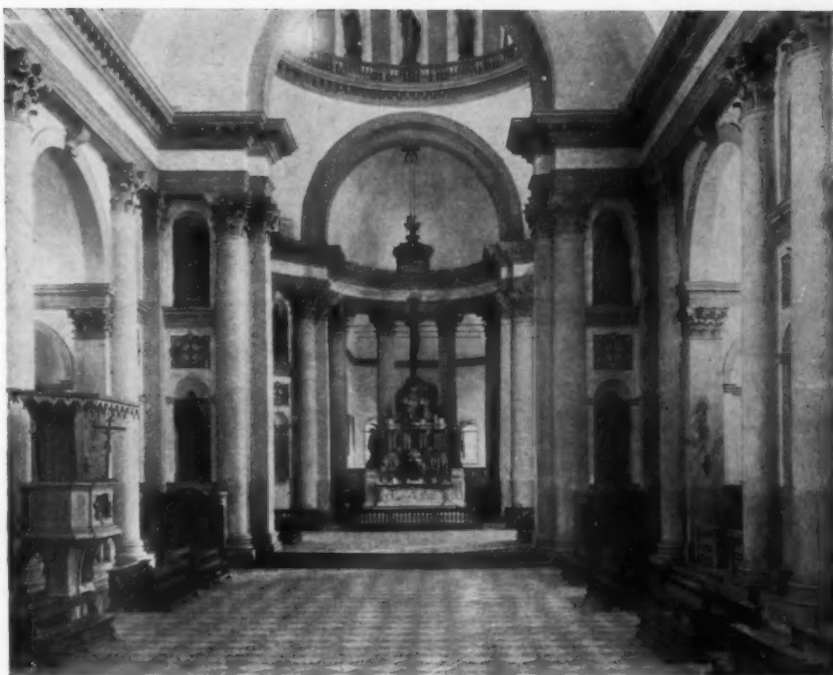


The AMERICAN ARCHITECT



WILMINGTON
INSTITUTE
JUL 22 1919



INTERIOR, CHURCH OF THE REDEEMER, VENICE

PUBLISHED WEDNESDAYS IN NEW YORK—FOUNDED 1876
VOLUME CXVI JULY 16, 1919 NUMBER 2273

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BISHOPRIC SHEATHING



First 40 Houses; Then 10 Houses; Then 50 More Houses

Gentlemen:

Irvington, N. J.

Have specified and used your stucco board on some 40 or more houses built in the Weequahic Park section of Newark and elsewhere and have always obtained the best of results.

We did not hesitate to again use same on 10 houses of the 60 for the Mesa Housing Proposition that are now nearing completion at Irvington, N. J.

When your representative first spoke to us about your Bishopric Sheathing we kept it in mind. As you know, we ordered two carloads of it, enough for the other 50 houses for the above-mentioned Mesa Housing Proposition.

We are using it under shingles, wide and narrow clapboards, etc. Although somewhat skeptical at first about placing shingles over your sheathing, thinking it would be springy, we are no longer, this idea having long since disappeared. We find it everything ordinary sheathing could be and more. Being easy to handle, the carpenters liked putting it on.

Seeing its possibilities and the economy in using it, we will not hesitate to bring it to the attention of any of our clients who, in the future, expect to build.

Yours truly,

STROMBACH & MERTENS,
Engineers and Architects,
Victor H. Strombach.

An Engineering and Architectural firm which does big things in New Jersey has written us regarding its experience with Bishopric Sheathing on 50 houses it built in connection with the Mesa Housing Project at Irvington, N. J. Read the letter. It is more significant than anything else we could say about this modern Sheathing Board.

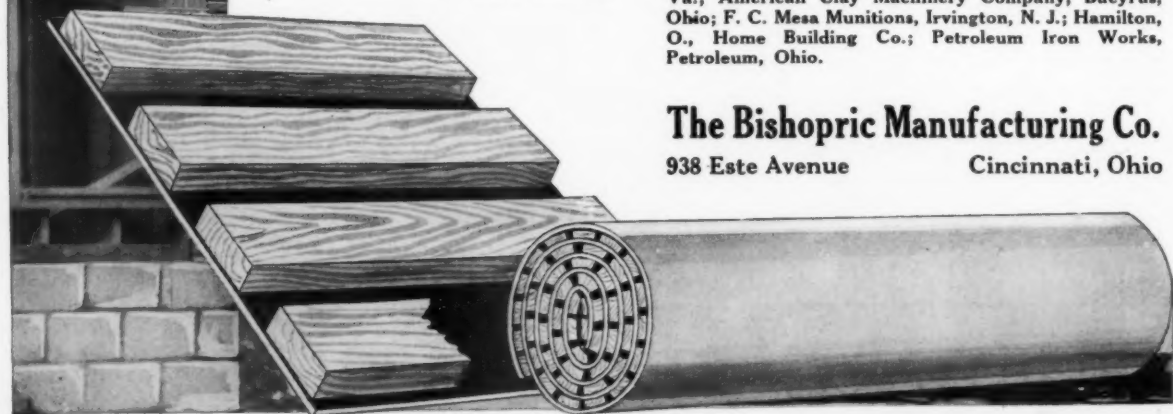
Note the list of institutions which have used Bishopric Sheathing either on Industrial Housing or Home Building projects:

Youngstown Sheet & Tube Company, Youngstown, Ohio; Virginia Shipbuilding Corporation, Alexandria, Va.; American Clay Machinery Company, Bucyrus, Ohio; F. C. Mesa Munitions, Irvington, N. J.; Hamilton, O., Home Building Co.; Petroleum Iron Works, Petroleum, Ohio.

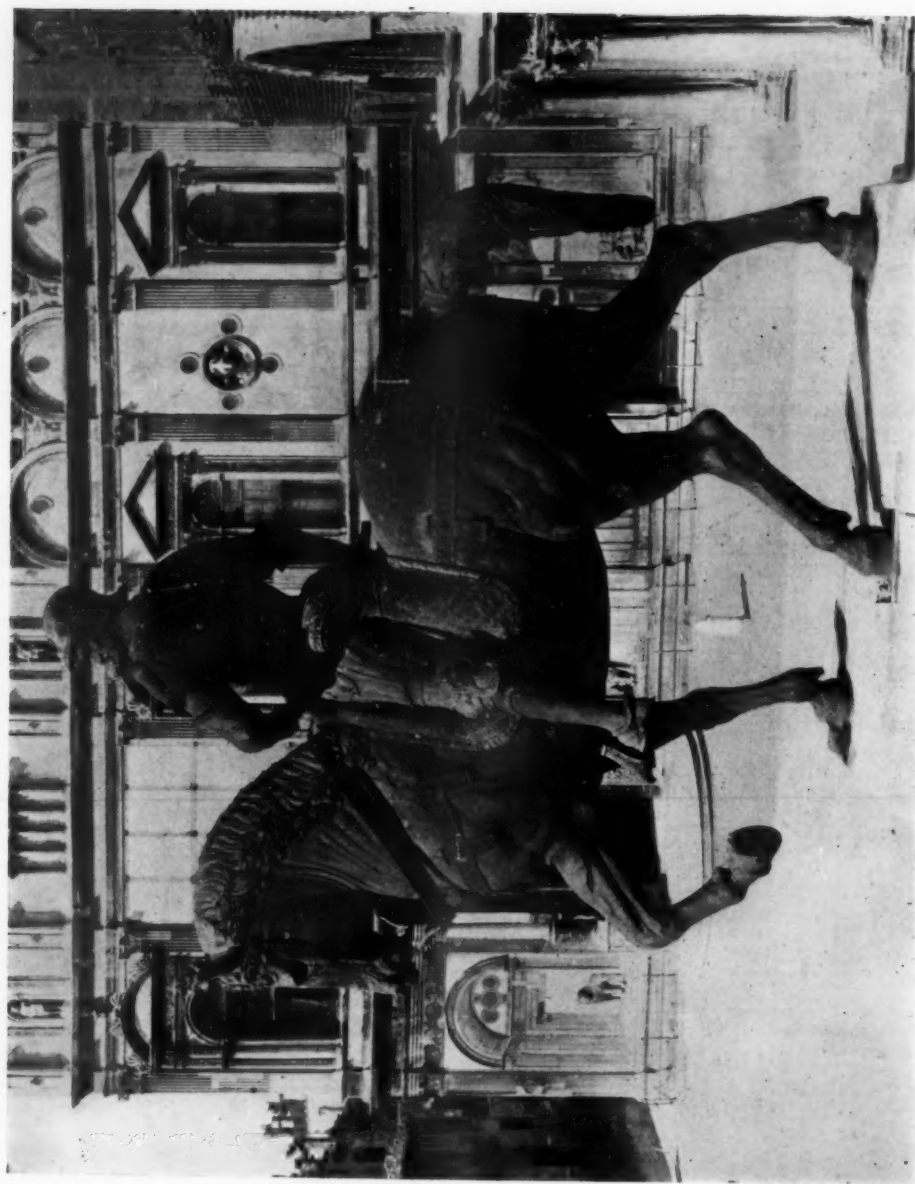
The Bishopric Manufacturing Co.

938 Este Avenue

Cincinnati, Ohio







MONUMENT OF BARTOLOMEO COLLEONI, VENICE
ANDREA DEL VERROCCHIO, *SCULPTOR*

This famous equestrian statue, having been for the period of the war removed to a place of safety, is now returned to its original site

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WEDNESDAY, JULY 16, 1919

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(From The Builder)



HOUSE AT JOUY-EN-JOSAS, FRANCE
MR. ERNEST NEWTON, R.A., ARCHITECT

Notes from London

By SELWYN BRINTON, M. A., *Special Correspondent to THE AMERICAN ARCHITECT.*

Royal Academy Architecture and Architects

FROM every point of view the present Exhibition at Burlington House must still be considered as a War Academy, and though the presence this year of Mr. John Sargent, Sir William Orpen, Mr. George Henry and other artists gives the painting a very considerable help, this does not apply so much to the sculpture and still less to the architectural exhibits. As a matter of fact both these two last-named great branches of the plastic Arts suffer at the Royal Academy from want of proper accommodation. Sculpture, confined to the Lecture

Room and Central Hall, is poorly housed enough, when we compare this with the ample space offered to sculptors in the Paris salons. But what shall we say of architecture, which is confined to one room, and which, as has been pointed out, is mainly favored by the general public as a haven of repose from the crowded galleries of painting? It may be permitted to point out this inadequacy, even while admitting the difficulties of remedial spacing. We have now as President not only a very able architect, but a very able organizer, and it is quite possible that during his tenure of office he may find some way out of the present difficulty.

What I believe would appeal to the lay public

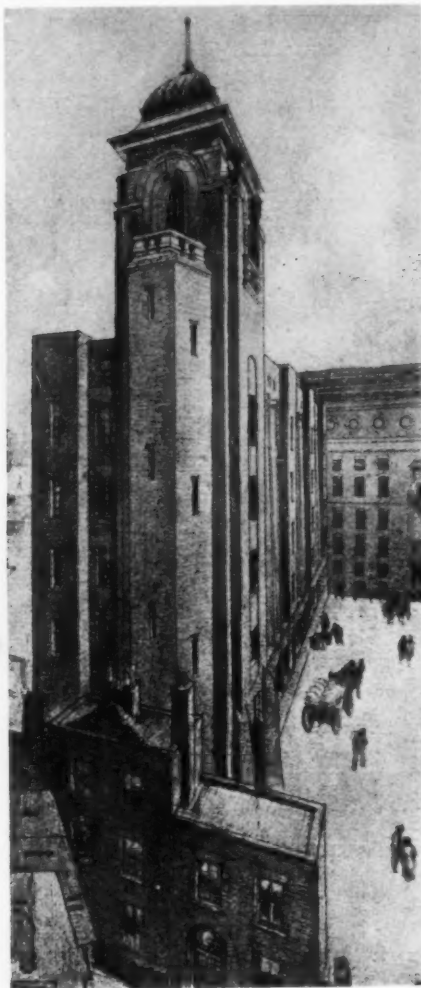
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even more directly than drawings are good models, which need space to do them justice; such, for instance, as the fine model of a war memorial church, exhibited this year by Sir Edwin Lutyens, which has been very generally admired. In red brick, somewhat Byzantine in its character, with very masterly

Architectural Room is the fine set of water-color drawings by Walcot, illustrating the designs of Sir Edwin Lutyens and Mr. Herbert Baker, for the Government and Secretariat buildings of the new Delhi. Opulent in the rich hues of Eastern color, and blending the elements in design of the Orient and the West, these drawings make a brilliant impression, though they necessarily sacrifice detail of very great interest to giving this general impression.

Another model, dealing with the nearer East, beside the war memorial church, is that which illustrates the town-planning scheme for Jerusalem, exhibited by Mr. William McLean. Some measure of town-planning for the Holy City was found of im-



ADDITIONS TO A GREENWICH MILL

SIR ASTON WEBB, P.R.A., AND MR. MAURICE E. WEBB,
F.R.I.B.A., ARCHITECTS

handling of the masses, this building looks well from almost every point of view, and the only weak point is in the small stone porches, which are insignificant, and—as was pointed out to me by an architect when looking at the model—would be better done away with. A very attractive feature of the

(From *The Architects' Journal*)



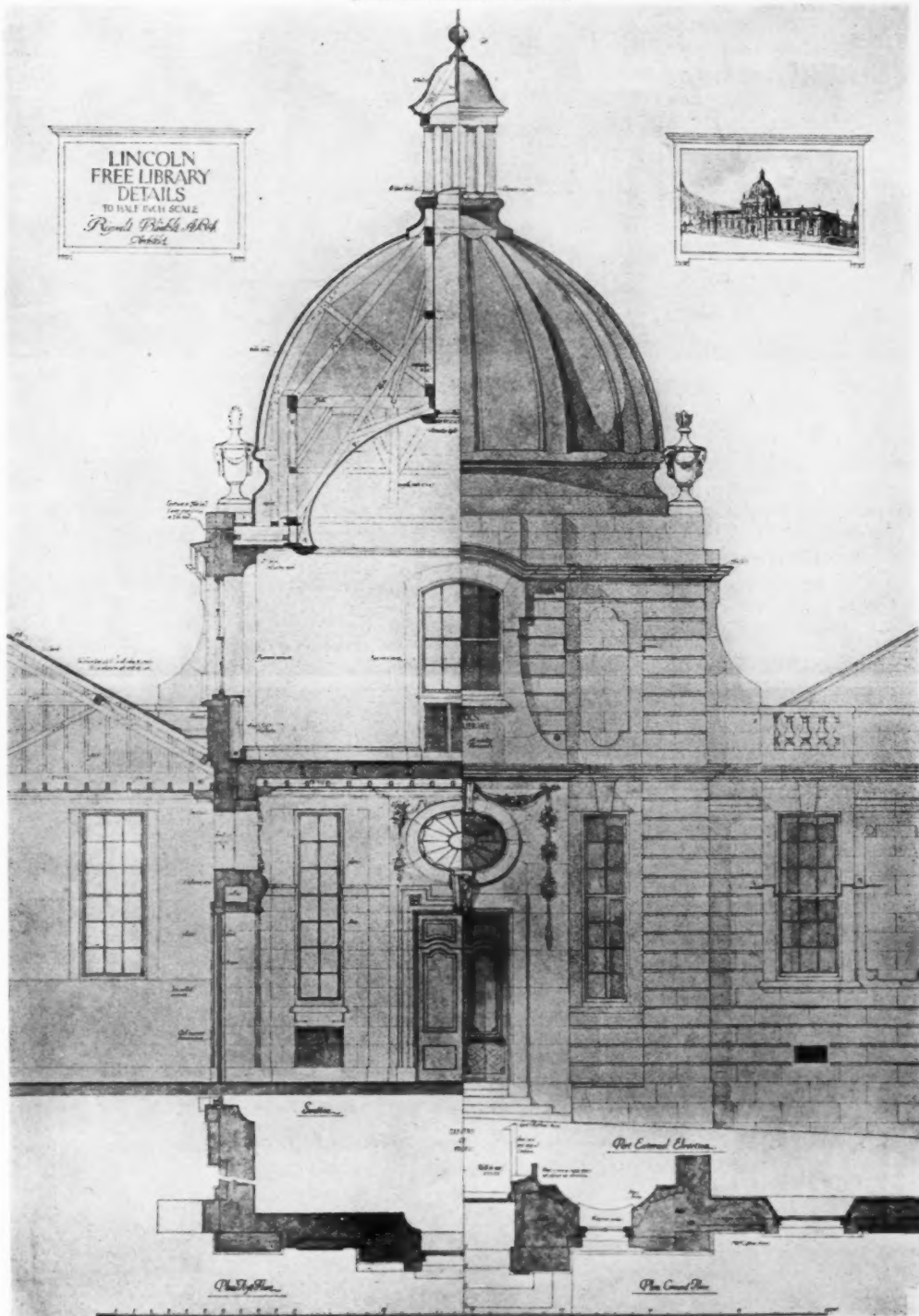
HOUSE NEAR WOLVERHAMPTON
HENRY T. HARE, P.R.I.B.A., ARCHITECT

mediate necessity after its capture from the Turco-German forces; and the present scheme, illustrated here by the model in relief and a map, had General Allenby's full sanction, and provides for a very extensive development of the city, which is likely to ensue under better conditions than the picturesque neglect and insanitation of the governing Turk.

The new R.A., Mr. Ernest Newton, who has made a special study of domestic architecture, sends this year a drawing of a house designed by him for Jouy-en-Josas in France; but evidently for some client there who appreciates our architecture, for this building, with its large and rather too insistent gables, is typically English in its character. Sir Reginald Blomfield, who has been in France a good deal lately with reference to the war graves of our dead, sends his design for the chapel and approach of the British Military Cemetery at St. Sever, Rouen, besides his alterations and additions to

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(From The Architects' Journal)



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SIR REGINALD BLOMFIELD, R.A., F.R.I.B.A., ARCHITECT

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NETHER SWELL MANOR, GLOUCESTERSHIRE
E. GUY DAWBER, ARCHITECT

Penn House, treated in the Georgian style, and his war memorials at Glossop, Derbyshire, and to the men of Devon at Exeter.

Sir Aston Webb, besides photographic illustrations of his work at the Victoria and Albert Museum, and his very beautiful Memorial War Shrine in St. Bartholomew the Great, E.C., sends a very

happily composed group of Sussex cottages, as proposed in a design by himself and Mr. Maurice Webb, as well as his additions to the Leys School at Cambridge, and to a Greenwich Mill, this last being an effective piece of design.

There are several designs for factories here which are to be welcomed as showing that the mod-

(From *The Builder*)



IMPERIAL DELHI, PROCESSIONAL WAY AND GREAT STAIRWAY
MR. HERBERT BAKER, F.R.I.B.A., ARCHITECT

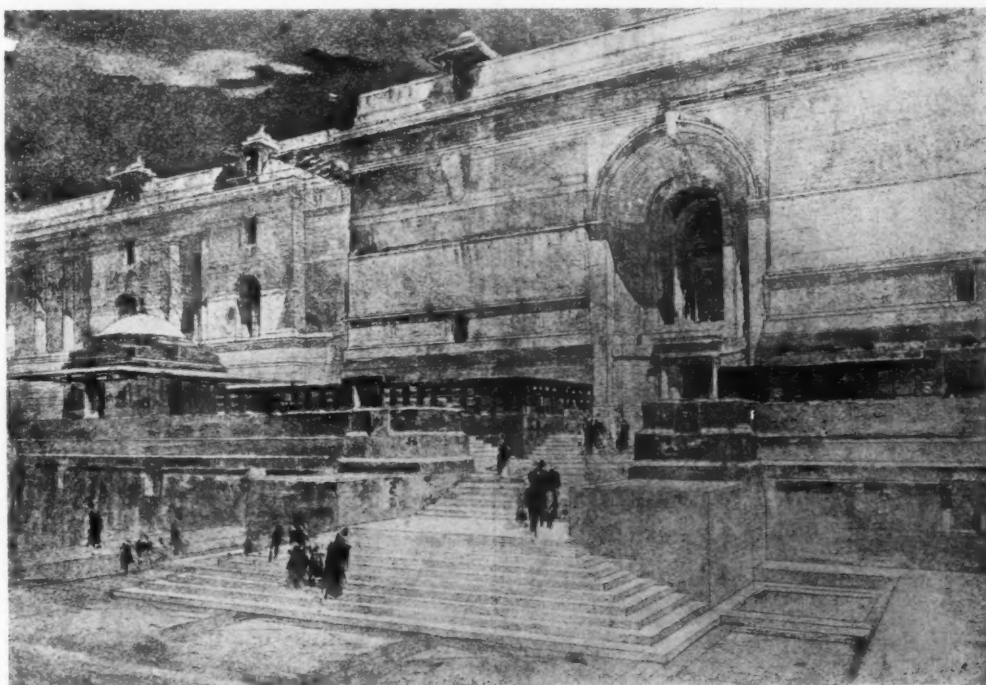
THE AMERICAN ARCHITECT

ern factory need not necessarily be considered as the triumph of utilitarian ugliness. Among the most interesting are Sir A. Brumhill Thomas' immense façade for the Skefko Ball-bearing Works at Luton, Mr. Joseph Sunlight's Façade of a Manchester Factory, the design for a Modern Textile Building, by Messrs. Bradshaw, Gass and Hope, and Mr. Herbert Matthew's bird's-eye view of the Grahame-White Housing Scheme. In church architecture Mr. Gilbert Scott is to be noticed, especially in his impressive view of Liverpool Cathedral from

a very charming "New Water Garden at Hayling Island," by P. D. Hepworth and G. Wornum, and the more ambitious "Design for Improvements in Central London," looking from the Strand across the Thames, by J. Murray.

