public works projects in their sections and to impress upon State and municipal authorities the necessity for undertaking immediately as large a part of these projects as possible.

Arrangements also will be made to connect men seeking employment with these enterprises as soon as action upon them has been secured.

Iowa Landscape Architects Organize

The landscape architects of Iowa have recently formed the Iowa Society of Landscape Architects. F. H. Culley, professor of landscape architecture in Iowa State College, has been elected president.

Await Action of Timber Tax Appraisers

CHICAGO, ILL., Aug. 16.—Upon the action taken by the Timber Section of the Internal Revenue Department in administering the income tax law will depend the price trend of lumber, and Chicago architects are watching developments in this field closely. The work of the Timber Section under Major David T. Mason will consist in the valuation of standing timber and the fixing of depletion charges on the basis of the value of property as of March 1, 1913, in the effort to arrive at a fair taxation basis for the lumber industry. Major Mason, a well-known forester, will have the assistance of nine valuation experts who will accompany him on a two months' tour through the country in the administration of the tax law.

Elaborate questionnaires have been prepared for the use of individual lumber owners, covering every point in estimating the value of their timber. These forms have been worked out with extreme care by the Treasury Department officials in co-operation with the Bureau of Economics of the National Lumber Manufacturers' Association. That association is also co-operating in carrying out the tour, the meetings in every section to be held under the auspices of the regional associations affiliated with the national body. It is expected that with all the forces of the industry co-ordinated, and educated by conferences with the valuation experts, a new standardization of the industry will result, and much valuable data be gathered.

Building Exhibit to Be Permanent

Building materials, specialties and equipment are afforded a permanent exhibition home in Minneapolis.

This live plan for exposition is being worked up by the Minneapolis Builders' Exchange, and the entire third floor of the Builders' Exchange building is being leased as exhibition space.

The location of an exposition of building materials in this building is very fortunately placed, as the building, which is 100 per cent rented, is occupied largely by architects, contractors and allied interests.

It is just such planning for concerted action and efficient co-operation as this which is going to give a firm base for the big developments in construction sure to come, because there exists a crying need for them.

Clearing the Land An Incentive to Industrial Expansion

That all lands in the United States better suited for growing trees than for growing anything else, should be used for growing trees, has been a doctrine long preached and generally accepted without question. But Dr. Wilson Compton, Secretary-Manager of the National Lumber Manufacturers' Association, says this is only not necessarily, but not even probably, true.

To explain his assertion he gives the extreme illustration that if 95 per cent of the land of this country were better suited for pasture land than for any other purpose, would we use 95 per cent for this purpose and become a pastoral people; or if 60 per cent of the area of the country were better suited for growing trees than for agricultural crops or grazing, would this country use the 60 per cent for tree growing and "thus have lumber enough to house five times the number of people it could feed." In the state of Maine, Dr. Compton points out, much of the land is best adapted for forest growing, but to feed its people is quite as important as to house them, and it is wiser economy to devote part of the land to raising mediocre agricultural crops than to devote all of it to raising splendid forests.

Dr. Compton looks at the question in a big way and, from the viewpoint of the nation's needs, he concludes that the "clearing of the land has frequently paved the way for industrial and agricultural expansion, which has produced greater wealth than did the forest industries in their prime." If this is true of the virgin forests, it follows that the tedious reforestation in exhausted districts, which many well-meaning foresters advocate, may often be a great waste of capital and of human effort.

Issue New Lumber Inspection Rules Book

CHICAGO, ILL., Aug. 9.—A new edition of the inspection rules book of the National Hardwood Lumber Association is about to be issued, announces Frank F. Fish, secretary of the association. The revised edition, which will include all the revisions and additions adopted at the recent convention will be ready for distribution by the end of the month.

Difficult to Destroy Slum Districts

Natural causes will not eliminate the slums of New York for at least 100 years, according to an estimate based upon a survey of tenement house conditions made public here recently by the Reconstruction Commission of the State of New York. The report was made after Senator Lockwood and other members of the joint legislative committee on housing had visited two specimen tenement blocks in the Cherry Hill district to see what progress had been made since the tenement reform law went into effect in 1901. This is what they found in one block:

Homes of 2,714 persons of whom 561 are children under five years. Families of Americans, Irish, Spaniards, Jews, Italians and Lithuanians living in two and three dark, unventilated "blind" rooms. As many as five persons sleeping in one room, oftentimes three and four in one bed.

Single rooms for which the occupants, working men and women, pay rent of from \$5 to \$16 a month. Income of the tenants vary from \$21.60 to \$80 a month.

Flats minus bathtubs and dumb waiters, absence of the latter meaning that tenants must carry garbage, often as many as seven flights of stairs, to cans in yards or hallways.

During 1918 and 1919, in one block, the rents of eight tenants were raised 50 cents; 162 were raised \$1; nine \$1.50 and nine \$2.

"The only way the last of these old-law tenements will ever disappear will be from natural causes, such as fire, collapse or abandonment by tenants because of conditions which make them uninhabitable by human beings," reported the commission.

Find Places for Art Workers

A report of the placement section of the Art Alliance of America has just been issued by W. Frank Purdy, President of the Alliance. The Alliance is the only organization that maintains a department devoted to find positions for art workers, both men and women, in all branches of industrial art, without fee. The report, which is for the six months from January to June, shows that the Alliance registered 157 men and 208 women during this period, 265 in all, and that it placed 219 of them.

Favors Concrete Roads

ALBANY, N. Y., Aug. 11.—Concrete is the proper material with which to construct roads, thinks Frederick Stuart Greene, Highway Commissioner. He says the State has been wasting money for years in the upkeep of roads built with poor materials. Mr. Greene's records show eighty-one miles of highways, built in eighteen counties, cost \$955,878 to build and \$702,872 to maintain since 1912. In Wayne County a road 3.87 miles long cost \$26,515 and the maintenance charge for seven years was \$37,062.

"The waterbound macadam road is a thing of the past," said Mr. Greene. "Concrete roads are the best and the cheapest in the long run. During the last four years 208 first class concrete roads cost \$138 a mile a year for maintenance. During the same period 2451 miles of waterbound macadam roads cost \$911 a mile a year to maintain."

New Progressive Housing Methods

One of the greatest needs of the modern city is a constructive treatment of the problem of housing. The rapid growth of our great cities, the desire of many large landholders to secure great profits, and the influx of negroes to take the places left vacant by the white immigrants who have returned to Europe have united to make the housing conditions in some American cities almost the worst in the world. Students of sociology have discovered that the most disgraceful slum in the country is found within a mile of the national capitol at Washington.

Nothing has been done in this connection, however, as the leaders of our nation are apparently more interested in other countries. Only a few days ago a credit of five million dollars was extended to the Czecho-Slovak government, and we suppose that the money will be spent to secure better living conditions for the poor in the cities of Bohemia, while hotbeds of vice and Bolshevism are allowed to flourish everywhere in this country.

The problem caused by improper housing is easy of solution, and if the time comes when Americans are interested in America first of all, we may properly use some of our money to make living conditions tolerable for the poor of our own country first.

Naval Architecture Transcends Past Record

The United States Shipping Board has resumed the idea suspended by war activities, to build two huge ocean racers. They will be 1,000 feet long, will use oil as fuel, and with a speed of 30 knots an hour, will cross the Atlantic in four days. Plans have been prepared by the naval architect, W. F. Gibbs of New York, chief of construction of the International Mercantile Marine.

There are to be 10 decks. The ships are to be fitted with an inner and outer skin, as was done with the great White Star liner, Olympic, after the disaster to the Titanic. Moreover, they are to be divided and subdivided into compartments so numerous as to render them unsinkable.

These oil burners have a steaming radius of 7,000 miles. This means that these vessels can make a round trip across the Atlantic without wasting an hour's time in renewing fuel. Their design contemplates the carrying of passengers and their baggage, the mails, express parcels and nothing else. They are therefore expected to create a record in the matter of rapid "turn around."

Eleven New Piers for New York

Dock Commissioner Hulbert, of New York, will immediately begin planning the construction by the city of eleven piers between Clifton and Tompkinsville, Staten Island, Borough of Richmond. This authority has been given him by the Sinking Fund Commission and the Board of Estimate. The estimated cost of construction is \$15,000,000, while the total expenses of the development are placed as high as \$75,000,000. The corporation counsel has been instructed to secure the necessary land by purchase or condemnation.

The annual rental of the piers will be 7½ per cent of the cost of construction. One pier will probably be held as a public pier and lessees have been secured for the other ten.

A public hearing will be held on September 25th on the property transactions, and it is expected that the next day the city will take possession.

Burying a Town Alive

How to bury a town while it is still alive and not only breathing but industriously at work contributing to the national wealth, is told with some sharp language by the *Hartford Courant*. The town is Collinsville, Conn., and the burial, which was recent, was according to methods approved more than a generation ago by the railroad managers of roads that penetrated the old prairie region. The system was common enough then, but gradually became obsolete as the West developed population, and probably was never contemplated as a possibility under Government operation of transportation. But, according to the *Hartford* paper, that is exactly what happened to Collinsville.

All that was necessary was the decision by some one far away, at Washington, perhaps, that trains would not stop at Collinsville, although it has one industrial plant employing 1,000 men and is regarded as the most important station between Hartford and Winsted. The order, of course, automatically cut off the mails, because mails can't go where trains can't carry them, and the Railway Express Company cut off its service for the same reason. People

could still walk into and out of Collinsville, or ride in and out per jitney, but that was the extent of transportation factors. The *Hartford* paper makes the comment that since the Government has done its part to get Collinsville off the map, the map makers should contribute their mite and eliminate the name. That was the common method of dealing with what railroad men called "refractory" towns in the West, but no one expected the Federal Government to imitate it at this late day just as the world has been made safe for democracy.

England Encourages Standardized Parts

The British Government is reported to be placing huge orders for building material. It is stated that 900,000,000 bricks are to be bought and 1,000 standard doors purchased at a time. A separate Government department has just been formed under the Ministry of Supply to deal with the housing needs of the country, in conjunction with the Housing Department of the Local Government Board. Mr. Drower has been appointed head of the new department, with offices at Caxton House, Westminster, London. Arrangements are being made for the supply of materials (bricks, grates, stoves, general house sundries, glass, doors, windows, joinery, etc.), for workmen's dwellings built by local authorities and public utility societies, both these agencies being treated by the Government on the same basis. Small variations in the size and shape of doors and windows will be discouraged and architects will be supplied with a selection of the simpler types to choose from. In the case of windows the department will encourage the use of the same sized sashes as units, the larger windows to be made of multiples of these.

Metric System Is Enthusiastically Indorsed

America's greatest educators are supporting the move made by the World Trade Club of San Francisco to secure the adoption of metric units of weights and measures by Britannia and the United States. "The adoption of the metric system by the United States would facilitate teaching of mathematics and applied sciences in schools," wires President Emeritus Charles W. Eliot, of Harvard University. President Nicholas Murray Butler, of Columbia, has also sent the World Trade Club a telegram of support. Dr. Joseph V. Collins, an eminent educator, declares that the people of the United States lose \$314,000,000 yearly in education because of time wasted in teaching a system so much more complicated and difficult than the metric system.

