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ETCHING *as a* MEDIUM of ARCHITECTURAL EXPRESSION

BY SAMUEL CHAMBERLAIN

Illustrated by reproduction of original sketches by the Author*

OPINIONS vary, but many are the critics who believe that an etching is the finest and the ultimate setting on paper for a worthy piece of architecture. There is something about the atmospheric vibrancy of an etching which imparts a peculiar and irresistible life to architectural drawing, something in an acidbitten copper furrow which often has a greater expressiveness than mere pen or pencil lines. There is the association of fine old Japanese papers, of skilled printing by some tottering old craftsman, and a certain permanency which an etching always suggests. An etching, due to its veiled inking, may hold together where a pencil sketch will not. A copper plate offers receptive ground to the meticulous detailed drawing which so often appeals to the architect. In fact, there are dozens of reasons why architects have turned into etchers—and etchers have turned to architecture as a source of inspiration.

Without question it is a medium with a peculiar charm for the architect. To compile a list of those architects who have dabbled in it and finally succumbed to its appeal and forsaken their profession would entail a formidable amount of research. But the number would be enlightening, particularly among the English etchers of the last hundred years.

*The etchings reproduced with this article and in the plate section of this issue are by courtesy of Messrs. Kennedy & Co., New York.

Of the more recent etchers who have thus strayed from the T-square, perhaps William Walcott is the most conspicuous example. Walcott is admirable in that he is proud of his architectural past and gives one no opportunity to ignore it in his etchings. The handling is always that of an exquisite architectural draftsman, grown into a master etcher. His plates, particularly those of his restorations, are unforgettable to any lover of

draftsmanship. John Taylor Arms, Louis Rosenberg and Alonzo Webb, all architects at one time, seem permanently won over to copper plates. Many Frenchmen in the Ecole des Beaux-Arts play dual roles of architects and etchers without apparent handicap. Monsieur Carlu, at present a professor of design in this country, has brought forth some magnificent plates.

Hedley Fitton, in many ways, seems to give the happiest expression of all to architec-

tural form, clothing it in soft, yet positive values. His perspective is masterful in its perfection.

A master such as Brangwyn is interested more in the dramatic force of his subject than in its architectural detail. This is one of the reasons why architects in America hold such varied opinions of his work. A man to man canvass among them reveals that many are boundlessly enthusiastic about his etchings, while others are left impressed but unsympathetic. There is no middle neutral ground in judging work as forceful as



NOTRE DAME FROM THE QUAI DE L'HOTEL DE VILLE, PARIS

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Brangwyn's.

There is a clique of American etchers, quite resigned and attached to the leisures of life in the Latin Quarter, who seemingly refuse to leave Paris. Almost all of them, save one, lean toward architectural subjects. Prominent among them is Louis Orr, whose etchings of the Cathedral of Rheims formed such a prominent part of the baggage of returning American officers after the war. Orr possesses a vast knowledge of the technical possibilities of his medium and his plates are as finished as some of the meticulous old engravings of a couple of centuries ago. What he is able to record as documentary evidence is little short of astounding. One is tempted to compare



THE CHURCH OF SAN GIOVANNI BATTISTE, SIRACUSA

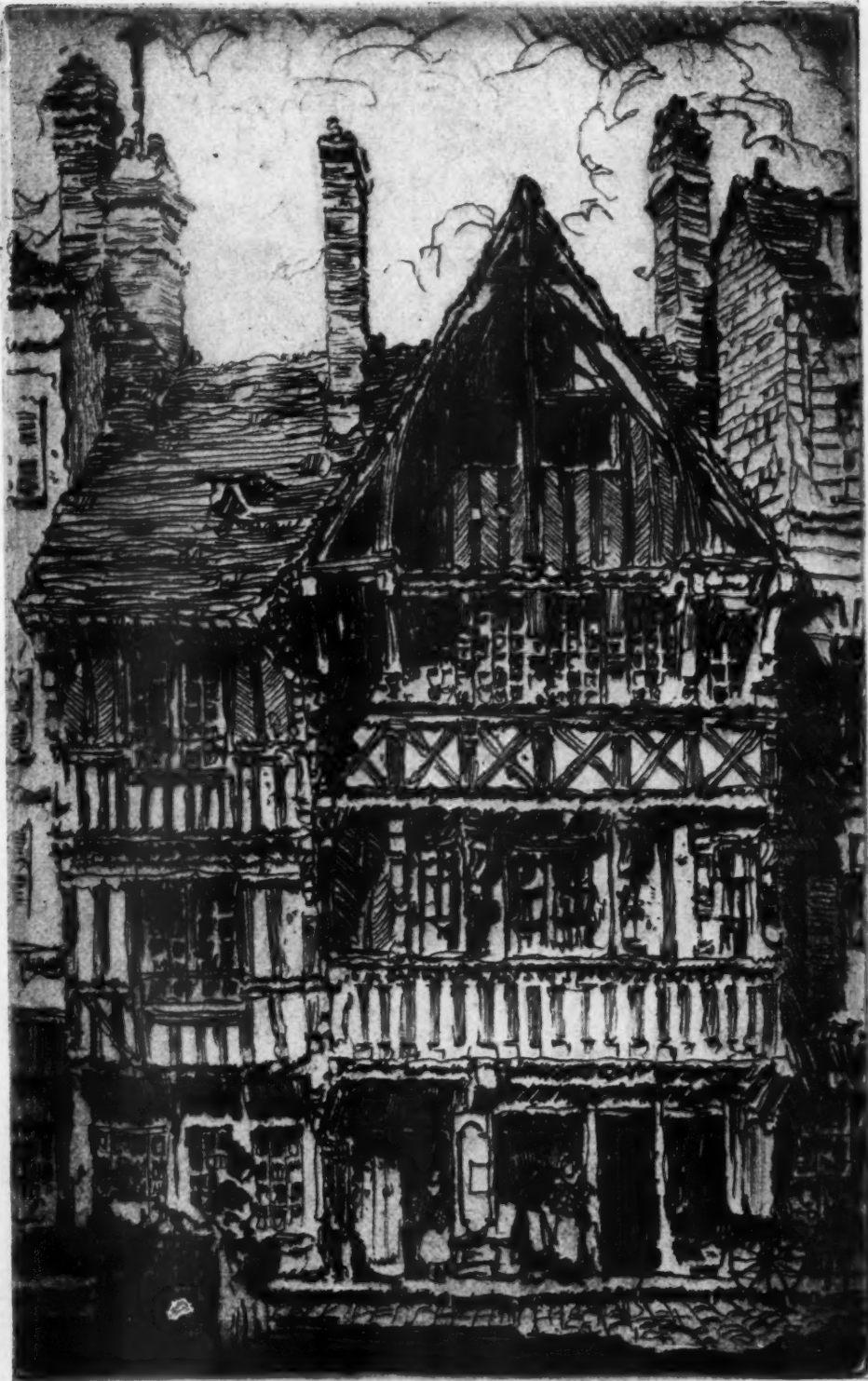
his work with that of Haig or Piranesi.

Alonzo Webb, an architect who has either found himself or gone astray, according to the point of view, brought an architect's sketching equipment in contact with copper plates, acid and needles, with interesting results. A retrospective study of his plates reveals how intelligent and successful has been his "loosening-up" process. Robert Logan, who etches architecture almost exclusively, recently

visited this country and produced two large plates of the Harkness Memorial towers in New Haven. Arthur William Heintzelman, at present the most acclaimed of the little colony, is more of a figure artist. He has received more medals and awards



THE CURIOSITY SHOP, RUE CAMPAGNE-PREMIERE, PARIS



OLD HOUSES IN LISIEUX

FROM THE ORIGINAL SOFT GROUND ETCHING BY SAMUEL CHAMBERLAIN

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than an international billiard star. There remain the Armingtons, John V. Winkler and several others whose work is better known in France than in their native land.

It is entirely logical that an architect should use etching as a medium for some of his renderings, but whether the question is possessed of much practicability I am not able to state. The step from pencil and pen to an etching needle is more natural and considerably easier than an architect ordinarily thinks. A certain mental readjustment, (for, of course, the drawing must be done in reverse), and a bit of technical experimentation are needed, true enough. The one considerable obstruction which stands in the way is this mechanical complexity which, unfortunately, is not conquered on first trial, or on the second.

The etchings here reproduced may be of interest as the maiden attempts of a hand principally accustomed to pencil. It is true that a certain directness, freshness and spontaneity which characterize pencil presentation are apt to be lost at first in the indirect medium of etching, as these immature attempts probably reveal.

One unforgettable advantage which an etching

possesses as an architectural rendering is that any number of prints can be made; also that the plate can be corrected and retouched repeatedly, and that the very fact that the subject is reproduced in copper makes an effective impression.

Soft ground etching is a sympathetic medium to one accustomed to pencil drawing. It is difficult at first to lay a good soft ground, but the great advantage is that the etching is done with a pencil and a bit of tracing paper laid over the ground, rather than with unfamiliar needles and burins. The result is rather surprising—the softness of a pencil line is reproduced in copper. The etching of "Old Houses in Lisieux" was done in this way. Nothing but a lead pencil and acid was used in etching the plate. Drypoint has another unique advantage. It needs no acid bath, of course, doing away with the tinkering of an amateur chemist in the family sink, and is, so far as I know, the only sketching medium unimpeded and unhurt by rainfall. The "Springtime in Senlis" plate was done entirely in a dismal downpour.

Of course, the question arises: *who* would be dumb enough to try to draw in the rain?



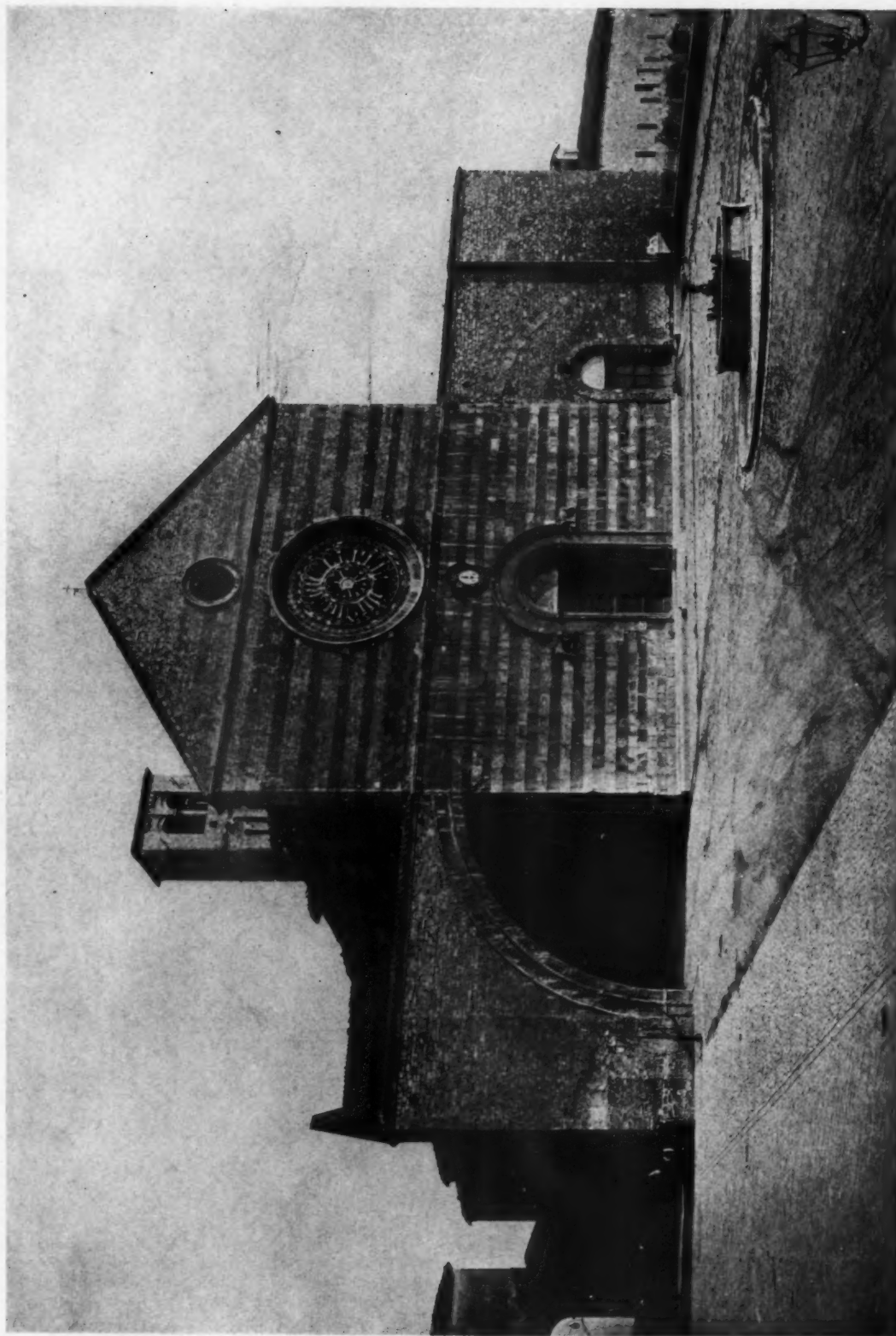
THE BLACKSMITH'S SHOP, SENLIS



HOUSE OF DAMA MARIA THE BRAVE, SALAMANCA
DETAILS OF SPANISH ARCHITECTURE



DOORWAY, CHURCH OF SANTA CRUZ, SEGOVIA
DETAILS OF SPANISH ARCHITECTURE



CHURCH OF SAINT CHIARA, ASSISI
DETAILS OF SPANISH ARCHITECTURE



FIRST PRESBYTERIAN CHURCH, ALEXANDRIA, VA.