The Prime Minister's honor list of last month included Mr. Reginald Blomfield, R.A., F.R.I.B.A., now raised to the honor of knighthood. I have just noticed some of Sir Reginald's work in the present Academy, and, apart from his architectural work, in which he qualified under his uncle, the late Sir Ar-

(From *The Architect*)



ENTRANCE FACADE (NORTH)
IMPERIAL DELHI, GOVERNMENT HOUSE
SIR EDWIN L. LUTYENS, A.R.A., ARCHITECT

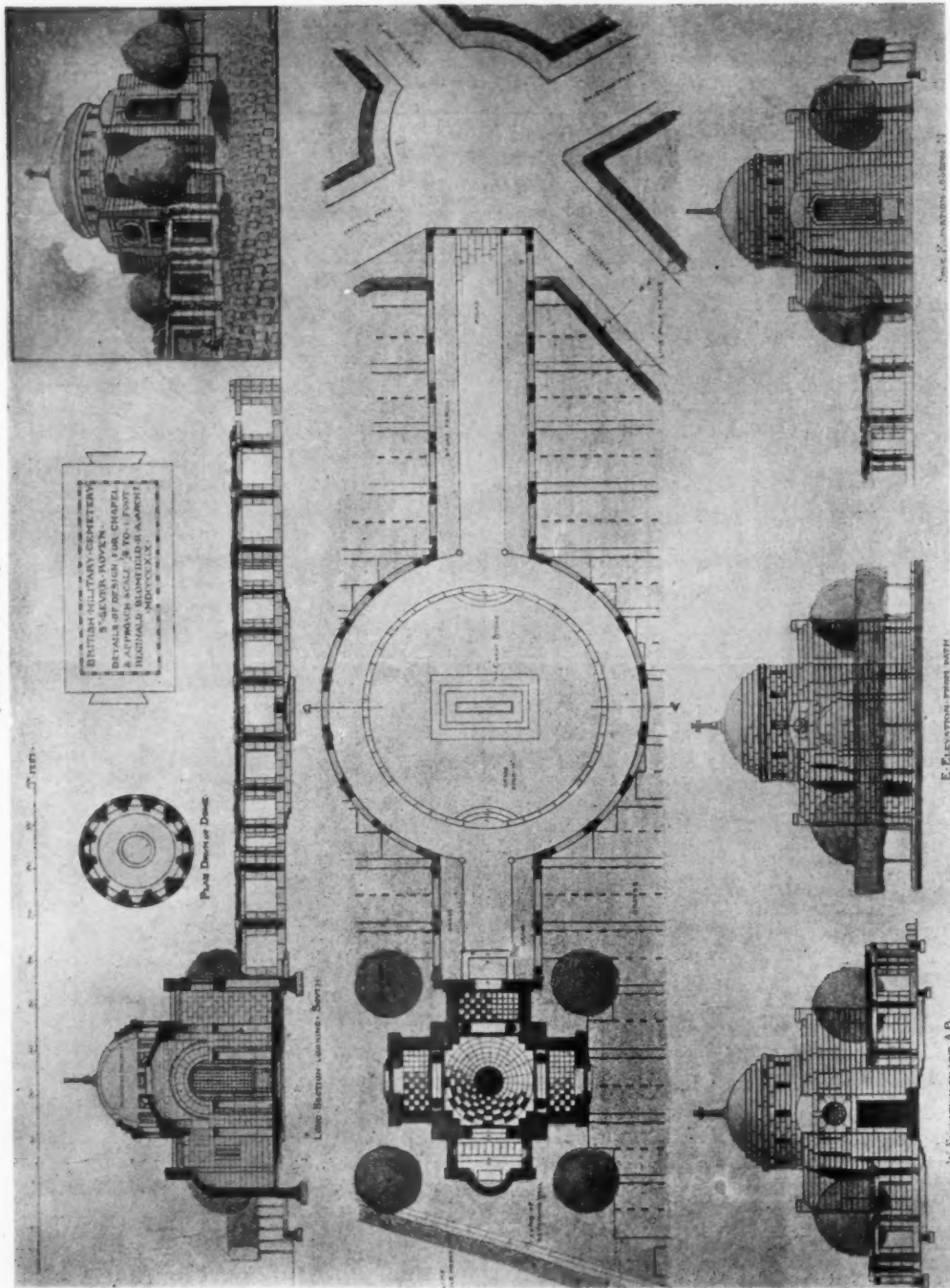
Washington Street, as well as his Chancel view of the Derby Lane Church at Liverpool, and his churches at Sheringham, and Northfleet in Kent. In the same class of design Mr. Beresford Pite has work of interest in the admirable drawing of his south transept in the Cathedral of Uganda, and his English Church at Bucharest.

Most important among the stained-glass designs are the subjects from the "Morte d'Arthur," by Walter and Florence Kamm, for Princeton University (competitive designs); and lastly we may mention

thor Blomfield, and his achieved distinction—one of his important recent works being the new buildings of the United Universities Club at the corner of Suffolk Street and Pall Mall East—he is a well-known writer on architectural subjects. I have before me at this moment his "Studies in Architecture," in which chapters of especial interest are those on the French Renaissance, on Philibert de l'Orme, and the Italians at Fontainebleau; for this architect's knowledge of France, and of the French Renaissance work is unrivalled, and has probably

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(From The Builder)



DESIGN FOR CHAPEL AND APPROACH, BRITISH MILITARY CEMETERY, ST. SEVER, ROUEN
SIR REGINALD T. BLOMFIELD, R.A., ARCHT

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had at least an indirect influence in his own creation. "The Mistress Art," which Sir Reginald himself mentioned to me in recent conversation, came later than the "Studies in Architecture" which, by-the-by, is illustrated in part by his own drawings, and was preceded (1897) by his "History of Renaissance Architecture in England." Renaissance design, in its best features, is claiming more and more a place in modern architecture, and this is my reason for alluding to these thoroughly informed studies of this attractive subject.

Another English architect who has been recently chosen for Academic honors is Mr. Ernest Newton, who was last month made a full Royal Academician. Mr. Newton's work, marked by refinement and restraint, has achieved its highest suc-

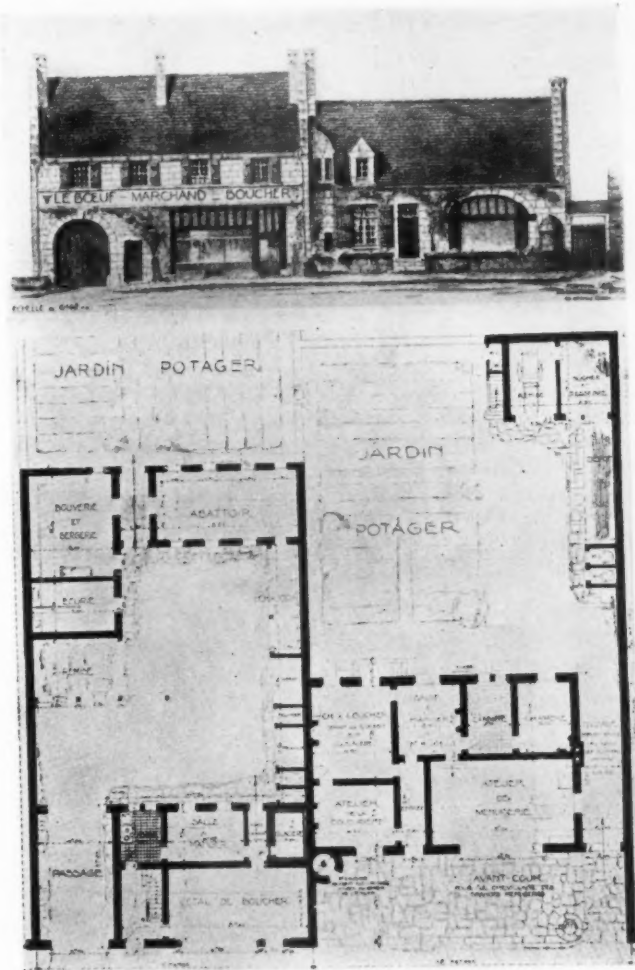
cess in the field of domestic architecture. In his speech at the recent Royal Academy banquet, the President, Sir Aston Webb, stated that the Academy had recommended that a great road with memorial arch and place at Charing Cross should be constructed as a National and Imperial Memorial—just as reminders of the last great European war in which England took her part were Trafalgar Square and Waterloo Bridge. This statement, made in such a public and authoritative way, brings the great scheme for London improvement very much nearer, and has, I understand, the entire sympathy of the London Society.

RURAL RECONSTRUCTION IN FRANCE

The work of rebuilding the larger towns in devastated France is now going forward in earnest, though scarcely even yet so much of rebuilding has been done, as in clearing the ground. In Compiègne 3000 German prisoners have appropriately been employed in clearing up the "débris." In the villages around Compiègne, such as Thorotte, Choisy-au-Bac and Giraumont, there was recently great distress, and the few inhabitants who had returned had almost no shelter or bread.

An immense work of reconstruction lies in front of the country districts of France, and a very useful contribution to this is given by M. Paul Léon, "Chef des services d'architecture" at the Beaux Arts, in the pages of "Les Arts Français." For this new construction must follow on the lines of the old, and M. Léon points out that the permanent character of the peasant dwellings in different parts of France has its "raison d'être" apart from tradition. "The dwelling is, like the fauna or flora, a geographical element; it is closely bound up with the nature of the soil, climatic conditions, the method of division and of working the land, and its natural products. These are points which cannot be overlooked and are of the first importance: They appear clearly marked in those very districts where today the problem of reconstruction is most pressing—in Flanders or Picardy, in Champagne or in Lorraine."

Thus the Flemish farm, built upon soft clay soil, which does not permit deep foundations, remains low, with wide roofs to protect it against the winds and heavy rainstorms, while the farms



BUTCHER AND CARPENTER SHOPS, ILE DE FRANCE

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(From the Architects' Journal)



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SIR REGINALD BLOMFIELD, R.A., F.R.I.B.A., ARCHITECT

are generally scattered. Quite otherwise is the farmhouse of Picardy. "There, too, the conditions are imposed by nature, without escape. The chalky soil, absorbing the water to a great depth, brings the people together around wells which need deep and costly borings. . . . In these rich lands the barn takes an important place. It occupies the front so as to permit the wagons to unload directly, while the other buildings are grouped around the square courtyard, the stables and cowsheds at the sides, the dwelling-house at the back, with behind it the kitchen and garden and open fields."

Again in Champagne, where the vine is cultivated and land is more dear, houses are built higher, and

in Lorraine the severe winters bring man and beast together, and "the dwelling-house is near the stable and sheds; animal and human warmth unite to resist the hard weather." Nor must the local material be forgotten—the bricks of Flanders, the chalkstone of the Soissonnais, the ashlar of Lorraine, the millstone of Brie, all affect the character of local buildings.

"There is no doubt," says M. Léon, "that in the future farms the dwelling-house, properly so called, will claim a more and more important place. Hitherto that place was taken by the cattle and the crops; the peasant was himself only an instrument of work." Certainly one thing that has to be altered is the rural dunghheap. In Northern France it filled



FARM BUILDINGS IN THE VOSGES



FARM BUILDINGS, MEUSE

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the courtyard near the dwellings. In Lorraine it stood before the farmhouse, which gloried in its size, and poured wastefully its liquid down the main street of the village. This was changed by the military authorities even during the war; and this is an

the great work before them they will be faithful to the good sense and good taste which is the heritage of France.



FARM BUILDINGS, ILE DE FRANCE

instance of the sanitary and scientific improvement which now awaits rural France. Already the co-operative movement is entering into French agricul-



FARM BUILDINGS, PAS DE CALAIS

ture with promising results, and in the actual reconstruction M. Léon sees the opportunity for the architects of France. "Many of them have been mobil-



FARM BUILDINGS, RACGINGHEM

ized in districts devastated by the war. They have been brought close to the life of the peasant, have reflected, applied to these new problems their faculties of invention and methods of analysis." In

England Searched for Treasures

The enormous fortunes made in England during the war are responsible for record-breaking prices, which sellers of antiques of every kind are realizing in London auction rooms, in the opinion of men who have long been close to the trade. The whole country, according to the associated press, is being searched for treasures of all kinds which find ready sale at prices which hitherto have only been paid by foreigners.

A mysterious portrait which recently appeared in one auction room and was said by someone to have been by Franz Hals, quickly brought \$60,000, although its authenticity has even now not been established. A Reynolds portrait which to the present had not attracted much attention was easily sold for \$70,000, and pictures by much lesser lights brought phenomenal prices.

Artistic furniture is in even more demand. Six Chippendale Gothic chairs recently sold at a country sale for \$5,125, in spite of the fact that modern artists are copying this particular design with marked success and only the trained expert can detect the difference. At another country sale two Chippendale tables brought \$1,600, and a Chippendale cabinet \$6,250.

Sheraton furniture is not so popular, excellent tables going as low as \$100. An old harpsichord in a William and Mary case sold for \$2,500, and a grandfather's clock gave its fortunate owner \$600 in spite of the fact that the clock had probably ceased to tick more than a hundred years ago.

Illuminated manuscripts also are in demand, and as in the case of furniture, record prices are being obtained. Letters of David Garrick, and a few by his wife, to noted persons of their time, caused spirited bidding, but were withdrawn and will be offered again.

Efforts to trace the purchasers of some of the choicest offerings have revealed the presence in the market of persons who never before paid any attention to antiques. Many of them are persons who accumulated large fortunes during the war, and now that they have acquired fine houses, have set out, with the aid of experts, to give them the ancient touch required by good taste.

Curiosities of Rare Woods

WITH the development of the woodworking art and the expansion of the furniture trade there came a demand for new and rare woods, and explorers searched the forests of the earth for different effects of grain and color, writes the *Canadian Woodworker*. From the Andaman Islands, from unexplored Africa, from Borneo, from the remotest corners of the earth, woods rivalling the mahogany of Mexico and Cuba have thus been brought to light. From the Philippine and Hawaiian Islands, and from the forests of South America, strange woods have been obtained of wonderful grain and color effect, which are still hardly known by name.

Lately, attention has turned more to fields at hand. Gnarled old trees, twisted and insect-stung, despised by the lumberman, are yielding ornamental woods worth many thousand dollars. Curly-birch is but the twisted grain of the ordinary tree, obtained usually from a crotch or where a trunk has been twisted by frequent wind storms. Today the birch tree that holds the greatest number of these curly burls is considered more valuable than the tall, straight tree without a variation in its normally developed texture. Bird's-eye maple is caused by the sting of an insect whose poison produces a sore in the tree. Nature, attempting to heal the injury, pours new sap into the wound to neutralize the effect of the poison. The outward effect is of a number of excrescences; but when the wood is cut, veneered and polished, the beautiful bird's-eye maple effect is obtained. It is generally the apparently worthless small scrub-oak that gives those delightful pith rays, flaming curls and intricate patterns of light and dark shades that quarter-sawing brings out.

The finest Circassian walnut comes from misshapen, dwarfed trees on the shores of the Black Sea; and the most beautiful parts come from the twisted roots, the burls caused by insect stings. Such growths are so interwoven that they produce the curious and irregular graining which makes the wood more valuable for veneers than mahogany.

No two mahogany trees are quite alike. Formerly only the tall, well-formed trees were cut for trade; now it is the misshapen tree that is more keenly sought. The wood expert searches the forests for some abnormal growth. Pieces cut from a crotch show the graceful curls so much desired in fine furniture. Sometimes the figure shown is of flame-like tufts, called "feather" in the trade. As often happens in some mahogany trees, the fibres are arranged spirally by a freak of nature, and when

cut lengthwise light and dark stripes are exposed.

The ebony from southern India and Ceylon has a perfectly white outer wood which is neither beautiful nor useful. There is no grain to it. It is the intensely black heart-wood that is used so extensively for inlay work. The tiger-wood, or Congo walnut, owes its flaming effect to some unknown freak of nature, for the best of it comes only from a limited number of selected trees. East India mahogany, or vermilion wood, owes its coloring to soil, climate and other natural agencies.

But all these woods, and others unnamed, require the application of industrial art and science. Skilful dressing and polishing is necessary to bring out their veining and other characteristics. Science is brought to bear in making their exploitation commercially possible; for instance, enabling veneers to be cut to less than a hundredth of an inch in thickness. So the architect and furniture designer get the great choice of beautifully grained woods which they blend and work into the harmonious effects in which we so excel today, surpassing the highest ambitions of the artists in wood of the preceding century.

Book Note

DRAFTING ROOM METHODS: STANDARDS AND FORMS.

By Charles D. Collins, 8½ x 5½ inches, cloth, 142 pages, illustrated. Price, \$2.00. D. Van Nostrand Co., New York.

This book has been prepared as an attempt to describe methods and illustrate forms that might be generally applicable in engineering offices and drafting rooms, and at the same time combine the conventional symbols or standards for the different branches of drafting.

The book is divided into four parts treating of the drafting room, of standards, symbols and abbreviations of forms, with one part exclusively devoted to miscellaneous tables covering a wide variety of structural information.

The work is eminently practical, as its first compilation was for use in the engineering division of a rapidly growing organization that was engaged not only in construction but manufacturing as well. The present volume is the result of co-operation between the author and a large number of intelligent employees who worked out by practical effort the theoretical suggestions contained in the original work and thus reduced them to the most workable conclusions.

Decorative Treatment of Modern Interiors*

WORKING together, the architect and decorator secure the best results when each works toward a common end. Much of the unfortunate relationship between these two important factors in the creation of a work of architecture is due to the lack of correlation of effort, to an independent carrying forward of a certain decorative purpose.

While a large part of the decorative work on city houses is done during construction, it is safe to state that a much larger part is the restoration or rehabilitation of old work. In the case

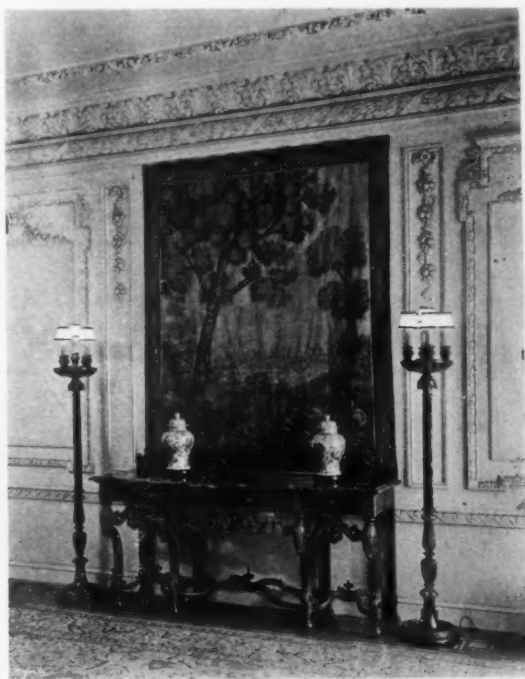
Naturally the master decorator will want to assume that as a master of his craft he is fully competent to proceed on his own initiative. While this may be true in some instances, it unfortunately is not true in all. Taking for illustration the refur-



FINISHED WORK AS SHOWN IN DRAWING ON PAGE 72

of the former, the architect and decorator should work together. In the latter, architects more frequently are not called into consultation.

*The editors are indebted to Messrs. A. Lowenhein's Sons, Inc., New York, originators of the design, for permission to reproduce the accompanying original sketches and photographs.



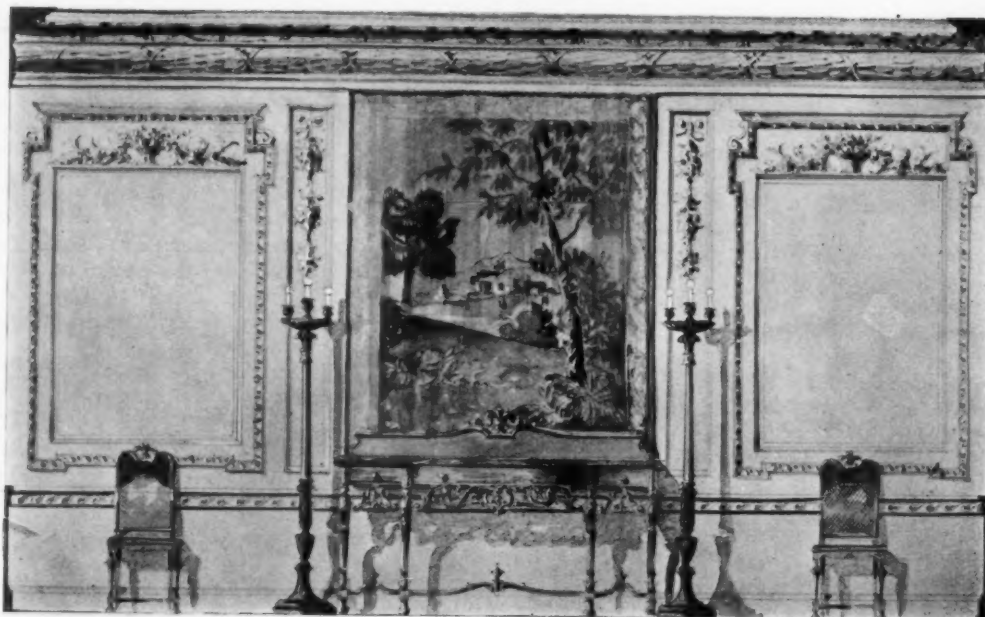
FINISHED WORK AS SHOWN IN DRAWING ON PAGE 74

nishing and redecoration of the average city house in New York, one that has stood perhaps for a quarter century, there are problems unsolved that should call for the services of both the architect and the decorator.

