

The AMERICAN ARCHITECT



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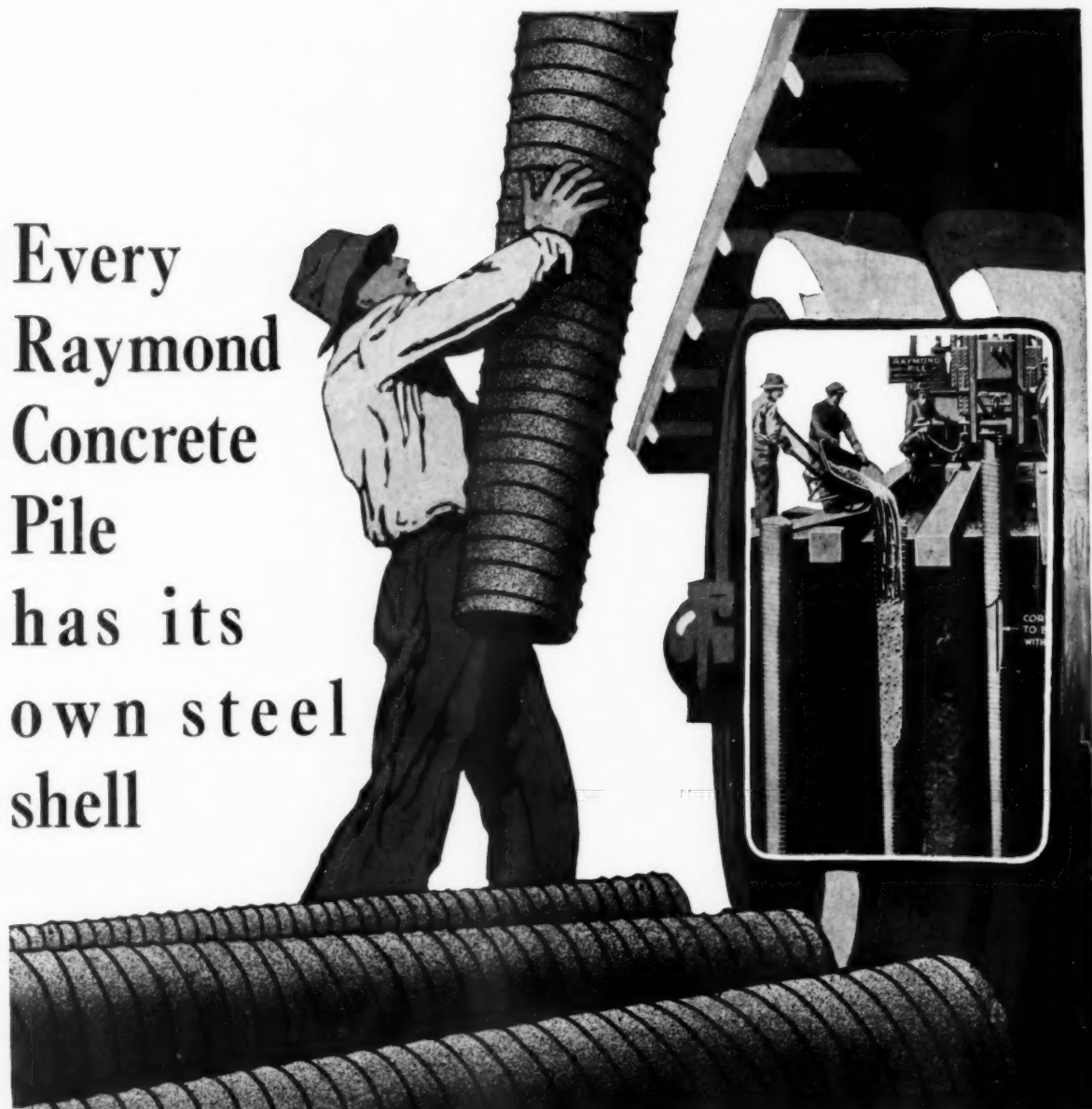
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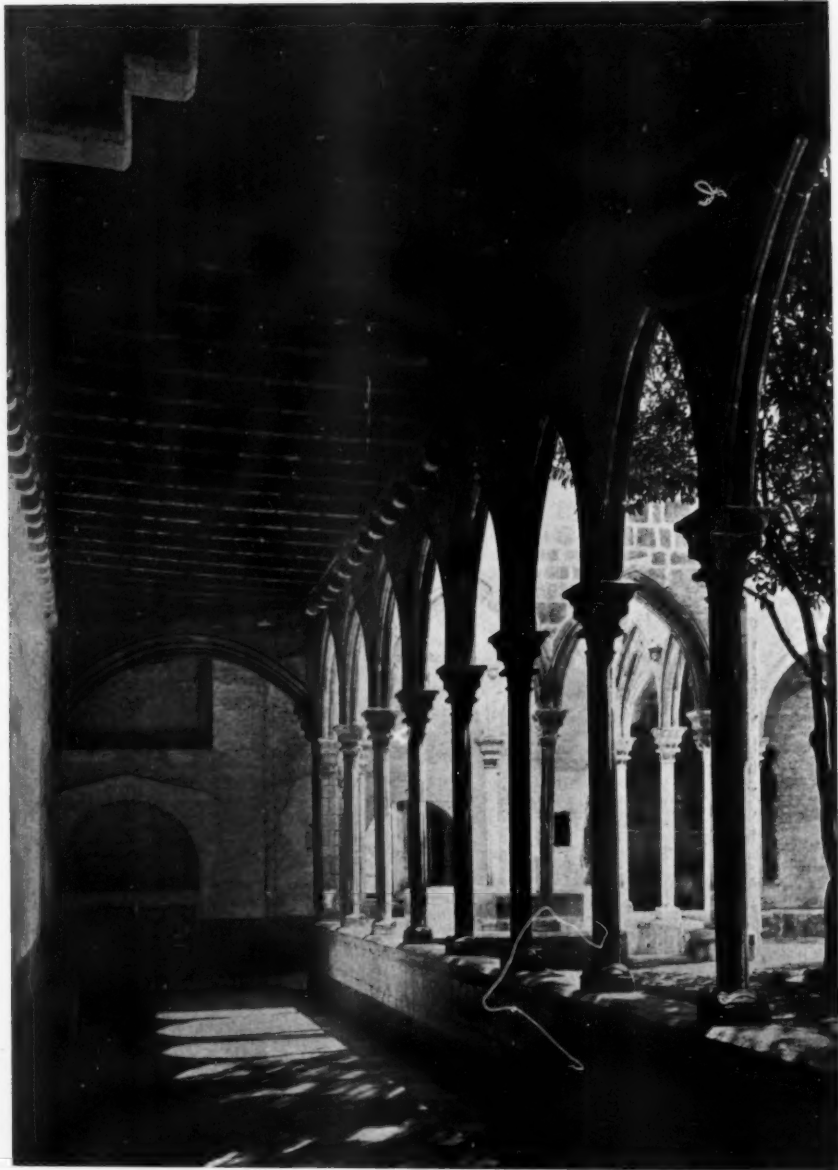
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THE AMERICAN ARCHITECT

VOL. CXIV

WEDNESDAY, OCTOBER 16, 1918

NUMBER 2234

Portsmouth and the War

Notes on the Development at Atlantic Heights, N. H.

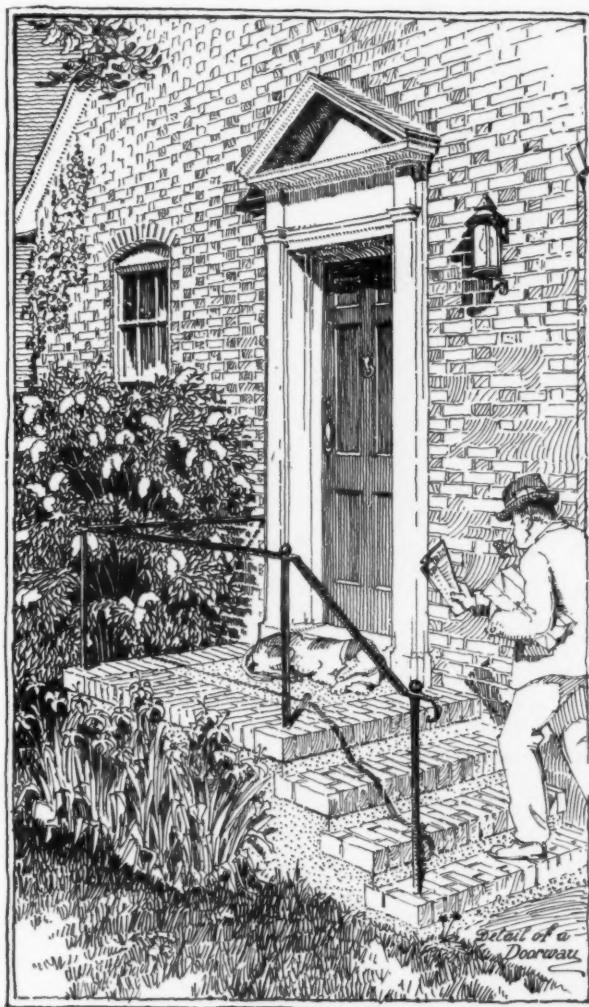
KILHAM & HOPKINS, ARCHITECTS AND TOWN PLANNERS

LOCKWOOD, GREENE & CO., ENGINEERS

By WILLIAM ROGER GREELEY

CITIES as well as men are subject to senile decay, and in both cases age has its harm and its charm. The narrow streets of a youthful town are bordered by scattered houses with ample lawns. Maturity brings an increasing number of buildings, located nearer and nearer the streets and constructed of more and more permanent and stony materials. The arteries harden. Circulation of traffic becomes less and less elastic. The city is as much crippled with arteriosclerosis as an old man, and when the new work is given it to do, it cannot meet the strain.

This is what happened to stately old Portsmouth. Founded in the early days of the New Hampshire Colony as a fishing town, and growing sturdy as a center for shipbuilding and trading, it gradually dropped into the role of an antique, graceful in age, but living largely in retrospect. Suddenly the great war picked it out as a place for new shipbuilding, and over night two rows of yawning "ways" were built out into the river ready to bear great ships and cast them upon the tide. One shipyard for wooden merchantmen is on the Piscataqua at Newington, just above Portsmouth, the other for steel ships is within the city limits on the same river. These yards, together with the expansion of activities at the Navy Yard and Naval Prison, have brought to the old seaport a larger burden than she could bear alone, so Uncle Sam has stepped in and is helping the situation out by the construction of a new village for the Atlantic Corporation, which is building the steel merchant ships required by the Government.



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This village is located on a stretch of open, rolling highland dropping off on the north fifty or sixty feet in a steep cliff to the river. Along part of this river boundary is a thick wood of yellow pine bordered by clumps of trees of a smaller growth. Between this area, which will be developed as a playground, and the two hills bordering the railroad on the south, the uneven plateau upon which wild strawberries were ripening in abundance in June

sides, enclosing the "Common." On the further side a row of shops and a village hall greet the visitor's eye. From this point the main street descends in a gradual slope across the town to the river, ending in a natural amphitheater, with an old wharf at its base.

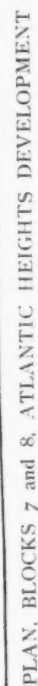
Next to the shipyard itself on the eastern boundary of the village is a "Campus" and a group of "Bachelor's Halls" designated in the Government

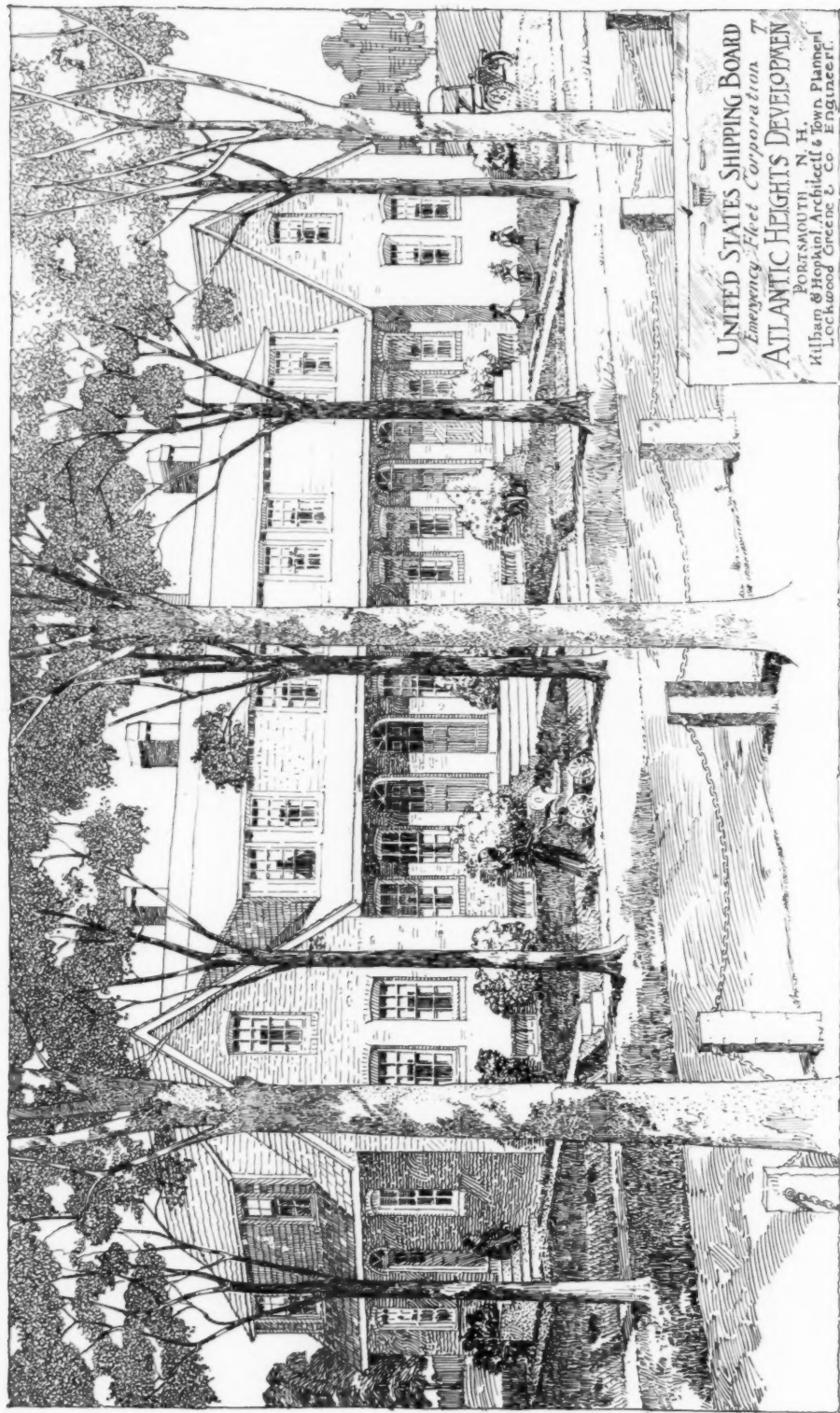


THE ATLANTIC HEIGHTS DEVELOPMENT

(Portsmouth was once known as Strawberry Hill) is blossoming forth with hundreds of green-roofed and brick-walled cottages. Some are in rectangular rows, and some seem dumped at random on the boggy slopes. Here is a great clump of old beech trees forming a greener patch than the roofs. There a street skirts the cliff by the river in a wide sweep with tiny houses balanced on the edge. A bridge spans the railroad and permits access to the new town from the old. From this bridge the main street leads into the "Square" which, true to the New England tradition for town "squares," has but three

schedule of types as "J" buildings. The center of the village is allowed to be more thickly settled than the outskirts, and displays several row-houses of four and six-house units. The predominant type is the double house, but there are a large number of single houses scattered through the development. These vary in design, so that there are seven different house plans, and a number of different elevations for each. The Colonial detail of old Portsmouth has been followed as a general key-note. Gambrel and pitched roofs with dormers of green slate, shingle or stucco, walls of