The large majority of people, whether engaged in education or business, or other live activities are enthusiastic in their endorsement of the metric system and earnest in the hope that it will soon succeed our present inefficient methods.

Erect World's Tallest Memorial

A memorial tower, 2,000 feet high, the loftiest in the world, is to be erected at Flagstaff Hill, Schenley park, Pittsburgh, in honor of the world war heroes of Pittsburgh and Allegheny county. The tower will be mounted on a concrete base, in which there will be a convention hall. An amusement palace will be constructed 500 feet above the ground and an observation platform will encircle the top.

Making Hotels and Hospitals Quiet Places

The patent office at Washington recently issued a patent to Mr. Hiram Percy Maxim, inventor of the Maxim silencer, on a noiseless hotel and hospital. The silencing method appears to be new and different from that used in the well-known silencer for guns. A "silencer" is utilized, however, and it is located upon the roof of the building to be made noiseless. The inventor claims it will cool silenced air in the summer, heat it in winter and free it from impurities.

The idea seems to be to modify from a noise standpoint the air entering the rooms of a building, just as the air entering rooms in the winter is modified from a temperature standpoint, so as to make things comfortably warm. In the new patent hotel and hospital windows would be used for providing light and outlook only, while ventilation would be obtained from intakes much the same as windows, only being located in the blank partition walls.

In explaining the silencer, Mr. Maxim said that it consists of a number of annular compartments which provide a series of circular, endless passages, so that any sound waves entering become multiplied to an extent which brings them above the frequency of audible sound. In addition, there is a non-reflective substance intended to quench all small noise vibrations which may be transmitted through the body of the silencing chambers. This construction is about the size of a hogshead, and is put in place on the roof of the building which is to be made noiseless. The silencer will be made of sheet iron.

An improvement claimed for the new arrangement is that whereas windows opening upon most streets cannot avoid admitting dirt, dust and smoke and all manner of impurities along with the air, in the new construction, air admitted through the silencer located upon the roof and fitted with dirt collecting and cleaning devices, would be both pure and noiseless. The patent includes a method of cooling the silencer air in summer as well as heating it in winter. The cool and quiet hotel room in August in the cities, heretofore a dream of the future, may be an accomplished fact in a year or two if this latest Maxim invention works out in practice.

The new silencer cannot be made use of in existing buildings without serious modifications, because the ventilator ducts in the walls would be difficult to install. The chief use is expected to be in new hotels, hospitals and apartments where the desire is to supply every luxury that modern facilities can furnish. In hospitals in the large cities, where street noises are the source of added suffering and where they cannot be avoided, the new invention is thought to offer great improvements.

Pig Iron an Important Factor in Winning the War

Although many industrial factors contributed to the victory of the Allied cause, none was more important than superiority over the Central Powers in the production of pig iron. The importance of iron and steel as a means to victory meant great temporary changes in the nature of the demand for pig iron and its products, but it is not generally recognized that the conditions surrounding wartime production here and abroad also exerted marked effects on the relative position of the great producing countries, the outcome of which cannot yet be foreseen.

News from Various Sources

First aerial passenger-carrying service in this country to operate on exact daily schedule was inaugurated between New York and Atlantic City, July 26.

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The State of Pennsylvania recently passed a law providing for the registration of architects after due examination by a State board. Details may be obtained from John Molitor, A.I.A. Chief, Bureau of Housing.

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As a health index, Bureau of Census is publishing each week mortality reports from largest cities in U. S. Where data are obtainable for previous five years, averages for corresponding weeks are given for each city.

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Forest Service announces that many attractive building spots in National Forests of the West are open for lease by summer homes enthusiasts. Dept. states that requests for information should be made to nearest office of Forest Service, or can be sent to headquarters in Washington.

* * *

Announced that to settle linguistic difficulties which have arisen with development of aeronautics, Air Service has officially decided to use word "airship" to designate only dirigible balloons and other lighter-than-air types of craft. All heavier-than-air craft will be designated as "airplanes."

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Interest in both Senate and House was focused on means to stem upward trend of cost of living. Sen. Ball's sub-committee continued gathering evidence in its endeavor to find cause of high prices in District of Columbia, while in House measures were introduced to deal with national aspects of problem.

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Col. Arthur Woods, Special Ass't to Sec. of War, announced that Department has decided to stop campaign for public building throughout U. S. Decision taken because decrease of unemployment in many localities has been so marked that some difficulty is reported in obtaining soldier labor for normal industrial operations.

* * *

The completion of plans for the raising of a fund of \$25,000,000 by popular subscription for the erection of a great American memorial in France, commemorating America's achievements in the world war, was announced in New York by John Buell Tiffany, secretary of the U. S. A. in Chateau-Thierry Memorial Association.

* * *

Office of Director of Air Service announces that during six weeks, ending Aug. 2, 56 fires were discovered in California forests by Aerial Forest Fire Patrol, reported promptly, and quickly extinguished. Corps of aviators from three flying stations have made 373 flights over forest, a distance of 45,376 miles, in 38,545 minutes. To this can be added exceptional work of U. S. Army Balloon School at Arcadia, Calif.

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Under Federal Aid Road Act of July 11, 1916, as amended by Act of Feb. 28, 1919, Congress has appropriated a total of \$275,000,000 to be used in aiding States in construction of rural post roads, and \$19,000,000 for use in construction of roads or trails within national forests. The \$275,000,000 appropriated to aid in improving rural post roads is for apportionment among States on basis of area, population, and mileage of rural delivery and star mail routes.

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Housing Problem Still Serious

Little relief for the housing situation is in sight, says Mrs. Henry Moskowitz, secretary of the New York State Reconstruction Commission, who reports that plans for but seven apartment houses were prepared in July. All of these are for high class dwellings, which will not help poorer people in any way.

In the period of 1914-1916, 1,271 buildings were constructed each year, with an average of 21,517 apartments. Since 1916 there has been little building, so that the need to-day is greater than it has been at any time in the past.

Special concessions in the rigid requirements of the tenement law were granted at a meeting of the Legislature, permitting owners of three and four-story houses to alter them so that they can be occupied by three or four families. Under the more lax specifications remodelling will not be as expensive as heretofore.

Post Office Removal Urged

In accord with an editorial suggestion in our issue of June 25, resolutions urging the removal of the old Post Office and Federal Court House in City Hall Park, and the erection of new Federal buildings on the court house site in Mulberry Bend, has since been adopted at a conference of Government and city officials and representatives of civic societies. After setting forth the necessity for the removal of the old building, the restoration of the site to the city as part of the park and the availability of the Mulberry Bend site for new buildings, the resolution appointed a committee with power to act in all matters relating to the project.

Obituary

L. A. Davis, aged sixty-two, died suddenly at his home in Omaha, Neb. He was a pioneer architect in that section, coming there from his birthplace in Seymour, Conn., twenty-five years ago.

George Adolphus Storey, noted English painter, is dead at the age of eighty-five. He was born in London and received his early education in Paris. He was an authority on perspective, and taught in the Royal Academy.

Thomas H. Poole, a prominent ecclesiastical architect, died last week in his studio at the age of fifty-nine. He was born in Shrewsbury, England, graduated from Oxford, and soon after came to this country, where he practiced architecture until the time of his death. Many notable churches are of his authorship.

From London the death is announced of Sir Edward John Poynter, president of the Royal Academy. Born in Paris in 1836, Edward John Poynter, who was the son of an architect, became one of England's great painters and authorities on art. Among his most notable paintings were some of his earliest: "Israel in Egypt" (1867), "The Catapult" (1868) and "Atalanta's Race" (1876).

His education was received in English schools, in which he also studied art, later going to Paris as a student under Gleyre. As a Royal Academician, he became president of the Academy, and he was a director of the National Gallery. His work had included the portraits of many distinguished persons.

Personals

Arthur Dahlstrom, 612 Andrus Bldg., Minneapolis, desires samples and catalogues.

Fred. Michaelis, architect, announces the removal of his office to 512 Ridge Arcade Building, Kansas City, Mo.

Mr. W. C. Hays, recently appointed architect of Berkeley's new school houses, is in the East on business.

Nathan Harris has returned from France and is resuming architecture practice at 21 South Orange Ave., Newark, N. J.

Bascomm J. Rowlett has associated with Albert F. Suntt for the practice of architecture, with offices in the Old Dominion Trust Bldg., Richmond, Va.

George Meisner has opened an office at 56 State Street, New London, Conn., and desires catalogues and samples relating to the subject of architecture.

George C. Hugill and Robert Finkelhor announce formation of partnership under the name of Hugill & Finkelhor, Boyce-Greeley Building, Sioux Falls, S. D.

Messrs. Wright and Sala of Stockton, Cal., have formed a partnership with offices in the Bank of Italy Building. Catalogues and trade literature are desired.

Pearse, Robinson & Sprague, landscape architects, have offices in Des Moines, Ia., where they desire catalogues bearing upon the general practice of architecture.

Mr. Carl Werner, architect, has moved from the Phelan Building to the Humboldt Bank Building, in offices adjoining those of Alfred I. Coffey, with whom Mr. Werner is associated.

Mr. Harry Michaels, who has been state architect of Arizona for the last year and a half, has arrived at Bakersfield, Cal., where he will open an office and engage in architectural work.

Mr. Loring P. Rixford, who gave up his San Francisco architectural practice to enter the government service during the late war, is now in New York City and may locate there permanently.

Joseph L. Weinberg, architect, formerly of J. Milton Dyer, and Smith, Hinchman & Grylls, Detroit, has returned from the service and will practice independently at 614 Bangor Bldg., Detroit.

Mr. C. C. Dakin has resumed the practice of architecture in San Francisco, and for the present his address will be 1266 Waller Street. For some time Mr. Dakin has been at Redding, Shasta County.

Mr. Frederick Shaw, Tacoma architect, has returned after an absence of nearly two years spent as an officer in the United States Army. He has resumed practice with offices at 4140 Tacoma Building.

Mr. Robert M. Taylor, former Los Angeles architect, who was in the service during the late war, is now district manager for California of the Pawling & Harnischfeger Co. of Milwaukee, with headquarters at San Francisco.

W. B. Hancock, of Fargo, N. D., was elected president of the North Dakota Architects' Association at the annual meeting held at Fargo, attended by a majority of the architects in the state. Jamestown was selected for the winter meeting.

Senator Calder Urges 2 Billion "Home Loan Bank" Measure

IN a speech urging action by Congress to stimulate home building Senator Calder of New York, has brought out the fact that the United States is 1,000,000 houses behind the needs of its people. The Senator advocated passage of his bill creating "home loan banks", the establishment of which, he said, would make available \$2,000,000,000 for home construction.

High rents must continue, Senator Calder asserted, unless some way is found to increase the number of home owners. Abnormal profits in building materials should be reduced, he said.