Changing living conditions among city dwellers have resulted in a very much changed plan. Remodeling old style city houses to meet the social customs of the present day, often entails opening new doorways and the closing of old ones. Furthermore, the transition in lighting methods permits the introduction of certain period styles and colors in rooms that are poorly, if at all, lighted by natural light.

If the craftsman is really to come into his own,

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THE ORIGINAL DESIGN



THE FINISHED WORK

THE AMERICAN ARCHITECT

he must be more than a designer. He must learn and learn well the practical side of his art. He can be schooled in but one place, the shop; that of the cabinet maker, the upholsterer, the plasterer, the art glass worker, and the many other trades in the field of decoration. To do this, it is of course necessary to devote long hours to the work. The young designer is loath to enter the shop. He feels he does not need this training and can get along without it.

The great difficulty lies in getting the designer to learn the fundamental, practical side of his art, as it can be taught only in the shop. If the young designer will not take this necessary schooling he can never become a master craftsman. It is most necessary to have a practical as well as a theoretical training.

And to this alone may be attributed the fact that architecture today is both a profession and a business, while decoration is solely a business. This, of course, has been enhanced by a lack of co-operation among decorators. On the Continent craftsmen spend years at the bench before they are entitled to be called master craftsmen. This procedure

should be carried out in this country if the art is to attain its highest development.

The room and its furnishings illustrated in this issue presents a good example of this type of redecoration. The presentation of the original drawings as produced by the decorators of the design, furniture and accessories together with the photographs of the completed work, illustrate a certain phase of our development in artistic craftsmanship that has considerable interest.



A CABINET DESIGNED TO SUPPLEMENT THE DECORATIVE TREATMENT OF THE ROOM



ORIGINAL DESIGN OF CHAIR IN HARMONY WITH MOTIVE OF DESIGN OF ROOM

It very clearly shows how accurately the decorator was in this instance able to visualize his result and how well he has been able to secure the "working out" of his design.

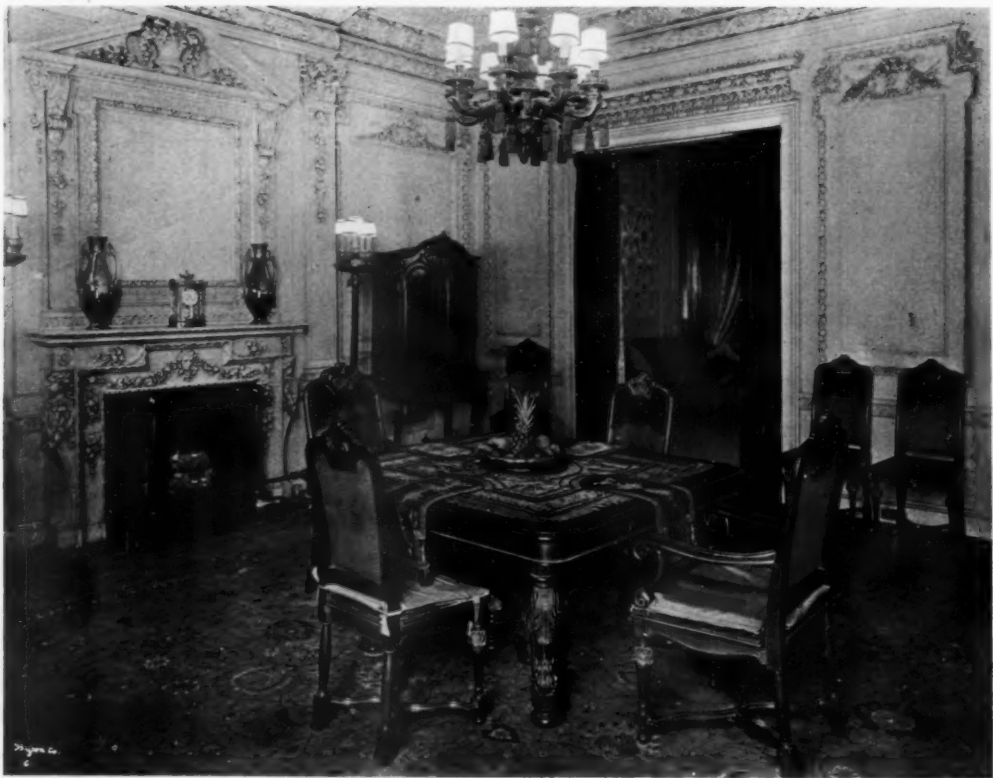
In designing the room the decorator used for his guide the work of Sir Christopher Wren and his pupils. In adopting these motives for a dining room the designer used the acanthus leaf and floral carvings so popular in the earlier period of Charles II. An original design to harmonize with this architecture was effected.

The doors, windows and mantels, the latter often to be found off-center, were designed in perfect ac-

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THE ORIGINAL DESIGN



THE FINISHED WORK

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cord with the architectural treatment of the room and the furniture correctly proportioned in relation to the size of the room. Very often in old New York residences of the early 'eighties rooms were furnished with very little regard being paid to the architectural treatment, which resulted in a lack of coherency in period style, now considered essential in any scheme of decoration. This has been carefully considered in the present instance.

In the room shown in the accompanying illustrations the lighting, both natural and artificial, has

been considered. The walls are painted in light tan and glazed. A rich purple was selected as the logical color for the windows and door curtains. Candelabras in gold, with shafts of purple, support the electric lights, and the gold silk shades are trimmed with purple. In the furniture, which is of walnut, this idea is furthered. By partly wiping off the gilded carvings a much softer effect is obtained. A cheerful, well-lighted room is thus obtained, with the architecture and decoration in complete harmony.

Quaint Doorways of Old New York

OLD New York may seem a paradoxical term, writes the *Evening Post* of that city, yet in the sense of the superseded and the outdistanced, much of New York is quite old, indeed, for the successive racial immigrations have been paralleled in the rapidly changing character of neighborhoods and architecture.

Names and many quaint customs bear witness still to Dutch occupation of Nieuw Amsterdam, but to the English régime, which, as far as fashions of architecture are concerned, includes the Colonial and the early Federal periods, may be traced directly the influence that gave spaciousness to living and elegance to housing.

Although waves of immigration have obliterated the landmarks, and completely altered the character of the older sections of the city, yet a doorway here, a fine bit of wrought iron grille, or a still imposing façade, conjure up the stately days of graceful conventions and courtly fashions that harmonized with the formal and gracious setting of bygone fashions in dress and architecture. Colonial doorways—for it is better not to penetrate the interior and suffer the disillusionment of beholding the manner in which "Imperious Cæsar's clay" now serves to keep the cold away—with their leaded panes, delicate tracery of fanlights and stately pilasters, are still a joy, irrespective of their sordid surroundings or the debased uses to which they have descended.

Looking through these old doorways into that New York which by reason of change seems so remote, but in actual reckoning is historically dovetailed into our own day, there is much to regret in point of the picturesque and piquant. In the ardor of improvement and renovation not only has the character of whole regions been entirely altered

but the old names that had good home-brewed flavor of every-day usage and derivation have been lost.

Who but an ultra-modern would not regret that "Nassau street" has superseded "Pie Woman's lane," or that "Washington place" has supplanted the more picturesque title of "Shinbone lane"? The loss of the name "Dirty lane" for South William street or of "Slaughterhouse lane" for Beaver street is possibly not so much to be regretted.

Then, too, Minetta stream, which reached the river by way of Charlton street; Sunfish pond, near Thirty-third street; Sawmill creek, rising between the present Forty-ninth and Fiftieth streets; Wreck brook, drained by a cutting on Canal street—may connote a rude type of urban development, but they also seem to have a pleasantly reminiscent flavor of countryside and outdoor life impossible to squares and streets answering to prosaic numerical labels.

And what a loss is that of the town pumps! The "teawater pump" in Chatham street, which was reputed to furnish a better brewing of tea than any other source on the island, and the celebrated pump at West Fourth street, whose water bore such a reputation for purity that it was finally peddled about at the modest price of 2 cents a pailful, have survived in serious annals and anecdote, but there was also a vast unsung array of town pumps, usually at the intersection of street corners at the intervals of every few blocks.

So, if there is much to regret in the passing of a type of life that had such outwardly gracious expression, yet looking through the doorways of today, can one not discern a form of beauty responsive to new needs and changed conditions that shall rival in its fullest expression even this old New York of Colonial charm and beauty?

Public Taste and Architectural Housing

IN a communication printed as an editorial in a recent issue of *The Architects' Journal* of London, a contributor writes on the influence of public taste and architectural housing.

He finds in England, as do many architects in this country, that if we are ever again to have a really great architecture, we shall only get it when those who control the expenditure necessary to produce it are imbued with a sense of value of great design.

Continuing, he writes:

Great architecture has always been dependent on three factors—great impulse, needing monumental expression; great command of material resources, and great power, based on knowledge and culture, to use those resources. How this culture was formed, how this knowledge was acquired in the past, we cannot say. In what way the traditions of Classic and Gothic architecture were passed on from generation to generation of architects is not fully clear. In what schools their patrons learned to appreciate the qualities that transform a conglomeration of bricks and stone into a thing of beauty and a joy forever, is equally obscure. It cannot be believed, however, that the great architectural achievements of the past were produced without the stimulus of appreciation and approbation. It is very largely because these stimuli are absent today that we have fallen upon so comparatively evil a period in the art. This is a period of reconstruction. Is it to be a period of Renaissance? If in architecture, it will only come when we have succeeded in engrossing the public mind with the idea that the forms in which the buildings appear which are raised to house the myriad activities of the times are of material consequence.

In the period between the Renaissance and the present time such architecture of merit as has appeared has been due to the fact that some appreciation of architecture and some knowledge of its value formed part of a polite education. A world governed by an aristocracy and disposing of its resources through its agency, had some regard to at least politeness in its architectural display. This period of aristocratic government roughly came to an end with the passing of the first Reform Bill, through which we plunged into the Victorian era. This era has been subjected to much rough handling by critics, and doubtless deserves it all. It was a period dominated by an intense pursuit of material prosperity—a period in which those rude and vigorous characters who built up the great in-

dustrial fortunes of the times elbowed from place and power those who, whatever their incapacity in other directions might have been, had at least carried on some tradition of elegance and refinement.

All the arts suffered in the process. Everything became at once more elaborate, less elegant. Buildings, furniture, tapestries, dress, all alike coarsened and vulgarized. Then came the reaction. The reaction, unfortunately, had a more or less artificial character. Confined in its area and somewhat fleeting in its effects, engendered by no great dynamic force, rising rather in the minds of aesthetes than in the great common emotion of the people, it left no great deposit on the shores of architecture.

A new world is being born, the pre-Victorian period of aristocratic government is passed, the Victorian administration of the middle classes is following it, democratic government is hard upon their heels. County Councils which, when they first came into being, were the natural field of labor of the territorial magnates, are now captured by labor, and the process is spreading. The great architecture of the future will be built at the demand of the people for their own purposes and to their own ideas. No such calamity can befall the art of this period as befell the art of Rome under the Barbarian invasion; partly because, decadent as Roman art had become, it still stood above the level of the present; partly because with the new invasion comes, if not fully developed and matured taste, yet a great desire for beauty and its expression in life.

The writer attended a conference on housing the other day, at which were present doctors, lawyers, architects, builders and representatives of labor. The thing that struck him as being most significant was that while all the representatives of the professional and trading classes there were in the main concerned with the effect of the housing proposals upon their professional and business interests, it was left for one solitary labor representative to voice the aspiration of the people for an expression in the new housing conditions of those aesthetic qualities which redeem life from sordidness and ugliness, and make our outward surroundings correspond to our inward feelings. It is for us who care for these things in architecture to seize the occasion, to stimulate this desire, to develop it, and to train it. How is it to be done?

Comment has been already made in this *Journal*

(Continued on page 79)

Editorial Comment

Increased Production As Affecting the Wage Scale

WHILE cheapness in foreign goods results from a low wage scale, the same element is reached in this country by a careful development of buying power along with production.

This result in the United States is based on actual conditions, and the fact that large production has no tendency to cheapen labor can be conclusively shown.

The attitude of organized labor, such as has been recently assumed in many large cities where there has been a disposition to restrict production by inaction is at once shown to be a grave error.

In a recent issue of the *Popular Magazine*, in which the cheapness of American products and the high scale of wages are discussed, the following appears:

"The American automobile is the best illustration of American cheapness. By quantity production, with special machines for drilling fifty holes at once, pressing fenders as one prints business cards, and assembling the 'flivver' as it moves down a long line of mechanics, we are able to make cars at unheard-of prices, yet pay the best wages in the world. But to make things that way you must have an adequate market, and this has been created in America by advertising and salesmanship. By paying the highest wages to people who make the 'flivver,' those very mechanics become potential customers. So the thing is a sort of cycle."

French automobile manufacturers have made a beginning. Before the war they sold chiefly chasses without bodies, tires, lights, horn and similar equipment. The artistic Frenchman was left to buy these things separately—have them made to order, and satisfy his supposed craving for individuality and art. The low-priced American car ready to run, was not considered harmonious with French taste.

But American quantity production automobiles did much to save France. They hauled wounded Frenchmen away from battlefields, around shell holes, over torn-up roads. They made good, and all France admits it, and now the French manufacturers are preparing to make complete cars, on the American plan; lower their prices in keeping with the economies, and begin broadening their markets by making automobiles available to a wider public.

All of Europe has since we went to war been able to observe our methods and will undoubtedly profit

largely by this observation. It will not be difficult to foresee the result as affecting goods manufactured in the United States if production is speeded up abroad and at the same time retarded here.

Labor in the United States, obsessed with the false notion that the only way to maintain a high wage scale is to retard production, will learn that by this policy they have been killing the goose that laid the golden eggs, with the usual results.

How a City's Housing Shortage Is Estimated

STATISTICS showing just how far New York City is lagging in its building program, recently compiled by the New York State Reconstruction Commission, are most illuminating in that they will serve as a basis for the preparation of similar reports in cities in other sections of the country. It was found after extensive examination of all the available housing facilities in New York City that 36,069 homes will be needed to take care of the increased population before the end of the year. The report says that all of these homes should be in the process of construction at the present time.

The calculation is based upon the average number of buildings and apartments erected in the years previous to the war, combined with a consideration of the shift in population and the number of vacant apartments which have been filled in that time. From this is subtracted the number of apartments which will probably be ready for occupancy in the autumn.

It was learned that during the two years preceding our entrance into the war 1,271 buildings were erected, giving an average of 21,517 apartments each year. But this was not continued, for in 1917 and 1918 but 890 buildings, meaning 16,947 apartments, were put up. If the population had continued normal the shortage would be 26,087 apartments. At the beginning of this period, however, many vacancies existed. Some of them have been filled, thus decreasing this number. Nearly 10,000 of these vacancies, which were 35,635 in 1917 and but 21,482 in 1919, were filled in old law tenement houses really unfit for habitation.

The normal shortage of 26,087 was reduced to 11,934 by these 14,153 vacancies. Owing to the number of buildings destroyed this does not constitute the final figure. In some way 6,831 apartments had been destroyed. Thus, while in March,

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1917, there were 972,810 apartments in New York City and between March, 1917, and March, 1919, 16,947 were built, there were in reality only 982,926, whereas 989,757 should have resulted. Adding the normal shortage of 11,934 to the 6,831 destroyed the number needed at the beginning of this year was 18,765.

It has been estimated that whatever loss of population New York may have sustained from a lack of immigration was fully balanced by the influx of war workers. So far this year plans have been filed for 278 buildings containing 4,675 apartments. Subtracting this from the total shortage of 18,765, the present need is lowered to 14,090 apartments.

In the days before the war it was possible for one to take his pick of newly erected apartments at almost any price one felt inclined to pay. Today long waiting lists are the rule at practically every apartment house superintendent's office. The most severe shortage is being felt in apartments renting from \$30 to \$45, as the heaviest demand comes, naturally enough, from the moderate wage earner, the clerk and salaried professional man. Prices are being paid for old, poorly arranged apartments, without modern improvements, that two years ago would never have been considered at half the money now being obtained.

It is clearly evident that the shortage of over 14,000 apartments in New York City cannot be met by Fall. But there is no reason for this in smaller communities, where conditions have not developed so acutely. Building in New York is only about 30 per cent under way, while the average in other sections is more than 50 per cent, and, it is believed, that the maximum for the present building season has been obtained.

Billboards As Affecting Real Estate Values

EVERETT L. MILLARD, president of the Municipal Art League of Chicago, during the course of an address before the recent convention of the National Association of Real Estate Boards, struck a new note in the crusade against

the public nuisance of the advertising billboard.

Mr. Millard stated that the matter of these disfigurements was not merely an æsthetic one, but that in practically every large city these purveyors of information to an unwilling public very seriously affected private real estate values and net return, and also detracted heavily from the value to the people of municipal investments in parks and boulevards. It is stated in the reports of this meeting that there was not a dissenting voice when this subject of the nuisance of the billboard was put to vote and that the meeting unanimously endorsed a proposal for the creation of a National Committee of Real Estate Brokers for warfare against the systematic defacement of public property.

When it is realized that the billboard industry in this country represents an annual business of more than one hundred million dollars it will become evident that it will be extremely difficult to accomplish any tangible results by a committee such as was proposed. The matter will have to be undertaken in a more official way through legislative action by the municipalities or states, spurred by public sentiment.

While to a majority of people, the contentions that billboards are an insult to good taste, a disfigurement to the landscape, a vulgar and a constant annoyance, would seem to be sufficient to secure legislation for their abatement, the element that would be more likely to demand and secure results is that which can be convinced that the proximity of billboards acts as a depreciator of real estate values.

It is the accentuation of this very materialistic point of view that will be the most potent in securing from the average municipal government the necessary legislative action to abate the nuisance. It will, however, be difficult to convince the owner of a centrally located piece of property who receives a large income from rental privileges for the boards and illuminated signs that crown his property. In fact it is easily noticeable that in many civic centers property that has stood for years and is at the most not more than four stories in height is rarely improved, as its possibilities for rental for billboard purposes creates an income and does not necessitate further improvement.





PLATE 19

HOUSE OF M. C. HEATH, COLUMBIA, S. C.
EDWARDS & SAYWARD, ARCHITECTS





PLATE 20

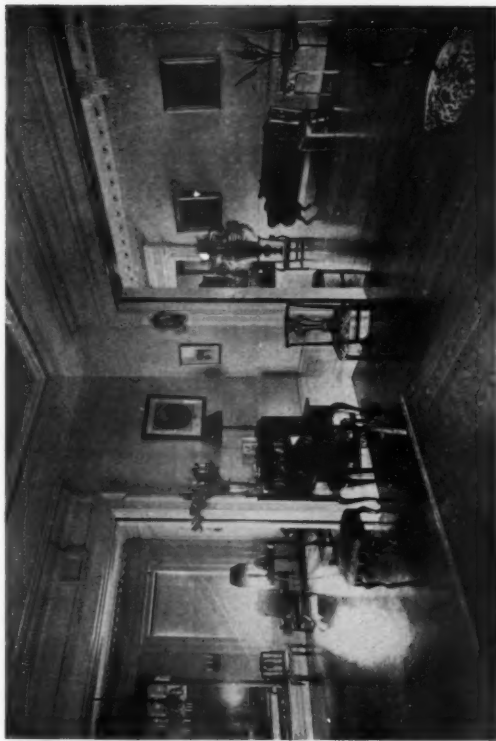


HOUSE OF M. C. HEATH, COLUMBIA, S. C.

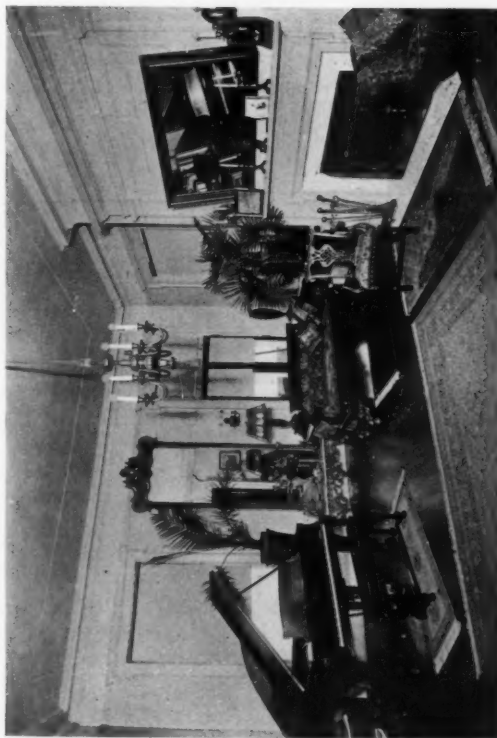
EDWARDS & SAYWARD, ARCHITECTS



DINING ROOM



HALL AND RECEPTION ROOM



LIVING ROOM

PLATE 21

HOUSE OF M. C. HEATH, COLUMBIA, S. C.