At this time, interest centers about this historic church,—built in 1774,—by reason of efforts being made to repair and restore it to its original condition. It is a good type of the classically simple church of its period. It possesses many associations with the domestic life of George Washington, and its adjoining graveyard is the burial place of many notable men identified with the early Colonial history of Virginia. The efforts of the State of Virginia to conserve its many historic buildings are highly to be commended. There is at present valuable work being done by the Virginia State Chamber of Commerce, strongly endorsed by the citizens of that State.

DEVONSHIRE HOUSE, PICCADILLY, LONDON

CARRERE & HASTINGS AND PROFESSOR C. H. REILLY, Architects

THE original Devonshire House, which has been for so many years a London landmark on Piccadilly, was designed in the latter half of the Eighteenth Century, by Kent.

The exterior of the building was built of brick and Portland stone, extremely simple in character with two side wings and a wide open court, or recessed in the center. The building itself set back from Piccadilly. The principal and most decorative feature of the center was a magnificent iron grille or gateway, which has now been given to the City of London by the Duke of Devonshire and incorporated in the high iron fence around Green Park, almost opposite the site and on Piccadilly. This is one of the finest iron grilles in England. Otherwise the house itself externally was very simple but good both in proportion and character, but it occupied a very crowded section of the city and so much area that of course it was only a question of time when it had to give way to a more modern character of building.

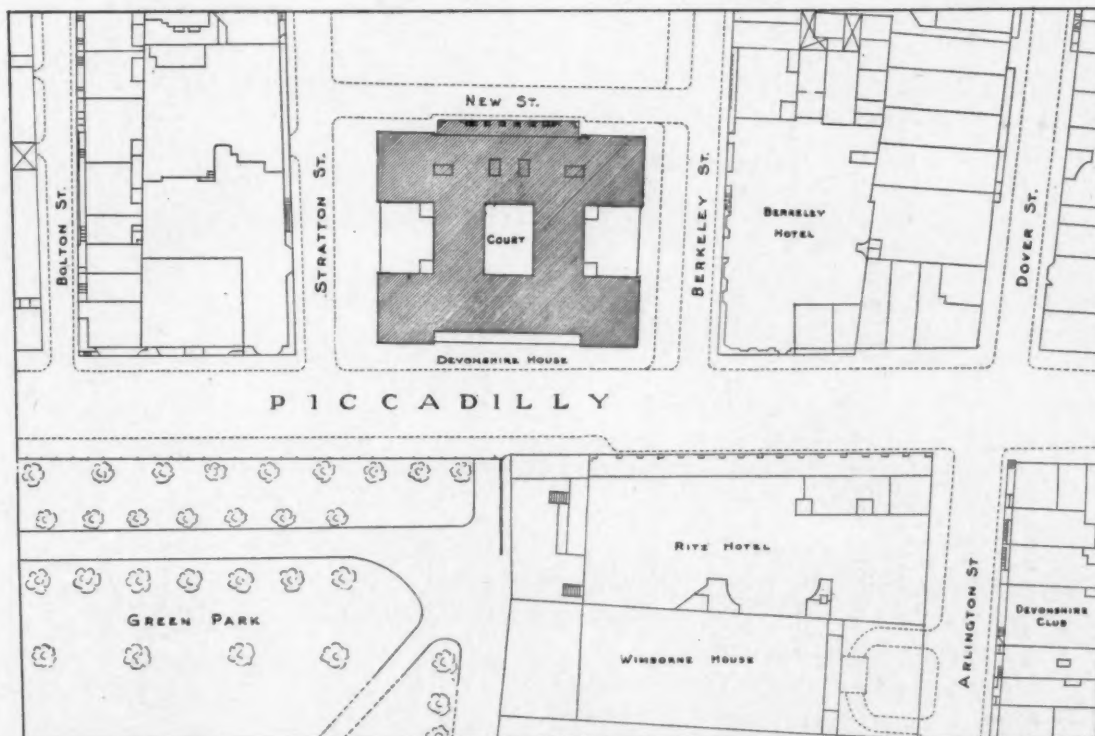
The interior of the house was practically entirely done over in the early Victorian period, and before the clients wrecked it there was very little to be seen inside the building.

The famous so-called "Crystal Staircase" was an extremely ugly example of the worst period of the early Victorian. The crystal railing in sections of about 10" in length and 10" thick, supported by cast iron balustrades, was ugly in design.

The property was bought by Messrs. Holland & Hannen and Cubitts, a distinguished firm of builders in England; a firm that has been in existence in England for 150 years and a firm so widely known that they were much concerned about their reputation in taking down the old landmark and replacing it with something that would be good architecturally.

The old Devonshire House, besides its arrival court in front, had a large garden in the rear. The entire site was about 235 feet frontage on Piccadilly and about 800 feet deep.

The new Devonshire House will occupy, as shown in the accompanying general plan of the immediate neighborhood, 210 feet frontage on Piccadilly and about 165 feet in depth, the extra 25 feet having been purchased by the city for the purpose of widening Berkeley Street, which is a very important street between Piccadilly and Mayfair, the fashionable part of London. This



PLOT PLAN

THE AMERICAN ARCHITECT

is in fact an important circulation and the extra width was very much needed. On the other side of the new Devonshire House is a street called Stratton Street, which led nowhere, being "cul de sac." The present plan calls for a new street, to be called New Street, connecting Stratton with Berkeley Streets, as shown on plan, and there will be two important entrances to the apartments on this street, while the central entrance will be the entrance to the main dining room. This main dining room, while it will be monumental and architectural in character with a high ceiling, is not very large because all the apartments are housekeeping ones. The entrance to the apartments and to this dining room are on New Street because this is Mayfair, a quiet street, not a thoroughfare, and because it would be almost impossible to arrive at the entrance if it had been made on Piccadilly.

The Piccadilly elevation will have one central entrance with a flight of stairs between two walls to the second story of shops; otherwise, this entire elevation will be occupied by high-class shops.

On the other side of this New Street, in the park, Thomas Cook & Son are building their principal offices, so that there will be no actual park

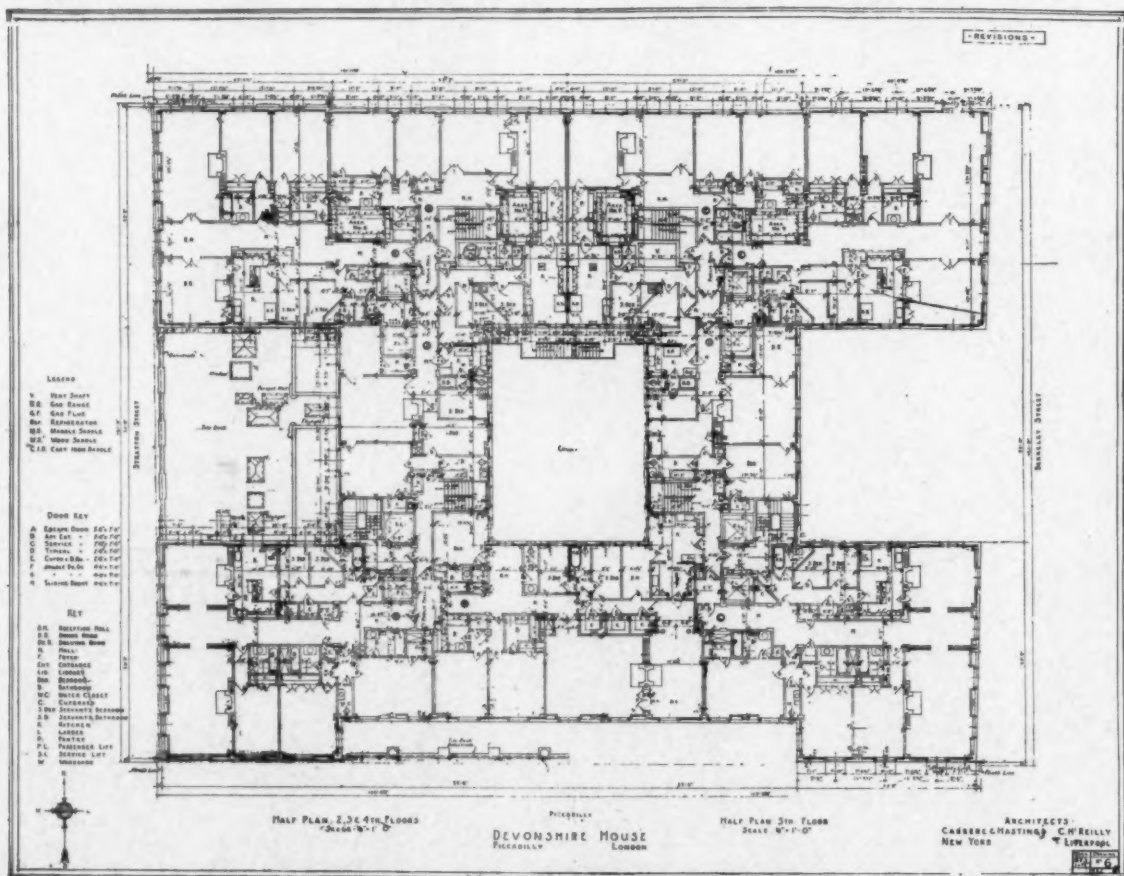
around the new apartment house, only a terrace between the wings on Piccadilly front looking toward Green Park. This means that the building is entirely surrounded by streets and there have been four elevations to design.