"My own opinion is that we are not, for many years, going to have any cheaper construction. While it is true that wages of workmen are high, still in comparison with the things these wages purchase they are not too high," he continued. "I am in favor of the Government selling all its buildings constructed last year for housing purposes just as speedily as they are disposed of."

"In the United States every year there is need of \$3,000,000,000 of building construction to meet the demands of the country, of this total perhaps \$2,000,000,000 worth is required for housing people."

"The building and loan associations of the United States have encouraged saving for the purpose of home owning. I am told that these associations already have some 7,000 branches. These branches are administered by men of high repute in each community, who, in the big brother attitude, give their services to their fellow citizens. Members of each association deposit small amounts weekly, and when the member's deposit has reached a sufficient amount to cover an equity he may, if funds are available, obtain a loan for home building. The combined business done by these building and loan associations of the United States aggregated during the past year twelve hundred and fifty million dollars, and this business was done at a cost of about three-eighths of 1 per cent. Further, the amount of the mortgages now held by them totals nearly \$2,000,000,000, and their business is conducted practically without loss, their mortgages being continually reduced by system-

atic amortization. However, as large as these assets appear to be, there are not sufficient funds available for home building, because the funds loaned must come from the amounts deposited weekly by the members, and frequently intending home builders are obliged to wait many months for their turn while the funds accumulate."

The purpose of the home loan bank bill is to make part of the \$2,000,000,000 of good assets held by these associations immediately available for building.

"The man engaged in the building industry to-day faces

an entirely different problem than he did four years ago. During the war the policy of the Government was to divide its work among the different concerns in the same line, in proportion to their capacity to perform. There was a fixed price and a fixed profit. There was little or no competition. It was, as the President has put it in dealing with our labor troubles, a matter of collective bargaining. The prices of a given article were practically the same, no matter from where or by whom quoted. To-day one must pay practically the same price for what he buys no matter who sells it to him.

"During the war we abolished the economic law of competition, and in its place have created a system of co-operation where men in every line of industry are assured a profit on their output. This is all very fine in theory, but what about the ultimate consumer? The man who builds houses to-day not only competes with

other men who build under the same conditions but with men who have old houses for sale, houses built when prices for the material and labor that went into them were little over half what they are at present, and while this era of high prices has made large profits for those who were wise enough to purchase houses under old price conditions, the man who builds houses to-day runs a great risk of having difficulty in disposing of them unless they are unusually attractive and different in type from those built in pre-war times.

"No one will buy a new house when he can get an old one nearly as good as new for very much less in price. The problem is, how best can we assure the builder a profit reasonable enough to induce him to go to work. In every city in the nation we are organizing associations to prevent

Lower Prices Through Increased Production

Authorities offer no encouragement that there is an approaching lowering of cost, the consensus of opinion being that we are all subject to influences beyond our control—the world shortage of men, materials and plant, heavy tax burdens, and foreign political complications.

Lowering of prices through the curtailment of exports or the increase of imports seem impossible at the present time.

The only avenue remaining is the lowering of prices through increasing production.

The shortage of man power in the country points to the necessity of improved national facilities of every description. It is to be hoped that we are entering upon an era of industrial development which in effectiveness will outrun that occurring from 1865 to 1890, when machine methods replaced hand methods and tonnage production replaced pound production.

Now that we are facing a shortage of labor and commodity let us improve our tools of industry and develop our national resources, for our assets are surely ample, and let us improve our credit facilities for necessary construction.—Extracts from Senator Calder's Senate Speech.

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profiteering in rents. The man is entitled to little consideration who will take advantage of present conditions and raise rents abnormally, but at the same time recognition must be given to the change in conditions, and the man who is compelled to increase his rents in keeping with larger carrying costs must be distinguished from the profiteer. If we are going to give an encouragement to the builder of new houses; if you are going to bring about a condition whereby rents will be stabilized, then you have got to give the man who takes the risk of building under such condition every possible assistance.

"On every hand we hear men argue that the workmen of the nation should have a better understanding with the employer, and that there should be a division of profits. I am for all of these things, but there is a degree to which co-operation and collective bargaining can go which may completely destroy the entire business fabric, and unless a way is found to prevent abnormal profits in building materials, thereby tremendously increasing the cost of production, then there must be no complaint against high rents and greater prices for the sale of the finished building. My own opinion is that we are not, for many years, going to have any cheaper construction. While it is true that wages of workmen are high, still, in comparison with the things these wages purchase, they are not too high. There is no evidence of the necessities of life being materially reduced in price.

"In the United States every year there is need of approximately \$3,000,000,000 worth of building construction

to meet the needs of the country. Of this total perhaps \$2,000,000,000 worth is required for the housing of the people, the rest being used for industrial and amusement purposes.

"To-day in the United States we are short nearly \$4,000,000,000 worth of houses for our people to live in. We are something like a million homes behind the need. And for that reason those who have made a business of the construction of houses should have no misgivings about the beginning of construction, despite the high prices. Every assistance should be extended to enable our people to build or buy their own homes. Where there is a community of home owners no Bolsheviks or anarchists can be found. It is written in history since the beginning of civilization that where people reside in their own houses there the best in government and civilization exists. And so if Congress can do anything at all to relieve the present needs of the people in the matter of homes, it should do so at once. I have pointed out two ways in which they can help; first, by creating this home-loan banking system, thereby making available at least \$2,000,000,000 of existing assets for building purposes; and, second, by relieving from taxation the income on a limited amount of real-estate mortgages in the hands of individuals, thereby encouraging investment in securities of this character, in the end making sufficient funds available for building purposes. These measures, in my opinion, would be exceedingly helpful, and I hope Senators will examine them and, if they agree with me, assist in securing their enactment."

Labor Unrest Must Be Settled Before Advancing Building Material Prices Can Be Stabilized

THAT the peak of the present building material price advance can alone be reached when there comes a final settlement of labor wage scales, which are now causing a spirit of unrest in many sections of the country, was the opinion generally expressed this week by leading architects and builders. Only when labor troubles in the construction trades are finally adjusted will the last bar to an open building market be removed.

In the near future the demand for building materials, in spite of being thwarted as it is by hindrances in labor circles, will probably overshadow supply so completely that the price advance will continue unabated until the next building season opens, with values higher than at any time since the war. At present, however, there are a few commodities left that have not participated in the latest sharp post-war increase. Among these may be mentioned structural steel, cement, common brick, terra cotta and building stone. The rest of the list has shot ahead by leaps and bounds, led by certain grades of lumber.

Manufacturers of building materials are finding it impossible to supply the demand, there being an increased volume of business in the New York territory of more than 100 per cent since February. This is considered remarkable by the building industry in view of the many labor disturbances that have interfered with construction activity during the past several months. They feel that this increase, however, will be negligible when labor difficulties are settled and construction that is now being held up is allowed to proceed. There is at present a tremendous demand for lumber, concrete, brick, plaster that manufacturers are having difficulty in supplying.

This demand has made price movements in the past month decidedly forward. Unable to keep pace with orders received, the inevitable tendency has been, and will continue to be, higher selling prices. Burt L. Fenner, of

McKim, Mead & White, architects, as chairman of the special committee on housing of the Merchants' Association of New York, ably summed up the situation when he said:

"The stocks of merchandise the world over were depleted during the war, while since then the expectation or hope that prices would fall has continued sales by merchandisers without corresponding purchases. This situation cannot continue long. There must soon be a marked increase in manufacturing to complete the depleted stocks of merchandise. The devastated countries of Europe have commenced extensive reconstruction operations, the results of which will be seen in increased activity of industrial plants the world over."

The increasing number of building projects, either under way, or about to be commenced, shows decidedly that there is no more hesitancy about going ahead with construction. There now is a general feeling that there should be no further delay awaiting lower prices. Those who watched the steady advance since the first of the year have seen how in one month the price of materials on a small building job increased more than a hundred dollars. Estimates to-day on another minor operation are \$200 over figures submitted in May.

This clearly shows that those who heeded the cry of Build Now! when it was first sounded after the signing of the armistice, and did not wait for a possible slight price decline, have proven the soundness of this reasoning. They saw that there was no time like the present and the wisdom of their judgment cannot be gainsaid. Many have learned their lesson by now, but there are still a few who are holding off building, blind to the inevitably higher selling prices to come before the labor situation is adjusted.

Labor is determined that in the future a larger portion of the profits of business enterprises than heretofore shall go to workers. Economists believe this will continue and

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that labor's return, chiefly in the form of higher wages, will be greater than it has been. So far it seems to have been the policy of most manufacturers to increase the price of their products to meet increased labor wages. This policy, because it has been general, has caused increased living costs. In addition, it has made for further demands from labor for increased wage scales to meet advancing living costs. This alternating of increased wages and commodity prices must stop. There is but one way to accomplish price recessions and that is through increased

production and decreased profit per unit in construction.

Manufacturers must make their profits through an increased volume of business, with less profit per unit of product. Production costs must be reduced by improved methods of management, more efficient machinery, and co-operation and earnest efforts of employees. Through this alone can come the solution of the problem. It will come slowly, to be sure, and in the meantime prices cannot recede as long as labor is determined to maintain present wage scales.

Late Building Material Market Reports

(From Our Special Correspondents)

Building Strike in New York Hinders Housing

Buildings which were being rushed in order to relieve the housing situation in New York City may be delayed indefinitely by a strike of cement masons, plumbers and painters, as well as of carpenters. The last named have been out for some time. The painters are demanding a forty-hour week of five days, with a wage of \$40. The bricklayers and tile layers may also go out, it is reported.

The dispute between the Plasterers' Union and the Building Trades Employment Association resulted in a lockout of some 1,000 workers on Saturday. This was the outcome of the plasterers' strike two months ago. The dispute was based on the question of whether a foreman should be responsible to a trade board on which both parties were to be represented or to one controlled by the unions.

The employers state that they are afraid to yield to the men without assurance that their demands will not be increased in a short time. They say that the plasterers' strike is broken and that the work is going on satisfactorily.

The difference between the wages received by an unskilled laborer and a college professor's salary was strikingly emphasized in New York City this week. A large contracting firm telephoned Major Warren Bigelow, director of the Reemployment Bureau, for a gang of laborers to be paid \$37.20 a week each. Simultaneously the president of a college telephoned F. A. Giffin, chief of the division for executives, technical and professional men, for a professor of mathematics at a salary of \$1,000, which is \$19.23 a week.

Pass Bill Aiding Contractors

WASHINGTON, D. C., Aug. 16.—The House has passed the Langley bill for the relief of contractors and subcontractors for postoffices and other buildings and work under the supervision of the Treasury Department and for other purposes. The bill will be presented to the Senate Committee on Public Buildings and Grounds at the next meeting.

The House committee, in reporting the bill, was unanimous in their decision to show the good faith of the Government to the contractors. The Acting Supervising Architect of the Treasury informed the committee that it would require about \$2,000,000 in reimbursements. There have been several other instances where the Government

has saved contractors from ruin when engaged in the construction of public buildings. Mr. Langley explained that the object of the bill was not to allow the beneficiaries under it any profit, but to pay for losses resulting from the direct action of the Government.