EDWARDS & SAYWARD, ARCHITECTS



PRINCIPAL GATEWAY TO GROUNDS



PLATE 22

CARRIAGE ENTRANCE

HOUSE OF M. C. HEATH, COLUMBIA, S. C.
EDWARDS & SAYWARD, ARCHITECTS





PLATE 23

HOUSE OF CLARENCE ILLINGWORTH, FOXCHASE, PHILADELPHIA, PA

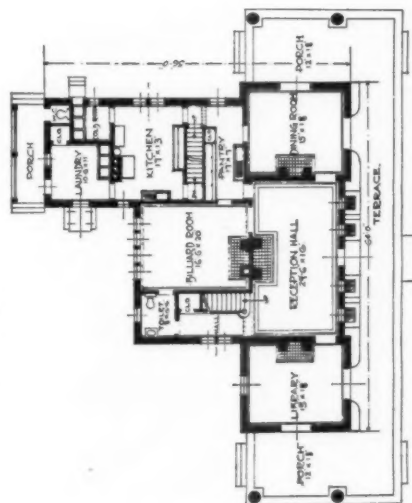
C. E. SCHERMERHORN, ARCHITECT



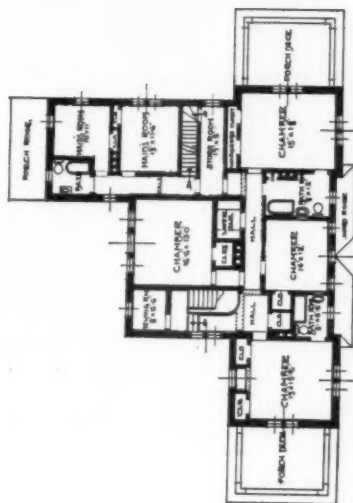
PLATE 24

HOUSE AT AMBLER, PA.
C. E. SCHERMERHORN, ARCHITECT





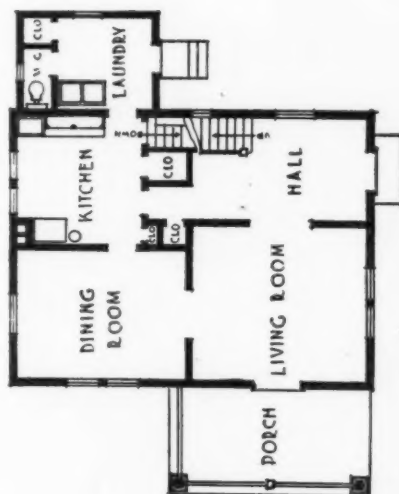
FIRST FLOOR PLAN



SECOND FLOOR PLAN

HOUSE OF CLARENCE ILLINGWORTH, FOX CHASE, PHILADELPHIA, PA.

C. E. SCHERMERHORN, ARCHITECT



FIRST FLOOR



SECOND FLOOR

PLATE 25

HOUSE AT AMBLER, PA.

C. E. SCHERMERHORN & WATSON K. PHILLIPS, ARCHITECTS

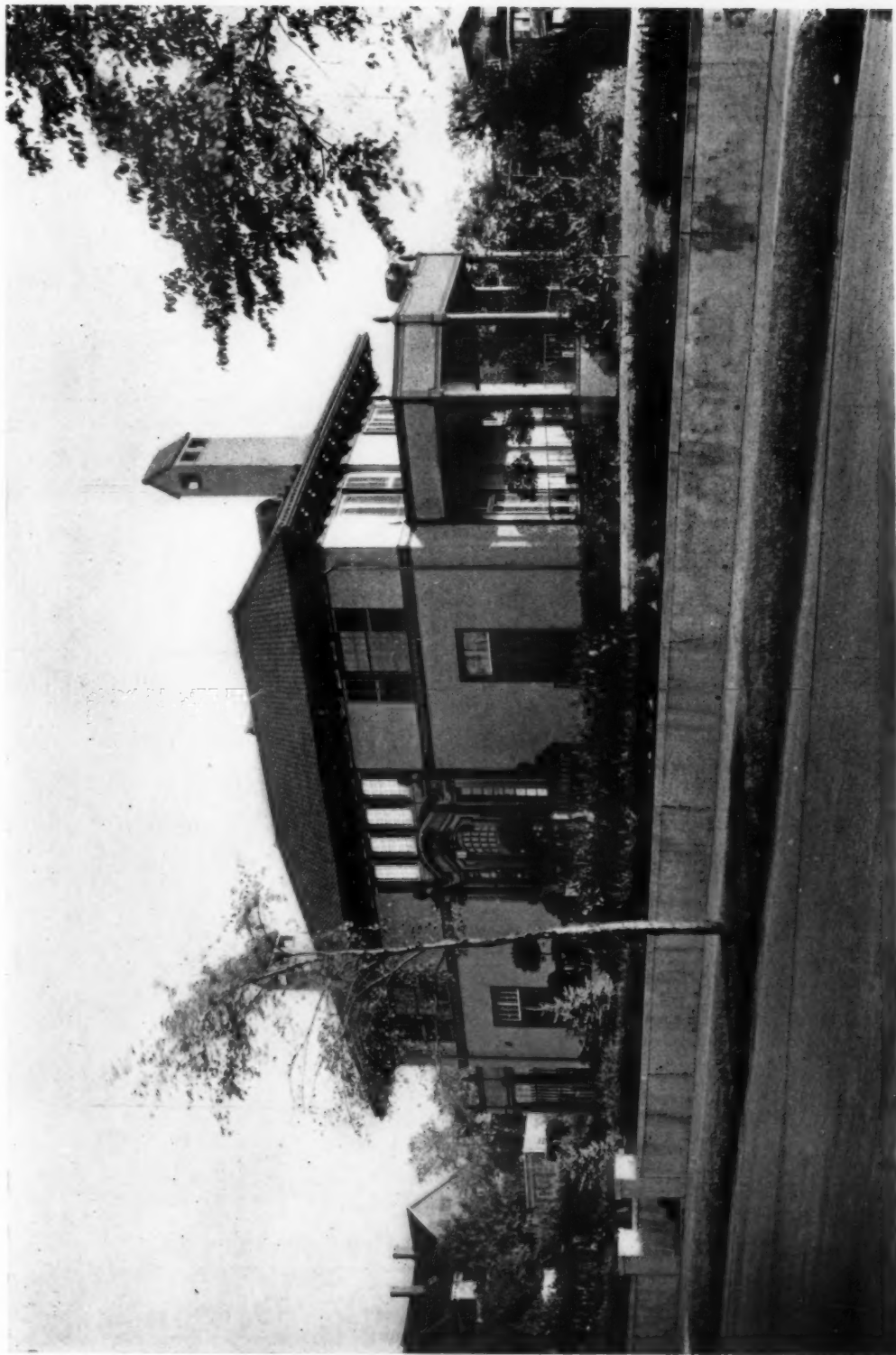


PLATE 26

HOUSE OF JAMES BURNS, NEWTON CENTER, MASS.

COOLIDGE & CARLSON, ARCHITECTS



PLATE 27

HOUSE OF G. V. PENNOCK, BRAINTREE, MASS.
COOLIDGE & CARLSON, ARCHITECTS

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Public Taste and Architectural Housing

(Continued from page 76)

on the happy conjunction which in this unique period of reconstruction had placed a great architect in the chair of the Royal Academy, and a hope has been expressed that out of that conjunction might come a grasp of the possibilities of the present situation which would express itself in the production of the great architectural works commensurate with this supreme passage in the world's history. Naturally one is pleased, therefore, to find that the same thought was expressed, with more felicity by the Prince of Wales at the Academy dinner. In his speech, and in the person of the speaker, the significance of the situation was exposed. It now remains to be seen whether it will be grasped by those in the profession who are responsible not only for safeguarding the interests of its members, but also for raising the public standard of appreciation of architecture.

One fully appreciates the interest with which architects must watch the narrowing of those fields of private enterprise upon which they have largely depended in the past. One has the greatest sympathy for the apprehension expressed that the life may go out of architecture if it comes under the regulation and control of Government departments. Fear has been expressed that a Ministry of Fine Arts portends a Defense of the Realm Act, which would crib and cabin and confine all artistic expression. How is this danger to be avoided? Only by a development in public taste. To establish a Ministry of Fine Arts in a State where the public care nothing for architecture would, indeed, be to invite disaster.

The outlook is not altogether dark. There are gleams upon the horizon. Architectural education is taking its place where it should be found—in the Universities. We may hope and work for its development there. It is to be desired that in every University throughout the length and breadth of this land the Chair of Architecture shall become one of the great Chairs, and that students who pass through these great schools

shall emerge with the conviction that the expression of life's ideals and emotions is not confined to print and paint, that not alone in prose or verse can be recorded those feelings which lift us from the earth.

In the past the University Extension Movement has done something to present architecture historically to the public. What is needed is to cultivate not only the sense of admiration and reverence, but to produce the belief that architecture is no dead thing, but a living outcome of the needs of society.

One of the greatest and most promising enterprises of the present day is to bring the scope and atmosphere of University life within the range of working-class attainment. This is being done in many centers. Thousands of men and women, many of whom are destined to become leaders in the working-class control of the community, are being imbued with the value of literature, music, and, to some extent, the creative arts. It needs be that architecture should be presented to them as a subject worthy of their study. Is it too much to hope that an enlightened Board of Education may be induced to include some conception of the study of the great principles governing architectural design within the curriculum at least of secondary schools? We all desire to see the day when the men and women of the future who rule England shall at least have not less interest in architecture than did the men who governed England in the past.

A last word: What is to be the relation of the Royal Institute of British Architects and its country associations to such a movement in education? Is there to be a real link between them and the Universities? Will they throw themselves heart and soul into this enterprise? Will they realize that if architecture in the schools is to be the presentment of a living subject and not the tale of a dead past, it will only be if between the men who are practicing it in the pursuit of their profession and the men who are expounding its traditions and enunciating its principles is the closest personal contact and the deepest sympathy?

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An Art Service League

The artistic resources of America never have been organized on a basis which permitted the workers in them to do the most effective labor nor to impress upon the public consciousness any true sense of their extent and value. On the theory that the only way to begin is to begin, and the only time is now, the artists in and around Chicago have formed an organization which they hope may prove of some practical avail. At least it will be a nucleus from which something may develop if the artists demonstrate intelligence and vigor in their organization. This is reported by Karleton Hackett in the *Chicago Evening Post*.

During the war the painters, draftsmen and cartoonists were formed into an organization to perform certain war work for the United States government which was called the division of pictorial publicity. It was a patriotic service without remuneration, but the individuals, held together by this common band of loyalty, felt themselves so strengthened in their labors by the sense of service and by the consciousness that a strong organization was back of them; that when their organization was disbanded by the Government at the close of active hostilities, they felt it would be wrong that the fruits of so much labor should be permitted to vanish. It seemed an economic waste. Also, if they had a function to perform in war time, and they had proved that they had, it seemed as though they ought to have a still more important function to perform in the normal times of peace.

Therefore, before disbanding they determined to make an effort to see if a permanent peace-time organization might not be formed which would bring in all the arts, so that they might gain the strength which comes from co-operation and centrally directed labor.

The arts need a sort of clearing-house where the layman may go for practical assistance in his artistic needs. At present no such organization exists. If a business house wishes some high-class advertising matter, some special posters, a band for a celebration and information as to the forming of a chorus from among its employees—and such demands are arising every day—there is no central bureau where men whose profession it is to supply these various wants may be reached.

The Art Service League proposes to establish just such a practical clearing-house, so that there shall be a place where any person or organization may get in touch with experts in any department of art. The league is composed of five divisions—the pictorial publicity men, including painters, draftsmen, cartoonists and sketchers of all degrees

of artistic standards: architects, sculptors, musicians and writers.

If a community should desire to celebrate some great event with triumphal arches and all other proper appurtenances, with sculptured and painted decorations, bands, choruses and special songs with words for the occasion set to music and arranged for performance, the Art Service League would be prepared to undertake the whole job. It might even succeed in convincing the committee previously having the matter in charge that the plans they had half decided on would be artistically ineffective, impracticable and ridiculously extravagant. Convincing a committee of laymen of these elemental facts, until the show was all over and the bills had to be paid, might at first be quite out of the question, at least, according to past experience, but something might be done in time.

Our system has been to do everything in a rush at the last moment, with "hang the expense" for a motto, but we are gradually learning something, and for years to come our taxes will be eloquent. Every other nation which pretends to civilization, save only England and the United States, has found the economic value of organizing its artistic resources on a practical basis as a business asset. There are many indications that while the United States, as a nation, may not yet be ready to tackle the problem, the individuals are waking up to its importance. We have a long way to travel, consequently it is all the more important that we should get started. The Art Service League may not do much—this remains to be seen—but it will do something, and its efforts deserve encouragement.

A Recent Legal Decision

MISREPRESENTATIONS TO INDUCE CONSTRUCTION

The New York Appellate Division holds, in a contractor's action against the president of a corporation, who was also the corporation's financial backer, for fraud in inducing the contractor to construct a building upon misrepresentations that money had been arranged for to meet payments, that statements made by the president, who had intimate knowledge of the affairs of the corporation, that the contractor would be fully paid as payments fell due, and that money had been arranged for to meet payments, was a representation of a fact and not a mere opinion. The defendant was held estopped, by his subsequent act in refusing to furnish the necessary funds to meet these contracts, from denying the materiality of such representations, or from claiming that the money was ever "arranged for."—*Berlin Const. Co. v. Hoops*, 173 N. Y. Supp. 117.

Current News

Ancient Hostelry To Go

Another landmark of George Washington is to be razed. The historic Washington House, in Philadelphia, noted as a hotel since 1746, is to be torn down as one result of prohibition, it is announced. In its place will be erected a modern hotel, office building and theater. The place is filled with reminiscences of Washington and Revolutionary times. Washington retreated to it after the disaster of Brandywine. A bronze tablet reads: "In this room, September 11, 1777, Washington wrote the only report of the Battle of Brandywine."

Previously, Washington had been a guest in this hostelry then known as the Washington Arms, and again, when making the journey from Washington to New York when he was elected president, he, with his retinue, had breakfast in the hotel's dining-room. To commemorate this event the Daughters of the American Revolution erected a tablet reading:

"This marks this house as the place where Washington wrote at midnight the only report of the battle of Brandywine. September 11, 1777. Here Washington also received the congratulations of the people of Chester upon his election as the first president of the United States, April 20, 1789."

After the evacuation of Philadelphia by the British Army the name of the hotel was changed to the Washington House.

On each occasion when Washington stopped at the hotel, the best room in the house was placed at his disposal. The fine mahogany chairs which were in this room are still preserved as historic relics.

Active Co-operation by Bureau of Industrial Housing

During the period of the war the committees on the United States Homes Registration Service, established in congested industrial cities, devoted themselves almost exclusively to helping war workers find satisfactory housing accommodations. In recent months, however, they have materially expanded their programs. In many cities the members of the committees have become so interested in the local housing problems that they have engaged in the improvement of housing conditions generally along any lines needed.

The success with which local committees have met in solving acute housing problems is becoming more generally known. In consequence, requests for assistance in the organization of registries are coming to the Bureau of Industrial Housing in increasing numbers. At the present time there is a field agent in Youngstown, Ohio, where the work is being organized both for the white and for the colored population. Another field agent is organizing a committee and directing a vacancy canvass in Freeport, Ill. In Berea, Ohio, another representative of the bureau is at work in connection with a housing survey and the establishment of an active United States Homes Registration Service. A colored field agent is in Chicago for the purpose of organizing a registry for the benefit of the colored population of that city. Other cities to which field

agents have been asked to come at their earliest convenience are Atchison, Kans., and Paterson, N. J. The secretary of the Troy, N. Y., Chamber of Commerce writes that a city-wide committee on the United States Homes Registration Service will shortly be organized there. From over 20 cities urgent requests have come for assistance in dealing with the serious housing needs of colored workers.

Preserving Old Structures

St. Augustine, one of the first settlements in America, has preserved many of its older buildings. In a recent issue of the *Record* of that city appeared a cut of the post office as it was fifty years ago. Changes and improvements have been made without destroying the antiquity of the building. The site has also undergone transformations which have served to make it more attractive than it originally was. This is evidence of the fact that historical buildings can be preserved and actually improved without detracting from their historic value.

Many old structures have disappeared that could have been preserved and utilized, but they gave way to the commercial spirit and St. Augustine lost some of its valuable assets. There remain a number of old buildings that should be acquired by appropriate organizations and repaired before they fall in ruins, or are torn down to clear a site for a modern building.

Residents of St. Augustine appreciate its beauty and charm, but many of them are apathetic when a suggestion is offered to make the most of its advantages. There has been little effort to acquire historical buildings and place them under the care of responsible societies, except in the case of the old house on St. Francis Street, which was purchased by the St. Augustine Historical Society. It would be well if more interest were displayed in preserving all that is left of the old St. Augustine and in beautifying the entire city.

England's Building Activities

An article in *The London Times* of recent date on the housing needs of Britain's great industrial centers states that Birmingham requires a minimum of 14,000 new houses, and the Housing and Town Planning Committee of the City Council considers that 5,000 new houses must be built annually for the next twenty years.

Practically every municipality and local council in the "Black Country" have submitted building plans to the Local Government Board.

Many local authorities have applied to the Local Government Board for official approval to start their housing schemes for workers. There are reported to be about 1800 such local authorities in the country, and up to the present 750 schemes, involving the erection of 128,000 new dwellings, have been submitted.

Manufacturers of building materials claim that the Government departments concerned are doing what they can to hasten production of raw materials required for building purposes, but some time is expected to elapse before the production can be considered satisfactory.

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What a Church Is Doing for Art

Under the direction of Rector Dr. Percy Stickney Grant, the Church of the Ascension in New York has launched a constructive as well as instructive idea in church work, bound to be successful both from the church's point of view and that of art, by holding, beginning Easter week, the first of a series of art exhibitions in the Parish House. Having tried out the idea satisfactorily some two years ago with an exhibit of the painting of J. Alden Weir, president of the National Academy, who is a member of the congregation, the present show is the first of the post-war art activities.

As an art exhibition it is very satisfactory, but as a means of bringing art to the people in an intimate way this departure ranks very high indeed, and being recognized as such, it is enjoying deserved praise and success. The aim of the exhibition and of the church's interest in it is expressed in a dignified foreword in the catalogue by Mrs. Philip Lydig:

"Religion and beauty are so inseparable that it is mete to use the Parish House for exhibiting art. Under the shadow of the Church of the Ascension, itself the treasure house of such beauty as Lafarge's inspiring painting of the Ascension, St. Gaudens' classical altar, the platform of progress and the sympathetic haven of all those who are heavily burdened, the rector has sought during the many years of his pastorate to assist the young artists by welcoming their canvases to hang upon these walls. They have warmly responded, thirty of our representative masters are lending their paintings to the Parish House, a fitting answer, and one fully appreciated. The opening exhibition is the first step toward a semi-annual exhibition. To our busy life, so full of commerce and haste, the Church of the Ascension gives us prayer, music, art—symbolic of the Trinity and of Unity."

The public may well congratulate the Church of the Ascension, Dr. Grant and those others whose initiative is responsible for this distinct step forward. And young American artists may take heart from this move, which is sure to be followed widely throughout the country. That artists do appreciate such an impetus goes without saying. Only recently, in response to a request from Topeka, Kansas, about thirty of our best young painters sent their work there, where it met with such success that the whole exhibition has gone "on tour" to a number of like-sized towns of the Middle and Far West. The remarkable part of this journey of art is that the request came from a youthful teacher of art, comparatively unknown, yet so sincere was her plea that the paintings assembled were of a quality to warrant high praise. This is constructive work of first rank that cannot be overlooked.

The exhibition at the Parish House gives the visitor a fair idea of the work that is being done today. While there are some modernist things, the majority of the hangings are conventional: Sargent's "Nonchaloir," a woman in complete repose on a couch is, naturally, the picture at once sought out and is most entertaining, as the painter, always an artist of first rank, doubtless had enjoyed doing it and communicates this feeling to his audience.

Those able artists, Ernest Lawson and Content Johnson, are well represented. Miss Beaux, who is one of the committee, shows a delightful one, entitled "My Aunt," while Robert Henri, Arthur B. Davies, Bellows, Paul Dougherty, Merchers, Speicher and others all have good work on view. The whole collection is entertaining, and Dr. Grant may be commended for his constructive and interesting work of humanizing art through his church.

For Beauty, Not Plumbing

In our anxiety to get results in France we were often tactless, from a French point of view, writes Will Irwin in the *Saturday Evening Post*. This cause of irritation was exaggerated by our general ignorance of the language. I wonder if the American schools, after this, will teach us speaking French instead of the book French they taught in my generation?

And we ran into certain French peculiarities which we found it hard to understand. For example, early in our war a fine old château, near Bordeaux, was leased for a headquarters. By the terms of the lease we were to leave everything exactly as we found it. The chateau in its four or five hundred years of existence had never known sanitary plumbing; the owners bathed in wash basins or rubber tubs. Expecting to stay a long time we installed drains, bath-tubs, toilets, and a water-heating system.

When, last January, we ended the lease and moved out, the officer who conducted the business offered to leave the plumbing where it was, since its removal would cost as much as it was worth. The French owner refused. We had to take out our plumbing. What he wanted from that château was not sanitation, but venerable beauty, and the sense that he dwelt in the same identical home as his ancestor of the tenth generation back.

The American finds it hard to understand such a point of view; and he is a bit brusque in expressing his opinion.

Art Developed As Needed

Cabinet making, as all arts, began with the human needs of people. War and the necessity for hastily moving from place to place during the semi-civilized periods gave place to the making of homes and the effort to furnish them comfortably—one of the strongest impulses in nature and the surest sign of civilization.

The old chests in which they kept their belongings were at last allowed to remain stationary and were used as seats. The name of these chests in England was "cabins," and the maker of them was called a "cabinet maker." As soon as might be, the cabinet maker provided the old chests with backs and they became settees, while others were raised on legs and became cabinets, or, being provided with doors and drawers, became cupboards or "chests of drawers." Tables and beds were also devised, together with wainscoting for entire walls, and people really began to live.