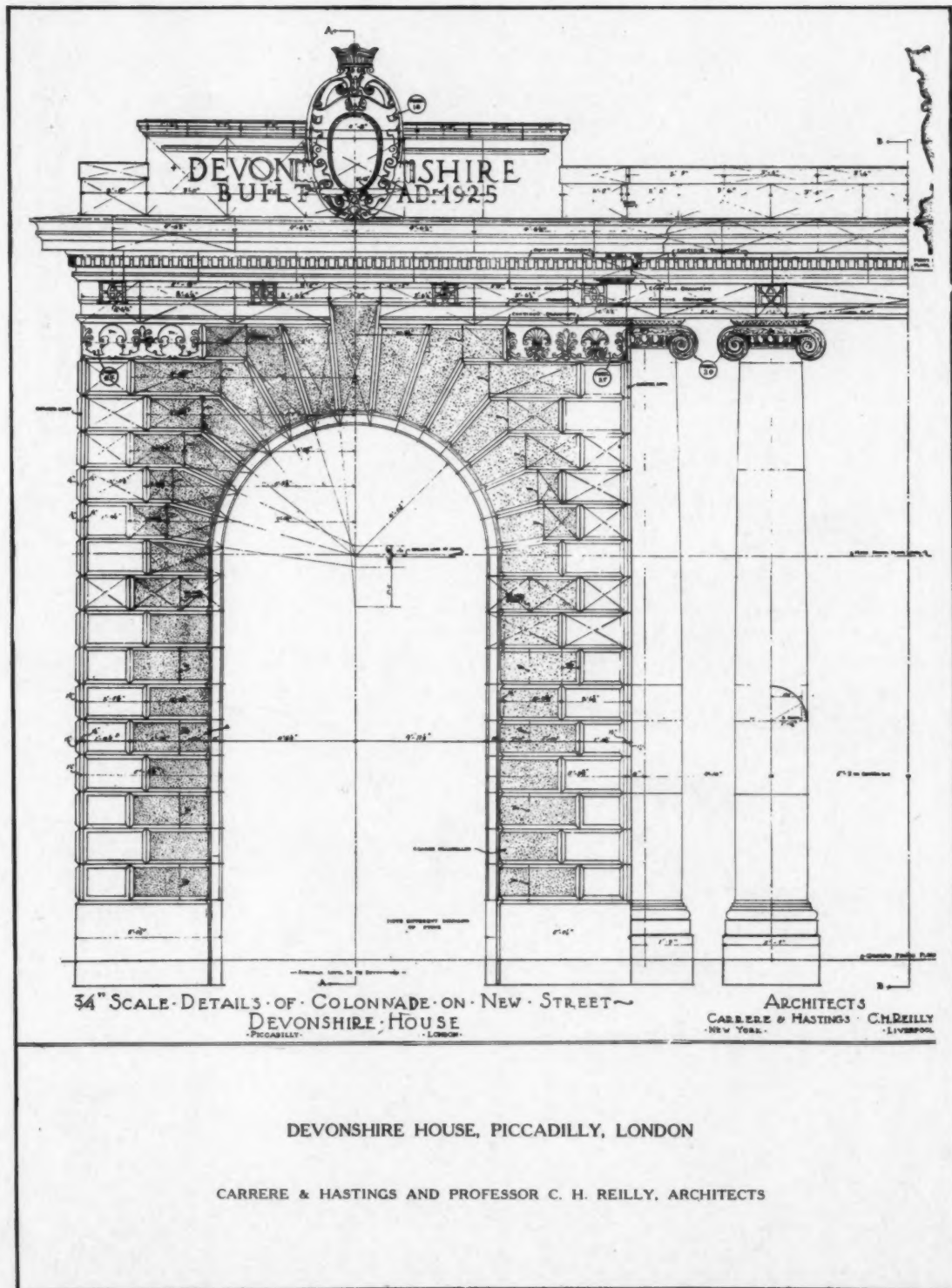
The principal decorative features of the apartment house will be the main dining room and the hallways at either end of New Street and a corridor on these hallways leading to the elevators.

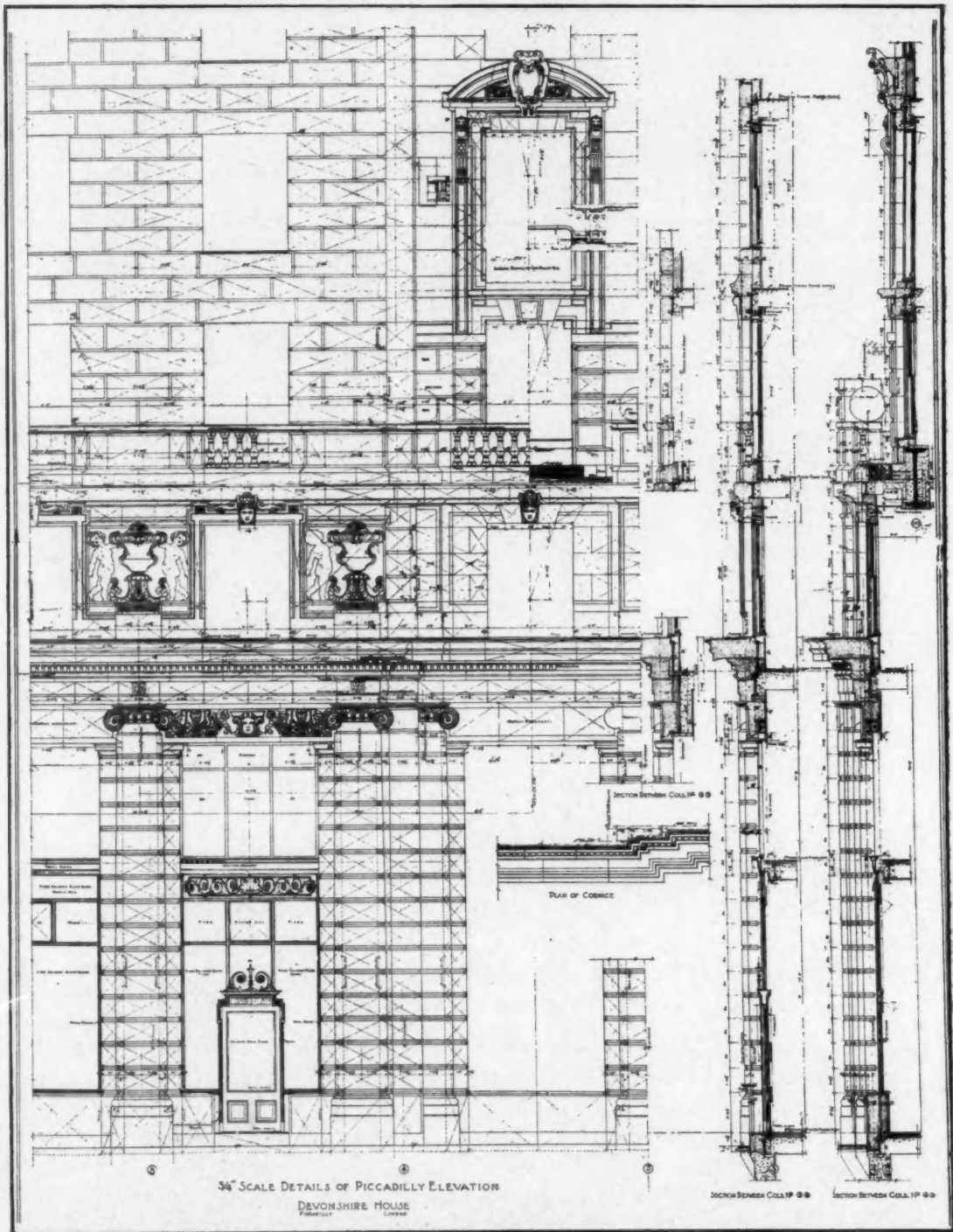
As regards the apartments: they are all housekeeping apartments, mostly large rooms and very luxurious. Although there are a number of smaller apartments provided, each apartment has a kitchen with direct light, and not a kitchenette. In the entresol, we have provided a large number of servants' rooms, which will be rented separately to the different apartments, while each apartment has two or three servants' rooms in direct connection.

There is no provision for roof garden or any other kind of entertainment space on the roof.

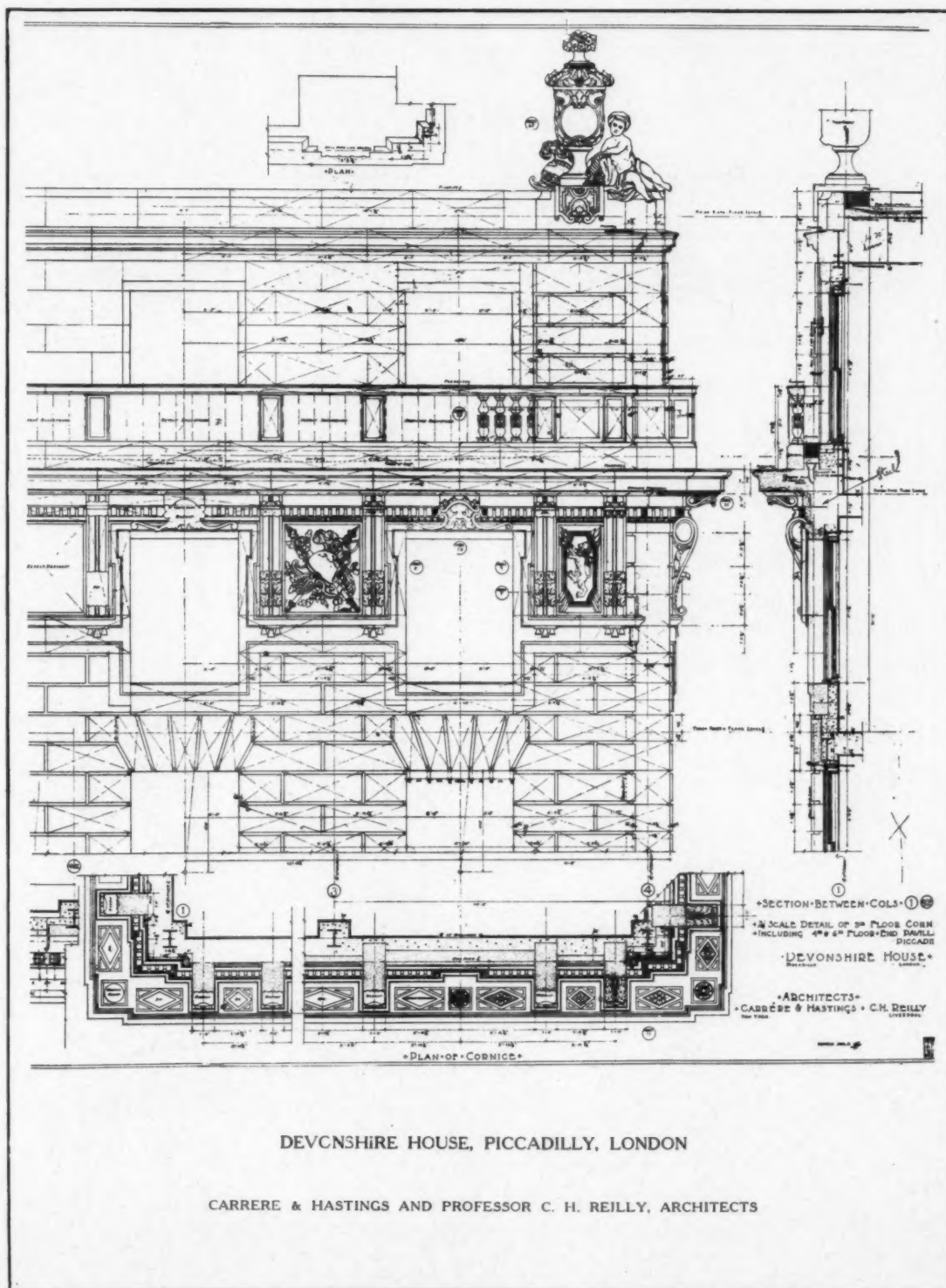
The architects have endeavored to design a building, classic in character, somewhat like the early Nineteenth Century English architecture when the architects of that time were influenced by the Italian Renaissance, or what is generally spoken of in London as the classic revival period.