Redfield Sees No Price Recessions for Several Years

WASHINGTON, D. C., Aug. 18.—Secretary of Commerce Redfield is of the opinion that there will be no price recessions on building materials for several years. In a statement to THE AMERICAN ARCHITECT last week, the cabinet officer advanced two reasons to support his views—the general rise in prices and the forthcoming demand for materials, which he expects will be unusually large. He believes high prices are the result of favorable psychology enabling everybody to take advantage as the opportunity affords.

Mr. Redfield said that the building boom would continue indefinitely, due entirely to the needs of the reconstruction era. No downward revision to pre-war price levels, the secretary stated, can be expected within an eight-year period. This applies only to a general change, as it is likely that individual commodities may be sharply reduced in price through local or national influences. The secretary expressed the view that there is no indication of profiteering in building materials, though there may be a few isolated cases in existence. He contends thrift practiced with war-time diligence will force prices down in the coming era.

The July report of the Federal Reserve Board supports the arguments advanced by Secretary Redfield for the continuation of high prices. The business outlook is good, with increased activity in many of the basic industries. Instead of a labor surplus indicated this spring, fear is expressed of an impending shortage. There have been many reports of lack of raw materials, the Federal Reserve Board reports, in commenting on sustained confidence.

Just what effect these statements will have on the Government's building program, as controlled by the House Committee on Public Buildings and Grounds, is difficult to determine. Chairman Langley postponed further consideration of the bills providing for appropriations needed to construct Federal buildings, firmly convinced that prices of building materials would decline, thus permitting enforcement of the majority's program of economy.

Representative Fitzgerald, of Massachusetts, in a speech

(Continued on page 258-A)

Department of Architectural Engineering



WASHINGTON SCHOOL, BAYONNE, NEW JERSEY
DONALD G. ANDERSON, ARCHITECT

The Mechanical Equipment of Washington School, Bayonne, New Jersey

DONALD G. ANDERSON, *Architect*

THE Washington School building, recently opened by the municipal authorities of Bayonne, New Jersey, furnishes an excellent example of the latest developments in American elementary school buildings.

This school is located on Avenue B between Forty-seventh and Forty-eighth Streets in the Third Ward of the City of Bayonne. It contains in addition to thirty classrooms for general instruction, classrooms for instruction in cooking and sewing, a kindergarten, two workshops, administrative offices, toilet rooms, indoor play spaces for boys and for girls, a large auditorium and a gymnasium with shower baths and dressing rooms connected thereto.

The classrooms are located around the outer walls of the building and open into corridors

which in turn surround the auditorium and gymnasium located in the center of the building. This arrangement affords excellent facilities for both daylight and ventilation. The gymnasium adjoins the auditorium directly at the rear of the stage, and its floor is at the level of the stage. Thus by folding back the doors which form the rear partition of the stage, the major part of the gymnasium is disclosed to the view of the spectators in the auditorium, and unusual opportunities for school exhibitions and entertainments are thus afforded. This can be readily seen from the illustration.

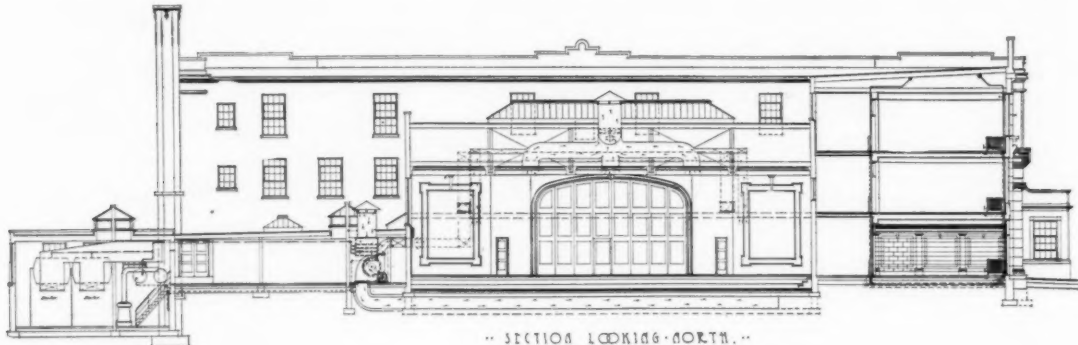
The building is three stories high, without basement, and approximately two hundred feet square. It is of fire-resisting construction, of reinforced concrete, with outer walls of brick. The floors in the school rooms have a three-inch fill over the

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concrete slab, surmounted by a rough and finished wooden flooring. The playgrounds have cement floors while the floors of both the corridors and toilet rooms are finished with terrazzo.

ILLUMINATION.—Throughout the classrooms the direct-indirect type of lighting has been used. The fixtures are constructed with a sixteen-inch shade and twelve-inch bowl containing 150-watt gas-filled lamp. Four fixtures are hung in each classroom, excepting in the larger special rooms where six

The ceiling of the auditorium is flat and is flush with the lower chords of the steel roof trusses, which are eight feet deep. In the auditorium ceiling are six large glass ceiling lights which afford excellent natural lighting from above by day. The large space above the glass lends itself admirably to concealed lighting and accordingly from six to eight intensive enameled iron reflectors, each containing a 100-watt lamp have been mounted above each of these glass ceiling lights. By proper choice



SECTIONAL VIEWS, WASHINGTON SCHOOL, BAYONNE, N. J.

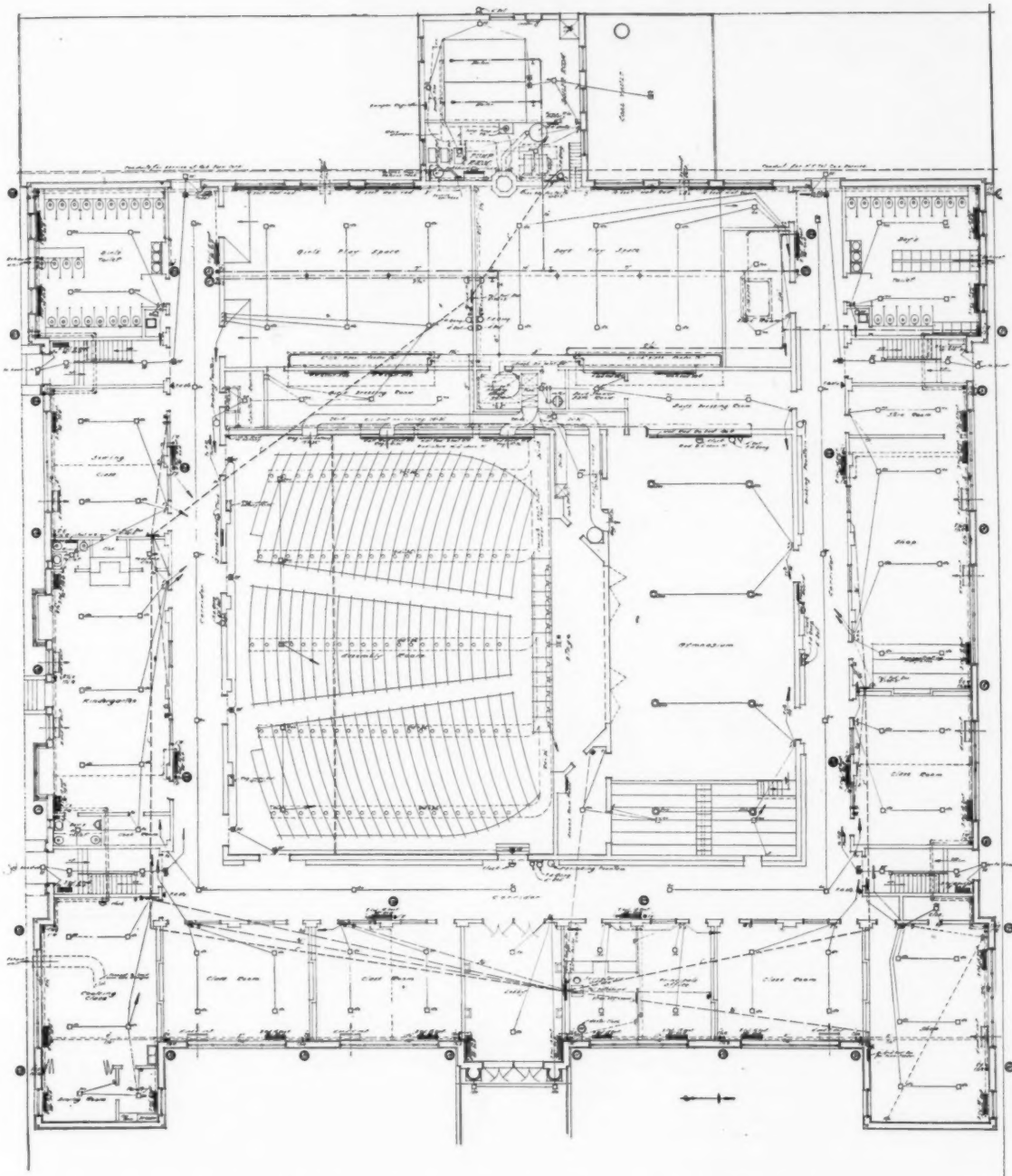
Note arrangement of heating and ventilating ducts

are used. Fixtures are controlled in groups of two by push button switches near the door. The lighting arrangement for a typical classroom is shown.

In the toilet rooms, play spaces, corridors and similar places, direct fixtures are used, equipped with extensive reflectors of doric pattern moonstone glass. The gymnasium ceiling has heavy exposed trusses. Here direct fixtures are used with the stems of such length as to avoid the casting of shadows by the trusses. Each of the eight fixtures is equipped with an intensive enameled iron reflector surrounding a 300-watt lamp and protected by a wire guard.

of mounting height above the glass, these fixtures are not visible by day, and on the other hand the "spotted effect" so often noticeable with this type of installation is avoided when these fixtures are in use. At both sides of the auditorium direct-indirect fixtures are suspended from the ceiling, so as to produce uniformity of illumination in all parts of the room. These fixtures consist of 20-inch moonstone glass dishes of simple but ornamental design, each containing a 300-watt lamp. Similar fixtures with 16-inch dishes and 200-watt lamps are suspended under the gallery. The resulting illumination is effective, uniform, restful to the eye

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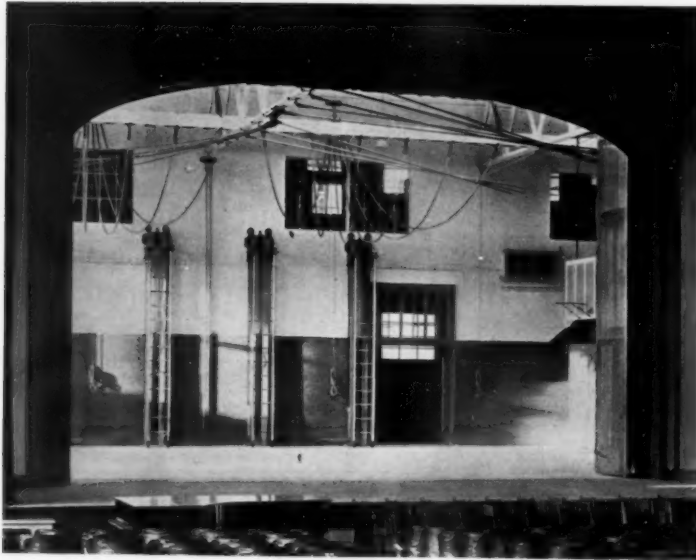
FIRST FLOOR PLAN, WASHINGTON SCHOOL, BAYONNE, N. J.