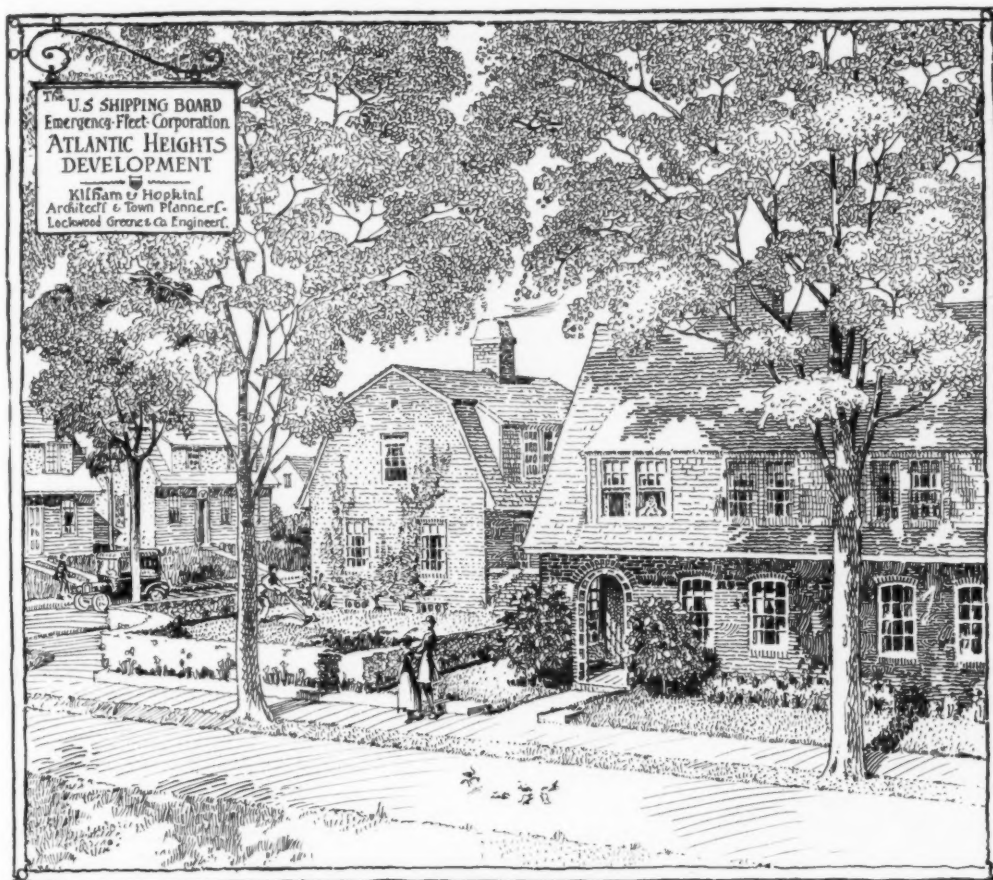


GROUP OF SIX HOUSES

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brick in English, Flemish and straight bond windows with lintel or arched heads, many types of doorways, and a few frame houses finished in white clapboards are the principal items affording variety. An embarrassing amount of ledge has had its advantage in providing some picturesque retaining walls and flights of stone steps and paths. The houses are near enough together to recall the old sea-towns of the Marblehead type, but not to cramp

for it. The most important functions of a village are being studied and supplied in advance. There is a strong hope that when the shipbuilding may dwindle, the village will continue to offer a suitable and desirable dwelling place for hundreds now living in decaying or archaic tenements in Portsmouth. With this obviously in view the shipping board has looked ahead as far as possible and has chosen for the exterior walls of the houses the most durable

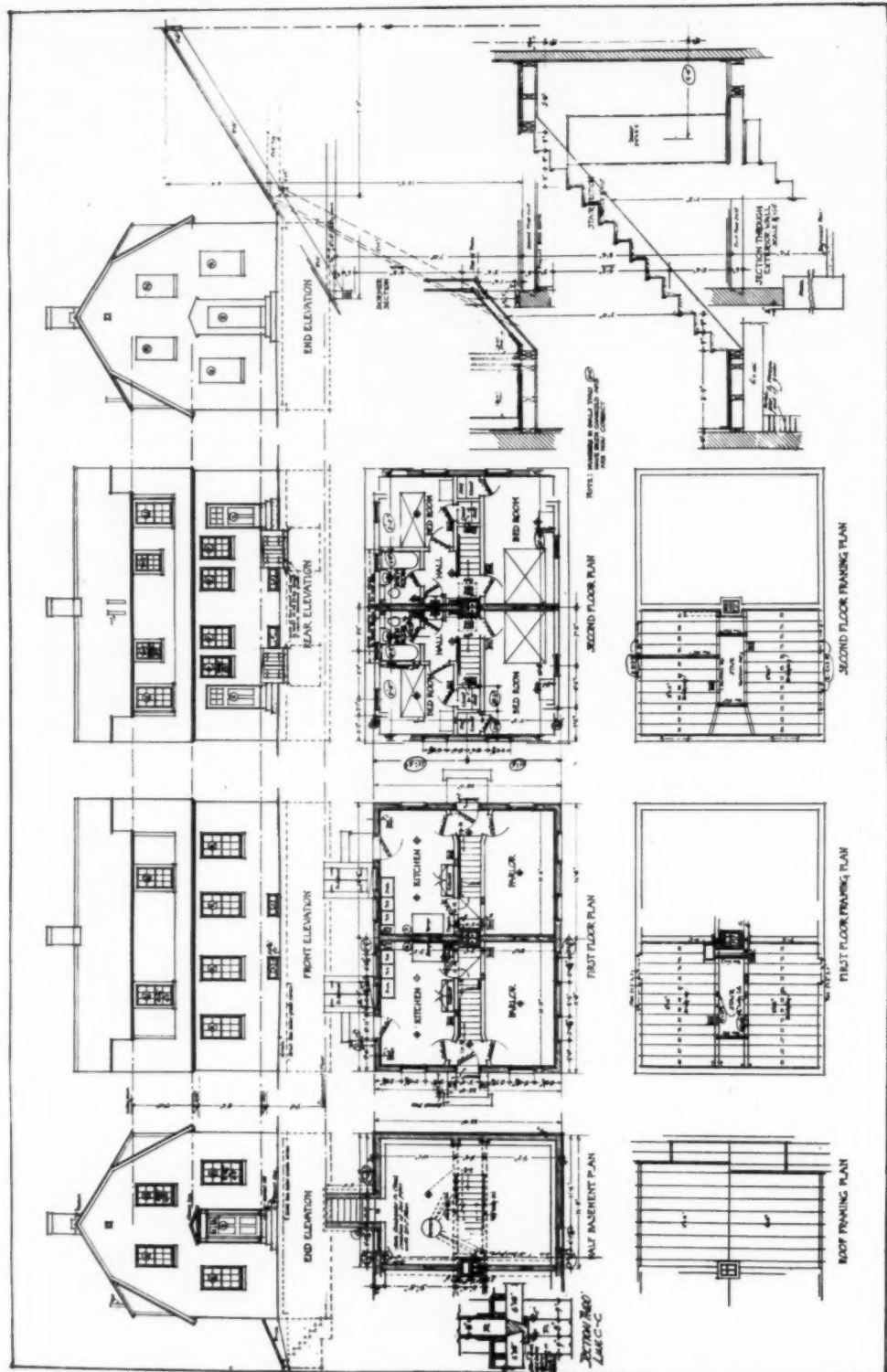


THE PROPOSED EFFECT OF PLANTING

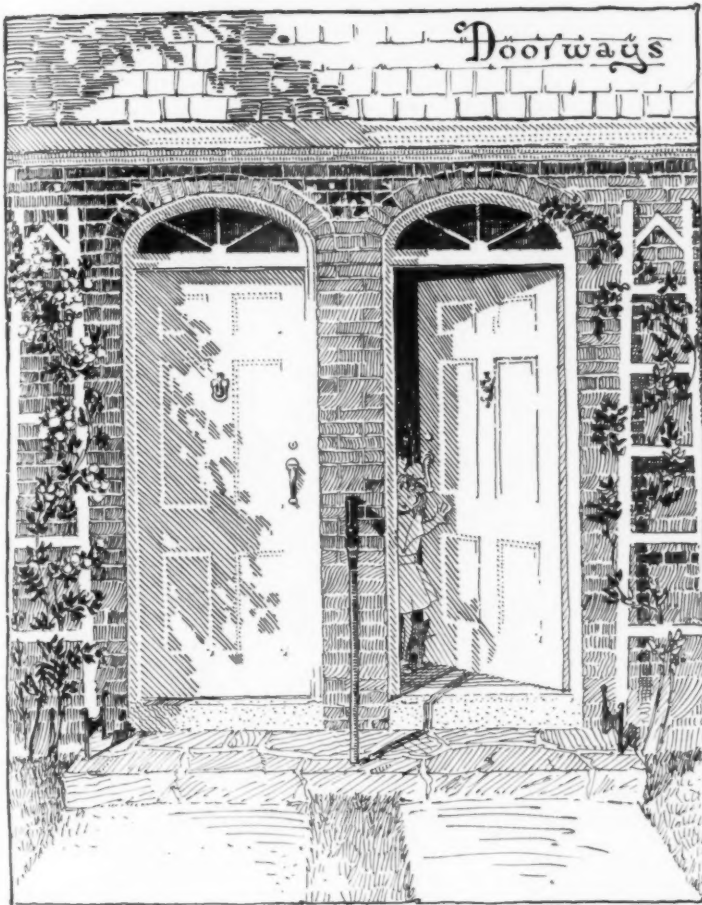
the owners or cause serious conflagration hazard.

The Government has already authorized a large mess-hall and a village hall or community building. The city of Portsmouth is planning a grade school to accommodate about four hundred children. The classrooms are all on the first floor and all have eastern or western exposures, except the kindergarten, which faces south. The building contains an assembly hall with a stage and a library. The inevitable ball-field has its plot of ground set aside

and the most respected New England material—brick. It has arranged for avenues of stately trees on practically all the streets. The public service is destined to meet all the demand which can be put upon it. Adequate fire protection will be secured by a booster pump and standpipe. Following the prevailing method of adjacent communities, the sewage will be carried into the river, which is tide water at this point. Each house will have its own heating plant independent of the shipyard. Light



A SEMI-DETACHED HOUSE



TYPICAL DOORWAYS

will be furnished upon the same terms as for the city of Portsmouth. Owing to local conditions, the introduction of gas has been finally abandoned.

Under these conditions the houses will be suitable to sell, and may form, after the war, a community of independent homes, comfortably equipped and pleasantly located. A large fleet of ships, when once completed and launched, does not cease to need the service of the shipyard. At intervals of only a few months each ship must return to dry-dock and be repaired. It would seem as if this fact insured permanency to the demand for houses in shipbuilding communities. It is, however, interesting to imagine and important to forecast the future of so large an investment as a village for fifteen hundred people. There has been much speculation and little direct experience in this country as to the ultimate fate of such undertakings.

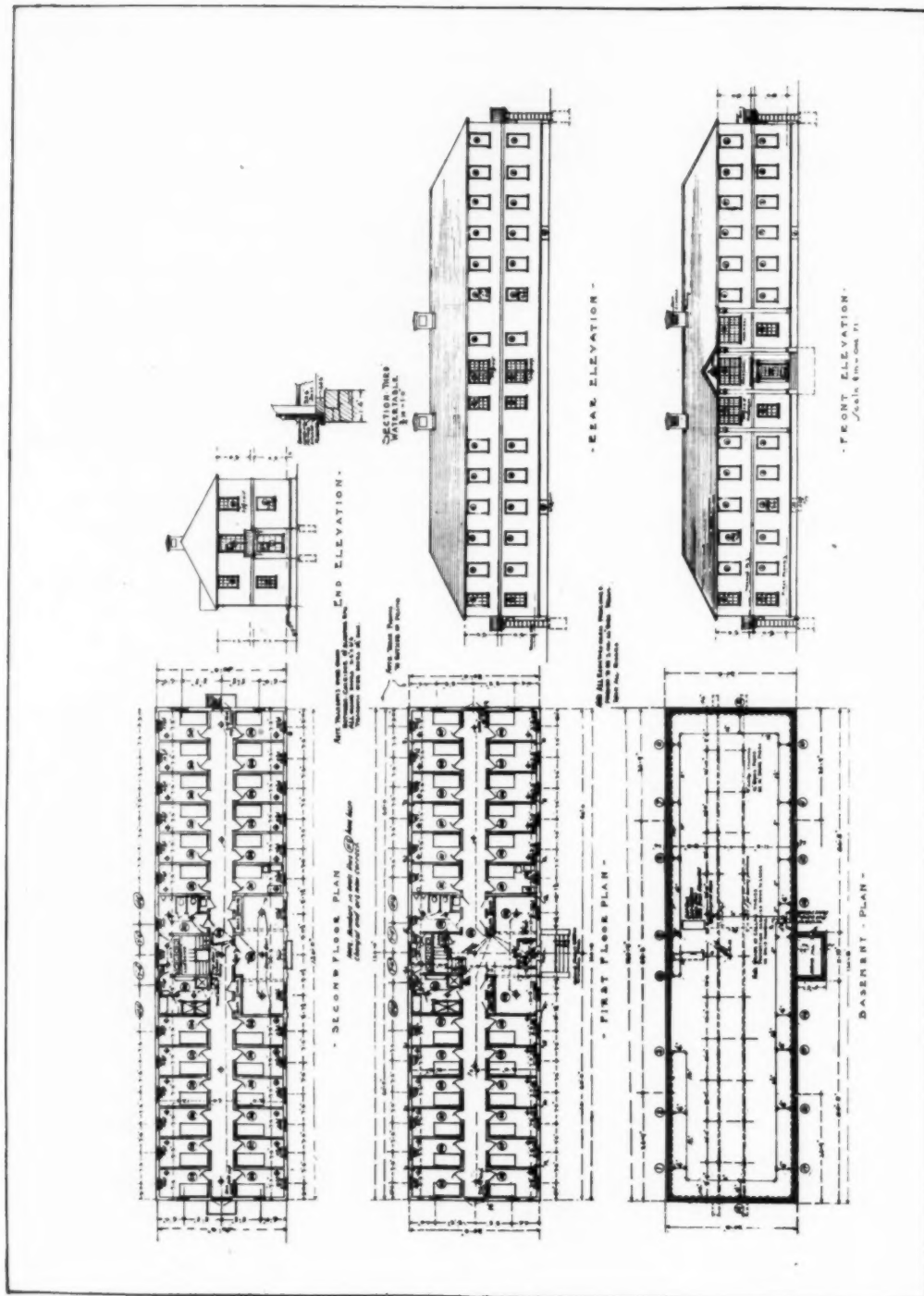
In the first place, the Government has advised the use of permanent construction for all buildings.

This means an increased initial cost of ten per cent for brick over frame walls, or of perhaps twenty per cent over construction of a purely temporary character. The only way of housing operatives other than in some kind of house, is to build barracks or cantonments. This would cost, with the necessary mess halls, roads, fire protection, water and sewer mains, etc., probably about \$500 per man at the outset and an enormous upkeep afterward, with all the men dependent on the Government for food, shelter, recreation, medical service, etc.

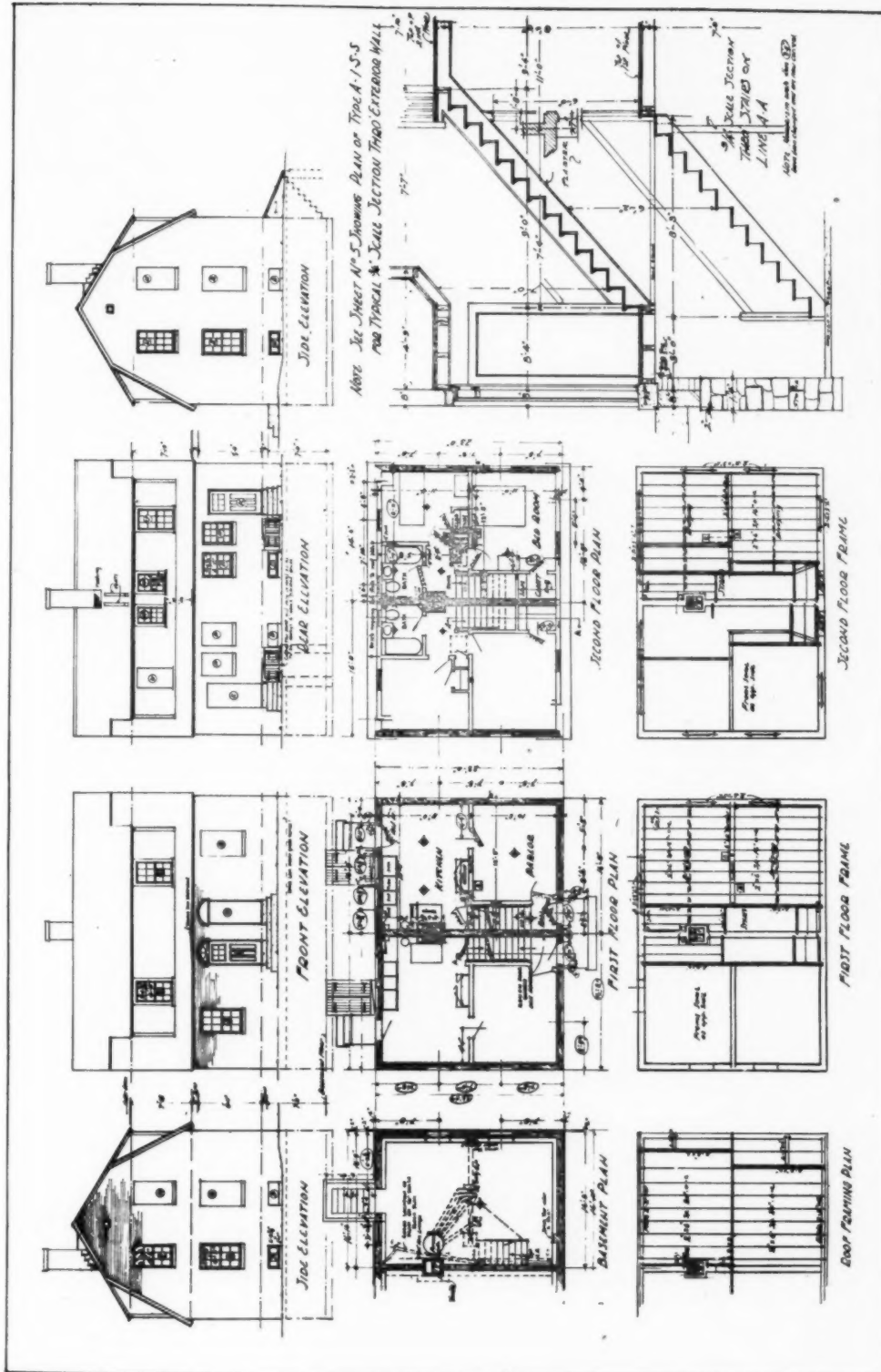
This method of housing men without their families was tried and proved to be impracticable on account of the enormous turn-over. The comparison to be made is one between permanent and temporary houses. If twenty per cent is saved by making the construction temporary the loss after the war is total. If permanent construction is used the amount of loss will depend upon many factors.