The workmen who made these things were capable of designing and executing an entire department with its furniture. Great skill was required, and notables and royalty prided themselves on having some artist-artisan to do their bidding. In the establishment of these men different degrees of skill were recognized, and the system of apprenticeship obtained. A youth entering one of these studio workshops, having passed all the grades, became a "master." To attain this degree was to be worthy of the respect of the world.

Art of Coloring Glass

It is probable that the coloring of glass, and particularly the garnet tint and not the ruby hue, as some authorities would have us believe, originated in Bohemia, says the *New York World*. This color—garnet—is obtained by alloying or fusing an extremely minute quantity of gold with the other ingredients—silica, soda, lime, iron oxide and alumina. On its first heating the glass is colorless, but on reheating it develops its soft, rich appearance.

News from Various Sources

New South Wales will spend at least \$1,250,000 a year in building houses for persons earning less than \$2,000 a year.

* * *

According to figures compiled by State Highway Department, Texas this year will spend a total of \$76,216,000 on improved highways.

* * *

Illinois state examination for architects will be held Sept. 15-16-17, at the Art Institute. On the same dates civil service examinations will be held.

* * *

The Senate, June 25, approved Committee amendment authorizing War Department to proceed with purchase of camp sites, negotiations for which are pending.

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It is announced that war time contracts totaling \$3,809,110,000 have been suspended since the armistice was signed and contracts valued at \$1,223,591 have been liquidated.

* * *

A Paris dispatch to the *New York World* says that the ground necessary for the League of Nations Buildings, near Lake Geneva, will cover 500 acres and cost about \$3,000,000.

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The State of Arizona and its 14 counties have started upon a road-improvement program expected to consume at least \$10,000,000, assisted by National and Forest Service Appropriations.

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According to a department report in May, 1919, the cost of 22 articles of food, combined for the United States as a whole was 17 per cent higher than in May, 1918, and 92 per cent higher than in May, 1913.

* * *

It was announced June 29 that resources of national banks under call of May 12 were reported as \$20,825,000,000, an increase of \$807,000,000 since March 4 and nearly \$10,000,000,000 in the last 6 years.

* * *

Philadelphia *Public Ledger* states that inquiries made in London show that it is possible to get manufactured steel from the United States delivered at British ports at a cost of from \$15 to \$20 per ton below British prices.

* * *

At convention of Western Efficiency Society in Chicago it was stated that 55 per cent of factories replying to questionnaire to determine success of employee representation in factory management, reported that the plan had stimulated production.

* * *

The *Journal of Commerce* states that the city of Stockholm has invited American exporters to store goods in her free port, which was opened June 1st, in anticipation of a gigantic demand expected as soon as conditions in Russia become more settled.

* * *

A *New York Times* dispatch states that the Federation of British Industries, including 17,000 manufacturing and producing firms in Great Britain, has formed overseas organization to aid exporters of English goods and importers of raw materials.

U. S. Forest Service has issued warning to American lumber and wood-using industries that exportation of American lumber on a scale likely to result from European demand will seriously deplete supplies needed for home market unless immediate provision is made for reforestation.

* * *

British Government Gazette shows an enormous rise in pay of workingmen in England. Wages paid in April, 1919, compared with those paid in 1914, show increase in various trades and industries ranging from less than 60 to over 150 per cent, to say nothing of war bonuses.

* * *

At a recent meeting of the board of directors of the Midvale Steel & Ordnance Co., Philadelphia, among things authorized were expenditures of \$8,000,000 for reconstruction work at various plants, establishment of a pension system for employees and adoption of a plan to help employees to own their own homes.

* * *

Investigation and Inspection Service has received estimates from Baltimore that because of hard working conditions in factories, general neglect and lack of encouragement for workmen, and presence of families in Russia, of Russian population of that city, approximately 5000 or 50 per cent intend to return to their own country as soon as accommodations are available.

* * *

British economists predict that the signing of peace and restoration of trade with enemy countries will bring higher prices than have been charged at any previous time for foodstuffs and raw materials; the relaxation of trade prohibition opens the enemy demand and that, in response to laws of supply and demand, prices all over the world will go higher until enemy demand is satisfied.

* * *

For the last ten years the city of New York has been paying premiums on the life insurance policy it took out for the sculptor, Frederick MacMonnies, the author of the plans for a new fountain in the City Hall Park. The policy is for \$20,000. This action was taken to insure the city against any loss "in case the sculptor might have met with a mishap before finishing his work."

* * *

Miss Margaret G. Bondfield, of National Federation of Woman Workers of England, says that the English Trade Union movement has for its goal industrial and political control, which is fast becoming a realization as the only means through which organized labor can attain its rights. One-third of the workers in this country, or 12,000,000, are women, and in Great Britain 700,000 are women, she said.

* * *

The United States Government plans now contemplate the sale of all houses owned by the Government, at cost and upon easy terms, not to housing speculators, but to individuals anxious to become owners, Irving E. Macomber, vice-president of the U. S. Housing Corporation. It is the intention of the Government to get out of the housing business as soon as possible and to give the "own your own home" movement substantial impetus along the line indicated.

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Personals

Henry Riegelman, architect, announces the removal of his office to 147 Fourth Avenue, New York.

Dillard and Bacon, architects, Chicago, have moved from 343 S. Dearborn Street to 304 S. Wabash Avenue.

John F. O'Malley, architect, formerly of Providence, R. I., has moved to 391 Broad Street, Central Falls, R. I.

Hackenlively & Mack, architects, Suite 502, Landers Building, Springfield, Mo., desire catalogues and paint samples.

Pleasants Pennington and Murray Hoffman desire catalogues to be sent to their new office at 477 Fifth Ave., New York.

Harold W. Hathaway, architect, 6 Beacon Street, Boston, Mass., has moved his offices to 12 Winter Street, Arlington, Mass.

Howell & Scott, Inc., have opened offices at 15 East 40th Street, New York, for the practice of architecture. They desire catalogues and samples.

George S. Idell, architect, formerly at 34 South Sixteenth Street, has moved his offices to larger quarters at 1705 Chestnut Street, Philadelphia.

Kendall & Smith, architects, 1311 G Street N. W., Washington, D. C., removed their office June 27th to Room 517, Union Trust Bldg., Washington, D. C.

Alfred A. Berube has opened an office for the practice of architecture at 2767 Marion Ave., New York. Manufacturers' samples and catalogues are desired.

William O. Sparklin, engineer and architect, formerly of Baltimore, Md., and more recently an officer in the United States Army, has opened an office in the Healey building.

Williams and Mahnken, architects, have moved their offices to 8 West 33rd Street, New York, and desire catalogues, samples and prices on all materials bearing on architectural practice.

J. Edwin Kopf and Kenneth K. Woolling have returned from service and opened offices in the Indiana Pythian Building, Indianapolis, for the practice of architecture. Catalogues are desired.

W. T. Braun, architect, has returned from service with the U. S. Housing Corporation at Rock Island, Ill., and has removed his office from the Security Building to 155 North Clark Street, Chicago.

Andrew McQuaker and P. Horrocks, well-known architects of this city, have formed a partnership for the general practice of architecture. Offices have been opened at 315 Mehlhorn Bldg., Seattle, Wash.

Davis E. Meredith, formerly architect for Morris & Co., U. S. Yards, and Ralph E. Stoetzel, formerly with Arthur Helm, architect, have formed a partnership with offices at 431 S. Dearborn Street, Chicago.

W. H. Lee, architect of Shamokin, Pa., has opened a branch office at 32 S. 17th Street, Philadelphia. Mr. G. B. Johnson, who is in charge of the Philadelphia office, desires manufacturers' samples and catalogues.

Geo. B. Post & Sons, 101 Park Ave., New York, and Schofield Building, Cleveland, announce that W. Sidney Wagner and Robert R. Houston have been admitted to partnership with them, and that the business will continue under its present name.

The Hearth of the Washingtons

It is an odd fact that Shakespeare's birthplace has been almost more of an American than an English shrine. Certainly few American travelers in that land ever failed to make at least one visit to Stratford-on-Avon, and it is more than likely that Britishers by the thousand may be found innocent of similar devotion. But, writes the *Literary Digest*, England is now setting up a rival shrine, and one that may be calculated to exert a stronger claim. Sulgrave Manor, the home of the Washingtons, is to be one of the first memorials of that quickening of sympathy and co-operation between the two English-speaking peoples brought about by the war. Before the war the home of Washington's ancestors in Northamptonshire had been bought in celebration of a century of peace between the two nations; but the funds necessary to restore, equip, and maintain this historic link with the past as an appropriate center of Anglo-American friendship were necessarily diverted to other channels. Now the project has been revived, mainly through the instigation of the London *Daily Telegraph*.

On the main doorway of the Manor House are Lawrence Washington's arms, reputed to be the origin of the American national flag—the Stars and Stripes. The Royal Tudor Arms are also still to be seen on the front gable. The second great object is to concentrate, as it were, in Sulgrave Manor House all the Washington relics to be found in this country, and documentary, pictorial, and other records of Anglo-American relations. Apart, too, from its influence as a museum, it is to be a center of active work for the future—a rendezvous, if we like to put it so, for all Americans visiting the old country, and at all events a precious and most significant sign or testimony of the enduring friendship of the British and American peoples.

Unified Report Urged on Public Works

The National Federation of Construction Industries has come forward with a suggestion that the National and State Governments "concentrate into the immediate future their programs of public works, which normally would be extended over the next several years." The suggestion is made in the interest of taking up the present slack in building effort, and continuing until business returns to a normal basis, when it is stated, it would be desirable if less than a normal amount of public works were underway, as expanding private interests would be exercising great demands both on capital and labor. The National Federation of Construction Industries is a new organization. It has its headquarters in Philadelphia. Ernest T. Trigg is president and John C. Frazee executive secretary.

Late News from Architectural Fields

Special Correspondence to THE AMERICAN ARCHITECT

Bill Provides for Two Memorials

WASHINGTON, D. C., July 14.—In passing the army appropriation bill, the Senate provided for the erection of two memorials. An amendment of Senator Cummins of Iowa authorized the expenditure of \$35,000 for the purpose of securing designs and plans for and the construction of a memorial archway to be erected at Vicksburg, Miss. The memorial will be constructed under the supervision of the Secretary of War. The money is appropriated from the unexpended balance of an appropriation under the deficiency act of 1916 for a national memorial reunion and jubilee.

The Senate also agreed to an amendment providing for the erection and maintenance of a suitable building at Fort Leavenworth, Kan., under the auspices of the Boughton Memorial Association.

Defer Action on Construction of Public Buildings

WASHINGTON, D. C., July 11.—Whatever hope was placed in the Republican majority to insure a quick passage of the \$100,000,000 omnibus public buildings bill providing for the construction of post offices and public buildings throughout the country, has waned during the week. Chairman Langley of the House Committee on Public Buildings and Grounds has definitely announced that no action on the appropriations can be expected before the regular session in December.

The omnibus bill has long been a source of debate in Congress. Sites, approved and cleared for the proposed buildings of the government have stood vacant for years. Realtors planning the construction of buildings in harmony with the Federal structures in the vicinity, have been forced to postpone their projects. The seasonal wrangling in Congress has demoralized certain building activities depending on Federal public works.

The filibuster in the Senate at the last session proved a severe setback for many architects and builders who looked forward to an immediate revival of building through this Federal aid.

The omnibus bill as presented at the last session carried a proviso for the employment of private architects. Efforts to have this provision inserted in previous legislation failed. It had been customary to have the supervising architect's office submit designs for the Federal buildings.

Mr. Langley is reported to have ascribed two reasons for the delay in presenting the bill at this session. It is the Republican policy of marked economy in Federal expenditures and the committee's belief that building costs are too high at present. Several members of the committee expect a price revision downward. The opinions advanced by the congressmen are at variance with the general view held by business men of the country. Certain committeemen are recorded as having suggested immediate consideration of the bill as they are convinced that the cost of building materials will not recede.

In addition, the committee plans to investigate the

activities of the U. S. Housing Corporation. Congressman Clark of Florida has demanded the abolishment of the organization. The members of the committee stated that reports showed that the corporation had spent \$3,000,000 at Bethlehem, Pa., and not a house to show for the expenditure.

An agreement has been reached after conference which permits the Senate Committee on Public Buildings and Ground to direct the actual hearings into the wartime housing management.

Bill to Create Department of Public Works Introduced

WASHINGTON, D. C., July 12.—The first definite action toward creating a Department of Public Works was taken last week when Representative Reavis introduced a bill to authorize the establishment of the organization as a part of the Federal government.

The bill provides for changing the Department of the Interior into the "Department of Public Works" continuing the head of the department as "Secretary of Public Works." Subsequent occupants must be men qualified by training and experience to administer the affairs of the organization and to evaluate the technical principles and operations involved.

The Supervising Architect's office now subordinate to the Department of the Treasury will be under control of the new organization in event the bill is approved. The Construction Division of the Army, River and Harbor Improvements, Mississippi River Commission and the California Debris Commission now subordinate to the War Department will also be under the jurisdiction of the proposed Federal executive branch.

The bill proposes four assistant secretaries at a salary of \$7,500 each. One assistant secretary will have administrative jurisdiction over all matters of engineering design and construction by whatever bureau or other instrumentality of the department performed while another will have jurisdiction over all architectural design and construction.

Many of these provisions are in harmony with the committee report presented at the fifty-second annual convention of the American Institute of Architects at Nashville, Tenn., in May by the Committee on Public Works. It is also in accordance with the recommendations adopted by engineering and architectural organizations in conference at Chicago in April. The Reavis bill, H.R. 6649, groups those Federal bureaus whose functions are architectural or engineering in character into one department for the purpose of co-ordination.

The bill after its first reading in the House was referred to the Committee on Expenditures in the Interior Department. It is considered a certainty that it will not be reported out to the House for several months. The committee has not yet determined whether hearings will be conducted this summer or postponed until the regular session in December.

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Jade Fence Shows American Aboriginal Art

WASHINGTON, D. C., July 14.—The first section of the jade fence which is to be a feature of the Aztec Garden of the Pan American grounds here was set this week by President Pessoa of Brazil. The work has been under the personal supervision of Albert Kelsey of Philadelphia, architect of the Pan American Building.

The jade fence will consist of fifty-four panels the motifs representative of art and architecture, sculpture and religion of the Aztec, Mayan, Zapotecan and other pre-historic peoples. These motifs were taken from temples, palaces and sacred shrines of Central and South America by Mr. Kelsey and other explorers.

When completed the fence will have two striking terminal features and a dozen archaic flower jars all in tints of jade, corresponding with the panels in the fence. One of these panels will be a reproduction of the Long-Nosed God of Yucatan and another the Feathered Jaguar. This fence will constitute a Museum of American Aboriginal art.

Cass Gilbert's Plans for Chamber of Commerce Building Submitted

WASHINGTON, D. C., July 14.—Cass Gilbert has submitted plans for the new building proposed by the Chamber of Commerce of the United States. The structure will be erected at Connecticut Avenue and H Street, on the site of the historic residence of W. W. Corcoran, one of the founders of the Corcoran Art Gallery.

The commerce building will be five stories and will be designed with a view to enlargement. The style of architecture will be in harmony with plans of the Commission of Fine Arts for the determination of the character of the various buildings in Washington. The building is intended to commemorate the part of American business in the world war.

Aid Contractors Whose Bids Were Accepted Before War

WASHINGTON, D. C., July 14.—The Government will hold out a helping hand to many contractors on the verge of bankruptcy when Congress takes action on the recommendation of Representative Langley of Kentucky, chairman of the House Committee of Public Buildings and Grounds. Mr. Langley has presented a report, urging the Government to indemnify contractors for post offices and other buildings, whose contracts were awarded or bids submitted before the declaration of war, and whose contracts have been or will be completed after that date.

The provisions of the bill call for reimbursement of contractors, sub-contractors and material men, for increased cost due to increased cost of labor or materials; to delay on account of action of the United States priority board or other governmental activities and to commandeering by the Government of plants or material shown to have been caused by war conditions alone.

The buildings included in the bill are under the supervision of the Supervising Architect's office of the Treasury. The Lincoln Memorial and District of Columbia Court-house here are the exceptions, for whom provision is made.

New York City Needs 36,069 Homes for Increased Population

The New York State Reconstruction Commission has announced that 36,069 new homes, either apartments or houses, will be needed to take care of the increased population in New York before the end of the year. The commission has arrived at this figure after extensive examination of all of the available housing facilities in New York City. It says that all of these homes should be in the process of construction at the present time.

The figures were compiled to show just how far New York City is lagging in its building program. The conclusion reached is that the real present need is 14,552 apartments, and the commission says: "This is as close as we can come to a scientific statement at the present time."

The calculation is based upon the average number of buildings and apartments erected in the years previous to the war, combined with a consideration of the shift in population and the number of vacant apartments which have been filled in that time. From this is subtracted the number of apartments which will probably be ready for occupancy in the fall.

From 1914 until 1916, 1,271 buildings were put up each year. This gave an average of 21,517 apartments each year. If this rate had continued there would have been erected in 1917 and 1918, 2,542 buildings containing 43,034 apartments. In 1917 and 1918 only 890 buildings were erected containing 16,947 apartments. This means that if the population continued at a normal rate the shortage would be 26,087 apartments.

Many vacancies existed at the beginning of this period and in the meantime some of them have been filled, thus decreasing the above figure by that number. In 1917 35,635 apartments were vacant, and in March, 1919, only 21,482. Nearly 10,000 of those vacancies which were filled were in the old law tenement houses, almost all really unfit for habitation.

These 14,153 vacancies which were filled reduced the 26,087 normal shortage to 11,934, but do not supply the final figure, because a certain number of buildings were destroyed.

In March, 1917, there were 972,810 apartments in the city, and between March, 1917, and March, 1919, 16,947 apartments were built but instead of the total of 989,757, which should have resulted, in reality there were only 982,926. In some way 6,831 apartments had been destroyed. Adding this to 11,934, the total real need at the beginning of 1919 becomes 18,765. As to population, it has been estimated that whatever loss the city may have suffered from a lack of immigration was offset by the influx of war workers, so no correction has been made in this amount.

Thus far in the year 1919 plans have been filed for 278 buildings containing 4,675 apartments. If all these buildings are completed in the very near future the 4,675 new apartments may be subtracted from the total shortage of 18,765, which will give a real present need of 14,090 apartments.

In Manhattan plans for twenty-one apartment houses have been filed with 681 apartments, averaging five rooms to an apartment. In the Bronx plans have been filed for fifty-six apartment houses, with 1,854 apartments, averaging just short of four rooms to an apartment. In Brooklyn plans have been filed for 163 buildings, with 1,630 apartments, averaging a little more than four rooms. Plans have been filed for thirty-eight houses in Queens, averaging eleven three-room apartments.

Financial and Commercial Digest

As Affecting the Practice of Architecture

Diversion of Capital as Factor in Building Activity Shown in Bank Official's Report

WITH normal construction totaling nearly a billion and three-quarters dollars held up by the war, and with a steady increase meanwhile in population, the United States is more than a year behind in its building requirements in respect to residences, public works and railroads, says the National Bank of Commerce in New York in reviewing the building and construction outlook. The situation is described by the bank as a complication brought about by an unprecedented shortage of houses, high building costs and the diversion of capital from residential building purposes. The bank says:

"With regard to residential construction a difficult financial situation exists as a result of high costs of the materials and labor, coupled with the diversion into other channels of capital which would ordinarily go into this class of building operations. There is little prospect of a decline of building costs, but the building shortage must be met. Although expansion is in evidence, the full solution seems to require that prospective builders themselves carry a larger share of the building costs than has been customary in the past.

"During the greater part of the period of our participation in the war, definite restrictions limited building and construction for ordinary purposes. Issues of securities for road building, development and irrigation projects, were given favorable consideration only if of military importance."

The dominant factor in relation to building shortage is the growth in population which, although checked in this country by the falling off of immigration, war losses and influenza, nevertheless probably increased from 800,000 to 1,000,000 during 1918. We now are in need of sufficient buildings, the bank says, to take care of that portion of the population increase of 1917 not provided for in the building program of 1918, and, in addition, we must take care of the increase in 1918. The war, as a stimulus to industrial construction, produced overbuilding in some directions, but this excess, now that the need for it is passed, cannot in all cases be adapted to ordinary requirements.

Optimistic conclusions, however, as to the building outlook for the present year seem justified, the bank states, adding:

"The figures for contracts awarded for the first five months of this year, together with building permits for May, indicate that a genuine building expansion has arrived. The future of the building program for this year rests ultimately with the question of building costs, as the possibility of financing projects is determined by cost. The wholesale prices of lumber, structural steel and other building materials are now between 60 and 70 per cent higher than the average for the year 1913. Wages in the building trades are high, but there is no reason to anticipate a reduction as long as the present cost of living prevails. The prices of building materials did not advance nearly as fast during the war as most other commodity groups. The reason for this relatively slow increase is obvious, namely, the sharp curtailment of building for ordinary purposes."

There is a scarcity of funds for real estate mortgages for residences and apartment house construction, the bank says, and continues:

"Insurance companies, ordinarily heavy investors in this field, have bought large amounts of Liberty bonds. Individual investors of substantial means have been disposed to get out of the mortgage market. They have either taken advantage of tax free obligations or have preferred to invest in high grade stocks and bonds which can be bought to yield well and have an active market. Savings banks have funds available for building, but they are disposed to be conservative and are unwilling to accept, as a rule, a valuation as much over the 1913 level as increased building costs would seem to require. They also operate under a legal limit as to the amount which they can place upon first mortgages. Building and loan associations have been called upon heavily for funds, but have not been able to meet the demand upon them, and various projects have been under discussion to assist them.