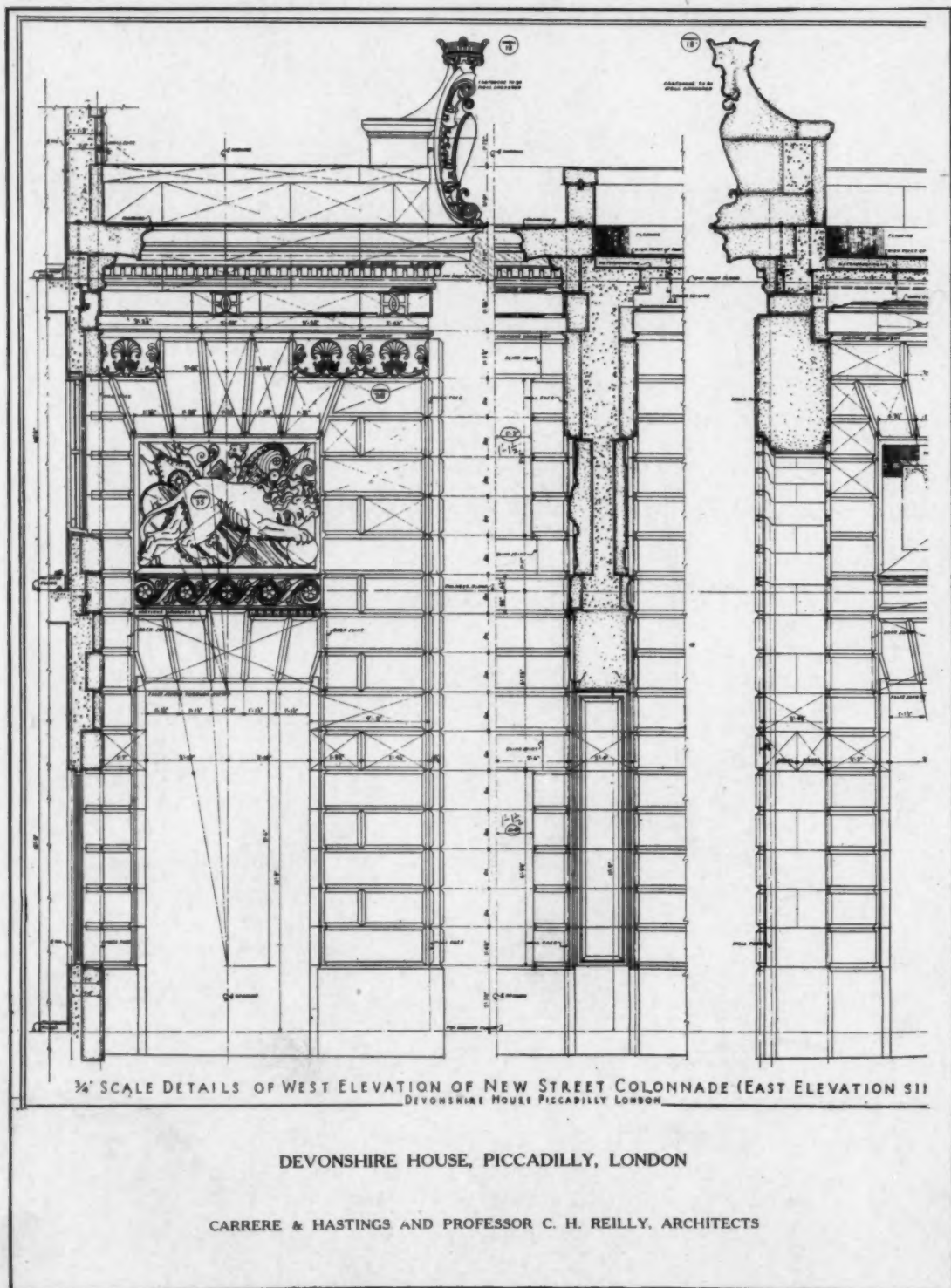


DEVONSHIRE HOUSE, PICCADILLY, LONDON
CARRERE & HASTINGS AND PROFESSOR C. H. REILLY, ARCHITECTS



DEVONSHIRE HOUSE, PICCADILLY, LONDON

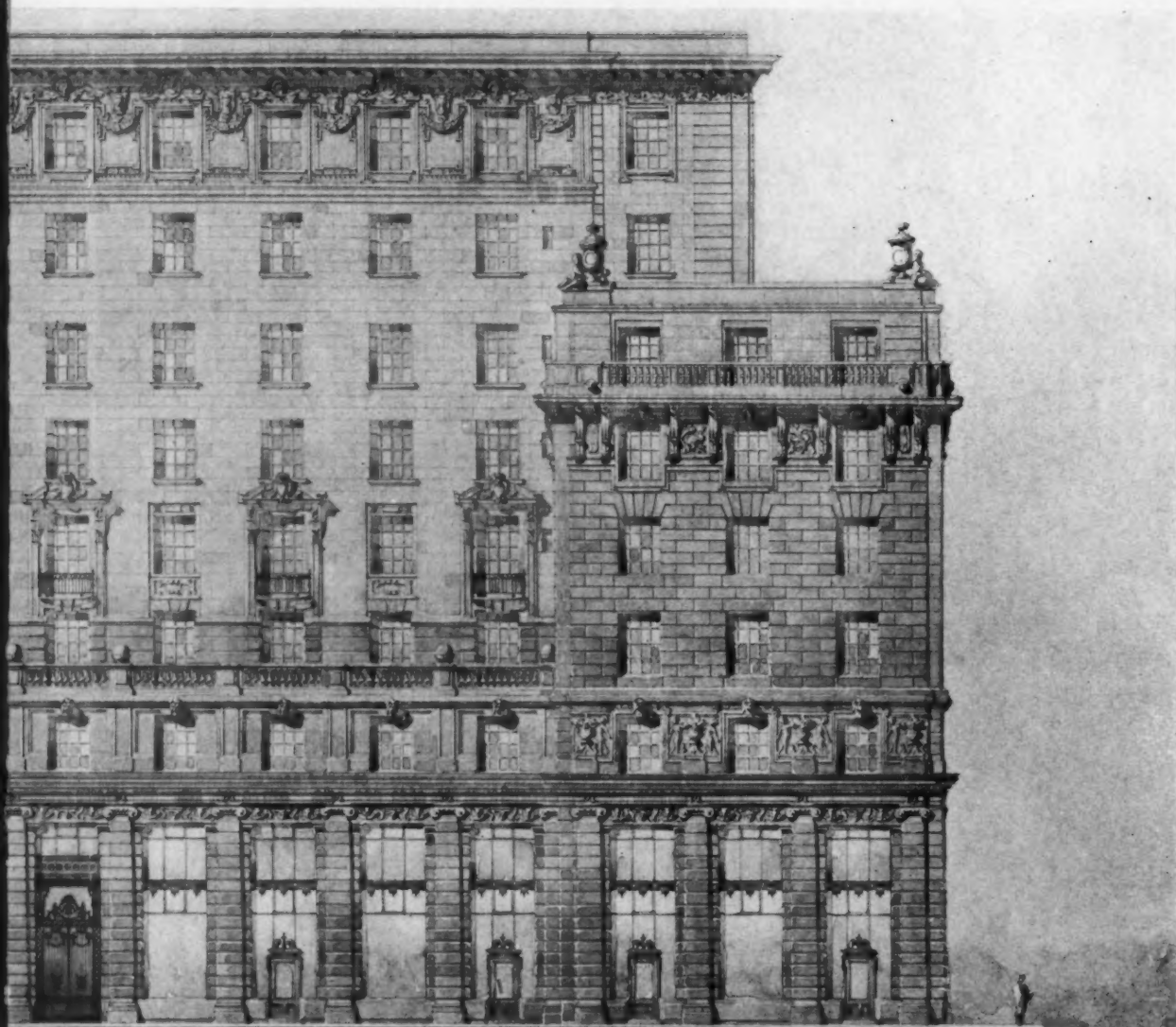
CARRERE & HASTINGS AND PROFESSOR C. H. REILLY, ARCHITECTS





D E V O N S H I R E
• P I C C A D I L L Y •

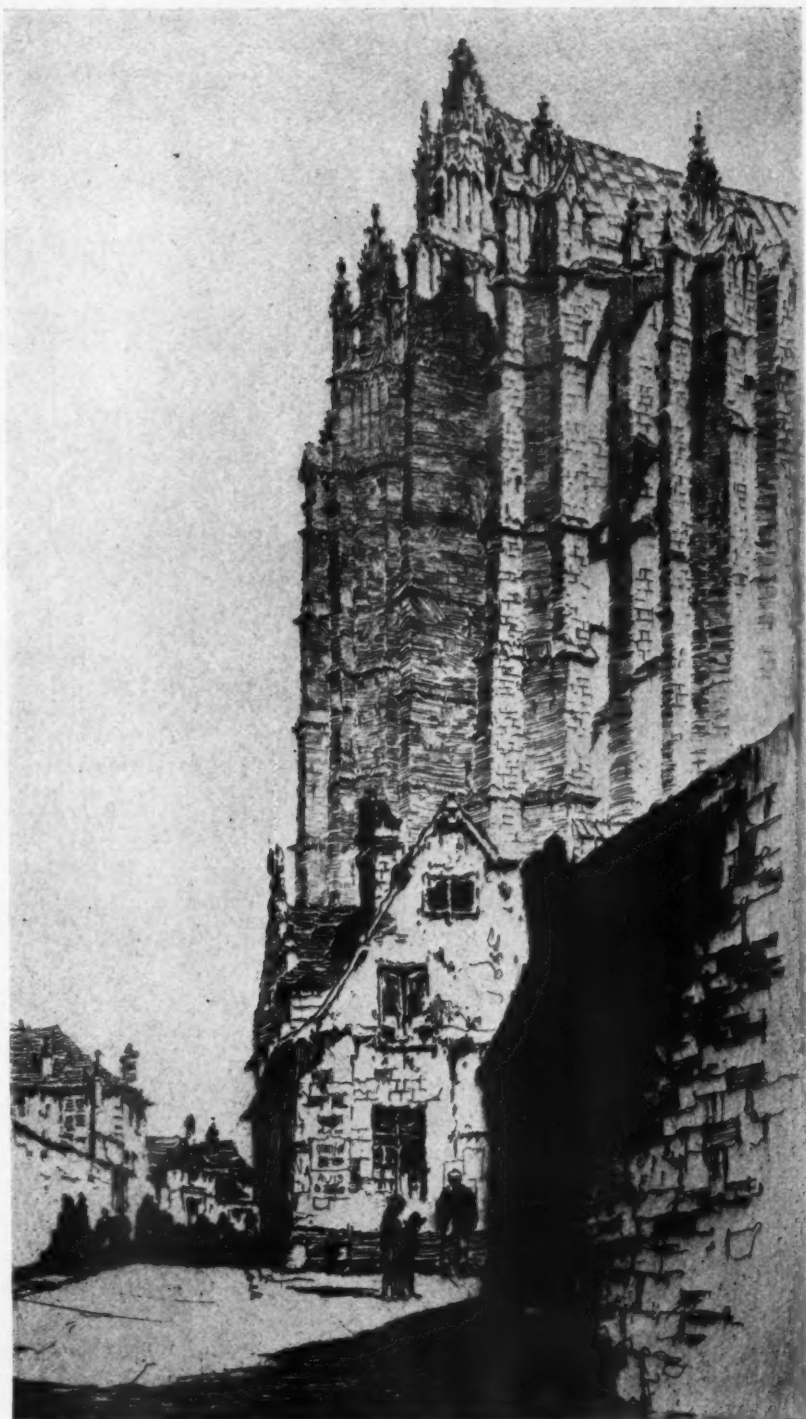
CARRERE & HASTINGS AND PROF.