First—If the shipping population falls off and the houses are completely abandoned and lie idle, the loss will be total. This contingency is remote.

In a certain large munitions city to-day the Government has decided not to build the hundreds of houses apparently required, but to transfer a portion of the machinery to a vacant factory a few miles away, in this way utilizing the existing housing in the neighborhood of the vacant mill. Could there be a clearer indication of the effect of housing upon the permanency of a community? Here is a remote village saved from the fate of "Sweet Auburn" by the presence of good housing. Water power can be transmitted through wires, houses cannot. After the war, the reviving industry will be located in the most desirable region where conditions are most propitious. The greatest single item to be taken account of will be the labor. Labor is most happy, efficient and stable where good home life is possible. It may fairly be assumed, therefore, that the astute managers of the new industrial day will find it wise to avail themselves of the communities now being created under Government supervision. The prob-



ELEVATIONS, SECTION AND PLANS, ATLANTIC HEIGHTS DEVELOPMENT



ELEVATIONS, SECTIONS AND PLANS. ATLANTIC HEIGHTS DEVELOPMENT

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ability of total loss of these communities is therefore too remote to be alarming.

Second—If real estate values, including cost of construction and replacement, suffer a decrease, the new properties will shrink and show a book loss. The margin seems a safe one, however, for the loss by shrinkage could not equal the total loss which would follow the use of temporary construction.

Aside from the purely financial side of the situation, there is the fundamental consideration of economy. The waste attending temporary construction is a heavy load for the country to carry. Production is better than destruction, and the wealth represented in a community of well built and well arranged houses as shown in this development is a permanent asset of great value.





FIFTH AVENUE (THE AVENUE OF THE ALLIES) LOOKING NORTH FROM THIRTY-FOURTH STREET

The Avenue of The Allies

FIFTH AVENUE, from Madison Square north to Fifty-ninth Street, was for the progress of the Fourth Liberty Loan campaign renamed the Avenue of the Allies. Never during any previous event, when the usual somber aspect of the street view had been enlivened by decorative units and the display of bunting, were similarly satisfactory effects secured, and it is generally conceded that this spectacle has never been equalled.

In a veritable flock of color, arranged so that each block represented one of the allied countries, the flags of the respective nations were suspended across the roadway from building to building. Further, each lamp post bore a gonfalon, while between these were poles carrying national colors. Projecting from the windows were additional poles with flags, both national and emblematic.

To enhance the effect of color and lend added vivacity, every one of the windows of the many beautiful shops which line the avenue was appropriately decorated. This decoration in most instances

was made up of collections of the admirable posters which have been designed to exploit this loan and the three preceding ones. In many of the larger stores canvases specially painted by artists of repute were displayed. These, while in most instances hastily done and sketchily presented, were all of the highest artistic excellence. The whole scheme from first to last was so splendidly and artistically conceived and so thoroughly carried to execution that New Yorkers have reason to be proud of an adventure in decoration which received not one adverse artistic criticism. After such an epoch-making result it will not be possible to foist upon the people anything resembling some of the atrocious attempts at street decorations in the past.

The whole scheme was put *in situ* in a night. Those whose daily habit it is to ride up and down Fifth Avenue went on their way home one night, leaving behind them the usual monotony of brick and mortar, to be greeted the next morning with a

(Continued on page 463)



THE ALTAR OF LIBERTY IN MADISON SQUARE. DESIGNED BY THOMAS HASTINGS, ARCHITECT

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

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Service

COMPETITION in all phases of industrial life has to-day so standardized everything, whether labor, materials, merchandise, or any of the things for which money is received as an equivalent, that the whole measure of success becomes one of service. Given a group of bids on a certain building, all practically alike, the bidder who can give the best service will get the contract. Of two men employed at the same wages, the man who gives the better service gains the respect of his employer and starts forward on the sure road to a later success.

Regard the small things: All of the hundred stores under the same management which control the sale of manufactured tobacco in all of its various forms, all sell the same goods, yet each of us will pass one or more to reach a certain shop where the service is more satisfactory than in the other. When the politician makes his appeal to his constituency he bases his claim for their support on his services in the past and on his freely given promises of service in the future. References could be indefinitely extended, but enough has been set down to show that whatever we undertake, it is the service rendered that gives it value.

Service is personal. It means doing on our own part the things we should ourselves do. Delegating these things to others is not the perfection of service, and this brings us to the underlying reason for the present unsatisfactory conditions of architectural practice.

There has been much ink spilled in academic discussions as to what is wrong. Ethics, insistence on the rights of architects, the ultra-logical and disputatious presentation of the case, all have been debated, but when everything is said and done the essence of the whole matter is simply lack of service, just that and nothing else.

Those who really understand present conditions have rightfully declared that the aloofness of the average architect, his gradually increasing tendency to remove himself from practical contact with his work during construction, is responsible for his present status. This being true, is it anything more or less than lack of service?

Service, to be valuable to those who render it, must be the kind of service which brings the server and the served in actual contact from the inception to the completion of the service. The architect who, having prepared his plans and specifications, let his contracts, and turned the matter over to an unimportant employee, has only shown his artistic ability to his client, and has failed to prove his practical worth to the man who has employed him. His service has been only partly rendered, and he must not complain if his client connects his worth to the work on the basis of its artistic aspect only. Clients are apt to regard this artistic part as but a small proportion of the services rendered, and are easily persuaded by those whose personal interests are best served by such persuasion, that the architect is only incidental to the birth and growth of the building. Personal service is what has been lacking in the profession of architecture, an indisputable personal connection with every phase of the work from start to finish.

A brief relation of an incident will make this meaning clear. A certain mural painter complained of the disloyalty of his assistants, and stated that he had proof that they were receiving commissions from his clients. The fact was that the painter had made a careful set of cartons in color and to scale, and had set his group of assistants to work reproducing them on the walls of the interior. The client and contractor were daily visitors, and took interest in the work, becoming intimately acquainted with the mural painter's assistants. Him they never saw, nor did they realize he had created the work and intended to supply the finishing touches. The painter's failure to be on the job created an impression of his uselessness in the operation, and profes-

THE AMERICAN ARCHITECT

sional aloofness reacted in favor of his assistants.

For years, something analogous to this has been happening in the profession of architecture. The ubiquity of the contractor, the accessibility of the engineer, have been contrasted by clients with the absence of the architect from the building. The result is that, largely by his own acts, or perhaps more properly speaking, by his lack of action, the architect has removed himself from his work and ceased to be the master builder.

It is therefore necessary for architects, in order to accomplish the rehabilitation of architectural practice, to demonstrate practically that what they design they can create in enduring materials; that those who are from day to day bringing the building to completion are acting directly under their guidance, and that without that personal service the work of all the rest will not successfully co-ordinate.

Just at this time the question of service may also be taken up and very fully discussed by every architectural organization. This is not the time for apathy or ineptness. There will be the all-important question of the duties of societies in the field of their work. The service that should of right be expected is, perhaps, not being given by these organizations. Neither affectation nor effeminacy indicate the art of architecture, nor does the display of such temperamental characteristics prove its possession. Let us have the point of view of the manly man in all the discussions of what real service is and what it should be. We need to supply service, better service, and we shall only flounder along in our present sea of difficulties until we give it.

Saving Raw Materials

THE War Industries Board has added three or four million yards of cloth to our national supply simply by obtaining a reduction in the size of the samples of cloth issued by manufacturers.

It has made a similar saving in leather by reducing by one-half the number of styles of shoes that are manufactured and by limiting the height of women's shoes to nine inches.

The whole plan of its work is illustrated by the means it adopted to save paint. Manufacturers of

house paint were putting out forty to one hundred different shades. Retailers carried large stocks to have as many shades as possible on their shelves. By limiting the number of shades to thirty-two, the War Industries Board reduced the amount of paint that stood unsold on dealer's shelves. The same end was attained by standardizing the size of the can—that is to say, by discontinuing the making of half-gallon cans of paint or varnish and allowing none smaller than half-pints.

It has saved tin by providing for the substitution of other metals in metal bronzes, castings, solder, collapsible tubes and tin foil. In solder, for example, 50 per cent tin has been used and 50 per cent lead, although the Board now finds that 40 per cent tin and 60 per cent lead is as serviceable a solder. This substitution means a 20 per cent saving.

It has saved steel by obtaining a 75 per cent reduction in the number of sizes and types of drills, plows, tillage implements, farm wagons, etc. It has saved rubber by reducing the number of types and sizes of pneumatic tires from 287 to 32; and, since all our raw rubber is imported, this means a saving also of ship tonnage. Wool has been saved by reducing the number of designs of fabrics manufactured, and by eliminating those designs which were not economical in cutting. Labor and equipment have been saved in the delivery service of retail stores by organizing a co-operative delivery service and standardizing routes—so that, in one case, 55 department stores saved the labor of 303 out of 848 men and freed 129 auto trucks out of 324.

All these and many other similar savings have been effected with the assistance and co-operation of the industries involved. There has been no friction and little hardship. Industries have been put on a war basis not by the imperial ukase of irresponsible authority, as in Germany, but by the patriotic willingness of the nation to do everything in its power to help the war program. And through the War Industries Board, as through the Food Administration, the Fuel Administration and all the other war boards of the Government, the American democracy has shown its ability to organize for war as thoroughly as the most servile victims of military autocracy have been organized by the most crushing despotism of modern times.



PLATE 112

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS

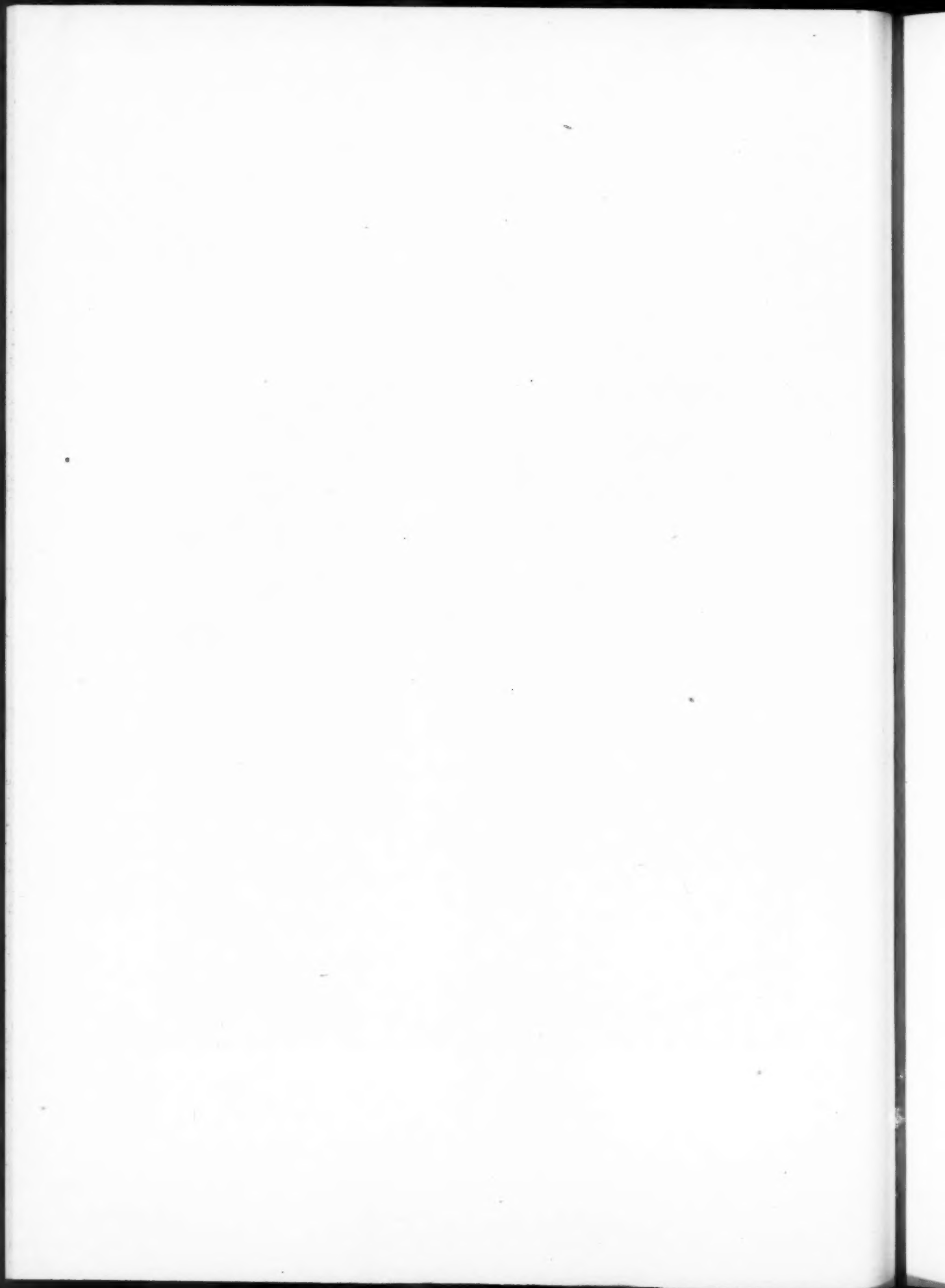




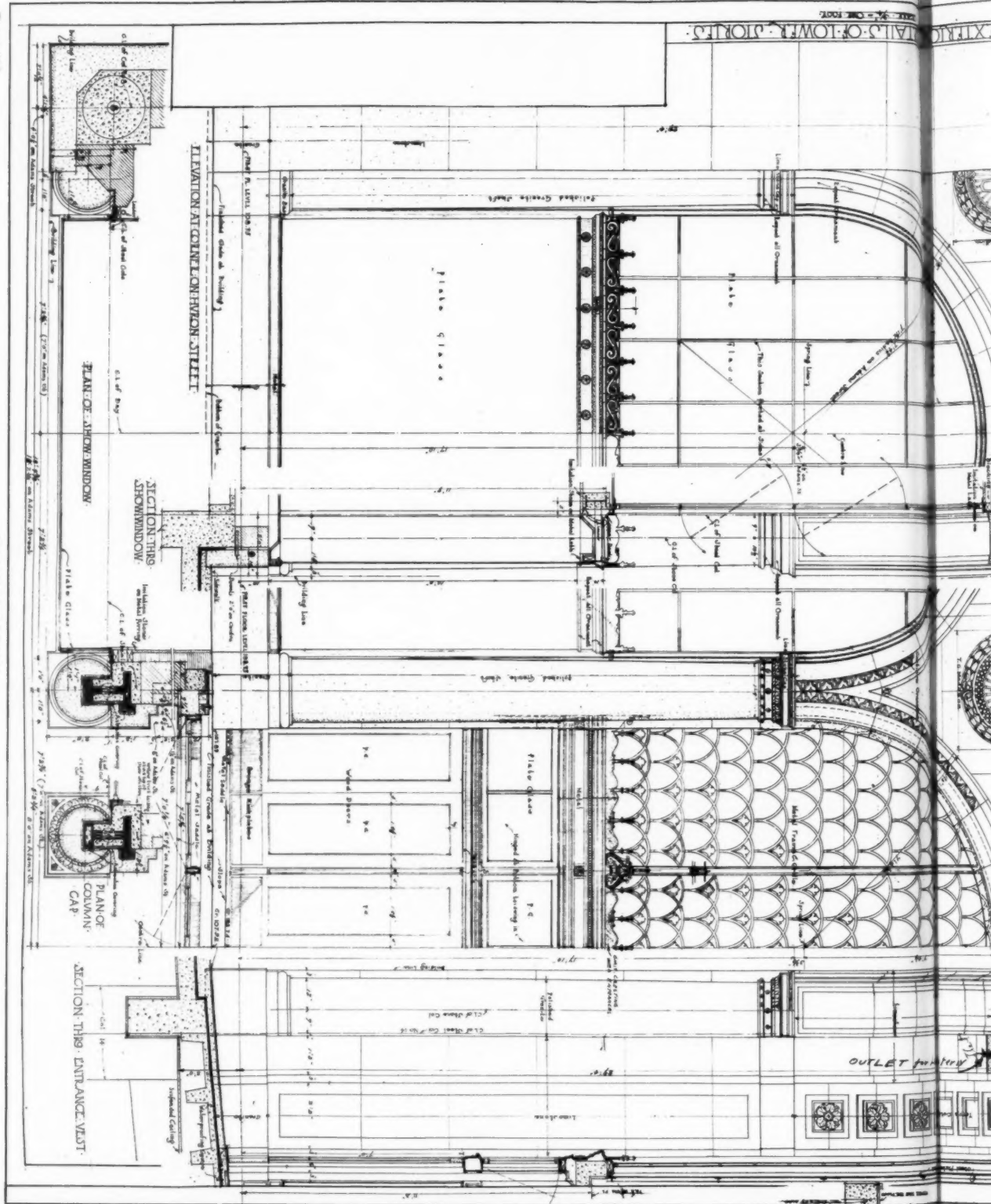
PLATE 113

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.
STARRETT & VAN VLECK, ARCHITECTS