Showing heating, ventilating and electric wiring

DONALD G. ANDERSON, ARCHITECT

EADIE, FREUND & CAMPBELL, CONSULTING ENGINEERS

THE AMERICAN ARCHITECT



VIEW OF GYMNASIUM THROUGH PROSCENIUM OPENING OF AUDITORIUM

Photograph taken at night to show effect of gymnasium illumination

and pleasing in decorative effect. The photograph on page 255, taken at night, illustrates this feature.

The stage is illuminated by a row of 100-watt units with intensive metal reflectors placed near what corresponds to a proscenium arch and concealed from the audience by a suitable valance. When the rear stage doors are opened the rear of the stage is illuminated by the gymnasium fixtures. Control of the auditorium lighting, excepting exit lights, is from a room adjoining the stage. Receptacles for the orchestra and for a desk lamp are provided at the front of the stage.

In the gallery a special double wall-receptacle is provided for moving picture equipment.

The lobby at the main entrance to the building is lighted by two direct-indirect fixtures each having a 14 $\frac{1}{4}$ -inch dish of moonstone glass of simple design and a 150-watt lamp. Suitable wrought iron brackets are provided outside at the main entrance.

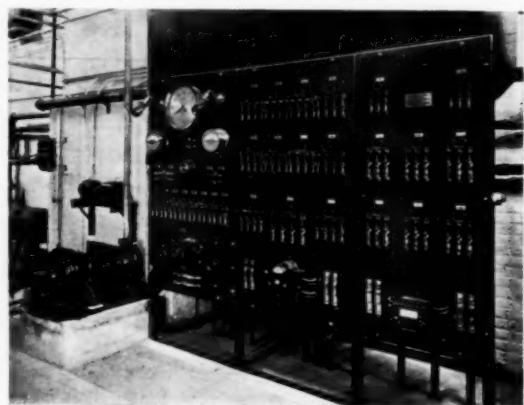
HEATING AND VENTILATION.—The heating and ventilation of the classrooms is accomplished by means of direct radiation supplemented by ventilating units. One of these units is installed in each classroom (see illustration of typical classroom) excepting in the larger special classrooms where two are used. The details of the construction of one of these units are shown in Fig. 1, and their operation is as follows:

Each unit consists of a small electric motor driv-

ing two overhung multiblade fans mounted in a substantial metal case, which also contains an indirect radiator and a water pan, deflector and damper. The fans, which are located near the top of the case, draw air from outside through a register box placed in the wall just below the window sill. The fans discharge the air down through the radiator and against the water pan where it is deflected upward and out into the room. The incoming air striking the ceiling is spread out and diffused downward through the room, displacing the vitiated air which is drawn into the corridors through grilles in the lower panels of the doors. The air from the corridors escapes to the outside through four large ventilators in the roof. Registers in ceiling and floor above connect the lower corridors with those

above. An exhaust fan having a maximum capacity of 9900 cu. ft. per min., driven by a $\frac{5}{8}$ -H.P. motor is provided in a by-pass at each roof ventilator. Under normal atmospheric conditions operation of these fans is unnecessary. The units are so arranged that by operating a mixing damper only part of the incoming air is passed through the radiator. Arrangement is also made for recirculation of the classroom air for rapid heating in the mornings before sessions begin.

In the toilet rooms and cooking class exhaust units are installed to provide quick air changes.



MAIN SWITCHBOARD LOCATED IN PUMP ROOM

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The motors are wound for direct current at 110 volts and are supplied from a special motor generator set located in the pump room. The operation of these unit fans is controlled from the pump room. The temperature of each room is regulated by operation of the mixing damper.

The heating and ventilation of the auditorium is effected by blowing tempered air through concrete ducts located underneath the floor up through 8-inch mushroom ventilating heads placed underneath the seats. Air is also introduced

light and also in the corridors and indoor play-spaces to provide even temperature throughout.

The use of the heating and ventilating system described has obviated the necessity of an extensive system of ducts and thus made possible the omission of the basement.

Steam for the heating system is supplied from two 125-horsepower cross-drum boilers. The heating system is of the two-pipe vacuum return type with thermostatic valves on the return connections and gravity drip on the heels of the sup-



AUDITORIUM PHOTOGRAPHED AT NIGHT

The pleasing effect of the concealed lighting is evident

through registers in the west wall near the windows. A double discharge fan having a maximum capacity of 15,000 cu. ft. per min., driven by a 4-H.P. motor, supplies this air. The air in the auditorium is exhausted through registers in the ceiling and at the rear below the gallery by means of an exhaust fan discharging up through the roof.

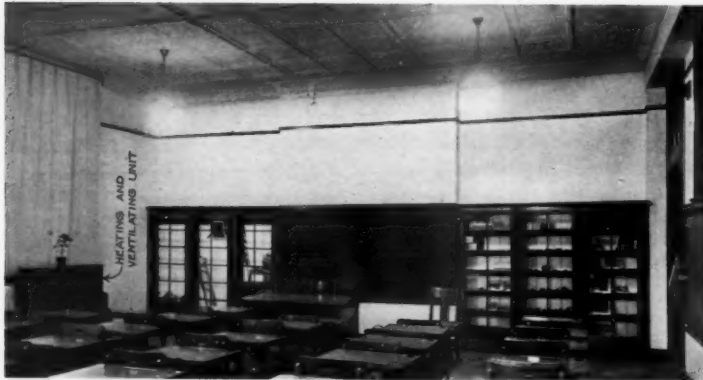
The fan supplying the auditorium also supplies tempered air to the gymnasium. Exhaust ventilators are provided in the roof over the gymnasium.

Direct radiation is also provided in the auditorium and gymnasium near the windows and sky-

ply risers. Condensed steam is returned to the boilers by two motor-driven and low-pressure boiler feed pumps.

ELECTRIC EQUIPMENT.—Two-phase 60-cycle alternating current at 220 volts for power service and single-phase 60-cycle alternating current at 110-220 volts for lighting service are brought in underground from the pole line of the Public Service Electric Co. to a service cabinet in the pump room, from which feeders run to a main distributing switchboard. From here feeders to the lighting panels and the motors are run.

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TYPICAL CLASSROOM, WASHINGTON SCHOOL

Heating and ventilating unit shown at left. Note uniformity of artificial illumination

This main switchboard is built of oiled slate with polished copper feeder control switches. On it is also mounted a clock operated on the school clock system. There is a special direct-current panel which contains the control equipment for the 10-kilowatt motor generator set supplying the ventilating units and also for a small motor generator set which supplies the low potential signal and clock systems. This panel is equipped with an ammeter, voltmeter and switches to utilize these with either motor-generator set. Switches for the direct-current feeders are provided. The feeders are brought down to the switchboard through a pull box mounted directly above it and through pipe work with conduit fitted outlets opposite the respective switchboard terminals. The connections at the rear of this switchboard are a striking example of careful workmanship.

In addition to the equipment already mentioned there are an electric motor-driven house pump, air compressor for water service and a sump pump. A special power feeder is run to the shop.

There is a system of International Time Recording Clocks consisting of a master clock in

the Secretary's office and thirteen secondary clocks located in the corridors, auditorium, gymnasium, etc. In each classroom is a buzzer operated from a strap-keyboard in the Secretary's office, and a 4-inch bell in each of the corridors, auditorium, play-spaces, etc., operated from the same point.

The fire alarm system consists of break-glass stations at various points indicating on an annunciator in the Secretary's office. From this point the Secretary can ring 10-inch alarm gongs located at various points in the building.

A small storage battery is operated in conjunction with the

small motor-generator set to supply current for these low potential systems.

Each classroom contains a wall telephone connected through an operating switchboard in the Secretary's office to the service of the N. Y. & N. J. Telephone Co.

The Washington School was designed by Mr. Donald G. Anderson, School Architect of Bayonne. The lighting, heating, ventilating and electrical equipments were designed by and installed under the direction of Eadie, Freund & Campbell, Consulting Engineers of New York City.

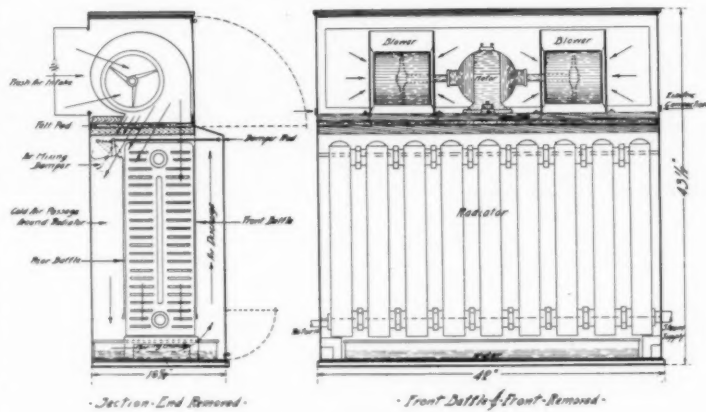


FIG. 1—HEATING AND VENTILATING UNIT

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Constructive Criticisms Solicited on National Public Works Bill

THE following has been received from M. O. Leighton, Chairman Engineers, Architects & Constructors Conference on National Public Works, 502 McLachlen Building, Washington, D. C.:

The "Jones-Reavis" bill introduced into Congress to create a National Department of Public Works (printed in full in THE AMERICAN ARCHITECT of July 23), and sponsored by this organization, is receiving wide praise from the engineers, architects and constructors of the country. A few constructive criticisms and suggestions are being received and the officers of this organization solicit many more. It is as impossible to draw a perfect bill as it is to pass a perfect law. The committee that drew the "Jones-Reavis" bill is conscious of its defects. It is also conscious of certain conditions and necessities which cannot be changed or removed. Therefore in framing the bill the committee has been controlled by these factors. It is not expected that the bill will be considered by Congress before the fall term, therefore ample time is afforded to engineers, architects and constructors and all others interested to file their criticisms with this Conference so that when hearings are held in committees of Congress advantage can be taken of all suggestions in recommending committee amendments. Copies of the bill have been widely distributed, but more are available and all who desire may secure one on application to Conference headquarters. Every criticism and suggestion will be welcome and discussed with the contributor.

Much is being said of late concerning the engineer as a citizen and the methods by which he may acquire "influence" in governmental affairs.

The organization of the conference on public works has been completed by the appointment of a Finance Committee and a Treasurer. The former consists of D. A. Garber, Chairman, Francis Blossom, J. Parke Channing, Col. Peter Junkersfeld, and W. H. Nichols, Jr. The Treasurer is Mr. Milton E. Ailes, Vice-President, Riggs National Bank, Washington, D. C.