FIRE - HOUSE
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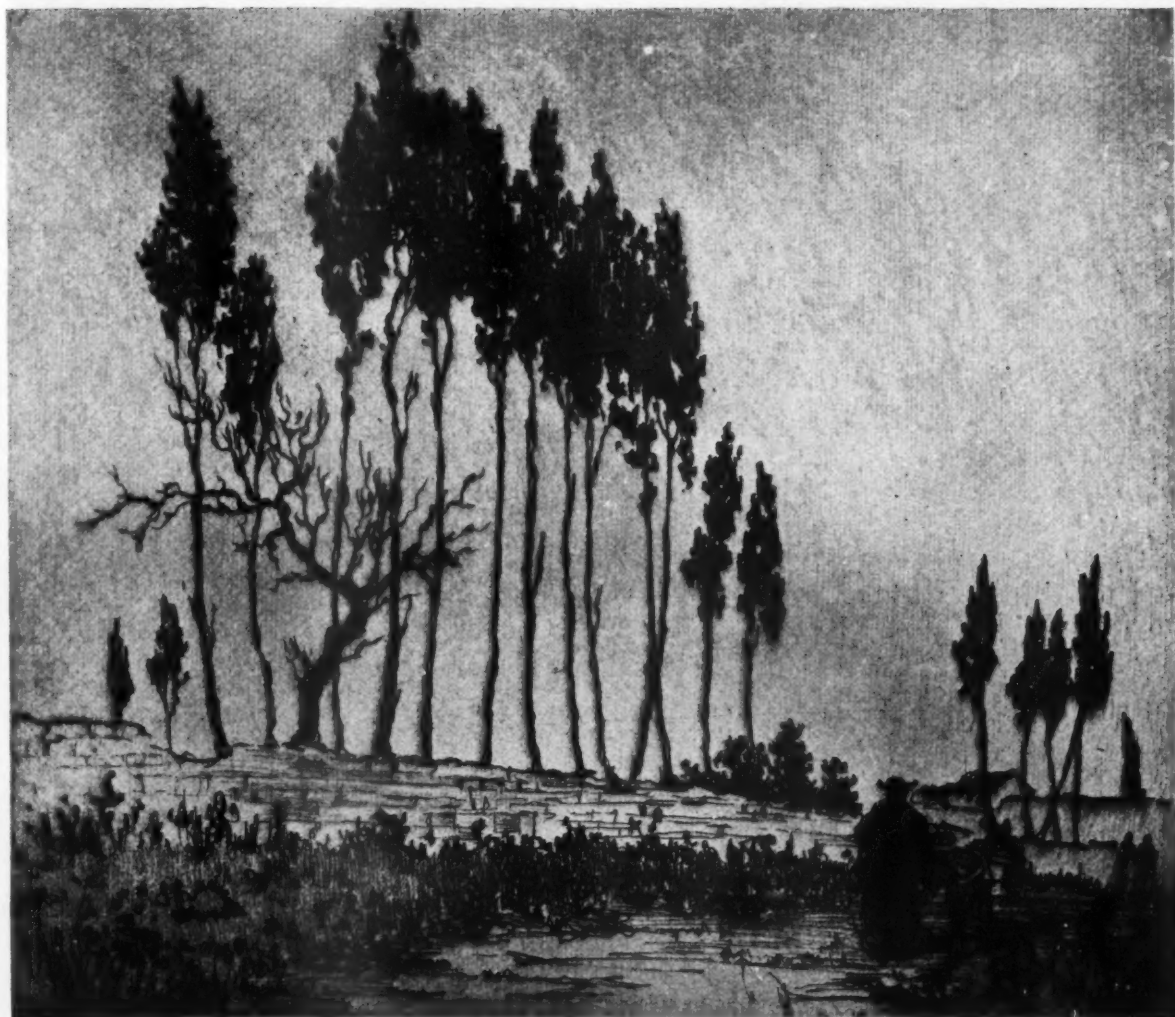
AND PROFESSOR C. H. REILLY, ARCHITECTS





THE BUTTRESSES OF BEAUVAIS CATHEDRAL
FROM THE ORIGINAL ETCHING BY SAMUEL CHAMBERLAIN

THE AMERICAN ARCHITECT
August 12, 1925. Plate 212



THE CYPRESSES, SIRACUSA

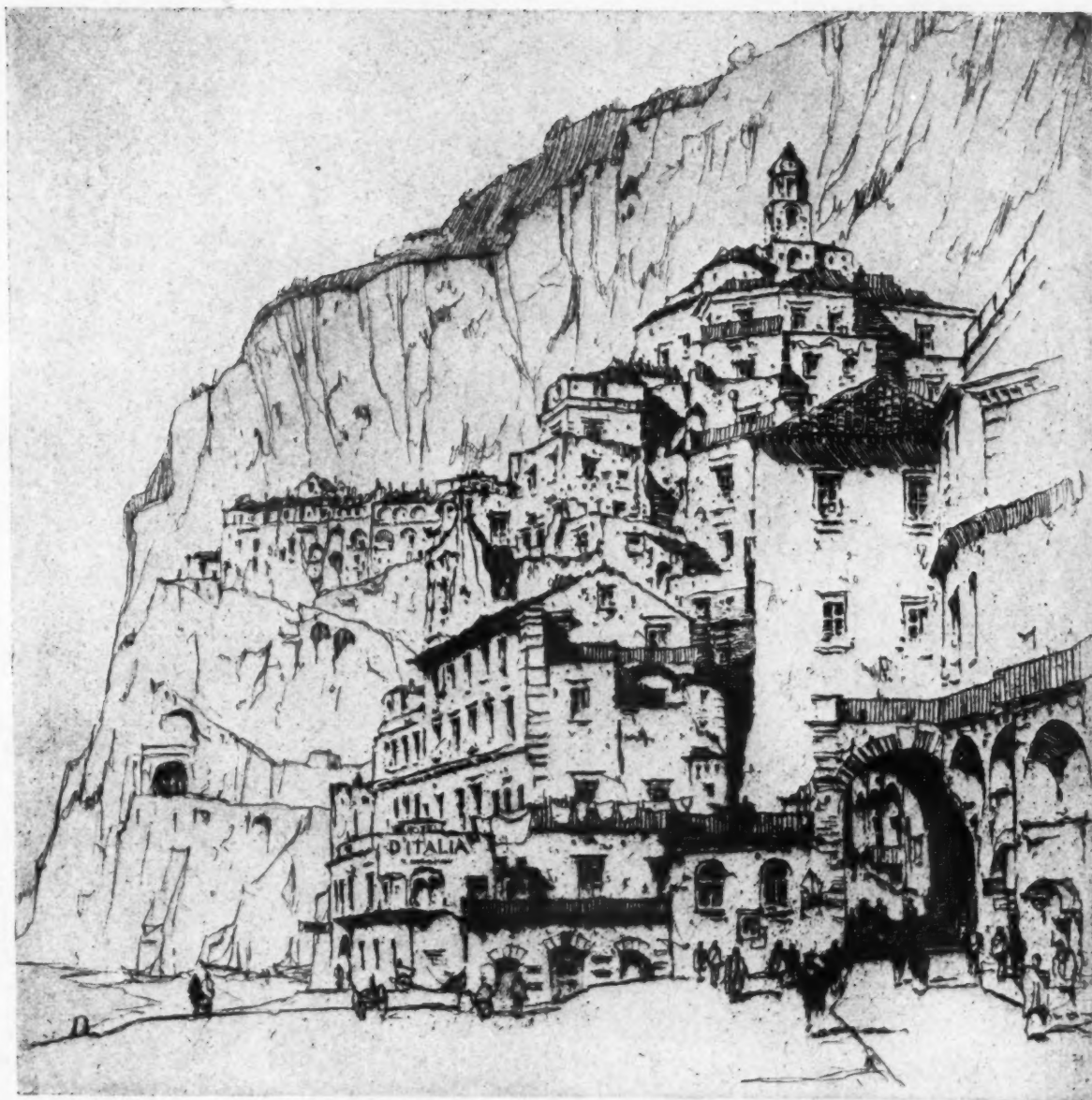
FROM THE ORIGINAL SOFT GROUND ETCHING BY SAMUEL CHAMBERLAIN



RUE DAUBENTON, PARIS

FROM THE ORIGINAL DRYPOINT BY SAMUEL CHAMBERLAIN

THE AMERICAN ARCHITECT
August 12, 1925. Plate 214



AMALFI

FROM THE ORIGINAL ETCHING BY SAMUEL CHAMBERLAIN



A SIDE STREET IN BEAUVAIS

FROM THE ORIGINAL ETCHING BY SAMUEL CHAMBERLAIN

THE AMERICAN ARCHITECT
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SPRINGTIME IN SENLIS

FROM THE ORIGINAL DRYPOINT BY SAMUEL CHAMBERLAIN



EDITORIAL COMMENT

THE SO-CALLED Colonial style is not the greatest achievement of architecture in any sense, but it is a true expression of the aspirations of those who made possible the founding of this nation and it is worthy of perpetuation. It expresses better than any other style, American ideals and achievements, all of which are free from the pomp and splendor of European court life.

There is, however, one phase of Colonial architecture that is not generally understood even by the architects of today and that is the more monumental type as expressed in the University of Virginia, designed by Thomas Jefferson. Those who have not stood on the campus of that institution and felt the bigness of its scale can have no idea how monumental Colonial architecture can be.

What an opportunity there would be to develop this phase of the style at the Sesquicentennial Exposition to be held at Philadelphia next year in commemoration of the 150th anniversary of the signing of the Declaration of Independence. Surely no other type of architecture could so well express this great event and it would be a pity were the opportunity lost, but whether Philadelphia arises to this occasion or not, it is to be hoped that before very long some one who has been steeped in the traditions of the Early American manner of building will design for us a truly great example of Colonial architecture as applied to a monumental structure.

* * *

A CIRCULAR, JUST ISSUED by the New York Building Congress, presents many helpful suggestions to owners and architects on Winter construction. In order that the work in Winter may be properly scheduled, the details should be planned during Summer months and not left to the uncertainty and perhaps confusion of last minute arrangement. More and more, each year is it becoming realized that there are certain economic advantages in Winter building, and that such building is the one big factor in the solution of the vexatious problems of seasonal inactivity.

The investigations of the Building Congress have shown that the direct additional costs due to construction carried on in cold weather are but a small percentage of the total cost of a building, and that such direct Winter costs are more than offset by savings in other ways. The indirect savings which more than counterbalance Winter costs are enumerated as follows:

Labor bonuses are eliminated, and labor turnover reduced. The fact that Winter activity helps to spread the overhead expenses of contractors

throughout the year and thus reduces organization and equipment costs is another apparent saving. Transportation rates during Winter are lower, thus reducing the total of an always important item. The saving of interest rates on investments lying idle is a further argument in favor of Winter building.

The report of the Building Congress concludes as follows:

All facts considered, the records on Winter construction confront us with the fact that labor productivity is greater on Winter building and labor costs are less per unit of construction. This, together with the other advantages to be secured in the purchase of materials and in earlier returns on investment makes Winter construction a good business proposition. Investigations conducted under the auspices of the U. S. Department of Commerce confirm this conclusion.

The application of these conclusions, of course, is not purely local to New York. Conditions are similar all over the Northeastern and Middle States. Architects should find little difficulty in inducing clients to continue operations through the Winter, particularly when it is so comparatively easy to demonstrate the actual economy or saving by such operation.

* * *

NOT ALWAYS in a multiplicity of counsellors is there much wisdom. Take, for example, the Board of Education of Lyndhurst, N. J. It is reported in the daily press that two members of that Board voiced a strenuous protest against the architect of a new high school for having placed his name on the cornerstone of the building. These two members insisted that the architect was endeavoring to create a monument to himself. The real reason for ire seems to be that the architect failed to ask permission of the Board.

This luckless man who designed a school building that has been pronounced one of the town's finest ornaments, humbly submitted the fact that it was customary for architects to sign their buildings if so disposed, and cited many instances where that had been done. Even such good arguments failed to appease the wrath of the honorable members, but the majority of the Board overruled the objection and the name is allowed to stand.

One does not look for ignorance of this sort in members of Boards of Education. The fault lies largely with architects themselves. For one reason or another, they fail to attach sufficient importance to the signing of their buildings and by neglect to do so, contribute to the general lack of appreciation for good architecture.

MASTERS of ARCHITECTURE

Thomas Hastings, F. A. I. A., and Harvey Wiley Corbett receive degree from Liverpool University

THE degree of Master of Architecture was, on July 3, conferred by Liverpool University on Thomas Hastings, F.A.I.A., and Harvey Wiley Corbett, past president of the Architectural League of New York. At the same time the same degree was given to Professor Stanley Davenport Adshead.