EXTERIOR DETAILS



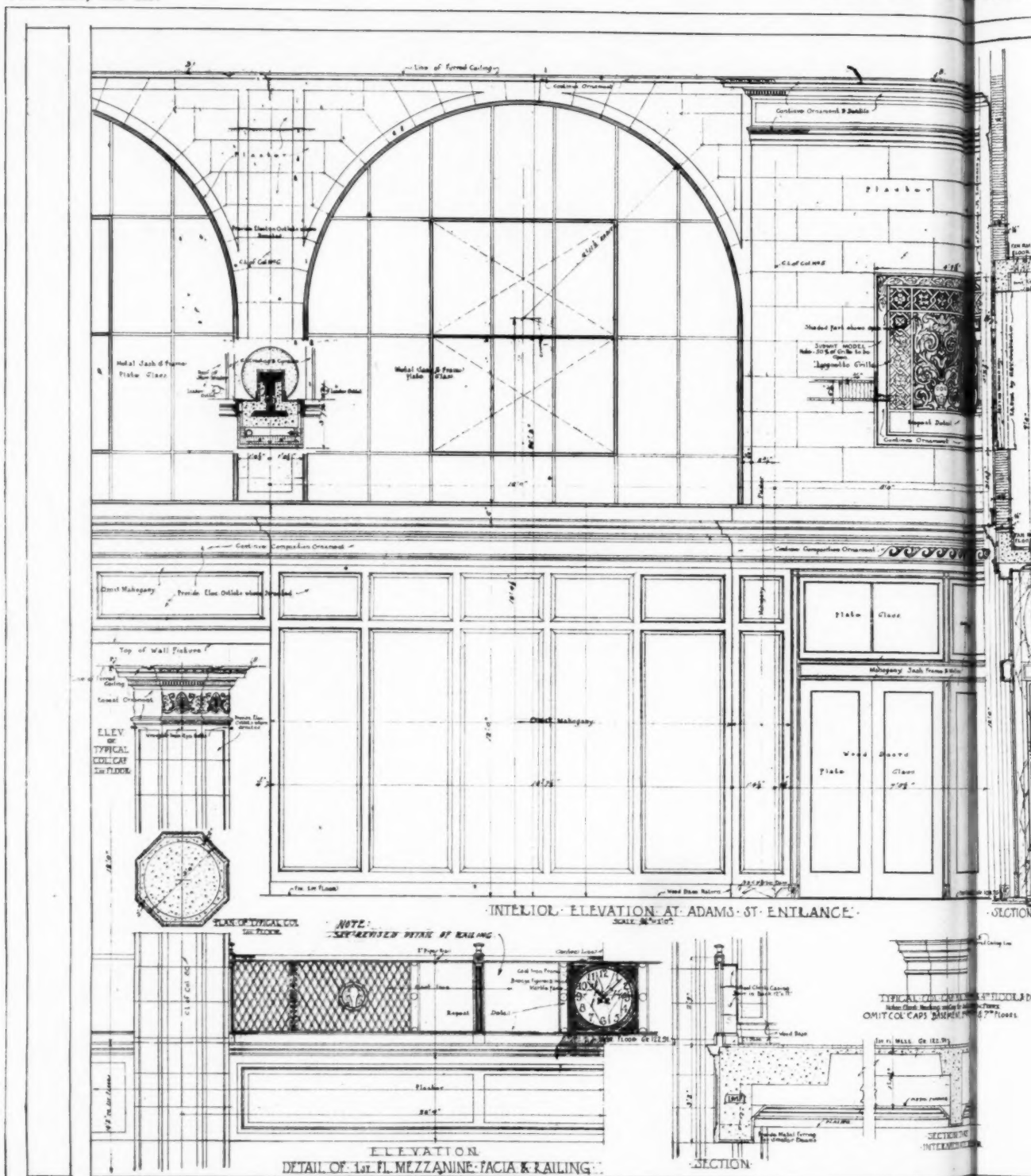
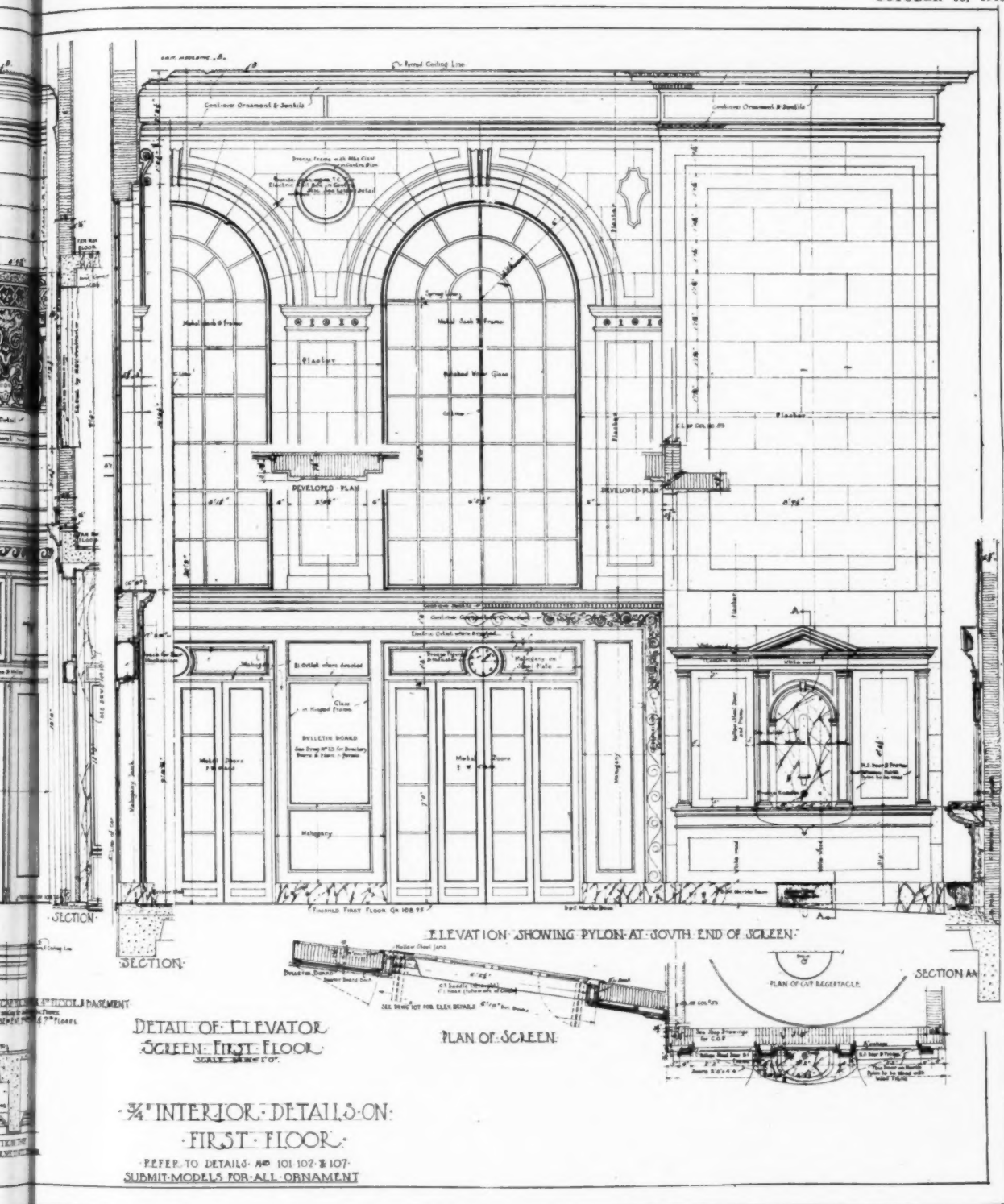
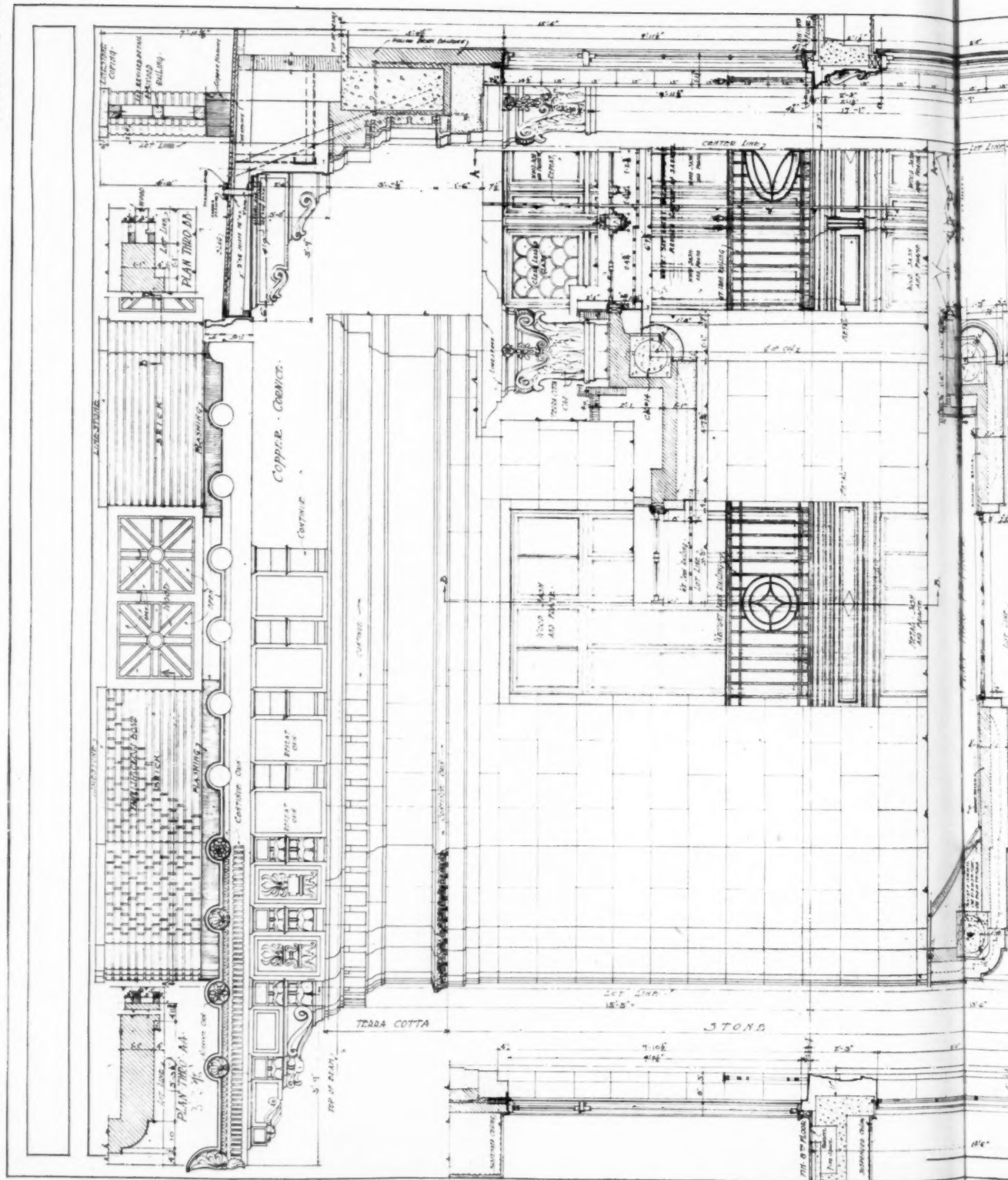