"Nevertheless, the building shortage must be met, and the great prosperity which most individuals and firms have enjoyed during the war should point the way to the main factor in the solution of the problem of finance. Prospective builders should not depend upon the mortgage money market to the extent to which they had been accustomed prior to the war, but should be prepared to invest a greater proportion of their own capital than heretofore, whether they be planning home building or factory construction."

It is not possible to secure any accurate measure of the building shortage which has thus resulted. An estimate by the U. S. Department of Labor, under date of March 16, 1919, was to the effect that the value of projects held up, as a result of the war, totaled \$1,709,000,000, of which amount \$459,000,000 were so-called private projects—that is, apartment houses, residences, hotels, business buildings, factories, places of amusement, churches, social halls and railroad work. Of the total \$1,250,000,000 was stated to consist of public projects, namely, street paving, road construction, water works, sewers, public buildings and water front work.

Figures for building permits, compiled from Bradstreet's reports, for twenty leading cities of the country from 1910 to 1918, also suggest in a general way the extent of the shortage. The average total value of the permits issued by these cities for the five years, from 1910 to 1914, inclusive, was \$518,600,000. The totals of permits issued for each year from 1915 to 1918 were:

Year	Value (000 omitted)
1915	\$505,200
1916	619,300
1917	399,300
1918	230,800

It will thus be seen that the totals of permits for both 1917 and 1918 were far below the pre-war average.

The dominant factor in relation to building shortage is increase in population. Residence building requirements are directly determined by this, and other types of building construction requirements are indirectly so determined. The estimated annual increase in population, in the United States, prior to the war, was 1,600,000. This rate of increase has been considerably checked by declines in the addition to our population by immigration and an unusual death rate due to war losses and to influenza. Nevertheless, population at the close of 1918 was from 800,000 to 1,000,000 over that for 1917.

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In order to get the situation clearly in mind, it is necessary at this point to consider the different classes of construction separately. The belief is general, and decreased permits during 1917 and 1918 confirm the belief, that there is a serious shortage in residences, including apartment houses, and in related types of construction such as clubs, hotels, garages, etc. Annual requirements for buildings of these types are determined primarily by the increase in population. In other words, we now are in need of sufficient building to take care of that portion of the normal population increase of 1917 which was not provided for in the building program of 1918, and in addition, we have to take care of the increase in 1918. Estimates made to the effect that we are now more than a year behind our requirements for building of this class seem to be reasonable.

The extent to which construction for public works was curtailed in 1918 is likewise indicated by the shrinkage in the amount of new issues of long term municipal bonds. The following table, from the *Commercial and Financial Chronicle*, shows the amounts of such issues for each year from 1910 to date:

Year	Amount (000 omitted)
1910	\$320,036
1911	396,860
1912	386,552
1913	403,247
1914	474,074
1915	498,558
1916	457,141
1917	451,279
1918	287,564

The total for these issues would indicate that during 1918 municipal construction, on a valuation basis, was probably not much over three-fifths of normal.

Somewhat different results are shown by F. W. Dodge Company's figures for contracts awarded for building and engineering operations, in the territory north of the Ohio and east of the Missouri. The average annual amount of such contracts for the five years from 1910 to 1914 was \$805,840,000. Contracts awarded for each year from 1915 to 1918 are shown below:

Year	Value (000 omitted)
1915	\$940,089
1916	1,356,989
1917	1,618,157
1918	1,689,242

Although expansion in requirements for office buildings, stores and similar purposes does not exactly correspond to increase in population, it follows it in a general way, and construction of buildings of these classes has also been much curtailed. As to public buildings and public works the shortage is no less than that existing in housing and related types of buildings.

On the other hand, the war served as a stimulus to industrial construction. In some directions there was unquestionably overbuilding, as all plans were of necessity drawn on the hypothesis of a long war. This does not mean, however, that there is no present need for industrial construction. Many types of industries non-essential from the standpoint of the war but vitally essential from the standpoint of civilian demand, not only were unable to build for normal expansion, but had their production greatly curtailed. Now the accumulated civilian demands for their products must be satisfied. It will be found possible in many cases to utilize buildings erected for war purposes. Some of them, however, are badly located for ordinary requirements, or are not adapted to peace-time production so that a certain amount of industrial construction will be necessary. To the requirements for residences, public works and industries must be added the shortage in railway construction, including much needed new terminals, bridges, etc., and the construction normally required for maintenance.

During the first two months following the armistice but little evidence of building expansion was to be seen. The adaptation of the industries of the country to war, and the mental attitude of the public was such that some time had to elapse before construction could begin. It was also a season of the year when construction is at a low ebb.

Beginning with the new year, however, an improvement was soon in evidence. Bradstreet's figures for permits issued in a group of more than 160 cities rose from \$22,863,000 in January to \$85,444,000 for April, while in May for the 153 cities which have reported to date the total was \$103,227,000.

Comparable data for years prior to 1918 are not available for the full list, but an accurate comparison is possible for the returns from twenty leading cities. The total value of permits issued for this group of cities for the five months from Jan. 1 to May 31, 1919, was about \$180,000,000. This is better than for the same period for 1918, but is still below the average for the five years from 1910 to 1914, which was \$223,000,000, and is also below the total for the same period for each of the three years 1915 to 1917.

Contracts awarded for building and engineering operations for the territory north of the Ohio and east of the Missouri for the first five months of the year, however, are more favorable than the building permits. They totaled \$690,726,000. The average for this period for the five years from 1910 to 1914 was \$342,389,000. The total for 1919 is greater, moreover, than for the same period for any war year, as the following table indicates:

Year	Value (000 omitted)
Jan. 1 to May 21	
1915	\$321,241
1916	456,102
1917	624,861
1918	603,516
1919	690,726

Optimistic conclusions as to the building outlook for the present year seem justified by these figures and by the fact that expansion has been continuous and rapid from the beginning of the year to the present time. It is true that there has occurred a heavy increase in building costs since 1913, and values, therefore, do not indicate the same bulk of actual building as in the years preceding the great increase in prices. The extent of this increase in costs is difficult to determine, but allowing for the increase, the figures for contracts awarded for the first five months of this year, together with building permits for May, indicate that a genuine building expansion has arrived.

The future of the building program for this year rests ultimately with the question of building costs, as the possibility of financing projects is determined by cost. The wholesale prices of lumber, structural steel and other building materials are now between 60 and 70 per cent higher than the average for the year 1913.

Wages in the building trades are high, but there is no reason to anticipate a reduction as long as the present cost of living prevails.

The prices of building materials did not advance nearly as fast during the war as most other commodity groups. The reason for this relatively slow increase is obvious, namely, the sharp curtailment of building for ordinary purposes. The increases in wholesale prices for March, 1919, over the average for the year 1913, according to the U. S. Bureau of Labor Statistics, for commodity groups were as follows:

Commodity Group	Per cent of increase in wholesale prices, March, 1919, compared with average for 1913
All commodities	100
Lumber and building materials	63
Metals and metal products	61
Chemicals and drugs	71

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Fuel and lighting.....	79
Food, etc.	100
Cloths and clothing.....	114
Housefurnishing goods	133
Farm products	125
Miscellaneous	118

Production of many kinds of building materials was restricted during the war. Production of common lime in 1918 was 20 per cent less than in 1917. Production of Portland cement was 23 per cent less and was the lowest total for any year since 1909. Exact figures are not available as to brick production for 1918. It is known, however, that production for 1917 was 21 per cent under that for 1916, and it is believed that production for 1918 was much below that for 1917. Lumber production for 1918 was 19 per cent below the production for 1917. As a result, stocks are low, while difficulty in securing an adequate labor supply for these industries, and for steel production, makes a serious shortage in building materials seem probable, if construction continues to expand on the scale now indicated.

Turning, then, to prospects for the near future, it is hard to see how the cost of building can decline in view of these conditions: (1) That there is a building shortage, and consequently a demand for material and labor; (2) that there is no reason to anticipate a decline in the labor cost of building; (3) that prices of building materials similarly did not advance in proportion to prices of other materials; (4) that in the face of a need of new structures, stocks of most building materials are low and the labor supply to produce them insufficient. Even if a decline should occur in the prices of many commodities, it seems fair to assume that the cost of building will not be greatly reduced.

The problem of financing building projects differs widely with the nature of the project. There is no difficulty in financing construction for public works. Municipal bonds are attractive because of tax exemption features and are now enjoying an excellent market.

Certain types of industrial construction will be required, but the total is not likely to reach large figures in the immediate future, and money will be available for this.

The railroads are a separate problem. Their construction program depends absolutely upon their financial situation, but that is complicated with many issues. The ultimate solution will depend upon realization by the public that the development of the country demands an intelligent treatment of the financial and administrative problems which affect them.

There is a scarcity of funds for real estate mortgages for residence and apartment house construction. Insurance companies, ordinarily heavy investors in this field, have bought large amounts of Liberty bonds. Individual investors of substantial means have been disposed to get out of the mortgage market. They have either taken advantage of tax free obligations or have preferred to invest in high grade stocks and bonds which can be bought to yield well and have an active market. Savings banks have funds available for building, but they are disposed to be conservative and are unwilling to accept, as a rule, a valuation as much over the 1913 level as increased building costs would seem to require. They also operate under a legal limit as to the amount which they can place upon first mortgages. Building and loan associations have been called upon heavily for funds, but have not been able to meet the demand upon them and various projects have been under discussion for considerable time to assist them.

Nevertheless, the building shortage must be met, and the great prosperity which most individuals and firms have enjoyed during the war should point the way to the main factor in the solution of the problem of finance. Prospective builders should not depend upon the mortgage money market to the extent to which they had been accustomed prior to the war, but should be prepared to invest a greater proportion of their own capital than heretofore, whether they be planning home building or factory construction.

Britain's Public Employment Service

Great Britain's public employment service, established 10 years ago, is standing her in good stead now in her industrial readjustment, according to R. C. Davison, of the British Ministry of Labor. Mr. Davison has been in this country for the past month studying the organization and operation of the United States Employment Service, developed during the war.

"The British Government's labor exchanges have had entire charge of the labor feature of our industrial resettlement," Mr. Davison said. "Since the war began in 1914, we have increased our national employment service by 60 or 70 main offices. When the armistice was signed and our employment service was charged with the carrying out of the industrial demobilization and the replacement of soldiers, our service was increased in facilities and personnel about 300 per cent. We now have about 400 main offices and 1200 branch offices throughout the United Kingdom, with a personnel of about 20,000. Before the war we were placing nearly 1,000,000 persons a year; since then the placements have greatly increased.

"The value of its national employment service has been amply demonstrated to England during the past decade of its existence and whatever criticisms are made, of it one does not hear it charged that the service is unnecessary. It has shown its practical value in the following chief ways:

"1. It has kept the fingers of the Government on the

pulse of industry and employment as could be done in no other way.

"2. It has been able to effect an economy in time and labor; the time saved in the passage of workers from one job to another amounting to thousands of days each year.

"3. It has improved the distribution of labor and reduced the wastage due to labor turnover by maintaining a free employment office in each district where employers can list their labor needs and workers can learn of opportunities of employment. This gives a broader area of selection or choice to both employer and worker.

"4. The law in England prohibits the private fee-charging labor agency except as regards domestic servants, and any worker, man or woman, unskilled, skilled and professional, has the opportunity of obtaining assistance to employment from the Government without any cost to him or her or to the employer."

England can learn something from the United States Employment Service, Mr. Davison said, particularly in the physical "layout" of its employment offices and in the provision of adequate quarters where applicants "are treated with consideration." The American system of interviewing applicants for employment by examiners at separate desks is especially good, he said.

"When one considers the fact that your national employment system had to be installed suddenly and throughout the country at the same time and function while it was building," Mr. Davison said, "America has done a remarkably good job." The size of this country makes the operation of a national employment service more difficult than in England, he added.

Poor Housing Found to be Main Factor in Labor Turnover

KEEN interest is being manifested by large employers of labor, as well as by architects and builders, in investigations being conducted on conditions under which workmen are living, which have already conclusively shown that unsatisfactory housing is the big factor in the present abnormal labor turnover. Municipalities have also been quick to realize that rapid migration from plant to plant and from city to city represents not merely a serious economic loss but an obstacle to good citizenship and community welfare.

But it has been due to the enterprise of many large corporations that action is now being taken to remedy conditions, for it was leading business men who were first to see that one of the greatest losses sustained by them resulted from the shift of their labor force.

To show that the moving of men is a source of great money loss, a survey has been made in a southern city, where one particular block was selected as typical of the conditions under which workmen were living. This square was canvassed on Monday and then recanvassed on Friday of the same week. The first canvass revealed a total of one hundred men rooming in the houses of the block. On Friday of the same week it was found that one hundred and fifteen men were sleeping in the same rooms, but that only thirty of the original hundred were still being accommodated in the block.

Investigation revealed that the majority of the original number had left the city. The men were working under good factory conditions and excellent pay. The conclusion showed that it was the poor housing conditions that caused the large turnover. The results of this survey have been duplicated in cities in many other sections of the country. Some localities, quick to realize the seriousness of the situation, have taken steps through newly formed organizations, and are acting to prevent further shifting of their labor forces. But there are many municipalities who have let their labor depart without stopping to ask the reason why or seeking to prevent their leaving. More attention should be paid toward providing comfortable and sanitary homes for the workingman by cities throughout the country. If this is not done there will most surely be a further exodus.

Sufficient homes for the population around industrial plants is what is needed. From a study of nearly nine hundred replies to a questionnaire circulated by a leading construction company the general impression is gained that the causes of labor turnover to-day are improper or insufficient housing, inadequate transportation, general restlessness and a lack of care in placing men in positions for which they are best fitted.

One point that an investigation of housing conditions has brought out is that the type of house in which the workingman is generally lodged is not suited to his needs and is often beyond his earning power to support. Three and four-room apartments and four and five-room houses are a type meeting with considerable success. A certain minimum requirement must be met, which should include a good-sized living room for general use, sleeping rooms of sufficient size and number to meet health demands and adequate facilities of sanitation.

The majority of workmen will naturally go where

they will be comfortably housed. They may be lured temporarily by attractive wages to over-populated cities, but they will not stay there. Particularly is this true if the workman has family ties. Then the chances are that even though he may not care where he lives himself, effort will be brought to bear from other sources and he will move until his family is happy and contented with their surroundings and they are in a suitable environment. During the past few months many families have been driven away from the larger cities, because the lack of adequate housing facilities was first felt in centers where the manufacturing of war necessities flourished. They have been obliged to seek employment in smaller communities where the chances of being properly housed were better.

With building at present only about 30 per cent under way in New York City and about 50 per cent throughout the country, the situation is yet far from solved, and it is believed that the maximum for the present building season has been reached. The volume scheduled to proceed next spring is assuming greater proportions, but the question of building material supplies appears to be increasingly urgent, as more manufacturers are refusing to take heavy orders for future delivery.

But of what residential building being done now, particularly in cities of the second and third class, there has been a sharp turn to apartments. In many cities houses have lost first place in residents' choice for the first time in fifteen years. A notable example is Minneapolis, which city, with its big increase in construction, is moving into apartments. There 646 families preferred apartments to dwellings in the first five months of 1919 against 513 families who sought and built dwelling houses.

Keeping pace with the increased volume of building construction, material prices continue the upward movement. Lumber is the strongest on the list. Oak flooring, 13/16 quartered white, advanced this week from \$167 to \$200, retail, delivered on the job in New York City. Advances from \$2.50 to \$10 per thousand, retail, were scored by yellow pine, Douglas fir, maple flooring, red gum, sap gum, chestnut and spruce. Wood lath was also advanced by New York dealers from \$6.50 to \$7 a thousand, delivered, which reflects the scarcity of the Canadian spruce supply and the lack of common carriers. Steel has advanced in price more proportionately than any other of the commodities. Producers claim that any reductions below present levels will force many mills to suspend operations. Wages have been advanced to more than double pre-war scales and labor is becoming scarce. Fuel and limestone for fluxing are at least double former costs. Both sand and gravel have doubled since 1913, being dependent on common labor and the cost of transportation.

Dealers expect prices to remain at present levels or increase slightly. There may be a small drop in the price of some construction materials, such as hardware and tools, but increased wages for workers and advances in other materials will more than offset this decrease, tending to make prices seek a higher rather than a lower level.

(Continued on page 98-A)

Department of Architectural Engineering



INTERIOR SAM SHUBERT THEATER, PHILADELPHIA, PA.

HERBERT A. KRAPP, ARCHITECT

Note entire absence of obstructing columns.

Engineering Features of the Modern Theater—Part I

THOSE who decry the architecture of today and would lead us back to the Middle Ages should make a careful analysis of present day construction and the developments which have been made since those mediaeval days, especially during this era of steel and reinforced concrete construction. Every year buildings are being made more adaptable to the uses to which they are devoted and this is especially true with respect to the construction of theater buildings. Many of the theaters still in use, and constructed but a few years ago, contain objectionable features which

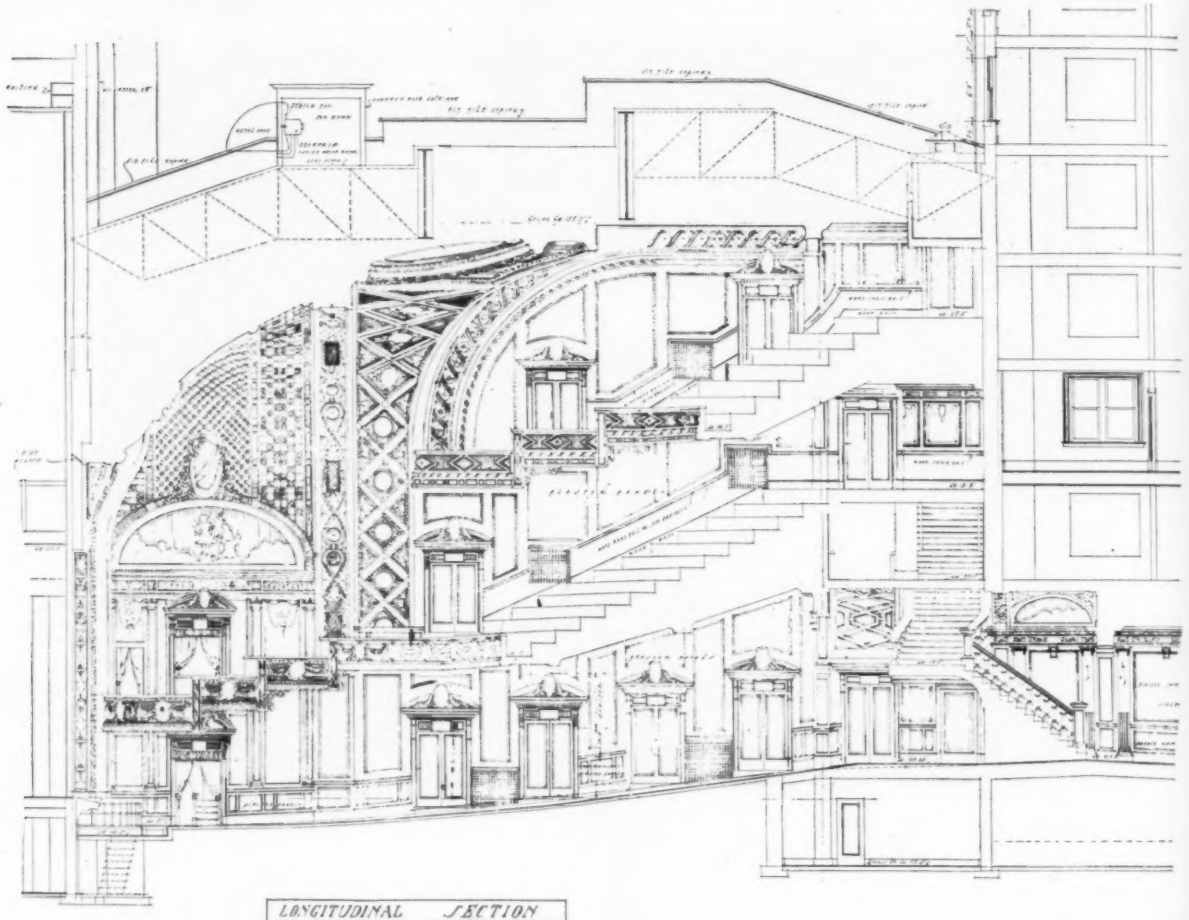
would not be tolerated today. The almost entire elimination of columns marks a distinctive advance in this rather specialized type of construction. Since Burbank has developed the spineless cactus, and the seedless orange has now become commonplace, may we not look for like developments in the field of architectural engineering, and witness in the near future the "columnless theater"?

In order to meet present economic conditions, seating accommodations should be provided in new theaters for at least 2,000 persons. Formerly theaters were almost universally constructed with bal-

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conies and often galleries as well, but the introduction of the "movie" started a trend toward smaller theaters, often accommodating but from 300 to 1,000 persons. In the great majority of cases these were constructed without either balcony or gallery. Today, however, due to the greatly increased cost of producing good film pictures, the little fellow

In such structures there is at present in use a certain type of design which has been developed by engineers who have made a careful study of theater buildings. The structural framework is arranged so as to support the balconies without having columns located in any position which would obstruct a clear view of the stage (or screen) by the



SAM SHUBERT THEATER, PHILADELPHIA, PA.