In presenting Messrs. Hastings, Corbett and Adshead for the degree, Professor Reilly said:

MY LORD AND CHANCELLOR,—The University of Liverpool has founded a new degree of Master of Architecture. It is the first degree of its kind in Europe, and is only to be given to those who have built worthily. The three architects who have been chosen to be the first recipients of the degree are not only architects who have enriched the world with their buildings, but who have had a great influence for good on the work of the Liverpool School of Architecture. First among these is Stanley Davenport Adshead, Master of Arts of this University, and the first holder of its Chair of Civic Design. Professor Adshead has done more than any living man to guide the renewed movement for town planning in this country along hopeful lines.

In the name of the Senate and Council I present to you STANLEY DAVENPORT ADSHEAD for the degree of Master of Architecture, *honoris causa*, of this University.

MY LORD AND CHANCELLOR,—The second external influence on the Liverpool School of recent years has been the great modern architecture of America. Of this architecture by his Bush buildings, both in New York and in London, and by his other fine buildings, Harvey Wiley Corbett, Doctor of Laws, Master of Arts, and Professor of Design in

Columbia University, has been a great exponent. In offering him the new degree of Master of Architecture the Liverpool School is acknowledging a debt of gratitude.

In the name of the Senate and Council I present to you HARVEY WILEY CORBETT for the degree of Master of Architecture, *honoris causa*, of this University.

MY LORD AND CHANCELLOR,—Thomas Hastings, Doctor of Laws of many universities, late member of the Fine Arts Commission of the United States of America, Gold Medalist of the Royal Institute of British Architects, the designer of the Arlington Memorial, of the Senate offices in Washington, of the New York Public Library, of the American Monument of the Battle of the Marne in Paris, and of many great and monumental structures, is the *doyen* of the American architects. Liverpool University honors itself in honoring him with its new degree.

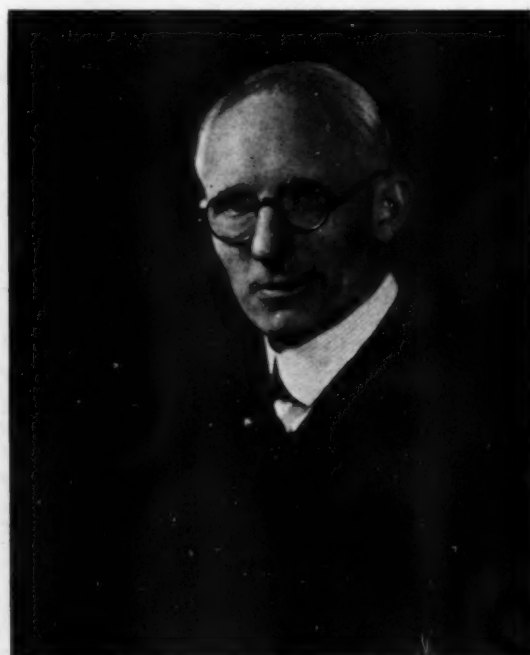
In the name of the Senate and Council I present to you THOMAS HASTINGS for the Degree of Master of Architecture, *honoris causa*, of this University.

This honor is the highest degree in architecture given by any University in Great Britain. Under the ordinances of the Liverpool University, it can only be given for work accomplished.

The architectural press of London is unanimous in its expression of approval of the men selected to receive this degree. Christian Barmann writes in *The Architects' Journal*: "There has been, so far as I am aware, no degree of any kind that is as difficult to earn, as peremptory in its requirements, as surely indicative of real excellence."



THOMAS HASTINGS, M. ARCH.



HARVEY WILEY CORBETT, M. ARCH.

ENGINEERING and CONSTRUCTION

EMISSIVE TESTS of PAINTS for DECREASING or INCREASING HEAT RADIATION from SURFACES

WHEN research investigation is undertaken and completed, it is usually limited to a definite objective. When the characteristics and properties of the thing investigated are determined, it is surprising to what extent its correlated ramifications may be developed. When Professor John R. Allen conducted tests at the University of Michigan to observe the effect of different paints applied to cast iron steam radiators,* it is not probable that he foresaw the application of his discoveries to other things. Dr. H. A. Gardner and Howard C. Parks† in a later investigation arrived at the same conclusions by an entirely different procedure.

The most recent investigation pertaining to the relation between different paint coverings and temperature was made by W. W. Coblentz and C. W. Hughes of the Bureau of Standards. The preliminary report of these investigations appeared in *THE AMERICAN ARCHITECT*, November 21, 1923. The complete report is found in *Technologic Papers of the Bureau of Standards* No. 254 entitled "Emissive Tests of Paints for Decreasing or Increasing Heat Radiation from Surfaces," which can be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents a copy.

The method employed by Coblentz and Hughes in making the test is extremely simple. Duplicate samples of the same material (for example, tent cloth, roofing for balloon hangars, fabrics for automobile tops, or ordinary sheet iron) are selected. The under (or upper) side of one sample is coated with aluminum or some other paint. These two samples are then mounted upon a suitable holder and exposed to the sun. This holder consisted of a board with two openings 10 cm in diameter, over which were placed the two samples to be tested.

After the two samples have become thoroughly heated by the sun's rays the intensity of the heat radiated from the under side of each one is measured by means of a sensitive thermopile. This was accomplished by sliding the holder, from right to left, a sufficient distance to bring the sample directly over the thermopile. The comparison of the radiation intensity of the painted and unpainted samples required only a

few minutes, and hence there was no difficulty in obtaining accuracy.

For measuring the emissivity of paints, pieces of sheet iron (150 x 150 by 0.4 to 0.7 mm) were used. The side exposed to the sun was painted with a jet black paint in order to increase the absorption of solar radiation. The under side was covered with two coats of the paint under examination. In all samples of white, vitreous enameled sheet iron, the unenameled surface was painted black and exposed to the sun. The vitreous enameled surface was given two coats of polished aluminum paint.

Prior to making the present tests it was known that paints made of flakes of bronze or aluminum have a much lower emissive power than paints composed of a non-metal. The object of the present tests was to verify the previous results by a new method of heat application, and thereby determine the emissive power of the metal paints. It is of course, well known that metals have a low emissivity, amounting to only 5 to 10 per cent of that of a perfect radiator, or so-called black body. The present measurements show that aluminum paint has a considerably higher emissivity than a sheet of aluminum.

In cases where the under side of a metal roof is bright and free from oxide—as, for example, sheet iron covered with zinc or tin—no gain is to be expected in shielding the interior of the structure from heat radiation by applying a coat of aluminum paint to the under side of the roof. In this case the greatest reduction of heating of the interior will be obtained by covering the outside with white paint, "white wash" (in case of small temporary structures), or asbestos.

In Table I the numerical data given in column 3 were obtained by dividing the intensity of the radiation emitted from the under side of the sample recorded in column 2 by the intensity of the radiation emitted from the under side of the sample recorded in column 1. This ratio is called the "emissivity," although this term should be applied only to comparisons of objects at the same temperature. However, since the numerical value of the emissivity coefficient varies only by about 1 per cent per 10° C. difference in temperature (which is the magnitude of the difference in temperature of the painted and unpainted material) this slight error is negligible in compari-

**THE AMERICAN ARCHITECT*, February 13, 1918.

†*THE AMERICAN ARCHITECT*, July 18, 1923.

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son with other factors which enter into the problem.

It was found that the intensity of the radiation from the under side of a sheet iron panel covered with two coats of white lead paint was the same (to within 4 per cent) as that of a similar panel covered with a dull, black paint, prepared by mixing lampblack with a little shellac in alcohol. The white lead paint was, therefore, adopted as a standard of comparison (emissivity = 100 per cent) in the measurements on aluminum paint.

TABLE 1.—Emissivity of (ratio of intensities of Heat radiated from) a painted flat surface compared with a surface of similar unpainted material used as a standard.

Material used as standard	The same material painted with—	Emissivity of a painted surface compared with the standard	Remarks
ROOFING MATERIAL			
Asbestos.....	Aluminum on under side...	55.....	Johns-Manville asbestos roofing Thickness, 1/2 inch; natural color.
Cypress shingle, unpainted....	...do.....	43.....	
PAINTS, ENAMELS			
Unpolished aluminum.....	Polished aluminum.....	100.....	Sheet iron coated with aluminum paint
White paint....	Lampblack paint	95 to 100...	
Do.....	Aluminum paint	28 to 29...	
Vitreous enamel	...do.....	27 to 30...	
White paint....	Vitreous enamel	98 to 100...	
Lampblack.....	...do.....	95 to 98...	

The backs of these metal panels (to be exposed to the sun) were painted with two coats of ordinary flat finish drop black. These panels were prepared in duplicate in order to determine the variation in emissivity of samples of the same material.

A comparison of the intensity of the radiation emitted from the under side of the above mentioned panel of sheet iron coated with aluminum paint, with a similar panel of sheet iron coated with white lead paint, shows that, under these conditions, the aluminum paint emitted only from 28 to 29 per cent as much thermal radiation as the white paint.

In canopies of white cotton cloth, such as used for tents, awnings, motor boats, etc., there is some sunlight transmitted directly through the fabric in addition to the heat reradiated from the under side as the result of warming the material by solar radiation.

By coating the under side of a sample of cotton duck with aluminum paint and exposing the clean, unpainted outer surface of the two samples to the sun, it was found that the intensity of the heat radiated from the under side of the painted sample was only about 15 per cent that of the unpainted sample. Painting the outside of the cloth appeared to be slightly less effective, the intensity of the heat radiated from the under

side being about 22 per cent that of the unpainted sample.

However, whether the coating is applied on the inside or the outside, there will, no doubt, be many instances where the possibility of shutting out four-fifths of this heat radiation is worthy of consideration.

If the cloth has become soiled, the proper procedure would be to cover the outside with white lead paint, which is a good reflector of solar radiation, and the inside with aluminum paint, which reduces the intensity of the heat reradiated from the cloth as a result of warming by absorption of solar radiation.

Coverings of conveyances—such as, for example, the tops of automobiles, ice wagons, etc.—consist of cloth, "artificial leather," the black composition of which absorbs, perhaps, 90 per cent of the sun's rays. Practically half of this is reradiated from the under side of the canopy.

Samples of "artificial leather," having the outside covered with a coating of aluminum paint, emitted only 25 to 30 per cent as much heat radiation from the under side as the uncoated samples. When the aluminum paint was applied on the under side, which is rough woven, the heat emitted (from the under side) was 40 to 45 per cent that of the unpainted sample. From this it appears that, by applying the aluminum paint to the smooth outside of this fabric, the heat radiated from the under side will be reduced by 70 to 75 per cent.

The automobile top is mentioned merely as one of numerous applications that can be made of aluminum paint in diminishing heat radiation entering an inclosure which it is desired to keep cool. It is a simple expedient easily applied.

A cypress shingle one-half inch in thickness, having a coating of aluminum paint on the under side, emitted only 43 per cent as much heat (from the under side) as an uncoated shingle of the same thickness. Similar tests on a 1-inch cypress board showed practically no difference in emissivity. Evidently in thick coverings of wood the question of painting is unimportant. This is owing to the poor heat conductivity of the wood.

Some interesting data were obtained on the emissivity of thin sheet iron covered with asbestos. The particular type of material examined was the three-ply Johns-Manville corrugated asbestos roofing, which consists of a thin sheet of metal covered on both sides with impregnated asbestos felt. Samples of similarly coated material were tested in which the asbestos was covered (on both sides of the sample) with aluminum paint or sprayed zinc.

From consideration of the emissive, absorptive, and reflective properties of these materials it appears that all three of these types of roofing

are incorrect in principle when it is desired to decrease the intensity of the reradiation from the under side. This is owing to the fact that aluminum and zinc absorb more (reflect less) solar radiation than asbestos. As a result a roof coated on the outside with these metals becomes much hotter than a similar roof covered with a white reflecting material; for example, white paint or asbestos. (See Table 2.) From these considerations it appeared that the most efficient arrangement is to use the roofing material with the outside asbestos coat unpainted, as obtained in commerce, and to reduce the emissivity of the asbestos coat, which is on the under side, by painting it with aluminum. As shown in Table 2, the results obtained confirm expectations. The sample which had only the under side coated with aluminum transmits only about one-half as much heat to the interior of an inclosure (for example, balloon hangars) as the unpainted material. The sample which was coated with aluminum paint on both sides is not so efficient in mitigating the heat radiation, and, moreover, would probably not stand weathering conditions.