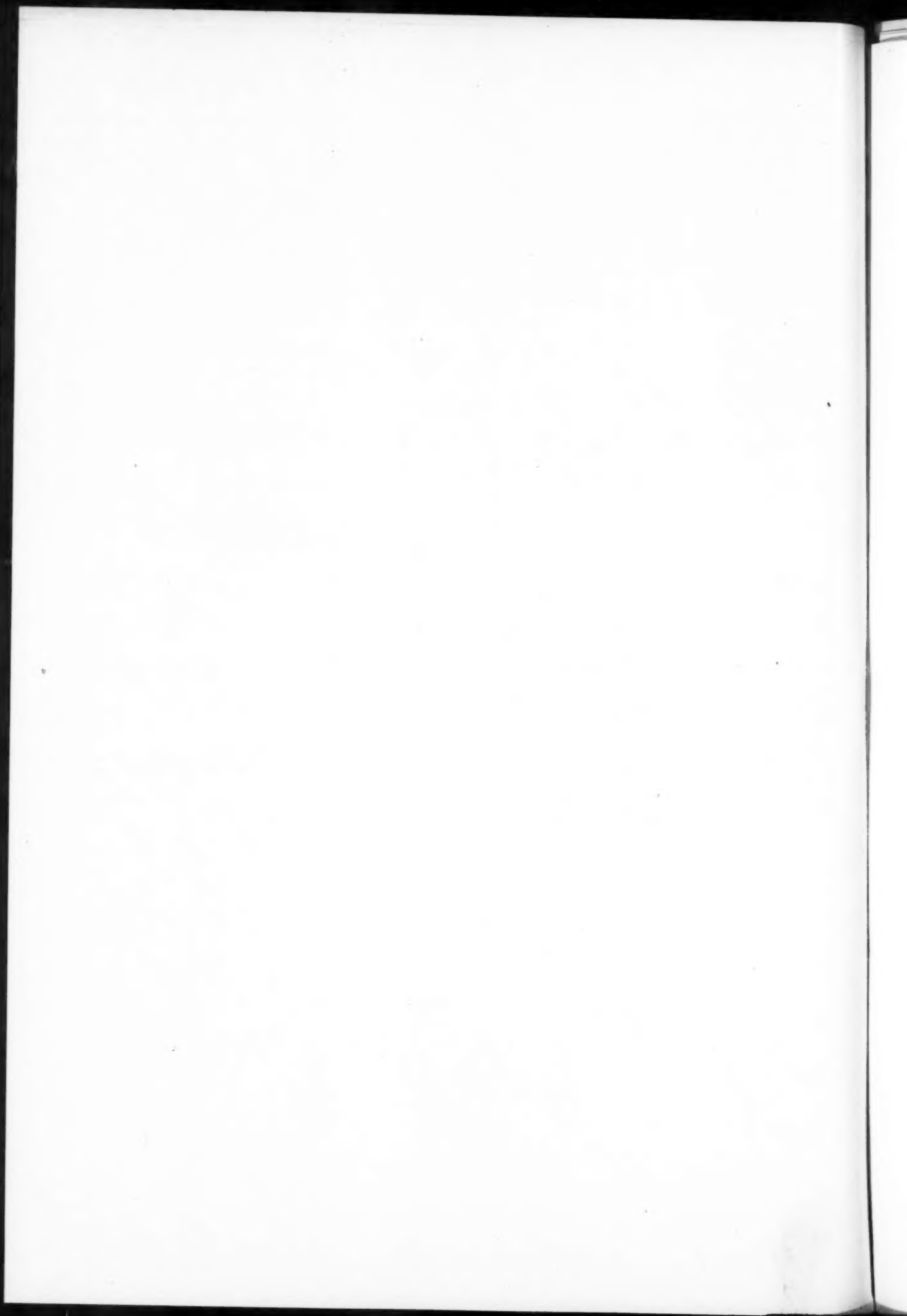
PLATE 115

DEPARTMENT STORE FOR THE LITTLE SALLE

STARRETT & VAN DYCK, ARCHT



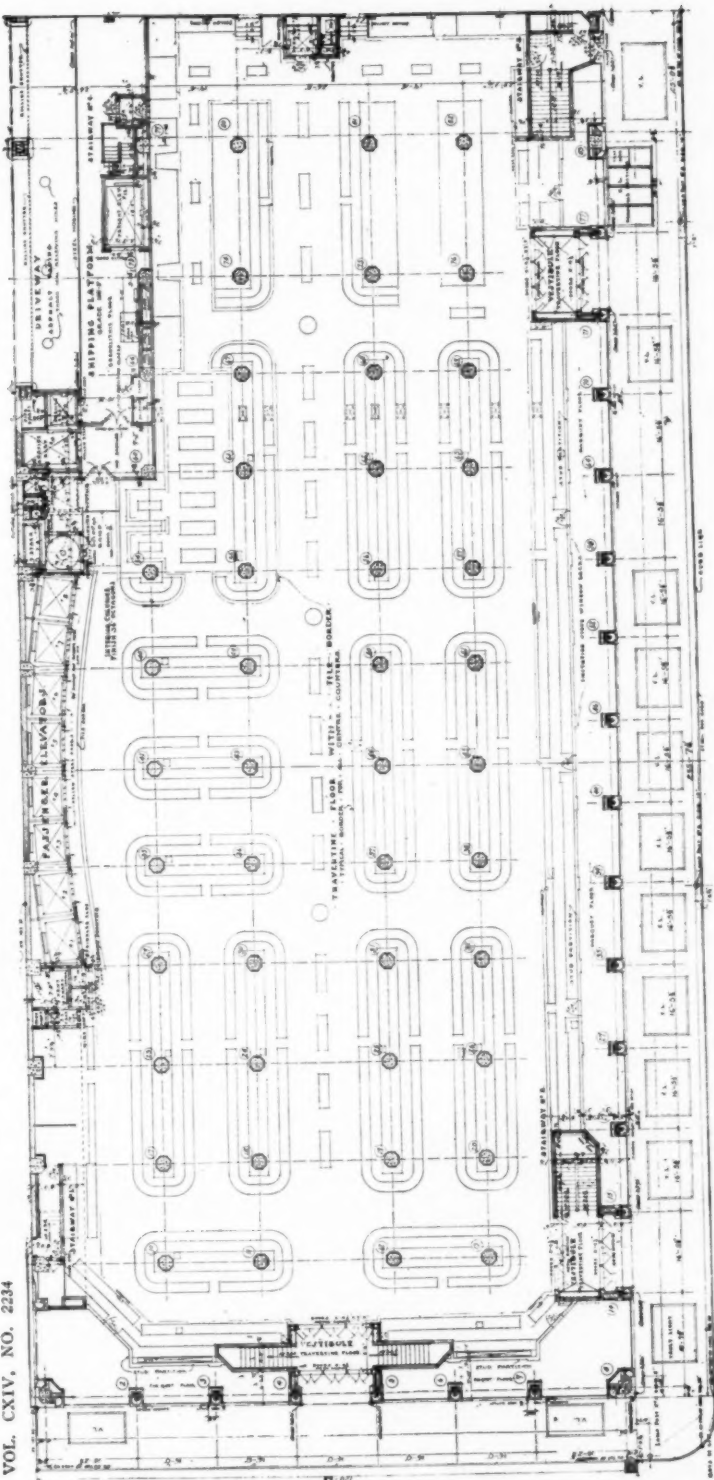




THE AMERICAN ARCHITECT

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FIRST FLOOR PLAN

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS



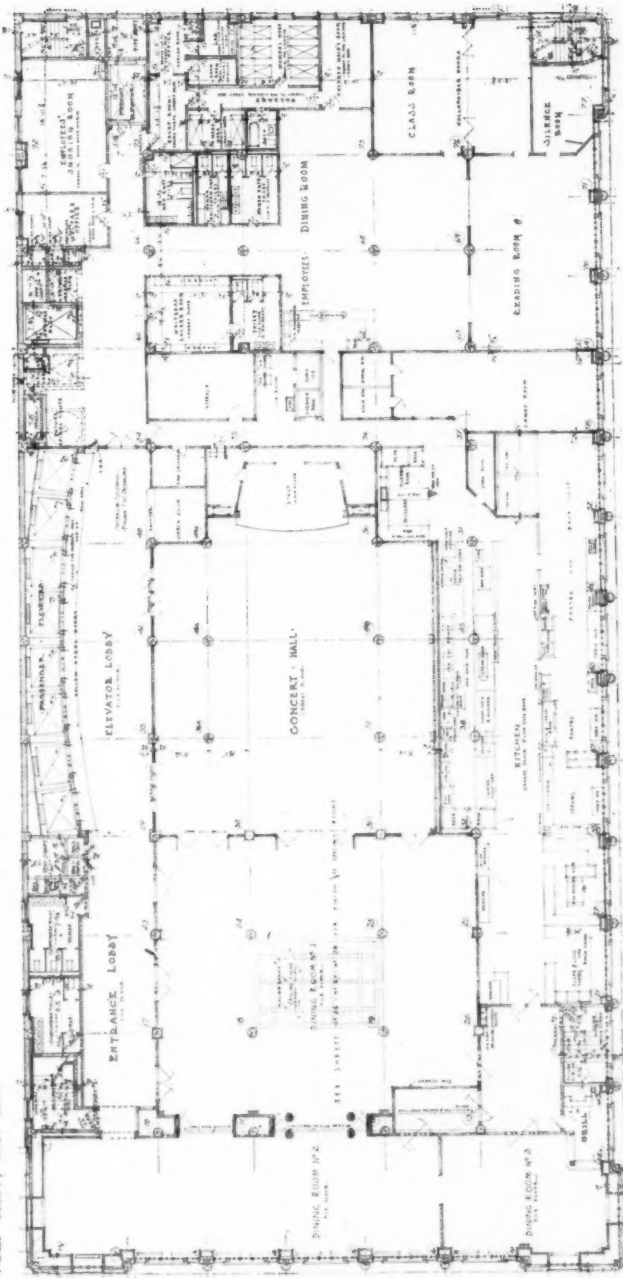


PLATE 118

EIGHTH FLOOR PLAN

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS

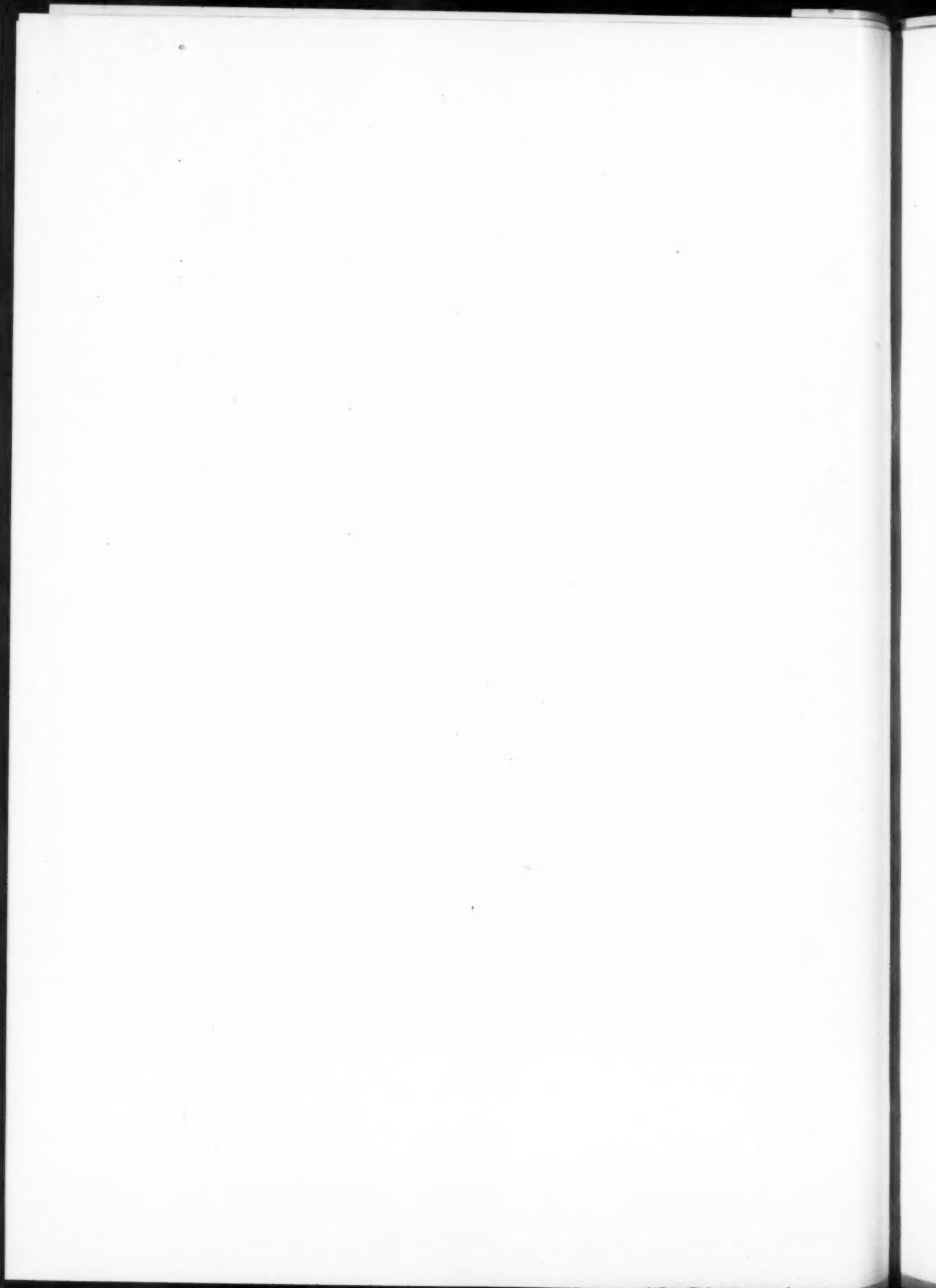
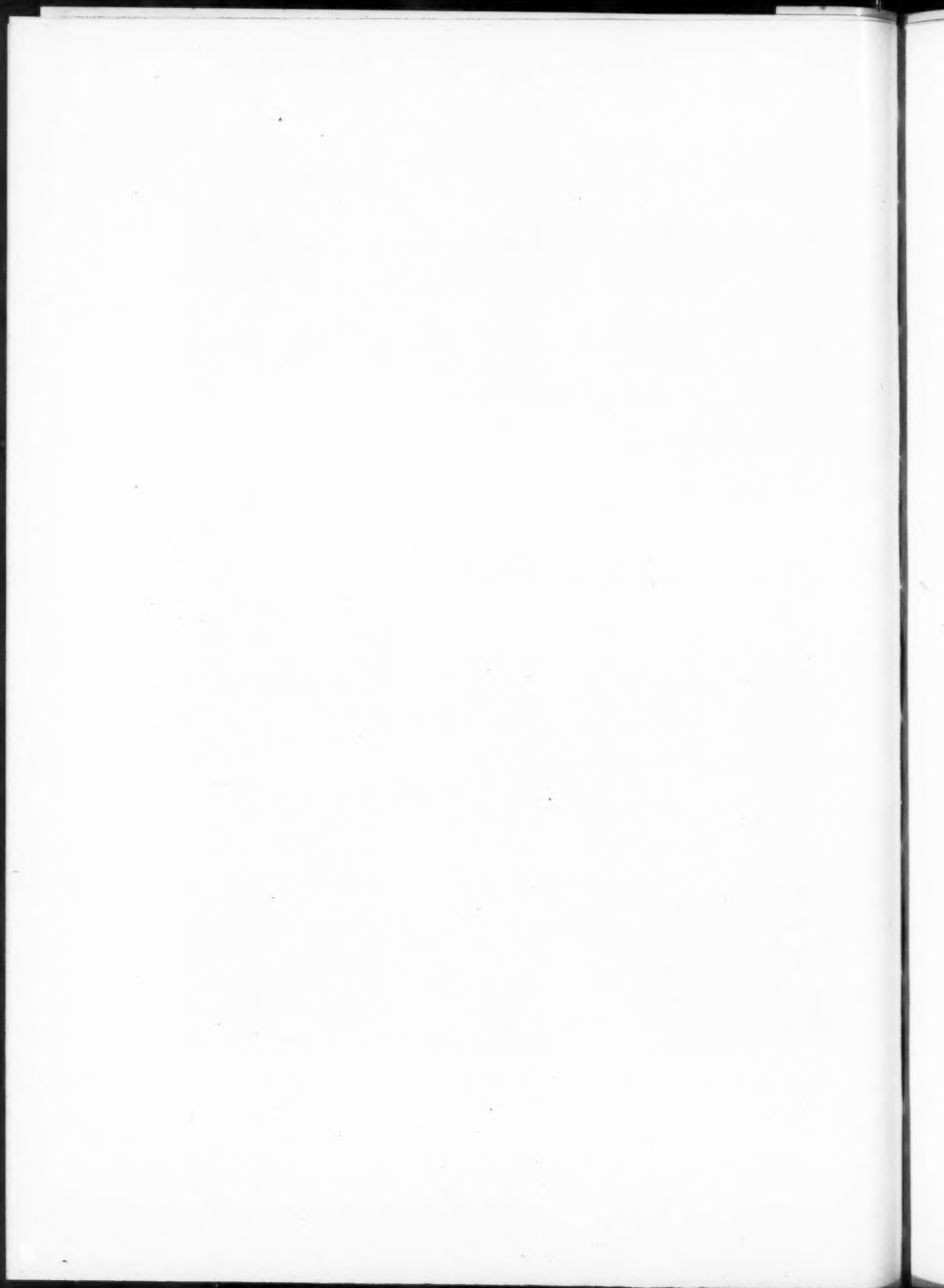




PLATE 119

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS





A SHOW WINDOW

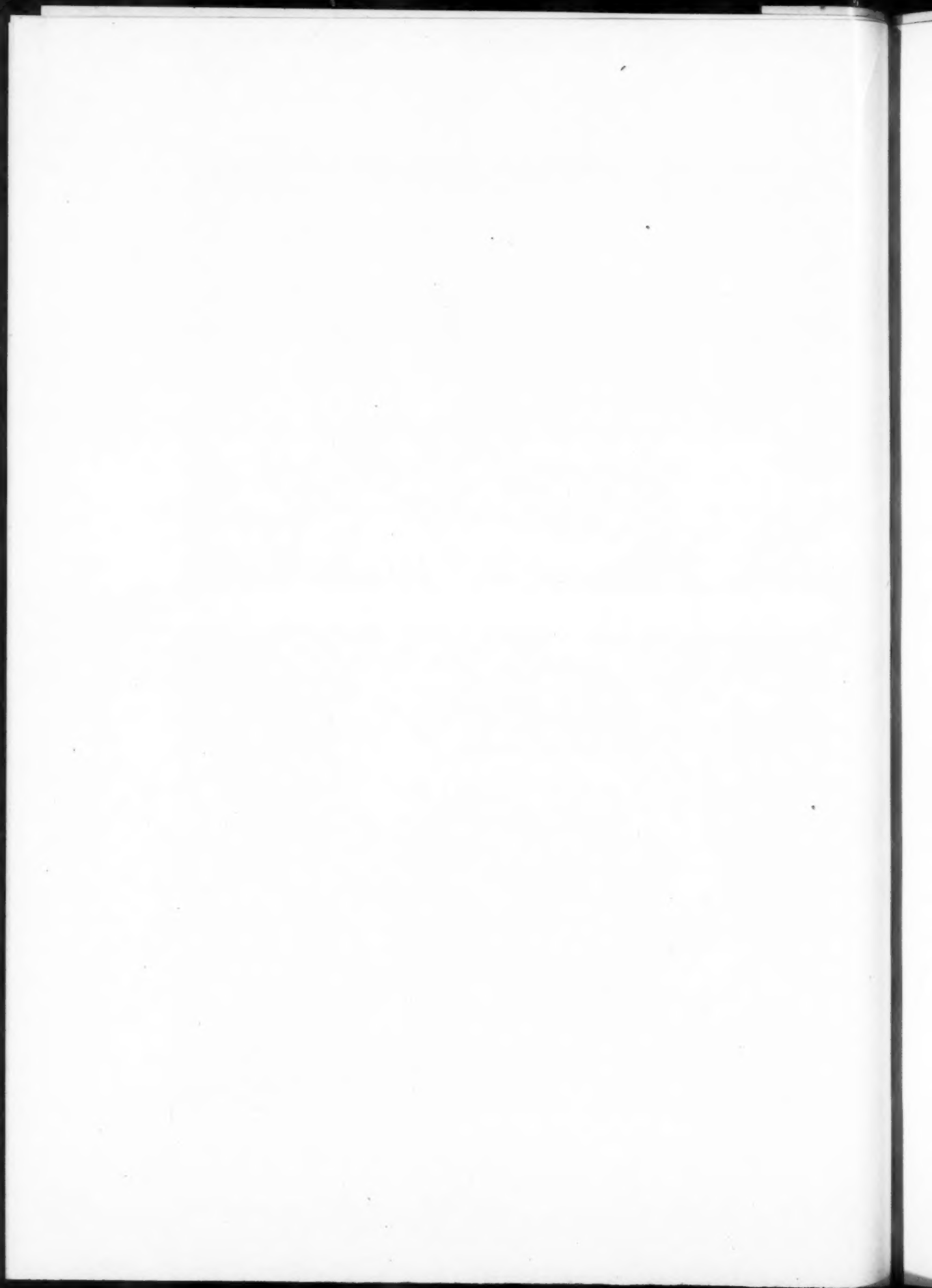


PLATE 120

DINING ROOM NO. 1

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK ARCHITECTS



Criticism and Comment

The Editors, THE AMERICAN ARCHITECT:

A discussion of the points advanced in the article, *What Constitutes Unprofessional Practice in Architecture*, appearing in your issue of August 14, would be of the greatest value to the profession, and I would greatly enjoy participation in it if I had an opportunity properly to prepare my exegesis. It seems to me, from my own limited view point, that complaints regarding compulsory observance of the code of ethics are in general not well taken; other professions observe their ethics with great punctiliousness, even when not codified in writing. Architects who talk a good deal about ethics always seem to me to resemble those persons who have a great deal to say about the consolation and benefits they derive from religion, which is too sacred a thing to be lightly discussed by those who really feel its beauty. Ethics will always be instinctively observed by those who are gentlemen at heart and without any feeling of hardship. As for the struggling young architect who is unable to get a job without going and asking for it, let him possess his soul in patience for a short time, cut out the worry and saw wood. Nothing in the code or anything else requires his light to be hidden under a bushel, and there are plenty of ways to acquire desirable prominence without paying a cent to a newspaper. In fact, it always seemed to me that the ban on architects' advertising was one of the greatest money savers that any profession could have. If every architect in a city advertised in the morning paper, which one would be better off?

Rewards are the same for corresponding ability in any profession, and the honest and well meaning architect to whom you refer who "gives his life's blood for a mere pittance" suffers more from something inherently lacking in his own make-up or education than from any adverse conditions which affect architectural practice.

I agree with you that a further development of the architects' responsibility would be desirable, understanding of course that a corresponding scale

of compensation be provided which would enable him, like the contractor, to make enough on some lucky job to carry him over an unlucky one. He might even with great possibility of good results undertake contracting, and probably would do as well at it as the average "roll-top desk" contractor, but I think he might preferably begin by handling the finer and nicer parts of buildings which are often butchered by the builder.