HERBERT A. KRAPP, ARCHITECT

The half trusses, shown dotted, originally formed the cross trusses of Horticultural Hall, replaced by the present structure

cannot pay the price from his limited box office receipts and is therefore forced either to rebuild on a much larger scale or succumb to elimination. This means that practically every new theater designed, whether for motion pictures or legitimate productions, will of necessity be provided with either a large balcony, or with both balcony and gallery, to meet present economic conditions.

occupants. This is commonly termed "Cantilever K Construction," due to the fact that cantilever trusses or girders are used, and the structural members into which these frame, form in plan an approximation of the letter K.

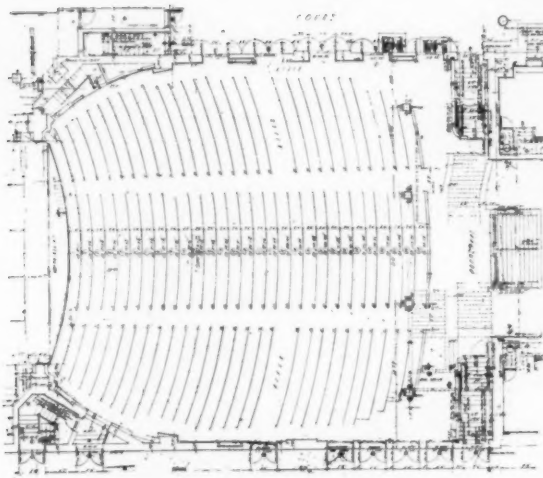
Only a few years ago two gentlemen, evidently not members of the profession, were standing on Broadway in front of a theater in course of con-

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SAM SHUBERT THEATER BUILDING, PHILADELPHIA, PA.
HERBERT A. KRAPP, ARCHITECT

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ORCHESTRA FLOOR PLAN

struction, and I chanced to hear the following bit of conversation pass between them.

"Do you notice how they are building this theater without any columns at all?" asked the first.

"Yes," replied his companion. "It's a great scheme, and I am told was invented by Mr. Shubert, who has had it patented so that no other theaters can be built that way."

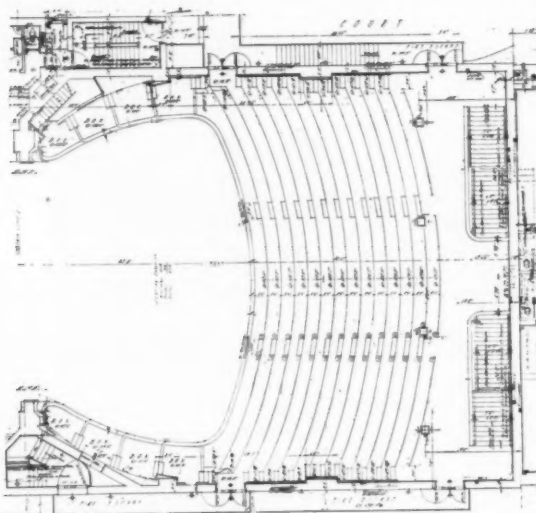
Fortunately, however, he was "all wrong," and we may employ this type of design, whenever desired, as no one has ever attempted to patent it so far as we know.

The accompanying illustrations showing modern theater construction are of the Sam Shubert Theater, Philadelphia, Pa., of which Herbert A. Krapp

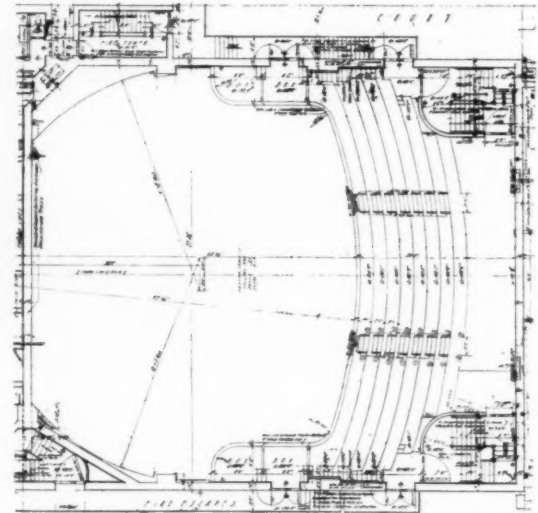
was architect, and The Geo. A. Just Co. engineers. This theater was constructed during the war period while the restrictions imposed by the War Industries Board were in full force and despite the many handicaps to which the building industry was subjected at that time, this building was constructed with fairly good speed. The site of the present theater building was originally occupied by Horticultural Hall, and in order to conserve material and reduce cost, one wall of that building was left standing and now forms the rear stage wall of the present building. Another interesting feature was the reusing of a number of the steel roof trusses of the old building. These were not suitable for use as cross trusses in the theater roof framing so they were cut in half and the half trusses framed longitudinally into two new cross roof trusses. This is clearly illustrated in the longitudinal section of the theater, in which the old half trusses are shown dotted; they are also marked on the roof framing plan and indicated by double lines. In this manner 15 half trusses were made use of, materially reducing the tonnage of new steel required for the roof framing. The balance of these old trusses were shipped to New York and used in a theater being constructed there. Thus the old adage "necessity is the mother of invention" has again proved itself true in this case.

Let us now examine the structural features of the building as presented by the plans shown. The orchestra provides seating accommodations for 1006 persons, the floor resting directly on the ground, so that no framing was necessary there.

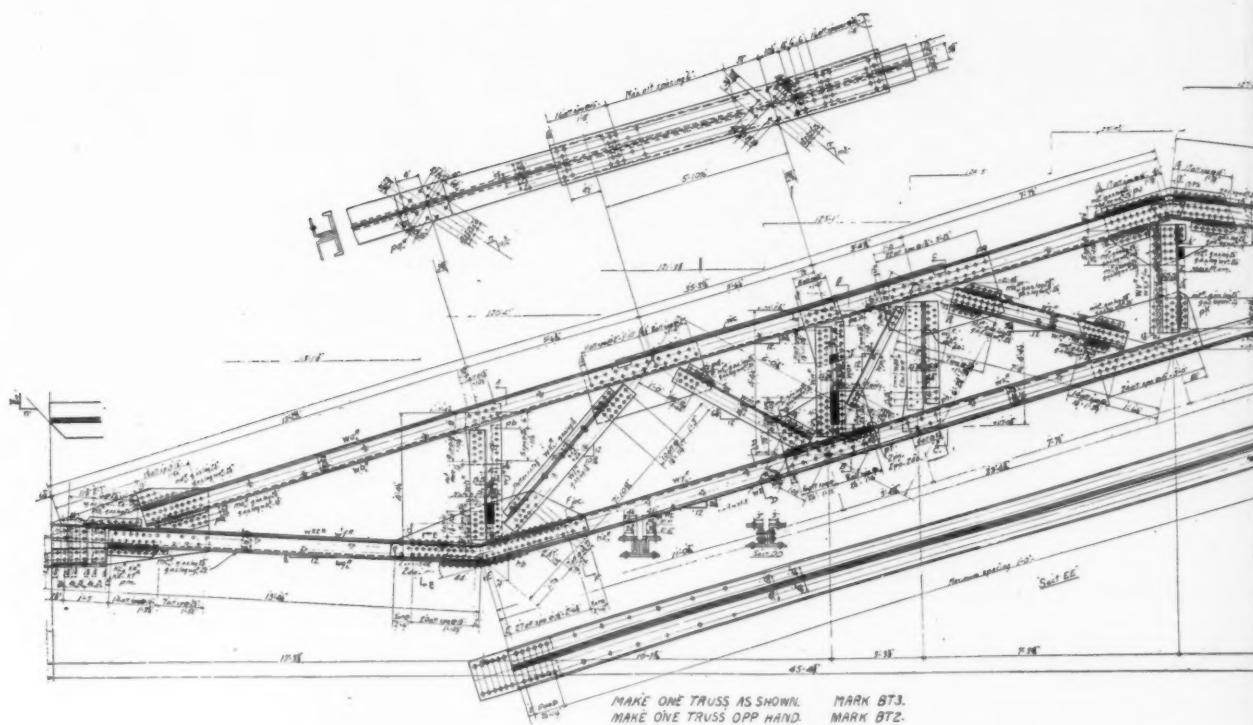
The balcony provides seating accommodations for



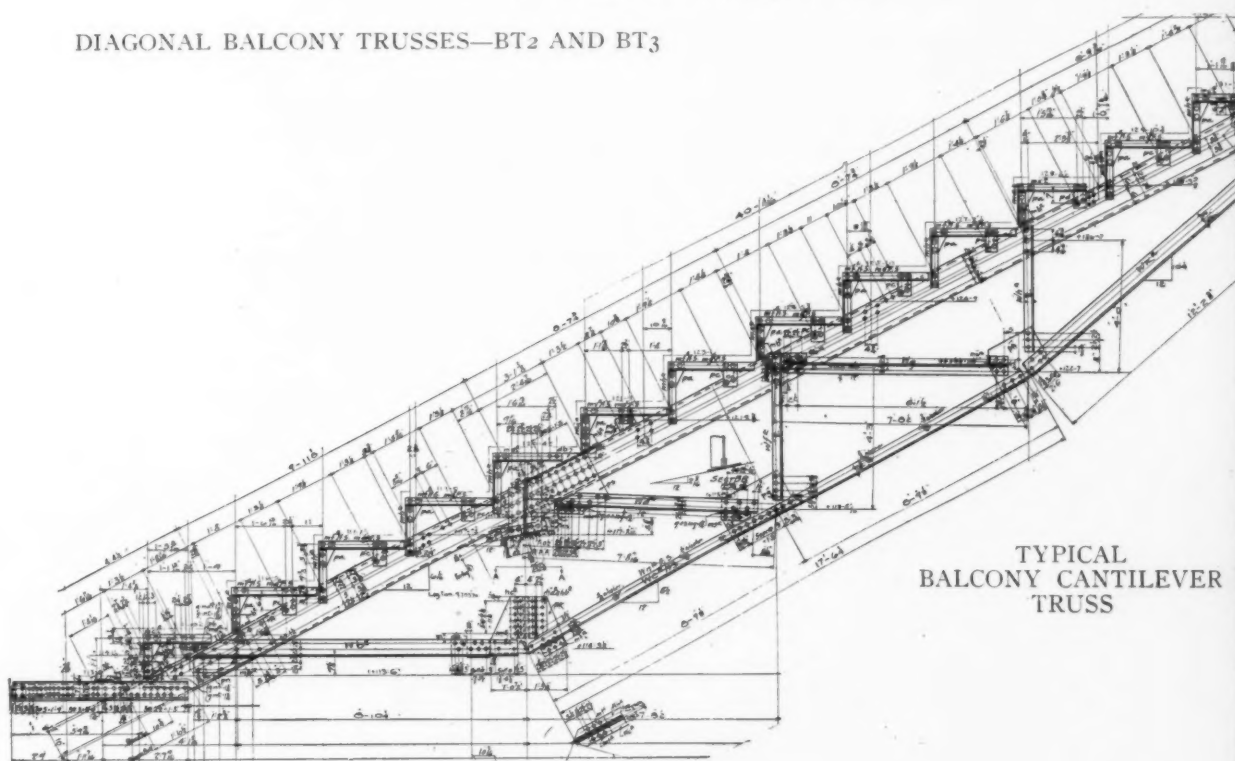
BALCONY FLOOR PLAN



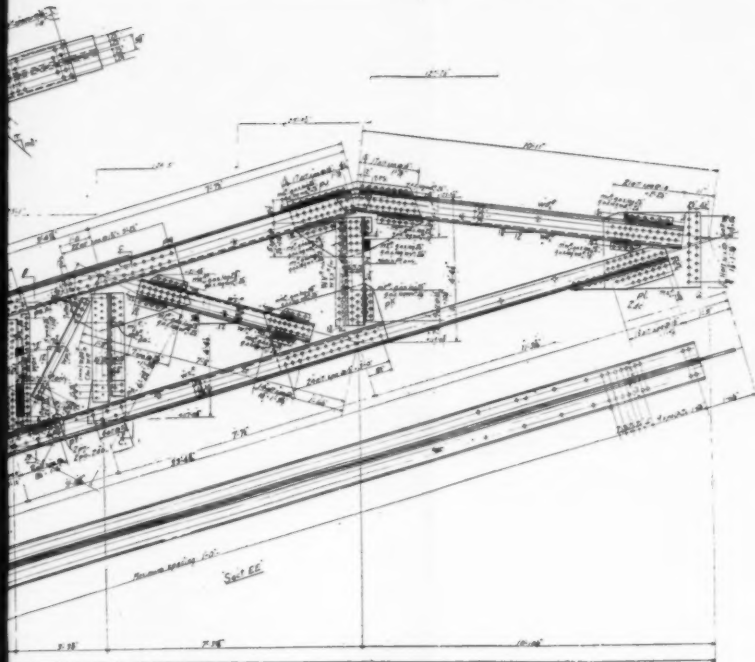
GALLERY FLOOR PLAN



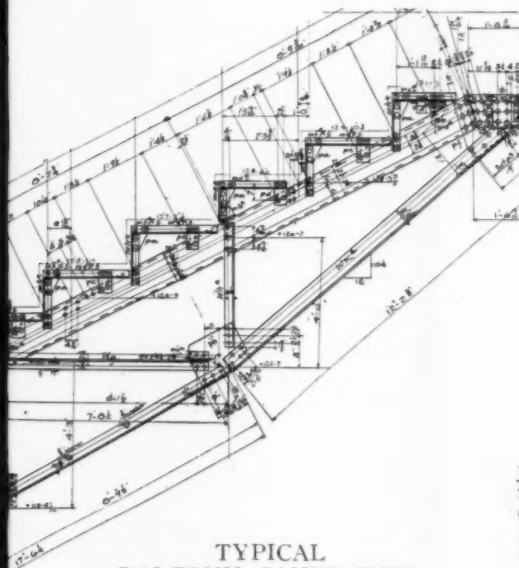
DIAGONAL BALCONY TRUSSES—BT₂ AND BT₃



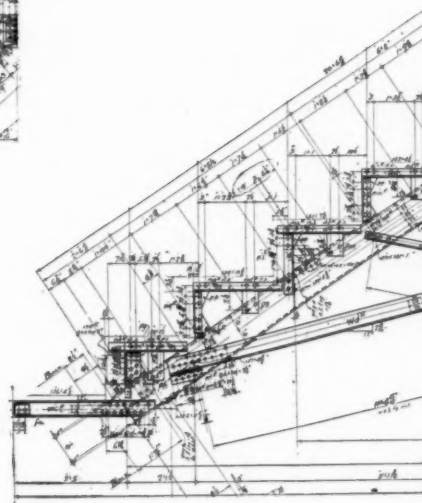
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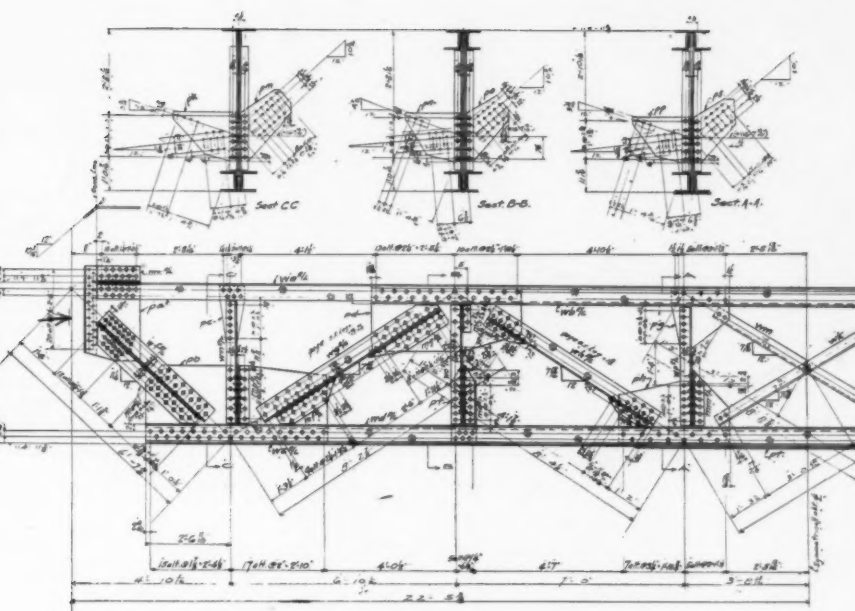
MARK BT3.
MARK BT2.



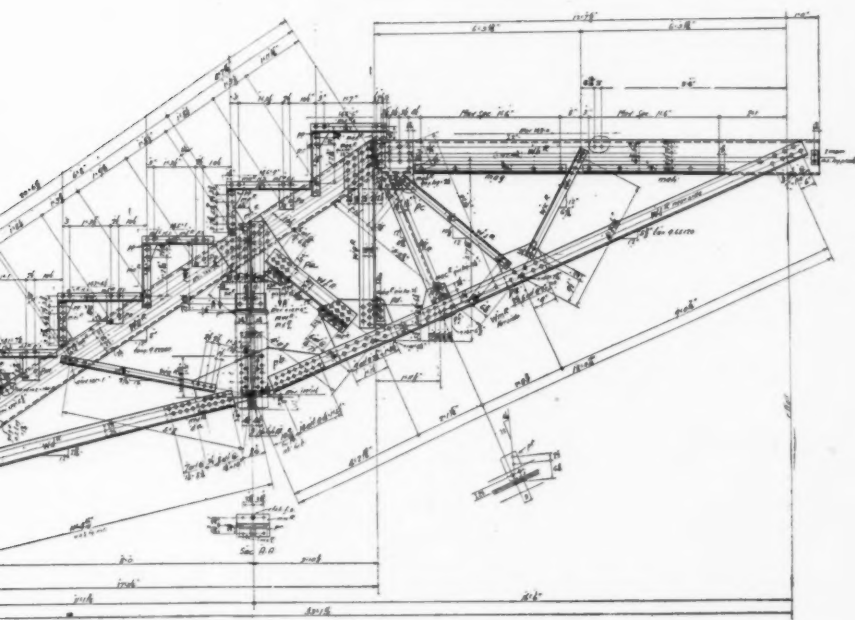
TYPICAL
BALCONY CANTILEVER
TRUSS



TYPICAL



BALCONY CROSS TRUSS—BT1



TYPICAL GALLERY CANTILEVER TRUSS

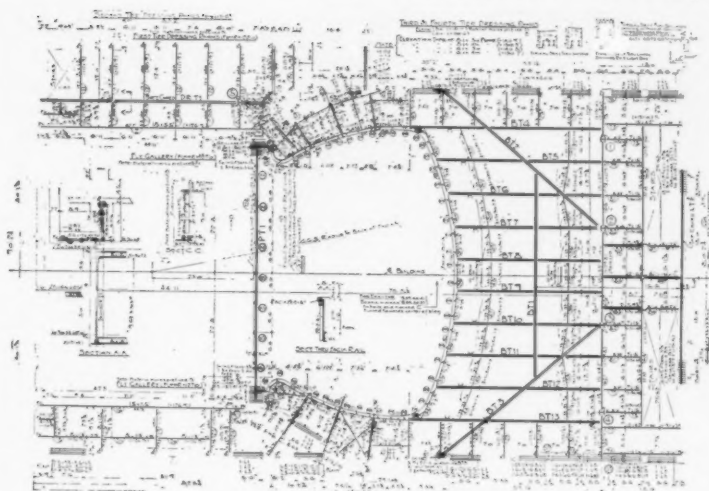
DETAILS OF BALCONY AND GALLERY TRUSSES

SAM SHUBERT THEATER—PHILADELPHIA, PA.

Herbert A. Krapp, Architect

Geo. A. Just Co., Engineers

THE AMERICAN ARCHITECT



BALCONY, FLY GALLERY AND DRESSING ROOM FRAMING PLAN

606 persons, projects (at the center) 49 ft. from the rear wall and only one line of 4 columns are provided, the two end columns (Nos. 1 and 4) being located in the rear of the last row of seats, and the two center columns (Nos. 2 and 3) being located on a line with next to the last row of seats, so that the columns interfere practically not at all with a clear vision from all parts of the balcony. The beams framing between these columns are 15-in. I's, with 12-in. channels in the end spans, and these take the uplift of the cantilevers; they also form the vertical line of the modified K figure, made by the main structural members. Trusses BT2 and BT3 run diagonally from columns 2 and 3 to the side walls, resting on a grillage of I-beams at the lower or wall ends. The top chords of these trusses slope with the pitch of the balcony. Between the diagonal trusses, and parallel to the line of columns, there is framed a parallel chord lattice truss, 5 ft. deep, supporting six of the ten cantilever trusses. The other four cantilevers are supported by the two diagonal trusses. A typical balcony cantilever truss is shown. The fascia rail, composed of a web plate and flange angles and channel, connects to the ends of the ten cantilevers, and acts as a girder between the end of BT4 and BT13 and the proscenium wall, supporting the box framing.