The following is a list of the chairmen of the State campaign committees appointed to date, which will conduct the campaign of education within their respective jurisdictions. Organizations in States not here mentioned are in process of formation.

It is hoped to have this entire organization completed and in active operation in the near future. The chairman of the committee in your state will be glad to cooperate with you.

<i>States</i>	<i>Chairmen</i>	<i>Addresses</i>
Arizona	Col. Epes Randolph	Tucson
Arkansas	Charles H. Miller	Little Rock
California	C. E. Grunsky	San Francisco
Colorado	Richard A. Parker	Denver
Florida	G. R. Benton	Gainesville
Georgia	Earl F. Scott	Atlanta
Idaho	A. J. Wiley	Boise
Illinois	W. L. Abbott	Chicago
Indiana	H. O. Garman	Indianapolis
Iowa	J. H. Dunlap	Iowa City
Kansas	Lloyd B. Smith	Topeka
Louisiana	Major W. B. Gregory	New Orleans
Maryland	J. E. Greiner	Baltimore
*Massachusetts	George F. Swain	Cambridge
Michigan	Gardner S. Williams	Ann Arbor
Minnesota	W. H. Hoyt	Duluth
Mississippi	W. L. Thompson	Greenville
Missouri	Baxter L. Brown	St. Louis
(Eastern)		
Missouri	J. Lyle Harrington	Kansas City
(Western)		
Montana	M. H. Gerry	Helena
Nebraska	G. E. Condra	Lincoln
Nevada	J. G. Scrugham	Carson City
New York	George W. Fuller	New York
(Eastern)		
New York	Wm. B. Powell	Buffalo
(Western)		
North Carolina	Col. J. H. Pratt	Chapel Hill
North Dakota	E. F. Chandler	University
Ohio	E. G. Bradbury	Columbus
Oklahoma	Max L. Cunningham	Oklahoma City
Pennsylvania	Not chosen as yet	
(Eastern)		
Pennsylvania	Morris Knowles	Pittsburgh
(Western)		
South Carolina	S. B. Earle	Clemson College
South Dakota	Homer W. Doerr	Pierre
Texas	T. U. Taylor	Austin
Utah	R. C. Gemmel	Salt Lake City
Virginia	Thomas L. Watson	Charlottesville
West Virginia	Mayo Tolman	Charleston
Wisconsin	F. A. Vaughn	Milwaukee

*And all New England.

The Vitiating of Garage Air by Automobile Exhaust Gases

UNDER the above title the Bureau of Mines, Department of the Interior, has recently issued a technical paper, of which G. A. Burrell and A. W. Gauger are the authors.

Among the investigations conducted by the Bureau of Mines there have been several relating to the dangers attending the use of gasoline for fuel and other purposes. Among these dangers is that of the vitiating of the air in inclosed places, such as mines or automobile garages, by the carbon monoxide in the exhaust gases of an internal-combustion engine burning gasoline.

The occurrence of a number of accidents, some of them fatal, whereby people have been overcome

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through breathing air fouled by the exhaust gases from automobile engines, discloses a hazard that is more serious than it is generally thought to be. Automobile engines frequently run in garages for considerable periods of time, and the exhaust gases unless removed by proper ventilation may make the atmosphere of the garage unsafe. Running an engine in a garage is particularly hazardous in winter when the weather is too cold for keeping doors and windows open.

In conclusion this paper states:

Enough carbon monoxide gas may be expelled from the exhaust of automobile engines to render the air of garages poisonous.

In tests made by the authors, garage air was rendered decidedly dangerous after an automobile engine had been running 15 minutes.

An automobile engine should not be run in a small garage unless the doors and windows are wide open.

The results of the experiments recorded in this paper deserve careful analyses, and it would appear that while in the small garage with but one or two cars, adequate ventilation to maintain safe conditions can be provided by open doors and windows, yet in the larger garages where the engines of several cars may be kept running, the logical method of safeguarding conditions would be to install a mechanical system of ventilation.

Engineering News Notes from Washington*

Geological Survey will not be able to start program to complete topographic map of U. S. in 1933. Owing to limited appropriation of \$325,000 no additional activities are possible excepting those that will meet state co-operation and carry on special military surveys.

* * * *

Bureau of Mines is to be divided into Investigation and Operation branches with an assistant director in charge of each branch. Under Investigations Branch will come mineral technology, fuels, mining, petroleum and experiment stations. Under Operations Branch will be a chief clerk, division of education and information, mine rescue work and Government fuel yards.

* * * *

Electric Railways Commission hearings indicate that these utilities face a serious crisis due to Federal, state and city taxation,—stringent regulation that maintains rates and permits rising operation costs,—changed habits of the people and large unprofitable urban holdings. Testimony shows that municipal ownership is impracticable and that modified commission regulation is desirable.

* * * *

Mining laws in Mexico made public by the State Department indicate among other things that the Mexican Government authorizes temporary boring of oil wells provided interested parties apply to Department of Industry and Commerce for permits and promise to be subject to legislative regulations indicated by the Mexican Government. A new ten million dollar British-Mexican Petroleum Company has been organized to market petroleum in the Eastern hemisphere.

* * * *

Federal-aid road work grows steadily. Report just issued for June approves 133 projects, covering 1,390 miles of road. A total of 1,319 projects have been approved, involving 12,790 miles, at estimated cost of \$133,833,300, on which a total of \$54,763,957 Federal aid will be granted. Arrangements have been completed for War Department to turn over much additional equipment as follows: 1,500 caterpillar tractors, 400 road rollers, many concrete mixers, road graders, rock crushers, industrial locomotives, dump cars, steam shovels, hoisting engines, electric motors, and other equipment.

*Special service by Engineering Council.

Road experts conferred with Secretary of Agriculture in an effort to include probable future military needs and uses for roads to be constructed under Federal aid road act. The Secretary has reported to Congress an itemized summary of the war material that will be required for improving highways and further steps are to be taken to provide all the required material so far as practicable.

* * * *

The fourth quinquennial report on "Telegraph, Municipal Electric Fire Alarm and Police Patrol Signaling Systems" has just been issued by the Director of Census. It shows 21 commercial land telegraph systems in the United States in 1917, operating 241,012 miles of pole land, comprising 1,888,693 miles of wire, over which 151,725,228 messages were sent. They employed 47,227 persons, at an aggregate wage of \$36,392,140.

* * * *

Tariff safeguards, supplemented by a licensing system, to build up a sturdy domestic chemical and dyestuff industry seems assured by the House Ways and Means Committee. Potash is not likely to receive legislative protection. Tungsten and magnesite schedules face decided reductions. Information brought out about the Chemical Foundation reflected favorably upon its personnel and its work. The Ways and Means Committee is apparently not divided along party lines. All favor reasonable protection.

* * * *

Chemists will meet in Philadelphia, Sept. 2 to 6, under Dye Section of American Chemical Society. This will be the largest assemblage of chemists ever held on the American continent. It has been proposed that a conference of representatives of United States, Great Britain, France, Italy and Switzerland be called, with a view of determining the kind, quantity and price of dyes and chemicals to be taken from Germany under the terms of the Peace Treaty.

* * * *

Army and Navy Air Service are to co-operate in using the small funds available this year for aviation development. The Director of Air Service has just announced that it will forecast weather for flying in any part of the United States for 30 hours in advance of noon of each day, in an endeavor to assist cross-country flying. A recruiting expedition has been started by the Air Service to enlarge and improve this branch for commercial operation.

*Walls finished
with Cabot's
Old Virginia
White; roofs
stained with
Cabot's Creosote Stains*



*Tooker &
Marsh,
Architects,
New York*

Cabot's Old Virginia White

The Modern Architectural Outside White

The clean, brilliant "whitewash white" effect of Old Virginia White has real distinction. It is a softer and yet a brighter white than paint, and its texture and color-values are essentially different in character from the heavy, hard paint coating. This makes it especially appropriate for the modern "Colonial," because it gives the house at once the aspect of well-groomed old age—a result that it would take years to accomplish with paint. (You can get Cabot's Stains all over the country. Send for samples and name of nearest agent.)

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ARCHITECTURAL WOODWORK
TRIM AND CABINET WORK
CHURCH, BANK AND OFFICE
INTERIORS AND CARVINGS

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PERIOD MANTELS, STAIRWAYS
SPECIAL FURNITURE AND
REPRODUCTIONS TO ORDER

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HARRIMAN QUALITY WOODWORK

Burt Ventilators quickly clear the atmosphere of gases and fine particles of coal dust without any other ventilating system.

We have equipped many industrial buildings with Burt Glass Top Ventilators and thus offered an efficient and economical solution to their light and ventilation problems.

Fewer "Burts" are required for a given area because of their greater "pulling power" and because the air shaft is unobstructed and the sliding sleeve damper is unaffected by air currents.

Full details will interest you.

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The Burt Mfg. Company
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Geo. W. Reed, Montreal, Sole Manufacturers of
Burt Ventilators for Canada

"BURT" for PERFECT VENTILATION



Crown Cotton Mills, Dalton, Ga., using 23 30-inch Glass-Top "Burt" Ventilators

THE AMERICAN ARCHITECT

Building Material Market Reports

(Continued from page 250)

on the floor of the House in support of a budget system, attacked the steering committee for blocking the introduction of measures which would stimulate building. He is one of the influential members of the House Public Buildings Committee, though a Democrat. Mr. Fitzgerald stated the Government should appropriate hundreds of millions to relieve the housing congestion.

Canada Encouraging New Building

WASHINGTON, D. C., Aug. 18.—Reports from the American consul at New Brunswick show the Canadian Government's plans to encourage home building in the Dominion.

An order of the Council at Ottawa accepting the housing scheme of the province makes available the sum of \$1,250,000.

The proposals approved by the government include the cost of dwelling, ownership of land and period of repayment. The principal provisions of the Canadian plan are designed to protect the home-builders of moderate means against speculators. No advance may be made until plans and specifications with the location of the lot of land are approved by capable persons under appointment. It insists that the lieutenant-governor in council must approve the general housing or town planning schemes submitted by local authorities for the housing board.

Authorization is given by the advancement of money for building and sites with the rate of interest fixed at 5 per cent.

Late Quotations in Building Material Markets

(Price quotations now current on building materials and supplies as quoted by dealers and jobbers for delivery in New York and Chicago follow. The quotations set forth are placed before readers of THE AMERICAN ARCHITECT to afford an accurate review of market conditions rather than for use as a basis for actual purchase. They will not only provide knowledge of the exact state of the market as to items quoted, but will also present a basis to judge conditions as affecting correlating materials. Items marked (*) indicate an advance over last week, while those marked (†) record a decline. Other prices did not fluctuate during the week.)