Signing a building is a delicate matter, and I have often given fervent thanks that some of my own early operations are now, a decade later, protected by a curtain of beneficent anonymity. "Sign buildings if you must, but do it twenty years later, if you still want to," would be my motto, still remembering that what you sign is, good or bad, still half due to the contractor.

Competitions, approved or disapproved, I have outgrown, and the subject is no longer interesting. We have eliminated them from our program and have saved money, worry and time. Our reason was not on account of ethics, morals or expediency, but simply that they are poor business, distracting attention from regular work, and costing a lot of money that is never got back. Those equipped with a printed program and a "Professional Adviser" (generally a retired practitioner who never created a real building in his life) are the worst of all. In the old days you had some kind of show with a fair-minded building committee, but with a "Professional Adviser" (fee \$300) an architect who really tries to provide an economical and adaptable building instead of a paper "project" doesn't have a burglar's chance.

Your substitute Code does not appeal to me. The four paragraphs are the same in intention and are praiseworthy in all respects, but responsibility cannot be dodged by generalities. Let us keep a definite code, live up to it, get it ingrained into our natures, and its hardships, which are after all imaginary, will disappear.

Boston.

WALTER H. KILHAM.

Recent Legal Decisions

Relating to Architecture, Engineering and Building

USAGES AND CUSTOMS IN BUILDING TRADE

It is held that for a particular usage or requirement there be inserted in all contracts for the construction of Government buildings, a provision that samples of material must be submitted and approved by the supervising architect before any material could be used, was not a custom of such general and universal application that a corporation desiring to supply marble to the contractors to erect a post office building must be presumed to have knowledge of it.—*Puffer Mfg. Co. v. Yeager*, Massachusetts Supreme Judicial Court, 120 N. E. 97.

WAIVER OF PROVISION AS TO WRITTEN ORDER FOR EXTRAS

A provision in a building contract that all extra work shall be ordered by the architect in writing may be waived by the parties. The question whether there has been such a waiver is usually one of fact, depending on the facts and circumstances of the particular case, and is therefore for the jury. This waiver may be implied where the order and the extra work are known to the owner and not objected to by him, or where the charge for extra work is agreed to by the owner, or where the extra work is orally ordered by the owner or called for by the agent in the plans and specifications; or the owner by his conduct may be estopped from setting up the provision as a defense in an action on the contract.—*Klas v. Pearce Hardware & Furniture Co.*, Michigan Supreme Court, 168 N. W. 425.

TIME FOR FILING MECHANICS' LIENS

The Oregon Supreme Court holds that the statute of 1915, requiring, for the preservation of a materialman's lien, that the claimant furnish within 10 days a duplicate statement of the material to the owner, is mandatory, and no lien can be established unless it is complied with. A laborer's or a materialman's lien is in the nature of a shadow, which ultimately may, but does not cloud the title of or attach to the real property benefited by an improvement until the prescribed notice has been filed in the proper office within the time allowed, when the

charge, which the law imposes as security, relates back to the beginning of the work, thereby giving to each claimant an equality, but not a priority, of right in proportion to his respective demand as compared with the amount of the entire statutory liens. A materialman furnished material on a contract all of which was paid for and later, on the same contract, furnished other material, after the enactment of the statute of 1915. It is held that he could not have a materialman's lien for material last furnished, in the absence of a showing that within 10 days of the time he furnished it he rendered a duplicate statement to the owner of the property.—*Auld v. Starbard*, Oregon Supreme Court, 173 Pac. 664.

INSOLVENCY OF CONTRACTOR—OWNER'S LIABILITY FOR MATERIAL

Owners entered into a contract with a company for the construction of a mausoleum. The contracting company became insolvent, and was unable to perform its contract. The owners agreed with the contractor to complete the mausoleum and to pay for all materials and labor not already paid for, not exceeding, in all payments, the contract price. The Kansas Supreme Court holds, *Rumboldt Brick Mfg. Co. v. Kennedy*, 173 Pac. 302, that the owners are liable to those who furnished the material in a sum equal to the amount unpaid on the contract.

CLAIMS FOR LABOR AND MATERIAL

In an action on the general contractor's bond by a company which furnished labor and materials to a sub-contractor it was held that a judgment against the sub-contractor in an action wherein the contractor was garnisheed was not a defense available to the contractor. The plaintiff company's claim for \$500 of the final installment of the price due the contractor, intercepted by its notice to the owner school district to withhold payment, was held superior to the claim against the contractor of any attaching creditor of the sub-contractor.—*Southern California Electric Co. v. Grant*, California Supreme Court, 173 Pac. 760.

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The Avenue of the Allies

(Continued from page 457)

riot of color—with thousands of flags snapping to the brisk autumn wind.

The principal feature of the decorative treatment of the avenue was the Altar of Liberty at Madison Square. This was designed and its construction superintended by Thomas Hastings, architect. Its architectural excellence may be judged by the accompanying illustration. Each day of the period of the Loan "drive" was set apart to be dominated by one of the allied nations. From the rostrum fronting this altar, the diplomatic representatives of the Allies and their distinguished citizens spoke to the assembled thousands, urging the slogan everywhere to be seen: Buy Liberty Bonds. To the man who is interested in the study of national characteristics, a rare opportunity was offered by daily visits to

Madison Square. Here he might mingle with the dense throng and get close enough to the rostrum to watch, if he might not always hear, the speakers. There was no lack of wild enthusiasm, but each nation in a different way gave expression to its patriotism. Aside from the Altar of Liberty there were no constructed pieces.

The lesson to be learned from this wonderful display is that structural accessories are not necessary, but in fact may be largely deterrent to a well-considered decorative effect.

The whole scheme was one of flags, either banners stretched across the street or suspended on staffs from the windows. As may be seen in the illustration, it was their profusion which gave the bewildering sense of splendid color, and its continuation, down to the very sidewalk line, produced just the effect necessary to make a pageant of beauty of the Avenue of the Allies.



DINING ROOM

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS

THE AMERICAN ARCHITECT

Safeguarding Against Fire

The National Board of Fire Underwriters, 76 William Street, New York, issue a monthly publication called *Safeguarding America Against Fire*.

The September issue is at this time one of unusual interest, as it deals with the problem of the incendiary. It traces the origin of many fires to the activity of enemy agents, and publishes portraits of different types of men who have been convicted of incendiarism. Copies of this publication may be had on application.

Frederick Crowninshield Dead

A dispatch from the Associated Press from Naples announces the death on the Island of Capri, in Italy, of Frederick Crowninshield, well known in

this country and in Europe as an artist of exceptional ability. He was born in 1825 in Boston, where for the greater part of his life he resided. He received recognition for his high ability as a painter and teacher of art from representative art organizations everywhere, and was up to the time of his death a frequent exhibitor at exhibitions in the United States.

Plans to Increase Steel Production.

The War Industries Board is taking action to increase steel production through a series of meetings with various elements of the industry. Meetings with these various branches have been scheduled, and it is proposed to urge every means to increase the steel output.



VIEW ON GENERAL SALES FLOOR

DEPARTMENT STORE FOR THE LA SALLE & KOCH CO., TOLEDO, O.

STARRETT & VAN VLECK, ARCHITECTS

THE AMERICAN ARCHITECT

Our Individual Part

Some observers think that the most characteristic thing about the American soldiers in France, something which astounds the enemy and excites the admiration of our Allies, is the capacity of the American soldiers for individual thinking and fighting. The German fights successfully only in mass formation, in organized bodies, while every American soldier has an initiative and independence of action which give him remarkable efficiency in open fighting. He is not a senseless cog, but an individual working unit in a great fighting machine.

Every American at home should feel an individual responsibility and do his or her particular part in winning the war. There is not an American citizen who cannot help win the war. The Fourth Liberty Loan drive, now nearing its conclusion, offers a great opportunity for concerted and individual action, and the loan will be a success if each American will do his or her special part as each American soldier in France does his. Our soldiers deserve such support from the people at home.

To Regulate the Building Industry

A pamphlet issued by the National Federation of Building Industries contains a statement by the executive board of that organization to representatives of the various United States Government administrative boards having to do directly with the regulation of matters relating to the building industry.

Many well considered arguments are advanced in which it is endeavored rightly to define the building industry as a highly specialized organization of interdependent branches. The following well sustained argument is advanced in favor of a freer interpretation of matters affecting the building industry:

We read:

Many do not realize that the building industry is an industry, an organism and a national facility, but look upon its many branches as independent industries in themselves. It becomes apparent, however, upon reflection, that shingles are of no use without nails, and that bricks are of no use without mortar. It is useless to release fuel for manufacture of one product without releasing fuel for the manufacture of other products in proper proportion. Every structure requires for its completion many component parts, for the want of the least conspicuous of which the completion of the work is delayed and made impossible. A structure is, in fact, an assembly of materials and products produced

cheaply in large quantities, mainly by highly capitalized and specialized manufacturing concerns.

Engaged in design and superintendence there are in the neighborhood of three thousand architects, and a greater number of engineers. There are approximately two hundred organized local builders' exchanges composed of contractors and material dealers, and there are in the neighborhood of two hundred and fifty national associations of manufacturers of lumber, cement, heating apparatus, paint, asbestos, glass, and the like. These must all work together for speedy and economical construction, timing as the players in an orchestra or the gears in a machine.

The capital invested in the industry is conservatively estimated to be over \$2,000,000,000, while its annual product in normal times is estimated with equal conservatism at upward of \$3,000,000,000; it gives employment in normal times to a million and a half men skilled and unskilled.

With its organization running smoothly, it has been able to aid most effectively in the war work by production of cantonments and other Government structures with more than expected speed. There is little doubt that it will be able rapidly to complete the Government program, unless the industry becomes disorganized in some of its branches, for it must be borne in mind that the Government building program has not utilized the full capacity of the industry. And, should the civil work be cut off, one of the greatest industries in the country would be left without call for that part of its output not required by the Government, with its vast capital investment endangered so that future governmental demands would be fulfilled only with considerable difficulty.

It is regrettable that architecture as a profession is not more closely identified by actual representation on the executive board in an organization which, it appears, is using consistent and well-sustained efforts to create a wider, and what is believed to be a more just, official attitude toward building not allied to war work.

An Historic Old House

The "Porlier-Tank" Cottage is one of the principal places of interest in Union Park, Green Bay, Wis. It was erected 125 years or more ago and it is declared to be the oldest building in Wisconsin.

This cottage, low, irregular, and bearing on its face the record of its existence since that day when Joseph Roy built it on the bank of the Fox River, near where the stream widens out in its conjunction with Green Bay, to-day presents a remarkable state of preservation. A recent investigation showed

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that the greater part of the wood is in almost its original condition. This, despite the fact that the cottage has weathered all sorts of storms and has in the last fifteen or twenty years been subjected to rather rough treatment, particularly on the occasion of removal from its original site to the present location in Union Park.

For many years it was believed that the "Porlier-Tank" Cottage was built of logs. The investigation, however, developed that it was constructed of roughly sawed timbers and boarding, the boards being very wide and of a remarkably good quality. The spaces between the upright timbers and the inner and outer walls were filled with brush and "pugged with clay," mud plaster being commonly used to chink log cabins in early times.

Modification of Government Ban on Building Probable

Advices from a Washington correspondent of the New York *Sun* intimate that a modification of rules concerning building construction of an essential character might be considered within the very near future as the result of revelations of the quantity of building construction of a reasonably essential character that has been held back because of the necessity of permitting even more important construction work to proceed. It was shown that in New York City alone there is at least \$94,000,000 worth of essential building work ready to be submitted to the Mayor's committee for permission to proceed and about \$115,000,000 additional being held back by architects that had not reached the stage for estimates when the war stringency prompted owners to defer work. None of this work represents speculative building, but work that would make available in a short time rental space for business and war workers.

It is shown that the lack of rental space is so acute in New York that the Government, after ordering the commandeering of certain loft buildings, had officially to rescind the orders because the tenants simply could not find adaptable space elsewhere, and it would have meant practical Government confiscation to have dispossessed them.

Washington was considerably surprised at the volume of protest that was registered there in relation to the terms imposed upon building interests by "Circular No. 21," which made manufacturers, distributors and dealers of building materials responsible for the ultimate use to which all materials sold by them were put. In many cases the pledges were signed through fear of being considered unpatriotic, but in many others it meant almost

total cessation of business because the manufacturers placed the full burden of responsibility upon the dealer who did not have the means of scrutinizing every job, and who therefore actually was forced to refuse business. In consequence most of the building material distributors of New York are working upon the narrowest percentage of activity, and some have already dangerously approached the vanishing point.

Color—Its Application in Architecture

In an interesting discussion on the application of color in architecture, the *Western Canada Contractor* states in part as follows: Color will materially affect the proportion and the modelling of any building and should for this reason be studied in with the design. A projecting cornice, if brought into relief by the use of a color strongly differentiated from the house, is apt to look heavy and overloaded. Also the part color plays in mouldings is of the first importance. Mouldings worked in unfinished wood must be made clear cut and deeper and sharper than would be the case with painted mouldings. Painted woodwork or any material which is uniform in color shows the varieties of shadow much more clearly than any material which has a natural variation of color.

In the selection of a color scheme it is well to bear in mind that what artists call "vibration" is only obtained by contrasting a warm color with a cold one. Combinations in which warm colors prevail are more agreeable than those made mainly of cold ones, while it is also true that the finest harmony of complex or various colors is that in which there is a proper balance of both warm and cold colors, so used that they enhance each other. One with a very limited sense of color may, by a sure definition of warmth and coldness in his tones, arrive at a great charm of color harmony in his work. Bodies reflect a considerable portion of white light as well as colored light, according as the surfaces are smooth, glossy, polished, rough, channeled, etc. Materials of different textures but of the same tone and hue are always harmonious.

Yellow is a warm and advancing color and is especially useful as an ornament on other colors. Orange is the most intense color and should be used sparingly, as it needs great care as to the quality and quantity of other colors to balance it. Violet is a cold color, red-violet warmer. It is grave and dignified and, being a retiring color, it will serve well as a background for more luminous colors upon it.

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Blue is cold and retiring, especially suited for backgrounds. Green may be cold or warm, retiring or advancing, according as it approaches blue or yellow.

When one studies the great scale of greens as seen in a landscape lit up with full sunshine, and notices the intense yellow-green where the sun shines through the leaves, the pale greens and the rich dark greens in the shadows, it seems as if no other color would admit of so varied a scale or be more restful to the eye. Hence for rooms to live in, green is preferred. Its healthfulness cannot be doubted if one considers how refreshing the surroundings of trees and grass are to an invalid.

Building Operations Will Be After War Shock Absorber

In a communication from a large firm of builders, located in New York, addressed to the *Enquirer* of Cincinnati, the following well considered view of present and future building conditions is presented. We read:

"While there is much complaint over the scarcity of building operations which is bringing about a period of excessively high rentals, these conditions will prove blessings in disguise at the end of the war, if not before. The building and construction industry, which is second in importance and magnitude only to agriculture, will prove an industrial and financial shock absorber in the period of adjustment that will come with the ending of hostilities—a period which seems fraught with tremendous possibilities. Certain it is that the sudden curtailment of demands for munitions and other war supplies and the home-coming of several hundred thousand young men from the fighting front each month will present a situation such as America has never witnessed before.

"There will be thrown on the markets a vast reservoir of man-power, and alarm is felt by many as to the results of such a precipitate situation. However, the building industry, by reason of its present stagnation, will be able to absorb a sufficient amount of this over-supply of labor to prevent general unrest. New York City alone is so far behind in building accommodations that it will take many years of intensive construction work to bring the situation to terms of equality with the growth of the city. In all American cities much the same conditions prevail, though less acutely.

"While the country will be saved from an embarrassing situation, there will be ushered in the most remarkable period of building activity America has ever seen. Housing accommodations of all

kinds will have to be brought back to normal, and there will be a tremendous demand for increased manufacturing and transportation facilities to accommodate us to our newly acquired position of world-wide commercial supremacy. The era of high costs for materials and labor and of high rentals and increased real estate values will continue indefinitely after the war as a result of this unprecedented activity."

Government to Build Workingmen's Houses in South Philadelphia

Ground has been broken and work is proceeding with celerity for the Government's operation of 710 workmen's houses in South Philadelphia for the accommodation of employees of the Navy yard at League Island. The houses will occupy the site bounded by Seventh and Thirteenth streets, Oregon avenue and Johnson street. The work is being done under the direction of the Bureau of Industrial Housing and Transportation of the United States Department of Labor. The operation will cost about \$3,500,000 and the plans are by Rankin, Kellogg & Crane, architects, of Philadelphia.

The houses will be two stories and of brick, each 16 by 29 feet, and will contain three bedrooms, living room, dining room, kitchen and bath. Each house will be provided with a hot-air heater, gas range, gas and hot-water heater. They will be built in rows of six to twelve houses, with from twelve to sixteen feet spaces between the rows. This will afford good circulation and break the monotony of the long rows. Included in the group will be fourteen stores.

The groups are so arranged that driveway alleys are provided in the rear to be used by vendors, and collectors of garbage and rubbish.

Not only will the physical comforts of the tenants be taken care of but the esthetic taste will also be satisfied by the general treatment of the project, which includes four public parks, the planting of trees and shrubbery, well-laid sidewalks and, in fact, everything necessary to make the settlement attractive.