The wall above the proscenium opening is supported on a steel truss (PT1) 56 ft. 10 in. long (53

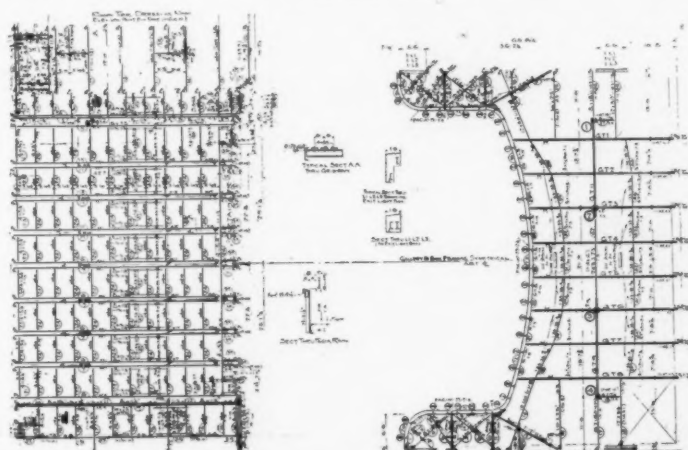
ft. c. to c. of bearings) having a depth of 11 ft., the web members being arranged with sub-panels in a manner resembling an inverted Baltimore truss.

The gallery provides seating accommodations for 310 persons, projects 30 ft. from the rear wall, and is framed differently from the balcony. The four columns terminate below the gallery floor (so that there is no obstruction of the view) and support two trusses, GT9 and GT11, which extend 2 ft. beyond columns 2 and 3 toward the center. A 24-in. Bethlehem girder fills in the center span, and is connected at each end to these overhanging trusses. Anchored into the rear wall at the rear

ends, and supported by the two cross trusses and Bethlehem girder at the center, are framed eight cantilever trusses, to the front of which is connected the gallery fascia rail. One of these cantilevers, GT8, typical of the rest, is shown.

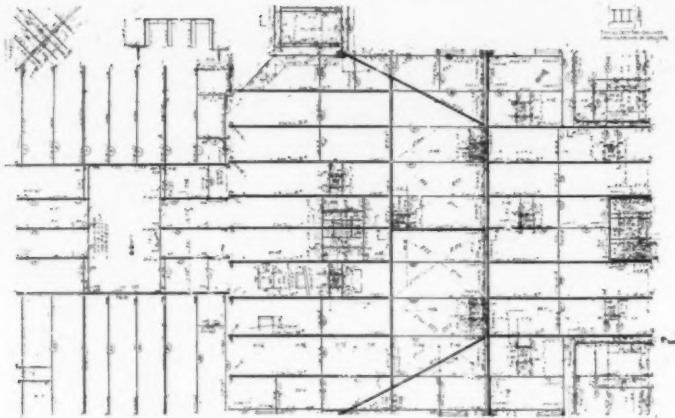
The dressing room, fly gallery and gridiron framing is also shown in the balcony and gallery framing plans.

The use of the old trusses in the roof framing has already been referred to. These, in connection with the two new cross trusses, one of which has a span of 77 ft., and the two diagonal trusses, RT3 and RT4 form the backbone of the roof framing over the auditorium. The stage roof is framed to provide for the usual type of large theater ventilating skylight having the automatic opening features customarily incidental thereto.



GALLERY, GRIDIRON AND DRESSING ROOM ROOF FRAMING PLAN

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ROOF FRAMING PLAN. NOTE THE 15 ONE-HALF OLD TRUSSES RE-USED

A photograph of the interior is shown on page 91, from which the lack of objectionable columns is clearly seen.

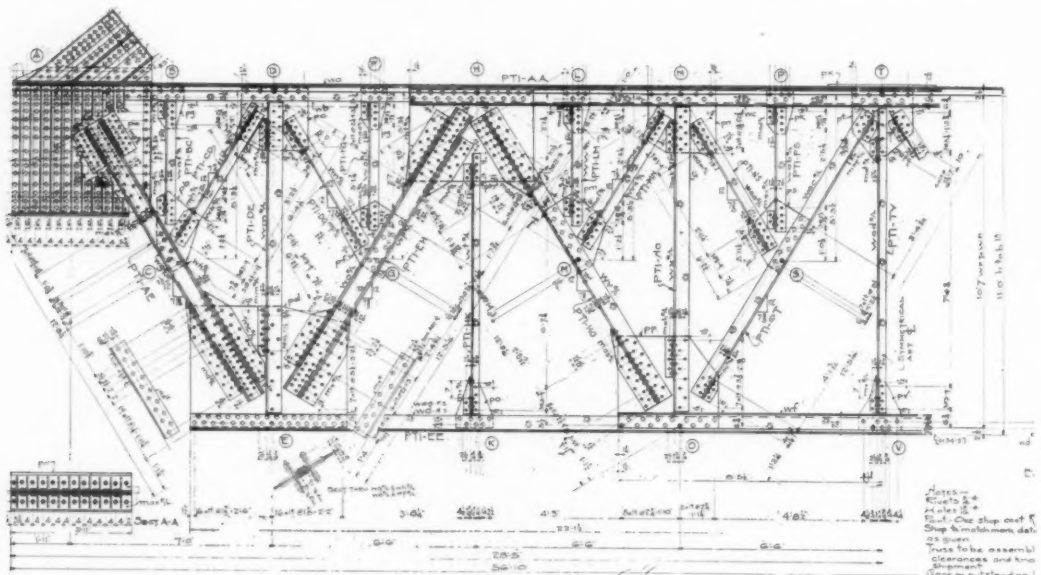
Because of the interdependence of one part upon another in this type of construction, extreme care is necessary in the design of such structures, and only to competent engineers should be entrusted the work of actual design. However, by becoming thoroughly familiar with the type of design adapt-

able to such work the architect can the more readily and intelligently lay out his plans.

While the building here described and illustrated has both balcony and gallery, the framing for the balcony would be very similar for a building having the gallery omitted. The columns, however, might terminate at the balcony level, and the balcony would probably be made larger, in which case the cross truss BT₁ would be located nearer the fascia so as to keep the overhang of the cantilevers from becoming too great. In some cases it would be better to have this truss extend from wall to wall,

and supported by steel columns at the ends. The diagonal trusses BT₂ and BT₃ would then frame into the cross truss, and should be arranged approximately parallel to the fascia so as to keep the overhang of all cantilever trusses nearly equal.

In this building steel framing was used throughout, and in Part II, a building in which reinforced concrete was used to some extent for the structural framework will be described and illustrated.



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Late Building Material Quotations

(Continued from page 90)

However, distinctly cheering is the announcement just issued by the Department of Labor that construction throughout the country showed a big increase in May. It is news of the utmost significance, proving, as it does, that architects and building investors are convinced that the time is opportune to proceed at a more rapid rate than ever with housing plans held up during the war. Unsettled conditions for months after the armistice was signed acted as a deterrent to those anxious to let contracts, so the department's announcement is all the more encouraging.

Most of the building now planned or in the process of erection are public works, factories, theaters, and similar large structures, so it is not difficult to forecast what the erection, in addition, of millions of homes will mean to the prosperity of the country. Millions of Americans now, for the first time in their lives, have banking accounts or their equivalent, and as the idea of owning one's home is gaining daily in popularity, it is by no means easy to hazard a guess as to the amount of money likely to be spent on new residences and apartments during the next two or three years. Business conditions generally are improving daily, following the actual signing of the articles of peace.

In fact, the rush of eleventh-hour orders for building materials on the last day of June indicated that confirmation of specifications for almost every kind of basic com-

modity was withheld with almost one accord until the war was officially declared ended. It made the month of June a record one. In the cement field alone June orders doubled those of May, while April was five times that of March, and March ten times that of February and thirty times that of January.

The only condition now that restricts a nation-wide building boom of unexampled proportions is the labor situation. Contractors are quoting prices on contingencies of further labor adjustments after the first of the year.

(From our Special Correspondent)

CHICAGO, ILL., July 14.—Financial leaders of the Middle West have entered into the plan to utilize the resources of this country in restoring the industries of Europe and in building up foreign trade through a \$1,000,000,000 corporation, and the clearing house committee of local banks has appointed six representatives to meet in New York with similar committees from other important cities.

New York banks are working out details of the plan and when various large cities of the country have appointed committees a general meeting will be held in that city to take further steps toward organization. In the markets of this city it is now recognized that if the United States is to be helpful to the impoverished countries of Europe and maintain its trade position, a means must be found to furnish long time credit to foreigners by means of which they may purchase food, machinery and raw materials.

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	29.00	40.00	
Smooth red	26.00	40.00	
Rough buff	32.00	40.00	
Smooth buff	32.00	40.00	
Rough gray	38.00	42.00	
Smooth gray	40.00	42.00	
Colonials	24.00	30.00	
BROKEN STONE			
(Delivered on job):			
1½ in. per cu. yd.....	\$2.75	\$2.25	
¾ in. per cu. yd.....	2.75	2.25	
BURNED CLAY			
(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.....	.54	.20	
13 x 13, per ft.....	.46	.28	
8½ x 18, per ft.....	.54	.32	
13½ x 18, per ft.....	.70	.42	
18 x 18, per ft.....	.90	.55	
Wall coping (double slant):			
8 in., per lin. ft.....	.16	.14	
12 in., per ft.....	.26	.18	
18 in., per ft.....	.54	.30	
Wall coping (single slant):			
8 in., per lin. ft.....	.16	.14	

12 in., per ft.....	New York	Chicago
18 in., per ft.....	.26½	.30
(Corners and angles four times the price of one foot of coping the same size.)	.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		

CEMENT		New York	Chicago
Per bbl. in 20 cent bags (Rebate 80c. per bbl. for bags)	\$3.45*	\$3.45*	

COPPER SHEETS		New York	Chicago
At the mill, hot rolled, 16 oz. base-price, per lb..	28½¢*	28½¢*	
(From jobber's warehouse add 2 to 3 cents.			
Cold rolled add 1c. per lb. to hot rolled.)			

CORNER BEAD		New York	Chicago
Per foot	.02	.05	

FIBRE		New York	Chicago
Per bushel	.36*	.30	

GALVANIZED SHEETS		New York	Chicago
Nos. 18 and 20 gauge, per lb.....	\$6.12	\$6.12	
No. 26	6.42	6.42	
No. 27	6.57	6.57	
Structural shapes		3.47c.	

GLASS		New York	Chicago
(Discounts from manufacturer's price lists)			
Single strength, A quality, first three brackets.....	77%	77%	
Single strength, B quality.....	77%	77%	
Double strength, A quality.....	79%	79%	
Double strength, B quality.....	81%	81%	
Plate—up to 5 sq. ft.....	82%	80%	
Plate—over 5 sq. ft.....	84%	80%	
Plate—up to 10 sq. ft.....	80%	80%	
Plate—over 10 sq. ft.....	80%	80%	

GRAVEL		New York	Chicago
1½ in. (Borough of Manhattan only), per cu. yd.....	\$2.75	\$2.35	
¾ in. (Borough of Manhattan only), per cu. yd.....	2.75	2.35	

(Continued on page 98-B)

NATIONAL PRODUCTS



FLEXSTEEL

Distinctive flat surface. Easy to fish, cut and strip. Ideal for wiring either old or new buildings. A complete line of improved fittings. Write for Bulletin 201



SHERARDIZED



ECONOMY

BLACK ENAMELED

SHERARDUCT

The Rigid Steel Conduit with both surfaces Sherardized and Enameled. ECONOMY Black Enameled Conduit. There's none better. Write for Bulletin 50



No 222



No 333

"National" METAL MOLDINGS

For two, three and four wire surface wiring. Lowest installation cost of any metal wiring system. Write for Bulletin 101



FLEXTUBE

Interwoven — Seamless — Non-Collapsible. Inseparable and Double Compounded. Easy to fish and every foot of every coil can be used. Write for Bulletin 151

"National Protection"



RUST PROOF—ACID PROOF

A SHERARDIZED surface absolutely protects against rust. By the sherardizing process, the zinc is not merely applied as an enamel to the surface, but is *alloyed with the steel* and becomes a part of it. And more than that, the interior surface is given the same superior zinc protective treatment as the exterior.

A clear acid and alkali proof enamel is then baked on the Sherarduct and affords the best protection to the underlying surfaces against the destructive action of gases and acids. This enamel coating is also applied to the interior surface.

Both surfaces of Sherarduct are sherardized and enameled. "National" Protection is Double Protection. Write for Descriptive Bulletin No. 50.

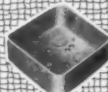
National Metal Molding Co

1111 Fulton Building, Pittsburgh, Pa.

Atlanta	Buffalo	Chicago	Denver	Havana	New York	Philadelphia	Salt Lake City	Seattle
Boston	Buenos Aires	Dallas	Detroit	Los Angeles	Paris	Portland	San Francisco	St. Louis

CANADIAN DISTRIBUTORS: CANADIAN GENERAL ELECTRIC CO., LIMITED

519



"National" Outlet Boxes and Covers

A box for every purpose and a purpose for every box. Furnished in Sherardized or Black Enameled Finish. Write for Bulletin 250



"National" BRACKETS

Complete with insulators. Sherardized Bases. Wires run straight through. No Tie-Wires necessary. Write for Bulletin 602



"National" FIXTURE STUDS

Sherardized Stamped Steel. Hollow Stems. Stronger, and yet lighter, than any other stud on the market. Write for Bulletin 400



"National" Locknuts and Bushings

Threads sharp, clean and true. "National" quality products. Exclusive self-cleaning feature in the bushings. Write for Bulletin 350

THE AMERICAN ARCHITECT

Late Building Material Prices

(Continued from page 98-A)

	New York	Chicago
Plaster Board: GYPSUM		
Delivered at job, Boroughs of Manhattan and Bronx.		
27 x 28 x 1/2.....	35c.	....
27 x 48 x 1/2.....	32c.	....
32 x 36 x 1/2.....	21c.	25c.
32 x 36 x 3/4.....	21c.	26c.
32 x 36 x 1.....	23 1/2c.	....
Plaster Block		
Delivered at job, Boroughs of Manhattan and Bronx.		
2 in. solid, per sq. ft.....	11c.*	....
3 in. solid, 12 x 30, per sq. ft.....	10 1/2c.	....
3 in. hollow.....	11c.*	10c.
4 in. hollow.....	12 1/2c.	....
6 in. hollow.....	17 1/2c.	....
LATH		
Eastern spruce, per thousand.....	\$7.00*	....
No. 1 white pine, per thousand.....	\$7.50*	....
No. 1 hemlock, per thousand.....	6.50*	....
No. 1 yellow pine, per thousand.....	7.00*	....
LEAD		
America pig, per lb.....	6 to 6 1/2	6 1/2 to 6 3/4
Bar, per lb.....	7 1/2 to 8 1/2	5 1/2 to 6 1/4
LIME		
Common, 300 lb. bbls., per bbl.....	\$2.50	\$1.40
Finishing, 300 lb. bbls., per bbl.....	3.70	....
Hydrated, in paper bags, per ton.....	18.50	18.25
Hydrated finishing, in colth bags, per ton (rebate 20c. per bag).....	22.60*	....
LUMBER		
(Retail prices per M. delivered.)		
Yellow pine, 2 x 4.....	\$67.50*	\$52.00
Yellow pine, 2 x 6.....	65.00	50.00
Yellow pine, 4 x 4.....	67.00*	55.00
Yellow pine, 8 x 8.....	67.50	60.00
Yellow pine, 12 x 12.....	75.00	60.00
Yellow pine, No. 1 boards, 1 x 6.....	75.00	58.00
Yellow pine, No. 1 boards, 1 x 12.....	80.00	61.00
Yellow pine, B and better flooring (plain).....	75.00*	72.00
Yellow pine, B and better flooring (quartered).....	100.00*	80.00
Douglas fir, 6 x 6 to 12 x 12.....	67.50	60.00
Douglas fir, 12 x 14 to 14 x 14.....	75.00	67.50*
Norway pine, 2 x 4.....	60.00	55.00
Norway pine, 2 x 12.....	62.00	58.00
Hemlock, 2 x 4.....	57.50*	52.00
Hemlock, 2 x 12.....	60.00*	54.00
Oak flooring, 13/16 quartered white.....	200.00	155.00*
Oak flooring, 13/16 quartered red.....	190.00	143.00
Oak flooring, 13/16 plain white.....	125.00	100.00
Oak flooring, 13/16 plain red.....	125.00*	100.00
Maple, 1" F. A. S.....	85.00*	80.00
Basswood, 1" F. A. S.....	85.00*	80.00
Maple flooring, 13/16 clear.....	92.50*	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.....	200.00*	180.00
Plain oak, 1" F. A. S.....	130.00*	110.00
Red gum, 1" F. A. S.....	93.50*	90.00
Sap gum, 1" F. A. S.....	67.00*	65.00
Chestnut, 1" F. A. S.....	90.00	100.00
Poplar, 1" F. A. S.....	135.00	115.00*
Birch, 1" F. A. S.....	85.00*	80.00
Spruce, random 2".....	60.00*	50.00
Spruce, wide 8".....	65.00	60.00
Spruce, 10".....	70.00*	65.00
Spruce, 12".....	73.00*	70.00*
METAL LATH		
Under 100 sq. yd., per sq. yd.....	40c.	35c.
MORTAR COLORS		
Red, per lb.....	.05	.05
Brown, per lb.....	.05	.05
Chocolate, per lb.....	.05	.05
Black, per lb.....	.05	.05
OILS		
Linseed, city, raw.....	\$2.15*	\$2.11
Linseed, boiled, advance, per gal.....	.01	.02
Out of town, American seed, at.....	2.15*	2.11
PAINTS		
Leads:		
American white, in oil, kegs; lots over 100 lbs.....	13c.	13c.
White, in oil, 25-lb. tin pails; add to keg price.....	14c.	14c.
Red, bbl., 1/2 bbl. and kegs; lots over 100 lbs.....	13c.	14c.
Dry Colors:		
Red Venetian, American, per 100 lbs.....	\$2.00 to \$4.50	\$4.10
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		
Cast Iron:		
6 in. and heavier.....	\$50.00	\$51.80
4 in.....	53.00	54.80
3 in.....	60.00	61.80
(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, 1/2 to 3 in.....	50 1/2 to 57 1/2 %	39.6 to 46.6 %
Galv., 1/2 to 3 in.....	24 to 44 %	11.6 to 31.6 %
Iron:		
Black, 1/2 to 1 1/2 in.....	29 1/2 to 39 %	39 1/2 %
Galv., 1/2 to 1 1/2 in.....	2 1/2 to 23 1/2 %	23 1/2 %
Lap Weld		
Black, 2 1/2 to 6 in.....	53 1/2 %	42.6 %†
Galv., 2 1/2 to 6 in.....	41 %	28.6 %†
Iron:		
Black, 2 1/2 to 6 in.....	34 1/2 %	34 1/2 %
Galv., 2 1/2 to 6 in.....	21 1/2 %	21 %
Butt Weld, Extra Strong, Plain Ends		
Steel:		
Black, 1/2 to 3 in.....	46 1/2 to 56 1/2 %	30.6 to 40.6 %
Galv., 1/2 to 3 in.....	29 to 44 %	10.6 to 15.6 %
Iron:		
Black, 1/2 to 1 1/2 in.....	28 1/2 to 39 1/2 %	....
Galv., 1/2 to 1 1/2 in.....	11 1/2 to 24 1/2 %	....
Lap Weld, Extra Strong, Plain Ends		
Steel:		
Black, 2 to 6 in.....	48 1/2 to 50 1/2 %	32.6 to 34.6 %
Galv., 2 to 6 in.....	37 to 39 %	7.6 to 9.6 %
Iron:		
Black, 1/2 to 6 in.....	25 1/2 to 34 1/2 %	....
Galv., 1/2 to 6 in.....	10 1/2 to 22 1/2 %	....
PLASTER		
Neat wall cement in 15 cent bags, per ton.....	\$20.30	\$18.50
Finishing plaster.....	24.00	21.00
Lath mortar, in cloth bags, per ton.....	15.05	....
PUTTY		
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, 12 1/2% 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		
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.....	40%	60%
Base board registers.....	40%	40%
Base board intakes.....	40%	40%
White enameled goods.....	15%	15%
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%
—Less than 14 x 14 in.....	60%	60%
REINFORCING BARS		
High carbon steel from mill.....	\$48.50	\$49.50
Medium steel from mill.....	48.50	49.50
Tarred Paper: ROOFING MATERIAL		
1-Ply, per ton.....	\$62.00	\$65.00
2-Ply.....	1.05	1.00
3-Ply.....	1.40	1.40
Rosin sized sheathing, per ton.....	60.00	60.00
Corrugated roofing, galvanized, 2 1/2 in. corrugation, over flat sheets, 30c. per 100 lbs.		
Rosin:		
Common to good, strained (wholesale), 80 lb., per gal....	\$16.25	....
SAND		
Mason, per cu. yd.....	\$1.80	\$2.25
Torpedo, per cu. yd.....	1.80	2.25
SHINGLES		
Red cedar, 5 to 2, clear, per thousand.....	\$10.75	\$7.00
White cedar, extra star, A star, per thousand.....	10.00	6.50
SLATE ROOFING		
F.O.B. cars.		
Pennsylvania:	Quarry Station	F.O.B. Chicago
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:		
No. 1 Sea Green.....	3.50 to 6.75	5.95 to 9.20
Unfading Green.....	5.50 to 9.00	8.30 to 11.05
Red.....	13.00 to 16.00	14.80 to 22.80
Maine:		
Brownsville, U'f'g Black, No. 1.....	10.00 to 12.50	14.10 to 15.10
Slates felt, 30 lb. roll.....	.92	....
Slates felt, 40 lb. roll.....	1.22	....
SPIRITS TURPENTINE		
Per bbl.....	\$1.10*	\$1.10
STONE SCREENINGS		
Lime, per cu. yd.....	\$2.35	\$2.35
STRUCTURAL STEEL		
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.
Zees and tees.....	2.72c.	3.47c.
Steel bars, half extras, from mill.....	2.35c.	3.37c.
STUCCO		
In cloth, per ton (white, mixed).....	....	\$21.50