TABLE 2.—Showing the temperature of a sample of roofing material above the shade temperature (29° C., 84° F.); also its emissivity when painted as compared with a surface of similar unpainted Material used as a standard

Sample		Temperature of sample		Emissivity	Remarks
Standard outside covered with	Under side covered with	°C.	°F.		
Asbestos.....	Asbestos.....	44	112	100	Best arrangement
Aluminum.....	Aluminum.....	52	126	72	
Asbestos.....	do.....	45	113	55	
Zinc.....	Zinc.....	55	131	—	

No emissive tests were made on the sample which had both sides covered with arc-sprayed zinc in view of the high temperature rise of the material exposed to the sun. This showed the impracticability of the use of the zinc coating on the outside. But, as a means of reducing the reradiation from the under side a (sprayed) coating of zinc should be quite as efficient as the aluminum.

No tests were made on the emissivity of a sprayed coat of aluminum as compared with a similar coating of aluminum paint. While there may be a slight difference in the emissive properties of these two types of aluminum coatings, it does not appear to be very important in practical engineering applications.

From the foregoing tests it appears that the best arrangement is therefore a coating of asbestos or white paint on the outside to reflect as much as possible of the incident solar radiation, and a coating of aluminum paint on the under side to reduce the intensity of the low temperature thermal radiation emitted by the heated metal roof.

As already mentioned, if the under side of the

metal roof is bright galvanized iron or tin no marked gain is to be expected in reduction of intensity of the reradiation from the under side by applying a coating of aluminum paint, though some mitigation would result from applying a coating of white paint on the outside.

The present emissive tests of paints of non-metals and of vitreous enamels are not extensive. The object in view is mainly to check the results of previous investigations by a novel method which does not involve thermal convection. The application of the data to increase the heat dissipation of house radiators, which are really convectors of heat, will be discussed, although this is only incidental to the main purpose of the present investigation.

From previous researches on the emissive, absorptive, and reflective properties of matter there is reason for believing that there is no marked difference in the low temperature emissive properties of the non-metallic materials that are suitable for paints.

The emissive properties of paints of bronze, aluminum, iron oxide, zinc oxide, green and white enamel, terra cotta, etc., applied to steam house radiators were previously studied by Allen. He found that the paints and enamels composed of non-metals had practically (within 5 per cent) the same emissive properties. The paints containing flakes of aluminum or bronze had an appreciably (20 to 25 per cent) lower emissivity, which, as already stated, is to be expected from our knowledge of the low emissive properties of metals. The reason that he did not find a still lower emissivity for the metal paints is to be ascribed to the fact that his tests were made on segmented steam radiators, which are essentially convectors of heat, and, hence, the emissivity of the surface is of secondary importance.

No data appeared to be at hand on the emissivity of sheet iron covered with (white) vitreous enamel. The samples examined were test panels of commercial enamel. The intensity of the thermal radiation emitted by the various samples of aluminum-covered enamel was 27 to 30 per cent that of the clean vitreous enameled surface, which is practically the same as was found in the comparison of the emissivity of aluminum with white lead paint. From this it appears that the emissivity of vitreous enamel is as high as that of white lead paint. This is in agreement with expectations.

For aesthetic reasons, and also because it seems to be the custom, the radiators used in heating buildings are usually coated with aluminum or bronze paint. From the viewpoint of obtaining the maximum amount of heat from a radiator of a given size, aluminum or bronze paints are the most inefficient materials that can be applied.

However, from the results of the foregoing tests, we must not jump to the conclusion, which unfortunately has been given considerable publicity, that the ordinary steam radiator can be made to emit three times as much heat by applying a coat of non-metallic paint. As stated in the beginning, the ordinary steam radiator is really a convector of heat. It is so constructed that the room becomes heated principally by thermal conduction and convection of the air which circulates over and between the sections of the radiator.

In this connection it is appropriate to discuss some tests made by Allen* on radiators coated with various substances, such as aluminum and copper bronze, terra cotta enamel, white paint, etc. Out of about two dozen tests on various paints he found that the aluminum and copper bronze coverings always diminished the heat dissipated by 24 to 28 per cent below that of the non-metallic paints. In subsequent tests, which will be noticed presently, the values obtained were 17 to 20 per cent below that of the non-metallic paints. Merely covering the aluminum paint with a coat of terra cotta enamel increased the heat dissipation by about 28 per cent. Allen's tests were made on commercial household installations, and, while the experiments are subject to improvement in fine details, the essential parts of his results are of special interest to the engineer.

In the above cited investigations of Allen, also of Allen and Rowley,† an analysis is made of the efficiency of different kinds of paints; also the relative amount of heat dissipated by air convection and by thermal radiation from various types of radiators.

A single pipe, in a horizontal position, loses relatively more heat by radiation than by air convection; but placing the pipe in a vertical position increases the heat lost by convection.

According to the experiments reported by Allen (*loc. cit.*, p. 236) in a wall coil type (5-A) of radiator, 47 per cent of the heat is given off by convection and 53 per cent by radiation. He calls this a radiator of heat. He found (*loc. cit.*, p. 312) that the coefficient of emissivity of the aluminum coating was about 50 per cent less than that of the other surfaces. From this and from the foregoing tests of the emissivity of aluminum and other paints, it appears that the total heat dissipation from a wall coil or single tube radiator can be appreciably increased (perhaps 25 to 35 per cent) by the application of a coat of paint which is free from flakes of pure metal.

In the more commonly used radiator, consisting of two or more columns and four or more sections, relatively more heat is dissipated by air convection than by thermal radiation. Hence,

the kind of paint applied to the surface of a multisection house radiator is of relatively less importance.

In a 2-column radiator of 13 sections Allen found that of the total heat dissipated about 30 per cent was lost by radiation and about 70 per cent by convection. For a 4-column radiator the figures were 27 and 73 per cent, respectively. Allen calls this a convector of heat; but even in this case (*loc. cit.*, p. 317) the aluminum paint dissipated only about 81 per cent (347 Btu per unit surface) as much heat as the non-metallic surface (428 Btu) or the rusty or black paint surface.

These tests indicate that in a radiator consisting of a number of sections the heat carried away by convection between the sections is a large percentage (Allen's values range from 50 to 73 per cent, depending upon the type of radiator) of the total heat given out, and that the heat lost by radiation from the sides of the radiator is relatively of secondary importance. Hence, the use of a covering which is an inefficient emitter of thermal radiation is not so serious as it would appear from tests of flat surfaces.

However, a gain of even 10 to 15 per cent in heat dissipation into the room by using a non-metallic covering is worth considering. By non-metallic paint is meant any covering which does not have the pure metal flakes, such as bronze or aluminum. The various pigments offer a great variety of tints for decorative purposes with greater efficiency in heat dissipation. It is true that this energy is in the form of radiant heat, which is useful only to the object upon which it impinges and is absorbed. Nevertheless, judging from the radiant heaters (electrically heated coils with reflectors) there is some advantage in having this extra heat dissipation in the room.

In conclusion it may be added that it is unnecessary to remove the old coat of aluminum paint before applying the coat of non-metallic paint. This is owing to the fact that the aluminum paint, which has a high thermal conductivity, becomes simply part of the metal wall of the radiator.

From the foregoing data it seems that owners of small heating installations, whether hot air or steam, could save fuel and money by preventing heat losses from the furnace and rusty, dusty, pipes leading from the furnace to the radiator by covering them with a good coating of aluminum paint. A clean galvanized pipe is probably as effective as the aluminum paint. Then, in the rooms that are to be heated by steam, apply to the pipes and the radiators a coating of non-metallic paint; for example, white lead, zinc oxide, chromium oxide, enamels, etc. No doubt a covering of heat insulating material on the furnace and

*Allen, *Elect. World*, 57, p. 1616; June 22, 1911.

†Allen and Rowley, *Jour. Amer. Soc. Heat. and Vent. Eng.*, 26, pp. 103, 305; 1920.

on the concealed pipes leading from the basement to the upstairs rooms would be more effective than aluminum paint for retaining the heat within the pipe; but the relative cost of installation and upkeep of heat-insulating coverings as compared with the application of aluminum paint on the bare pipe must also be considered. However, the aluminum and other paints are easily applied without great expense, so that some benefit should be easily obtainable.

EFFECT OF FINE GRINDING OF PORTLAND CEMENT ON THE STRENGTH OF CONCRETE

ABOUT ten years ago the Bureau of Standards began an investigation to determine the effect of fine grinding of cement on the strength of concrete. Since the beginning of the work other investigators have shown this effect for short periods of time, usually one year. It is felt that the Bureau's tests are of particular interest, as they extend over a 10-year period, and show the effect of fine grinding on the strength of concrete at definite intervals of time during this period.

For the investigation five commercial brands of cement, as received direct from the manufacturers and representative of their marketable product, were used. Each cement as it was received was thoroughly mixed and divided into two lots. One lot was used as received for making concrete, while the other was ground in a ball mill for one and one-half hours before use.

Concrete cylinders 8 by 16 inches were made from both lots of cement, Potomac River sand and gravel being used as the aggregate. The materials were proportioned either 1:2:4 or 1:3:6 by volume. After remaining in the molds for 24 hours the specimens were stored in moist air for 28 days. After the 28 days' curing the specimens were placed out of doors exposed to Washington weather conditions until broken. Compressive tests were made at the 7-day, 28-day, 6-month, 1, 2, 3, 5, and 10 year periods. The extreme variation in fineness in the two lots of any one cement was 20.1 per cent on the standard No. 200 cement sieve.

From the results of these tests the following conclusions may be drawn: No retrogression is shown in the compressive strength of the concretes at the end of the 10-year period. In general, the fineness of the cement increased the strength of the concrete. All cements do not give the same increase in strength with the same increase in fineness. The effect of fineness of cement on the strength of concrete diminishes with age. The 1:2:4 mixes show better increases of strength with the same increase in fineness than do the 1:3:6 mixes.

ARCHITECTURAL TERRA COTTA INVESTIGATIONS

THE National Terra Cotta Society for a number of years has been supporting a research associate at the Bureau of Standards with the object of securing and maintaining a quality of architectural terra cotta which will give the best performance of this ware in buildings.

The physical properties of terra cotta have been determined, including compressive strength, transverse strength, tensile strength, resistance to freezing, and the coefficient of expansion. The tensile strength, as compared with building stone of like absorption, was found to be high.

Investigations of the expansions of the glaze, body, and underslips have also been undertaken. The coefficients of expansion of 20 samples of each on these materials have been measured by the interferometer method. Crazing of the glaze in some cases was found to be due to the glaze having a greater coefficient of expansion than the body.

In order to study the serviceability of this ware in buildings, terra cotta which had been in service 2 to 30 years was examined critically on 535 buildings in practically every large city in the United States east of Kansas City, Mo. It was found that terra cotta must meet certain requirements in climates having freezing weather. Keeping water out of terra-cotta structures by proper flashing was found to be beneficial, especially where steel which would otherwise rust is used in the structure.

An investigation of manufacturing methods, with the object of standardizing manufacturing practices insofar as these affect the quality, included a visit to 14 terra cotta plants. The good and poor practices employed by the different plants are being pointed out to the industry. The economic value to the public of improving the quality of the ware in this manner is inestimable.

Other research on terra cotta consists of a study of eight ceramic bodies, including four commercial terra cotta bodies. Twelve different ceramic finishes were used on the specimens, and all of the test pieces were made at terra cotta plants in accordance with standard practice. Outdoor service tests are being conducted on specimens molded in the shapes of balusters and coping. In addition to these, laboratory tests are being conducted on the same bodies. It was found that the methods of firing and cooling terra cotta and the types of kilns in which they are fired have a decided influence upon the quality of the ware.

Twenty cements are being investigated to determine their suitability for joining pieces of terra cotta. It was found that some of these cements produced very good joints, the most promising being those of the zinc-oxychloride type.