BRICK		New York	Chicago
Face brick (delivered on job):			
Common (Delivered at job in Borough of Manhattan only), per thousand.....	\$17.85		\$12.00
Rough red.....	37.00*		40.00
Smooth red.....	38.00*		40.00
Rough buff.....	42.00*		40.00
Smooth buff.....	42.00*		40.00
Rough gray.....	45.00*		42.00
Smooth gray.....	47.00*		42.00
Colonials.....	26.00*		30.00

BROKEN STONE		New York	Chicago
(Delivered on job):			
1½ in. per cu. yd.....	\$2.75		\$2.50
¾ in. per cu. yd.....	2.75		2.50

BUILDING STONE		New York	Chicago
(Delivered on job):			
Indiana limestone, per cu. ft.....	\$1.23		
Kentucky limestone, per cu. ft.....	1.35		
Brier Hill sandstone, per cu. ft.....	1.50		
Gray Canyon sandstone, per cu. ft.....	.95		
Buff Wakeman, per cu. ft.....	1.50		
Buff Mountain, per cu. ft.....	1.50		
North River bluestone, per cu. ft.....	1.05		
Seam-face granite, per sq. ft.....	1.00		
South Dover marble (promiscuous mill block), per cu. ft.....	2.25		
White Vermont marble (sawed), New York, per cu. ft.....	3.00		

BURNED CLAY		New York	Chicago
(Delivered on job):			
Block partition:			
3 in., per sq. ft.....	.13		.10
4 in., per sq. ft.....	.15		.11
Chimney tops:			
12 x 12 for 8 x 8 flues.....	\$3.50		\$2.25
Flue lining:			
4½ ft. x 13 ft., per lin. ft.....	.24		.12
4½ x 8½, per lin. ft.....	.18		.16
8½ x 8½, per ft.....	.24		.16
8½ x 13, per ft.....	.35		.20
13 x 13, per ft.....	.60		.45
8½ x 18, per ft.....	.60		.50
13 x 18, per ft.....	.95		.75
18 x 18, per ft.....	1.25		.85
Wall coping (double slant):			
8 in., per lin. ft.....	.18*		.14
12 in., per ft.....	.33		.26
18 in., per ft.....	.54		.30
Wall coping (single slant):			
8 in., per lin. ft.....	.16		.14
12 in., per ft.....	.26½		.30
18 in., per ft.....	.54		.30

Hollow Tile		New York	Chicago
(Delivered at job, in New York below 72nd St.):			
2 x 8 x 12 partitions, per 1,000 sq. ft.....	\$70.15		
3 x 12 x 12 partitions, per 1,000 sq. ft.....	102.00		\$67.90
4 x 12 x 12 partitions, per 1,000 sq. ft.....	114.75		72.50
6 x 12 x 12 partitions, per 1,000 sq. ft.....	153.00		99.60
8 x 12 x 12 partitions, per 1,000 sq. ft.....			135.80
10 x 12 x 12 partitions, per 1,000 sq. ft.....			167.50
12 x 12 x 12 partitions, per 1,000 sq. ft.....			194.60
2 x 12 x 12 split furring, per 1,000 sq. ft.....	63.75		45.30

CEMENT		New York	Chicago
Per bbl. in 20 cent bags (Rebate 80c. per bbl. for bags in New York), 15 cent bags in Chicago (Rebate 60c. per bbl.):			
	\$3.45		\$3.00

COPPER SHEETS		New York	Chicago
At the mill, hot rolled, 16 oz. base-price, per lb...33½c. (From jobber's warehouse add 2 to 3 cents.)			
Cold rolled per lb.....	35½c.		35½c.
From stock in 100 lb. lots and over.....	35½c.		37½c.
For less than 100 lb. lots 2c. per lb. advance.			
Polished, 20 in. wide and under, 1c. per sq. ft. extra; over 20 in. wide, 2c. per sq. ft. extra. Planished, 1c. per sq. ft. more than polished.			
Bottom, pits and flats, 1 oz. and heavier, per lb.....	.44c.		.44c.
Tinning one side, per sq. ft.....	.06c.		.06c.

CORNER BEAD		New York	Chicago
Per foot.....	.05		.05

FIBRE		New York	Chicago
Per bushel.....	.36		.30

FINISHED IRON AND STEEL		New York	Chicago
(Mill Shipments):			
Bar iron, refined grade.....	2.77c.		2.62c.
Bar iron, double refined.....	3.77c.		
Soft steel bars.....	2.62c.		
Shapes.....	2.72c.		
Plates.....	2.92c.		2.65c.

GALVANIZED SHEETS		New York	Chicago
(Discounts from manufacturer's price lists):			
No. 18 and 20 gauge, per lb.....	\$6.40		\$6.37
No. 26.....	6.70		6.67
No. 27.....	6.85		6.82
No. 28.....	7.00		6.97
Single strength, A quality, first three brackets.....77%			
Single strength, B quality.....77%			
Double strength, A quality.....79%			
Double strength, B quality.....81%			
Plate—up to 5 sq. ft.....82%			
Plate—over 5 sq. ft.....84%			
Plate—up to 10 sq. ft.....80%			
Plate—over 10 sq. ft.....80%			
Polished plate glass (commercial run of thickness and quality) sizes to 5 sq. ft., inclusive.....80%			
Sizes over 5 sq. ft.....82%			

GRAVEL		New York	Chicago
1½ in. (Borough of Manhattan only), per cu. yd.....	\$3.25*		\$2.50
¾ in. (Borough of Manhattan), per cu. yd.....	3.50*		2.50

GRIT		New York	Chicago
(Delivered at job in Borough of Manhattan and Bronx):			
	2.50*		2.25

GYPSUM		New York	Chicago
Delivered at job, Boroughs of Manhattan and Bronx:			
27 x 28 x 1.....	.37c.		
27 x 48 x ½.....	.34c.		
32 x 36 x ¼.....	.22c.		.25c.
32 x 36 x ¾.....	.22c.		27½c.
32 x 36 x ½.....	.24½c.		

Plaster Blocks:		New York	Chicago
Delivered at job, Boroughs of Manhattan and Bronx:			
2 in. solid, 12 x 30, per sq. ft.....	.11c.		
3 in. hollow, 12 x 30, per sq. ft.....	.11c.		.10c.
4 in. hollow, 12 x 30, per sq. ft.....	.12½c.		.11c.
6 in. hollow, 12 x 30, per sq. ft.....	.18c.		

LATH		New York	Chicago
Eastern spruce, per thousand.....			
No. 1 white pine, per thousand.....	\$7.50		\$7.50
No. 1 hemlock, per thousand.....			6.50
No. 1 yellow pine, per thousand.....	7.50		

(Continued on page 258-B)

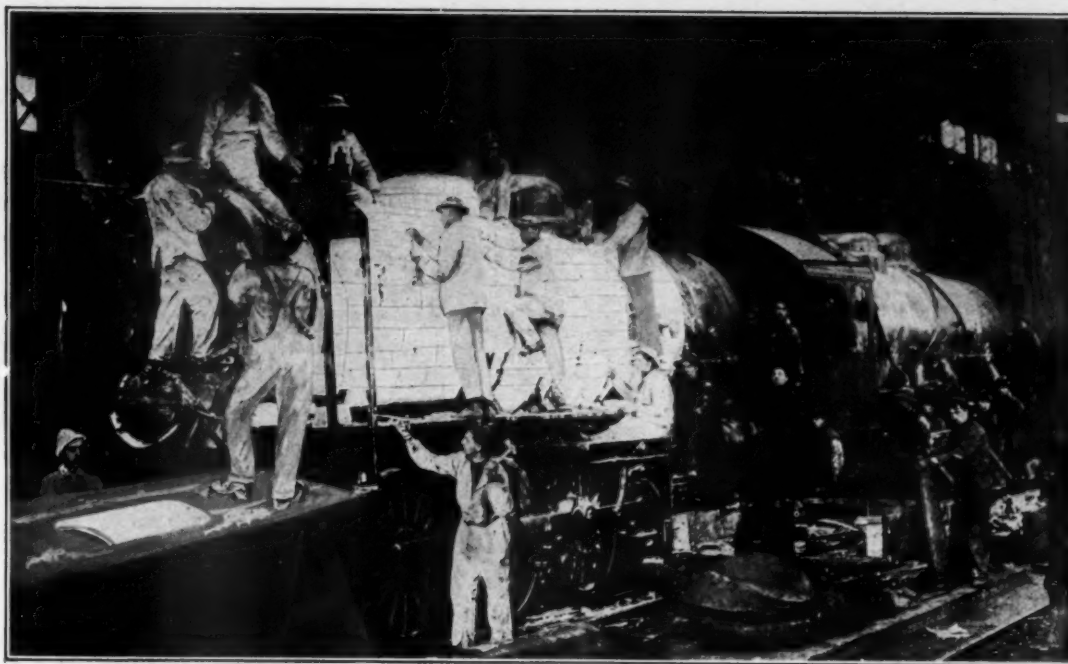


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U. S. Locomotives in France Defended by "85% Magnesia"

WHEN our doughboys in France heard the deep-throated whistle of the American locomotives, instead of the shrill squeak of the French locomotives, they said, "That sounds like home."

Uncle Sam shipped hundreds of locomotives for our Army transport, to be assembled over there. For their insulation (their "lagging" underneath their iron jackets) he sent "85% MAGNESIA". The photograph shows our workmen laying it on.

Locomotives Must Have "85% Magnesia"

Why? Because that is how all the big American locomotives are protected here, and Uncle Sam wasn't experimenting with inferior insulations for his steam. Besides, he knew all about "85% MAGNESIA", for his Navy has specified it since 1888.

That long and regular use of "85% MAGNESIA" for steam insulation on our powerful locomotives is a most conclusive proof of its efficiency and durability.

Locomotives put heat insulation to the severest test. They live on their steam; they require its maximum power on the minimum of coal; their vibration would quickly destroy any inferior insulation.

For all that stress and strain they have found that "85% MAGNESIA" is the only covering that stands up to all tests.

"85% Magnesia" Reduces Your Overhead

What "85% MAGNESIA" does for the locomotive and the warship, what it does in the biggest and most exacting power-plants, it will do for you.

It saves your coal. It increases your steam-power for any pressure. It lasts *without depreciation of efficiency as long as the pipes and boilers beneath it.*

As wages and other costs go up, "85% MAGNESIA" keeps your overhead down.

To find the actual saving in dollars and cents by the use of "85% MAGNESIA" coverings in your plant or in your home write for the Table prepared by the Mellon Institute of Industrial Research of Pittsburgh University. To Engineers and Architects we will send also the Standard Specification of the Magnesia Association, compiled by the Mellon Institute, giving the exact thickness for every kind of treated surface.