Personal

O'Donnell & Wolfe, architects, Sandusky, Ohio, have closed their offices for the duration of the war.

Mr. John Galen Howard, head of the department of architecture in the University of California, has been granted leave of absence for the period of the war. Mr. Howard is now in France, engaged in war work for the Y. M. C. A.

Industrial Information

Edwards Steel Lockers

A catalog may be secured from the Edwards Mfg. Co., 310-360 Culvert Street, Cincinnati, Ohio, in which will be found an account of the advantages resulting from the use of the steel lockers made by that firm. Illustrations show each locker to be complete, with hat-shelf, hooks, special locks and number plates. The lockers are made of standardized, interchangeable parts, and are claimed to be adjustable to any height. They are finished in baked enamel, and are, of course, fire resisting. Each locker is guaranteed by the manufacturers, who claim that managers of factories, stores, offices, schools, etc., may effect considerable economy by the use of their product.

Inter-Departmental Haulage

Literature has been put in circulation by the Baker R. & L. Co. of Cleveland, Ohio, to exploit their system of hauling between departments by the use of electric industrial tractors and trucks. Enough types are produced to meet almost any need. The line consists of tractors, elevating platforms and crane trucks in two and four-wheel drives and two and four-wheel steer, each made that inter-standardization may be effective; a stock of parts for one model can be used on all others.

The utility truck is a full-sized machine with space provided for large batteries and facilities for rapidly replacing them when run down. The loading space of the platform, while ample, allows but a short turning radius, and it is claimed that flexibility of control permits expeditious handling in congested quarters. It is stated that a passageway only a few inches wider than the machine is all that is necessary for operation, and turning is possible in the narrowest aisles.

The Nagel Motor List

Bargains in new and remanufactured motors and generators, of both alternating and direct current types, are described in the Nagel Motor List No. 25, revised to July 15th, and now issued by the W. G. Nagel Electric Co. of Toledo, Ohio. Full information regarding make, type, horsepower, speed, etc., of each item is given in the booklet. Machines sold by the Nagel Co. are claimed to be modern in every respect, looking as attractive and serving as satisfactorily as new motors. The makers say that

every piece of machinery is given a two-hour running test before leaving their plant, during which its performance is carefully examined by a competent supervisor.

Ivanhoe Steel Reflectors

The Ivanhoe-Regent works of the General Electric Co., Cleveland, Ohio, may be addressed for a copy of the new Ivanhoe Catalog No. 276. This describes a new dome reflector for industrial lighting, porcelain enameled, green outside and white inside, and made to fit all sizes of Mazda C. lamps. The manufacturers claim that it fulfills all the requirements of the Associated Manufacturers of Electrical Supplies and is endorsed by the Mazda lamp interests. This dome is made to distribute the light and yet keep the lamp well shielded from the eye. The catalog referred to also gives engineering data governing the use of this equipment.

Metal Lath

A booklet discussing the usefulness of metal lath in industrial housing projects has been prepared by the Associated Metal Lath Manufacturers of Cleveland, Ohio. Architects who are interested in the various important problems confronting the erection of structures for industrial organizations may receive a copy of "Industrial Housing" if their request is made to that company on a letterhead.

Industrolite

Industrolite is a fixture manufactured by the Luminous Unit Co., 30 Church Street, New York, with offices also in the principal cities here and in Canada. The makers describe it as an all-steel porcelain enameled reflector which may be attached to any electric lamp socket, and the construction of which will keep the glare of direct light rays from the normal range of vision. The light, they say, is accurately reflected from many different angles, increasing the illumination on the work from all sides, and dispelling both shadows and glare. The fact that there is full ventilation around the lamp is said to cause long lamp life at high sustained efficiency, and the construction is one which tends to prevent the accumulation of dust. Industrolite is not expensive, and the Luminous Unit Co. states that many Government projects are equipped with it. Further information may be had from the manufacturers.

Department of Architectural Engineering

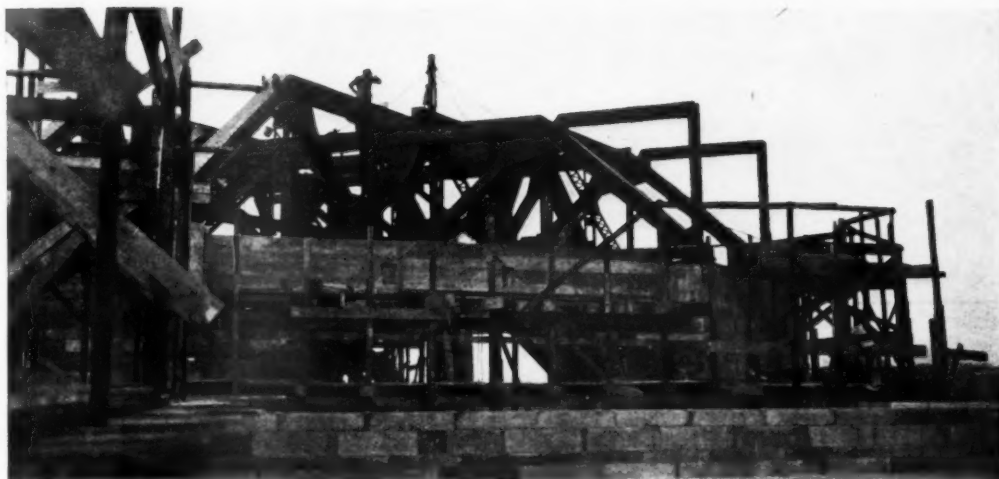


Fig. 1. The roof trusses in position. The trusses A at the right passing through trusses B and at a lower level. The end of girder D is shown above the top chord of truss A and immediately below the top of the erecting derrick.

The Construction of a Lantern and Fleche

Hennepin Avenue Church, Minneapolis, Minn.

HEWITT & BROWN, *Architects*

CITIES and towns have identifying features of some kind, and they are either topographical or man-made. The man-made features more often find their expression in the form of buildings than in other ways. Even the water tank at a prairie switch village serves its purpose as a landmark as effectively in its locality as does the skyscraper in other situations, and fortunate is the community which possesses a group of buildings that serves this purpose.

In Kingshighway, St. Louis, is a notable group of churches that forms an interesting architectural center. The Synagogue by Barnett, Haynes & Barnett; Saint John's by Theodore C. Link; the Second Presbyterian Church with its beautiful campanile, and the Christian Science Church, both by Mauran, Russell & Crowell; and among them the happily located classic Tuscan Lodge by Albert B. Groves, all compose this group of interesting buildings.

In Minneapolis is a similar group, divided by the joining of The Parade and Loring Park. Crossing

the foot bridge in the park, on the left is seen the reflection of the dome and pediment of the Roman Pro-Cathedral, by the late E. J. Masqueray, showing above the trees that edge the lake and through its reflection floating peaceable swans. Further on a reflection of the severely plain and beautiful tower and window of Saint Mark's* appears above banks of brilliant red and yellow flowers and the trees of the park, and further on along the shore there is reflected the slender fleche and lantern of the Hennepin Avenue Church,* which follows the observer and appears as a narrow path on the water leading to the opposite tree-covered shore. These two churches were designed by Hewitt & Brown.

The fleche and lantern of the Hennepin Avenue Church have some interesting details of construction. The composition is unusual in having the fleche and lantern located over the center of the auditorium.

*See illustrations, *THE AMERICAN ARCHITECT*, July 17, 1918, Plates 20 and 23.

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In plan the auditorium is a modified octagon with an inscribed diameter of about 62 ft. and a height of about 53 ft. The ceiling is vaulted and groined as shown on Plate 24 of *THE AMERICAN ARCHITECT* before referred to. In the flat portion of the ceil-

tion and expansion due to the great difference in temperatures that obtain in Minneapolis, and also because of the uncertainty of some of the footings which were over an old creek bed where quicksand was apparent. Thus, by building them in individual

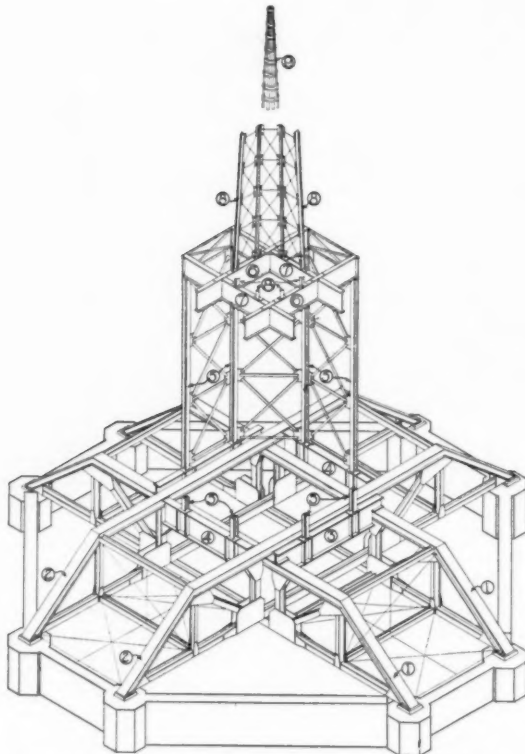


Fig. 2. Isometric view of trusses, lantern and fleche.

- | | |
|------------------------|--------------------|
| 1. Trusses A | 5. Lantern columns |
| 2. Trusses B | 6. Girders B |
| 3. Girders D | 7. Girders A |
| 4. Girders C | 8. Fleche columns |
| 9. Top of fleche frame | |

ing is an octagonal open space which is about 13 ft. high, 15 ft. in diameter and ceiled by horizontal glazed sash. This open space is in the depth of the roof trusses, its height being between the planes of the top and bottom chords of the roof trusses.

At each corner of the auditorium is an octagonal pier on which rest the shoes of the trusses which support the roof, the lantern and the fleche.

The trusses are arranged in two pairs, one pair at right angles to the other. It will be noted, Figs. 2 and 5 that one pair of trusses passes through the other pair instead of being connected together in the top and bottom chords as is usual. The original design was made in the usual way, the four trusses connected into one unit. This was changed to the arrangement as shown, owing to the contrac-

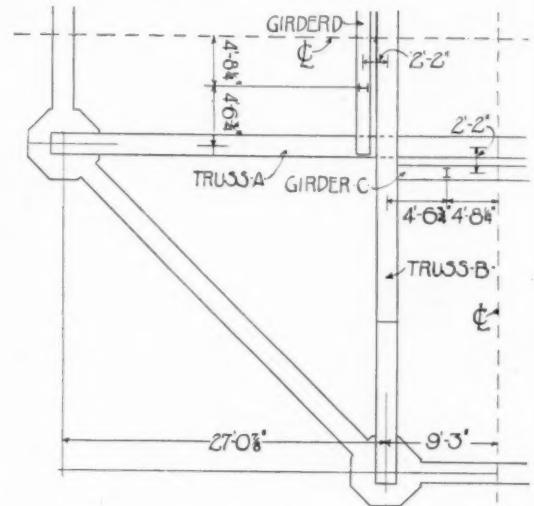


Fig. 3. Plan showing the location of trusses A and B, girders C and D and the lantern columns.

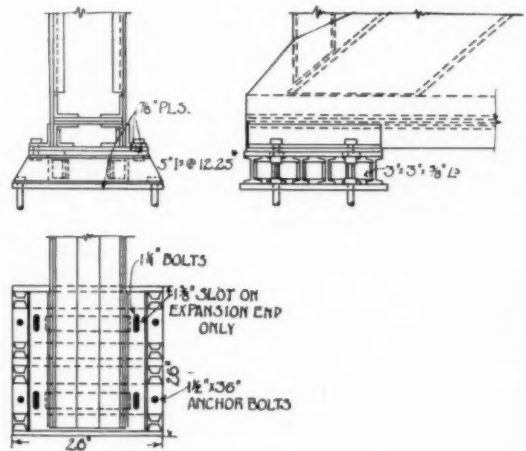


Fig. 4. Detail of the truss shoes and their anchoring.

units possible complications are avoided. The trusses have lateral bracing in the plane of the lower chord, as indicated in Figs. 2 and 9, and in the vertical plane of members 2-5 as shown in Figs. 2 and 6. The detail of the truss members is given in Fig. 5, the stress record in Fig. 7 and the detail of the shoes and anchorage in Fig. 4.

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Attached to the top chord of the trusses are plate girders *C* and *D* on which rest the columns of the lantern. In plan these are shown, with the trusses *A* and *B* in Fig. 3, and their relative posi-

to each other, the diagonal consisting of single $4 \times 3 \times \frac{3}{8}$ -in. angles, the horizontals being made of single $6 \times 6 \times \frac{3}{8}$ -in. angles, as shown in Fig. 15. The tops of the opposite lantern columns are con-

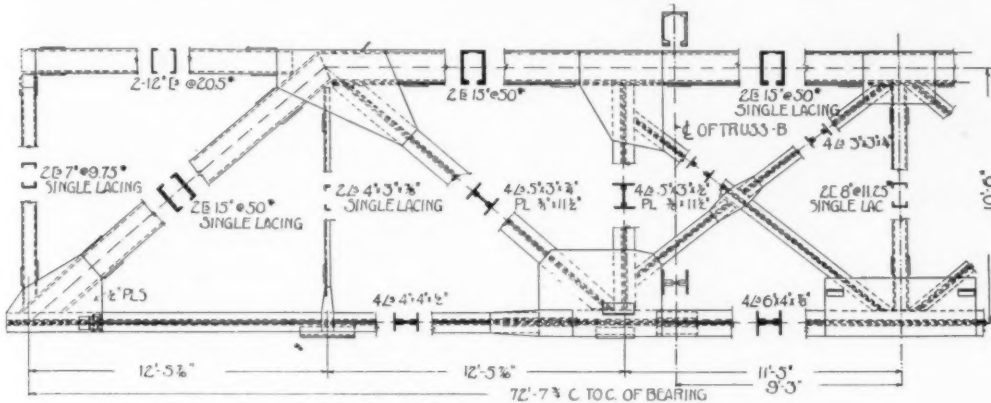


Fig. 5. Detail of trusses A, showing the location and elevation of trusses B.

tions and levels shown in Fig. 2. The lantern is octagonal in plan, Fig. 13, with a column center diameter of 22 ft. 10 in. and a height of about

39 ft. to top of its roof, above which level extends a parapet wall. The supporting columns are of the 8-in. Bethlehem H sections, weighing 32 lb. per foot. Three panels of lateral bracing connect the columns

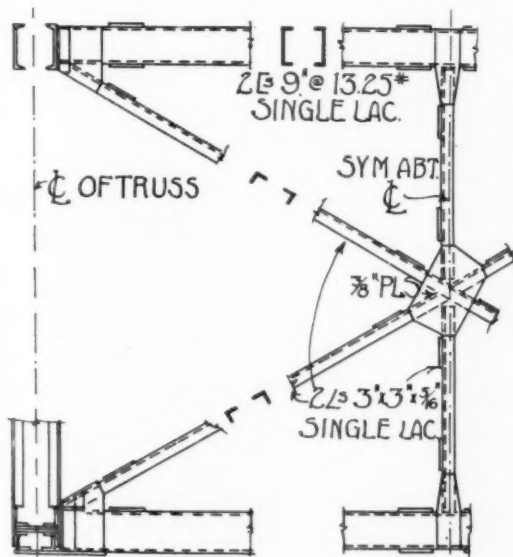


Fig. 6. Vertical bracing between trusses, placed at panel points 2-5. See Fig. 7.

39 ft. to top of its roof, above which level extends a parapet wall. The supporting columns are of the 8-in. Bethlehem H sections, weighing 32 lb. per foot. Three panels of lateral bracing connect the columns

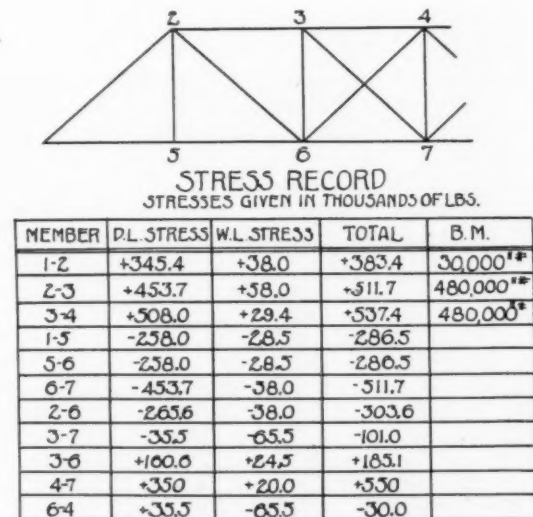


Fig. 7. Truss stress record.

tinuous from end to end, and into them are framed the girders *B*. This is shown in Fig. 11, where the center line of the intersecting girder *B* is indicated. The ends of the parallel girders are connected with a frame detailed in Fig. 12. Figs. 13 and 2 show this work in plan and as assembled.

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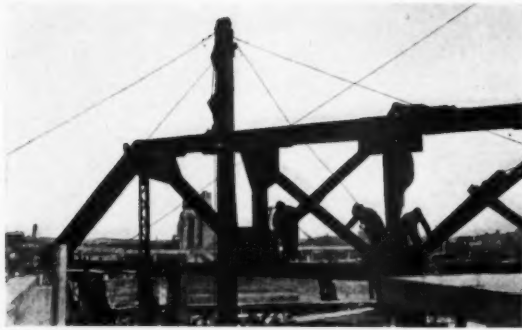


Fig. 8. Securing a truss in position. The tower of Saint Mark's in the distance, to the left of which is a portion of the dome of the Pro-Cathedral.

The steel framework of the fleche is indicated in plan in Fig. 13 and in elevation in Fig. 2. The

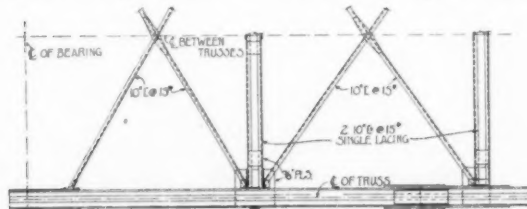


Fig. 9. Horizontal bracing in the plane of the lower truss chords, extending through the two end panels.

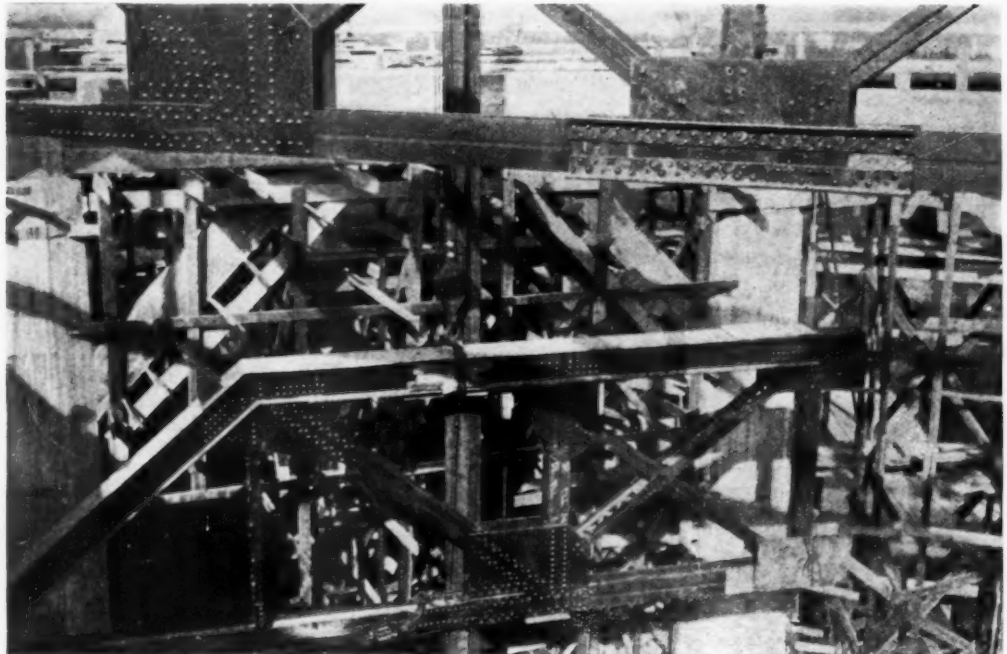


Fig. 10. The lower chord of a half-truss suspended in position and a half-truss being raised to position.

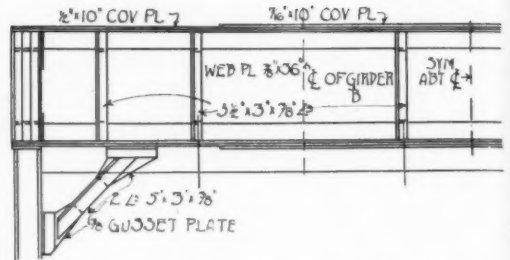


Fig. 11. Detail of girder A at top of lantern and showing location of intersecting girder B.

diameter at the base of the fleche is about 10 ft. 6 in. and the height is 116 ft. The inclined vertical posts are each made of two 5 x 3 x 7/16-in. angles in the lower sections, above which they are composed of single 4 x 4 x 14.8-lb., 3 x 3 1/2 x 8.6-lb. and 3 x 2 1/2 x 6.8-lb. tees. The top 5 ft. of the

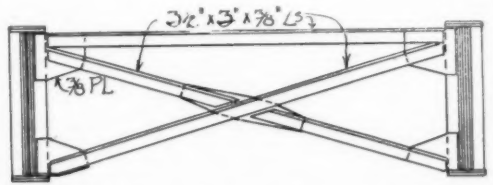


Fig. 12. Detail of bracing between the ends of the parallel girders A and girders B at top of lantern.

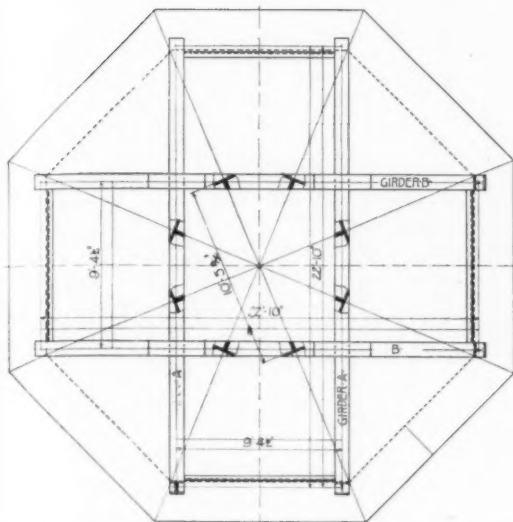


Fig. 13. Plan of top of lantern, showing location of lantern columns, girders A and B and base of posts in the fleche.



Fig. 14. The framework of the lantern and lower portion of the fleche.

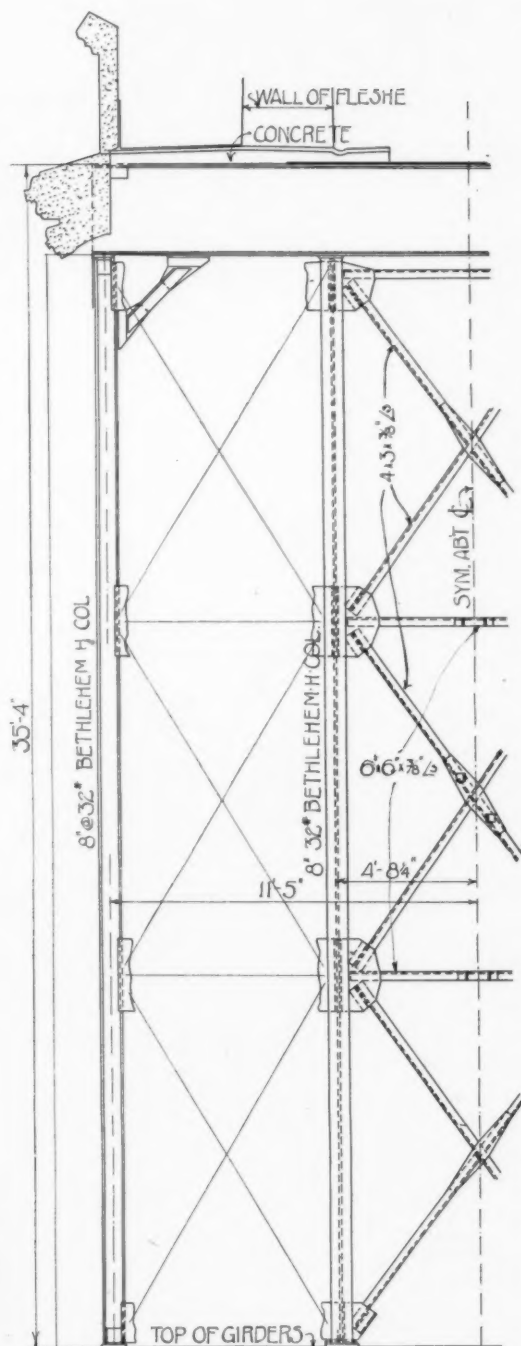


Fig. 15. Elevation of lantern framework, showing the columns, diagonal bracing and girders A and B which support the fleche.

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fleche has only four posts. The joints in these posts are broken in four opposite posts at each level. The first four panels at the base are braced with single $2 \times 2\frac{1}{2} \times \frac{5}{16}$ -in. angles for diagonals and horizontal struts. The balance, to within 27 ft. of the top, has single $2 \times 2\frac{1}{2} \times \frac{1}{4}$ -in. angles for diagonals and horizontal struts. The top 27 ft. of the frame



Fig. 16. Close-in view of the framework of the fleche. Showing the girders C and D which support it, also bracing of the lantern posts and the bracing between the ends of parallel girders.

is tied together with $8 \times \frac{3}{8}$ -in. tie plates, except the top four plates, which are $6 \times \frac{5}{16}$ -in. plates. A 4-in. gas pipe extends down in the framework for a distance of 10 ft., and to the top of which is attached the cross. The batter of the fleche is about $\frac{1}{2}$ in. per foot.

The walls of the lantern are faced with stone, and the fleche is covered with galvanized iron. The height of the lantern and fleche, including the cross, is 166 ft., and the total height above grade at the building is about 230 ft. A circular stair extends from the base of and through the lantern up into

the fleche for a distance of 33 ft., its total height being 70 ft.

The auditorium is heated mainly by direct and indirect radiation placed around the walls and under

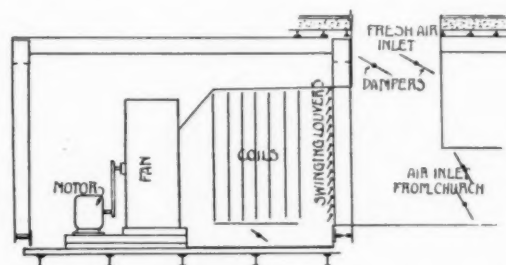


Fig. 17. Section through ventilating apparatus, showing the control of the fresh and recirculated air.

the windows. The ventilation is accomplished by means of a fan and coils placed in the attic. Fig. 18 shows the arrangement of this apparatus in plan. By means of the fan the air is passed through the heating coils into the octagonal open space above the auditorium before mentioned. The air in the auditorium is exhausted through openings below the seats. The effect of this method is to cause the

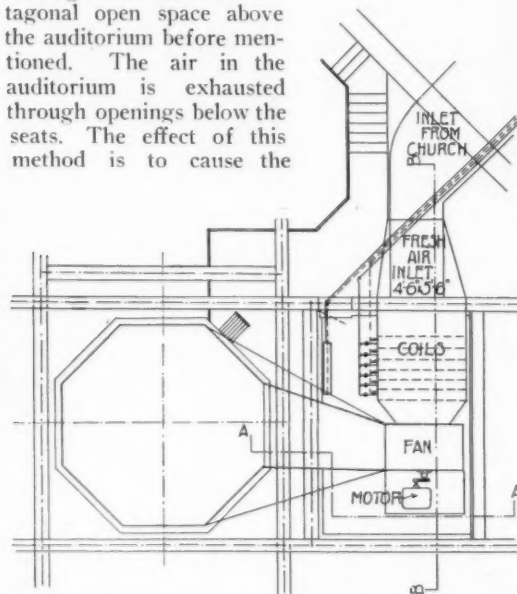


Fig. 18. Plan of ventilating apparatus located in attic over the auditorium.

heated and fresh air to move by mechanical means from the top of the auditorium to the floor level and from this point it is disposed of. In this way the vitiated air is removed at points near its origin. An air inlet opening through the roof provides fresh air as shown in Figs. 17 and 18. The air in the auditorium can be recirculated and reheated by

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Fig. 19. The frame of the lantern and fleche completed. Placing the cross in position with a mast derrick. Construction trestle at the left.

means of an inlet in the attic. This is accomplished by closing the fresh air dampers and opening those

in the recirculating duct. By recirculating and re-warming the air before the audience assembles, the auditorium is quickly and thoroughly heated and the fresh-warmed air can be admitted later as needed. Fig. 20 shows an elevation of the fan and the duct leading to the upper part of the auditorium. The fan is run at high speed before the service

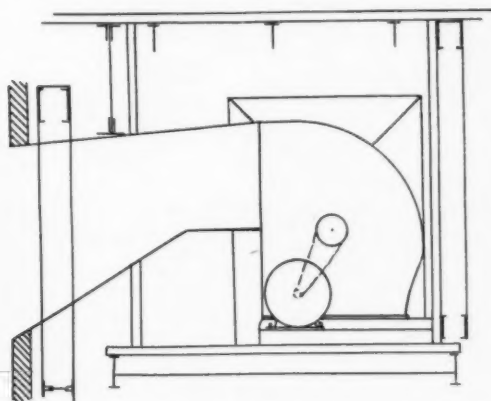


Fig. 20. Elevation of the ventilating fan and duct leading to the auditorium ceiling.

begins, after which it is run at low speed. The fan is so installed that there is no disturbing noises resulting from its operation.

The piers which support the trusses rest on reinforced concrete footings 16 x 34 ft. in size. The main floor of the auditorium is supported by a flat Gustavino arch, which has a rise of about 3 ft. and a maximum span of 72 ft. The vaulted ceiling of the auditorium is made of the same kind of arch construction, supported on steel ribs which are faced with Caen stone.

Book Review

THE AMERICAN HOSPITAL OF THE TWENTIETH CENTURY, by Edward F. Stevens, architect. Full cloth, 275 pages, size 7 x 10 inches, illustrated. Price \$5.00. Architectural Record Publishing Company, New York.

There is an extensive foreign literature pertaining to the planning, construction and operation of hospitals. This cannot be said of the literature describing American hospitals, and the American Hospital of the Twentieth Century, by Edward F. Stevens, architect, is a notable accession to American publications devoted to that subject. The plans and information concerning a few of the many good institutions recently finished or under con-

struction are collected and published with the hope that interest in the publication of such works will grow and that it will be a forerunner of much more comprehensive treatises. There is no criticism of the plans illustrated, and they are presented and described as various solutions of the great problems of housing and caring for the sick and to point out a few of the author's findings in his experience in the planning of more than fourscore hospitals and institutions.

The rapid advances and consequent changes made in the practice of medicine and surgery, necessitate constant change and improvement in the planning of hospitals, and for that reason new literature on the subject is always of value and interest.

The importance of the subject to the architect is

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evidenced by the statement of Dr. Charles P. Emerson,* that in 1911 the number of hospitals in the United States was 2,547; and the data available in 1914 gave the total number 7,000, housing 1,000,000 persons, of whom 580,000 were patients. Even with this vast number, only about "twelve per cent of the sick people in this country who are ill enough to need a doctor are cared for in hospitals."†

The line of advance has been influenced not only by the medical men and the nursing force, but by the social welfare worker, the hospital commission, the society to suppress tuberculosis, and the public at large, for the people are realizing that the hospital is built to benefit humanity and not to afford a place in which to die.

The work contains nineteen chapters, consisting of the first devoted to the subject in general and followed by others devoted to the administration department, the ward unit, the surgical unit, the medical unit, the maternity department, the children's hospital, the contagious department, the psychopathic department, the tuberculosis department, the special department for social service, the out patient, pathological and Roentgen-ray work. Also chapters devoted to the small hospital, the nurses' residence, the kitchen and laundry, heating, ventilation, plumbing, details of construction and finish, equipment, landscape architecture as applied to hospitals and war hospitals.

The scope of the book is indicated by the chapter topics, and each is treated in sufficient detail and its comparative importance with the other factors indicated.

In discussing the subject in general, the site, the plot plan and the disposition of the different buildings and the reasons for so placing them are given. The administration ward, surgical and medical units are described in such a manner that the reader is given a clear conception of the function of each unit. The special requirements as influenced by the kind of service the hospital seeks to give, the class of patients, climatic conditions, the relations between and the effects of one unit on another and other contingent factors are explained. These units are common to all hospitals that serve in a general manner.

The maternity department, children's hospitals, contagious, psychopathic and tuberculosis departments are later developments in hospital service, and

each of them is often the basis of individual and independent hospitals. While treated as such, their relation to and position in a large general hospital is indicated. The contagious hospital as now built evidences the great advances made from the old-time and barbarous "pest houses" that unfortunately too often exist to-day. The influence of the building on the patient is explained as it occurs in the psychopathic departments, and it is another exemplification of the great progress made in the humane treatment of the unfortunate disturbed. It is an unconscious indictment of the treatment of this class of unfortunates in many county institutions that exist to-day.

The discussion of the small hospital will be of interest to those who may have this type of building to design. This type of hospital has been developed in this country to a greater extent than in other countries. This is due to the great distances between our large cities and to private enterprise. These are often started in a large remodeled residence and from this nucleus the real hospital develops. Concerning this the author states: "It generally happens that before the house has been fitted for hospital purposes enough money is expended to go far toward building a suitable, up-to-date institution. Even then there will be waste and unavailable room, which must be heated and taken care of. The finish which is attractive and necessary for a residence becomes a menace in a hospital. The staircases and halls are generally narrow, the rooms are not properly ventilated, the toilets are badly arranged, the floor materials are not suitable. In other words, an undue amount of energy must be expended in the housekeeping for such a building, and this will detract, in all probability, from the care of the patient." This would indicate a line of action for the architect who may have an opportunity to convert a residence into a hospital and enable him to better show the advisability of constructing an entirely new building.

The service departments, mechanical equipment, details of construction and finish and equipment are all clearly treated. The war hospital is a new and latest development of such buildings in this country, and their description is timely.

The book is readable and written in a very interesting style. For specific or general information it is well worth careful reading, and will be a valuable addition to an architect's library.

*Hospital Management, W. B. Saunders Co.

†Editorial, Modern Hospital, Vol. VIII, No. 1.