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THE AMERICAN ARCHITECT

Building Material Market Reports

(Continued from page 258-A)

	LEAD	New York	Chicago
American pig, per lb.	6½ to 7c.	6½ to 6½	
Bar, per lb.	8 to 9c.	6½ to 6½	

	LIME	New York	Chicago
Common, 200 lb. bbls., per bbl.	\$2.50	\$1.50	
Finishing, 300 lb. bbls., per bbl.	3.70		
Hydrated, in paper bags, per ton.	18.50	17.50	

	LUMBER	New York	Chicago
(Retail prices per M, delivered.)			
Yellow pine, 2 x 4.	\$68.00	\$52.00	
Yellow pine, 2 x 6.	65.00	50.00	
Yellow pine, 4 x 4.	70.00	55.00	
Yellow pine, 8 x 8.	68.00	60.00	
Yellow pine, 12 x 12.	75.00	65.00*	
Yellow pine, No. 1 boards, 1 x 6.	75.00	60.00	
Yellow pine, No. 1 boards, 1 x 12.	80.00	65.00	
Yellow pine, B and better flooring (plain).	82.00*	75.00*	
Yellow pine, B and better flooring (quartered).	100.00	85.00	
Douglas fir, 6 x 6 to 12 x 12.	67.50	60.00	
Douglas fir, 12 x 12 to 14 x 14.	80.00*	72.00*	
Norway pine, 2 x 4.	60.00	55.00	
Norway pine, 2 x 12.	75.00*	60.00	
Hemlock, 2 x 4.	58.00*	52.00	
Hemlock, 2 x 12.	60.00	54.00	
Oak flooring, 13/16 quartered white.	220.00*	188.00*	
Oak flooring, 13/16 quartered red.	210.00*	165.00*	
Oak flooring, 13/16 plain white.	145.00*	125.00*	
Oak flooring, 13/16 plain red.	145.00*	128.00*	
Maple, 1" F. A. S.	85.00	80.00	
Basswood, 1" F. A. S.	88.00	82.00*	
Maple flooring, 13/16 clear.	95.00	85.00	
Maple flooring, 13/16 select.	85.00	82.00	
Maple flooring, 13/16 No. 1 factory.	75.00	62.00	
Mahogany, 1" F. A. S.	300.00	300.00	
Quartered oak, 1" F. A. S.	220.00*	205.00*	
Plain oak, 1" F. A. S.	150.00*	135.00*	
Red gum, 1" F. A. S.	100.00	95.00	
Sap gum, 1" F. A. S.	75.00	65.00	
Chestnut, 1" F. A. S.	95.00	90.00	
Poplar, 1" F. A. S.	135.00	120.00	
Birch, 1" F. A. S.	85.00	80.00	
Spruce, random 2"	62.00*	57.00*	
Spruce, wide 8"	65.00	60.00	
Spruce, 10"	70.00*	65.00	
Spruce, 12"	75.00	70.00	

	METAL LATH	New York	Chicago
Under 100 sq. yd., per sq. yd.	40c.	35c.	

	MORTAR COLORS	New York	Chicago
Red, per lb.	.05	.05	
Brown, per lb.	.05	.05	
Chocolate, per lb.	.05	.05	
Black, per lb.	.05	.05	

	OILS	New York	Chicago
Linseed, city, raw.	\$2.25	\$2.48	
Linseed, boiled, advance, per gal.	.01	.02	
Out of town, American seed, at.	2.25	2.48	

	PAINTS	New York	Chicago
American white, in oil, kegs; lots over 100 lbs.	13c.	13c.	
White, in oil, 25-lb. tin pails; add to keg price.	34c.	34c.	
Red, bbl., ½ bbl. and kegs; lots over 100 lbs.	13c.	14c.	
Dry Colors:			
Red Venetian, American, per 100 lbs.	\$2.00 to \$4.50	\$2.00 to \$4.00	
Metallic Paints:			
Brown, per ton.	\$32.00 to \$36.00	\$24.00 to \$32.00	
Red, per ton.	35.00 to 40.00	24.00 to 32.00	

	PIPE	New York	Chicago
Cast Iron:			
6 in. and heavier.	\$52.30	\$53.80	
4 in.	55.30	56.30	
3 in.	62.30	68.80	

(and \$1 additional for Class A and gas pipe.)
(Discounts to jobbers for carload lots on the Pittsburgh basing card; freight rates from Pittsburgh to New York, and also from Pittsburgh to Chicago, in carloads, per 100 lbs., are 27c. An additional 5 per cent discount is allowed to large jobbing interests over those listed below.)

	F.O.B. Pittsburgh	F.O.B. Chicago
Wrought:		
Steel:		
Black, ½ to 3 in.	50½ to 57½ %	42.6 to 49.6 %
Galv., ½ to 3 in.	24 to 44 %	14.6 to 34.6 %
Iron:		
Black, ½ to 1½ in.	29½ to 34½ %	19.6 to 29.6 %
Galv., ½ to 1½ in.	2½ to 23½ %	9.4 to 11.6 %
Steel:		
Black, 2½ to 6 in.	53½ %	45.6 %
Galv., 2½ to 6 in.	41 %	31.6 %
Iron:		
Black, 2½ to 6 in.	34½ %	24.6 %
Galv., 2½ to 6 in.	21½ %	9.6 %
Steel:		
Black, ¾ to 3 in.	46½ to 56½ %	33 to 43 %
Galv., ¾ to 3 in.	29 to 44 %	10.6 to 18 %
Iron:		
Black, ¾ to 1½ in.	28½ to 39½ %	
Galv., ¾ to 1½ in.	11½ to 24½ %	
Lap Weld, Extra Strong, Plain Ends		
Steel:		
Black, 2 to 6 in.	48½ to 50½ %	35 to 37 %
Galv., 2 to 6 in.	37 to 39 %	10 to 12 %

	F.O.B. Pittsburgh	F.O.B. Chicago
Iron:		
Black, 1½ to 6 in.	25½ to 34½ %	
Galv., 1½ to 6 in.	10½ to 22½ %	
Rebate for bags 15c.		
PLASTER		
Neat wall cement in 15 cent bags, per ton.	\$21.30	\$19.00
Finishing plaster	24.00	19.00
Lath mortar, in cloth bags, per ton.	15.05	
Brown mortar, in bags.	15.05	14.00
Finishing plaster, per bbl. (250 lbs.)	3.50	
Finishing plaster, per bbl. (320 lb. bbl.)	4.35	

	PUTTY	New York	Chicago
In bladders, per 100 lb.	\$6.25	\$4.25	
In 1-lb. to 5-lb. tins, per 100 lb.	6.75	6.50	

RADIATION
(A further discount, effective April 4, of 15% on direct radiators, 12½% on wall radiators, and 10% on steam and hot water boilers is announced. This approximates a drop of 36% on radiators and 33% on boilers from prices in effect before the 1st of January, 1919.)
Chicago reports a 57% discount on standard heights.

	REGISTERS	New York	Chicago
Cast iron semi-steel or steel, in black or white japan or electro plate and small faces and borders.	40%	40%	
Wall frames	40%	40%	
Large faced, 14 x 14 in. and larger.	60%	60%	
Base board registers	40%	40%	
Base board intakes	40%	40%	
White enameled goods	15%	13%	
Solid brass or bronze goods, except grilles.	net	net	
Grilles in black and white japan or electroplate in cast iron, plain lattice design—smaller than 14 x 14 in.	40%	40%	
—Larger than 14 x 14 in.	60%	60%	

	REINFORCING BARS	New York	Chicago
High carbon steel from mill.	\$48.50	\$49.50	
Medium steel from mill.	48.50	49.50	

	ROOFING MATERIAL	New York	Chicago
Tarred Felt Paper:			
No. 1—25 lbs. to 100 sq. ft., per ton.	\$62.00	\$75.00	
No. 2—16 lbs. to 100 sq. ft., per ton.	63.00	75.00	
No. 3—12 lbs. to 100 sq. ft., per ton.	64.00	75.00	
Rosin sized sheathing, per ton.	60.00	65.00	
Corrugated roofing, galvanized, 2½ in. corrugation, over flat sheets, 30c. per 100 lbs.			

	ROSIN	New York	Chicago
Common to good, strained (wholesale), 80 lb., per gal.	\$18.75		

	SAND	New York	Chicago
Mason, per cu. yd.	\$1.80	\$2.50	
Torpedo, per cu. yd.	1.80	2.50	
White sand, per cu. yd.	4.00*		

	SHINGLES	New York	Chicago
Red cedar, 5 to 2, clear, per thousand.	\$11.00	\$7.00	
White cedar, extra star, A star, per thousand.	11.00*	7.00	

	SLATE ROOFING	New York	Chicago
Pennsylvania:			
Quarry Station			
Best Bangor	\$6.50 to \$9.00	\$10.20 to \$11.45	
No. 1 Bangor Ribbon	6.75 to 7.25	9.20 to 9.70	
Pen Argyl	7.25 to 9.00	9.70 to 10.45	
Peach Bottom	10.00 to 12.50	12.45 to 14.45	
No. 1 Chapman	7.25 to 8.25	8.70 to 9.95	
Vermont (Discount of 50% in carload lots.)			
No. 1 Sea Green	8.50* to 15.00*	5.95 to 9.00	
Unfading Green	11.00* to 18.50*	8.30 to 11.05	
Red	24.00* to 42.00*	14.80 to 22.80	
Maine:			
Brownville, U'f'g Black, No. 1 10.00 to 12.50		14.10 to 15.10	
Slaters felt, 30 lb. roll.	.92		
Slaters felt, 40 lb. roll.	1.22		

	SPIRITS TURPENTINE	New York	Chicago
Per bbl.	\$1.75	\$1.10	

	STONE SCREENINGS	New York	Chicago
Lime, per cu. yd.	\$2.35	\$2.50	

	STRUCTURAL STEEL	New York	Chicago
Beams and channel, 3 to 15 in., per lb.	2.72c.	3.47c.	
Beams and channel, over 15 in., per lb.	2.72c.	3.57c.	
Angles, 3 to 6 in.	2.72c.	3.47c.	
Zeas and tees.	2.72c.	3.47c.	
Steel bars, half extras, from mill.	2.35c.	3.37c.	

	STUCCO	New York	Chicago
In cloth, per ton (white, mixed).	\$22.50	\$19.50	

	STUCCO BOARD	New York	Chicago
Medium weight stucco board, plain, per M sq. ft.	\$42.50	\$45.00	
Medium weight stucco board, creosoted, per M sq. ft.	50.00	50.00	
Heavy weight stucco board, plain, per M sq. ft.	55.00	55.00	
Heavy weight stucco board, creosoted, per M sq. ft.	60.00	60.00	
Medium weight stucco board, plain, narrow key, per M sq. ft.	50.00	50.00	
Medium weight stucco board, narrow key, creosoted, per M sq. ft.	55.00	55.00	
Insulating board, heavy felt background, per M sq. ft.	50.00	50.00	

	SHEATHING BOARD	New York	Chicago
Heavy weight sheathing board, per M sq. ft.	\$50.00	\$50.00	
Medium weight sheathing board, per M sq. ft.	45.00	45.00	

Stucco or plaster board, sheathing board and insulating board are in rolls containing one sheet 25 ft. long and 4 ft. wide (100 sq. ft.)

	WALL BOARD	New York	Chicago
Wall board, shipped any length, 4 ft. wide, per M.	\$45.00	\$45.00	
Packed flat in cars if ordered in less than car lots. Add \$5.00 per M ft. for crating.			