THE AMERICAN ARCHITECT

SHORT LENGTH LUMBER UTILIZATION

IN a recent survey, conducted by the National Lumber Manufacturers Association, the production of short length yard lumber during 1924 was found to be slightly more than 3 billion board feet. This is based on the assumption that 85 per cent of the total cut of softwood lumber of 30,000,000,000 feet, or 25,500,000,000 feet, was yard lumber and that 12 per cent of this amount consists of lumber of lengths 9 feet and shorter.

The information from which these data are compiled is based on authentic reports received from softwood lumber manufacturers, who, during that period, produced 3,340,000,000 feet of yard lumber.

The amount of short length lumber, unavoidably produced in ordinary saw and planing mill operations, varies considerably between the various species. In California white and sugar pine, it is slightly less than 8 per cent of the total production, while in Northern hemlock it is practically 20 per cent. This variation is due not only to the inherent characteristics of woods and the uses to which they are put, but also to the policy of individual lumber manufacturers on the short-length they consider economical to save.

The average shortest length reported saved by any lumber manufacturer was 2 feet in Southern cypress and Southern pine. A large number of manufacturers of Southern pine in the southeastern Gulf States, and of North Carolina pine, do not save lengths shorter than 10 feet, and this represents the average maximum short length reported saved. The longest, shortest, and mean length of short lumber saved for all species averaged 7, 3, and 5 feet, respectively.

As just indicated, many manufacturers save much shorter lengths than others, and this policy is followed primarily because of the use of better methods of merchandising and their ability to market such material. In case all manufacturers of all species uniformly saved and sold the shortest lengths reported saved by any one manufacturer, there would be an increase in short length production of about one-third or during 1924 of slightly more than one billion feet. Thus by the universal practice of better merchandising methods on the part of lumber manufacturers and dealers, and through a more widespread knowledge on the part of ultimate consumers on the high intrinsic value of short length lumber, the present waste of short length material could easily be eliminated. The

amount of short lumber so saved would be sufficient to build approximately 100,000 eight-room homes, annually, it would reduce the drain on the present forests by the amount of the annual softwood lumber cut once in each thirty years.

An analysis of the short lengths produced in milling and working yard lumber shows that a little less than 60 per cent are 8 and 9 feet long, and the balance less than 8 feet long. In some species a majority of short lengths occur in such yard items as Finish, Flooring, and Bevel Siding, while in other species the majority of short length material is Common Boards and Dimension. On the average, the greater amounts of shorts occur in Flooring, Ceiling, Partition, Common Boards, and Dimension. And it is significant that in ordinary house construction, these particular items can be used in short lengths to a greater extent than the others. It is not uncommon, in fact almost universal to cut the short pieces, used around windows and doors, as backing for lath, braces for floors, roofs, etc., from 16 and 18 feet lengths with considerable waste. Material for these purposes could be obtained from short lengths with little, if any, greater waste.

HEAVY TIMBER MILL CONSTRUCTION

THE present day best practice in timber mill construction is vastly different from the forms first devised by Wm. B. Whiting and Edward Atkinson thirty or more years ago. We are indebted to them because their work furnished that impetus which has developed the fine standards of today. It is regrettable, though, that many textbooks still describe the old, obsolete construction with the same old-time illustrations. All of this has a certain historical value but leads to confusion, especially in those who have not had a special training in timber and fire-resistive construction.

We are indebted to the National Lumber Manufacturers Association, Transportation Building, Washington, D. C., for the publication of a fine set of standard details of heavy timber mill construction. These details are printed on loose sheets for greater convenience in drafting room use. They are based on standard timber sizes and grades and also comply with the requirements of the underwriters. Three types of construction are detailed—the standard, semi and laminated. These details will be found of real service and they should be in every drafting room.



THE AMERICAN ARCHITECT

EFFECT OF HUMIDITY ON HARDNESS OF VARNISH

HARDNESS measurements have recently been made on samples of varnish received for test in the Bureau of Standard's laboratory. For this work the swinging-beam method, as described by Walker and Steele in Circular 229 of the Paint Manufacturers' Association of the United States, has been employed.

The marked effect of humidity on these measurements was brought out on a very humid day in the laboratory. For instance, a spar varnish with a drying period of two days showed a hardness factor of 0.333, the relative humidity being 50 per cent. At four days, with a humidity of 60 per cent, the hardness factor was 0.387. At six days, with a humidity of 80 per cent, the hardness factor was only 0.240, while at seven days, with a humidity of 50 per cent, the hardness factor was 0.447.

The marked decrease in hardness factor on the sixth day, when the humidity was 80 per cent, is noteworthy.

SCRUBBING TESTS ON MARBLE

ONE of the problems in the Bureau of Standards' research work on marble is to determine the ultimate effect of various commercial cleaning preparations on the polished marble surface. For this purpose a machine has been built which consists of a broad-faced wheel so constructed that sample slabs of marble can be mounted around its circumference. This is geared down to turn once in six hours. At the lowest point of this wheel is a scrubbing drum covered with felt. This drum turns eight times per minute, and by means of a balance bearing it is weighted against the marble specimens to give the desired scrubbing pressure. The felt dips into a pan of the scrubbing preparation, which it carries up, and scrubs the marble specimens as they pass. The test is carried on continuously until the marble has received as many scrubblings as it would normally get in several years of actual service.

SOUND TRANSMISSION

INCREASING interest is shown in everything that pertains to sound and its relation to buildings. This subject is naturally divided into two phases. The subject of acoustics is usually concerned with the action of sound within the room where it originates and great advances have been made in recent years in the design of auditoriums so as to insure satisfactory results in this respect. It can be said that predetermined conditions can be produced by those qualified to undertake the work.

Another phase of the sound problem is that of

transmission through walls separating one room from another. Sound transmission is effected by the sound passing through an intervening partition or being conducted through floors, ducts and other structural members. This latter phase of sound transmission is being studied by the Bureau of Standards.

As a preliminary to this study are experimental methods for measuring the acoustic transmittance of panels by means of observations in two closed rooms which are in acoustic communication only through the panel, which is set up as a part of the partition wall between the rooms. The necessary equations are developed for interpreting such experiments and expressing the results in absolute units, so as to give values which are characteristic of the panel alone and independent of the peculiarities of the laboratory where the tests are conducted.

The methods are then compared with those employed by Paul E. Sabine and F. R. Watson and it is shown that the quantities measured by the different methods are not physically identical. Hence discrepancies are to be expected among the values obtained, although it seems probable that all the methods would arrange any given set of panels in the same order.

The methods established by the Bureau are set forth in Scientific Paper No. 506, Bureau of Standards*, entitled Theory and Interpretation of Experiments on the Transmission of Sound through Partition Walls. The results of the tests on certain panels will be published in *THE AMERICAN ARCHITECT* in the near future and should be of value to all interested in the subject.

HYDRAULIC STANDARDS

THE Hydraulic Society, 90 West Street, New York, is an association of pump manufacturers who have adopted certain standards for various types of pumps. These have been published as the Standards of The Hydraulic Society and can be secured from the secretary. Pumps are classified as steam, power, centrifugal and rotary. A standard nomenclature is given. The capacities, piston travel and equipment for the various types are noted. Instructions for installing and operating centrifugal pumps, motor ratings, standard flange dimensions, friction tables of water in pipes and other engineering data are given. Trade agreements covering working drawings, performance guarantees, standard warranty and replacement form and tests are also given. This publication is intended to serve the architect and engineer who specifies pumps for any service whatever and should find a place in every office of that kind.

*Superintendent of Documents, Government Printing Office, Washington, D. C. Price 10 cents.

TIME REQUIRED to PREPARE BIDS

ANY work, correctly done, requires a certain measure of effort and time. Granting that the effort is made honestly, it cannot result satisfactorily unless sufficient time has been allotted for the purpose. Time allotments to contractors for preparing bids are generally made by architects. They have been sufficient or totally inadequate, like every other undertaking. Insufficient time allowances are usually due to the ignorance of the architect as to the procedure entailed in preparing a proposal or a selfish imposing of severe conditions on the other fellow.

This important subject has been discussed recently in the June Bulletin of the Associated Building Contractors of Illinois from which the following quotation is made.

Recently, the members of the Southern California Chapter of Associated General Contractors of America arrived at the conclusion that architects were not allowing contractors sufficient time within which to estimate plans and specifications and prepare bids. They were of the opinion that, in fairness to owners and themselves, a sufficient length of time should be allowed for estimating to avoid unfairness to both. A committee was appointed by this Chapter to make a study of the situation and submit its report. Following careful investigation and compilation of data submitted by a large number of members, the committee submitted a report which they believe will give contractors a fair shake.

A reprint appearing in the *California Constructor* with reference to the above, is herewith submitted.

ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Southern California Chapter

To the Architects of Southern California
Gentlemen:—

We are sure you will respond with your hearty co-operation when a reasonable request is made for standardization of some of the practices in the contracting and building business. Our immediate problem is to obtain building plans in time properly to prepare contractors' bids. We all know instances where both architects and contractors were rushed to put in long hours of night work to complete their work a few days earlier to please the owner, who then delayed the proceedings indefinitely or abandoned the work entirely. "Undue haste makes waste," is an old but true saying.

Some architects have assured us that they consider the accompanying schedule of time required for preparation of bids as being not only reasonable but a minimum for careful work such as we wish them to receive. The following article is taken from the *California Constructor*. We will appreciate your assistance in establishing this better practice.

Yours very truly,
E. EARL GLASS, Exec. Sec'y.

CONTRACTORS ATTENTION, PLEASE

Ever since designers first began to put their ideas on paper in the form of plans, there has probably been a wide variance in the time allowed for the contractors to prepare their estimates. The designer holds firmly to the belief that the contractor would put his plans aside until the day before bids are to be taken and then call for more time, even if he got them a month before the opening, while the contractor claims that the architect ponders over his job for months

and then expects the bids the following Monday morning at ten o'clock, while he takes the Saturday afternoon off for golf.

Of course both are wrong but there is a middle ground where we can meet and the A. G. C. Chapter has prepared a schedule of time required for preparing bids, to serve as a guide to all concerned. It is not held that such time can be predicted to the day, but we ask all Southern California architects to save this list and use it as far as possible in allowing sufficient time for proper preparation of building estimates. We thank you.

Class	Class of Structure	To						
		\$25,000	\$25,000	\$50,000	\$50,000	\$100,000	\$100,000	\$200,000
A—Theatres, Large								
Schools, Clubs,								
Hospitals, Banks,								
Churches		8	10	12	14	16	22	30
A—Hotels, Office Build-								
ings, Apartments		7	8	10	12	14	18	24
A—Factory and Loft								
Buildings, Ware-								
houses		7	8	9	10	11	16	20
C—Theatres, Schools,								
Churches, Clubs,								
Banks, Hospitals		8	9	10	11	12	18	—
C—Apartments, Flats,								
Office Buildings,								
Stores		7	8	9	9	10	16	—
C—Warehouses, Garage								
Buildings, Factories		7	7	7	8	8	—	—
D—Sheds, Warehouses		6	8 to 10	—	—	—	—	—
D—Residences, Flats		6	8 to 10	—	—	—	—	—

Whether the above schedule is correct or not is not questioned. One thing is true, the same schedule cannot be correct for every community. There are certain facilities that apply to the making of bids as to any other work. It is possible, in large cities, to procure quickly prices and sub-bids on almost everything that is specified in a building. In other places there may be no source of prices or sub-bids on many items like ornamental iron and bronze, terra cotta or marble. In this case it is necessary to send plans and specifications to other cities for prices and sub-bids. If the proposed building is to be constructed in a city other than where the contractor makes his bids, it requires a certain amount of time for the contractor to procure the exact local conditions, which are all important in preparing any proposal. All of these things require time and if time is not allowed the proposal must be based on a "safe guess" rather than on definite knowledge. Costs can be reduced through well studied estimates and one important element of such estimates is time.

It is desirable that this matter be considered by both contractors and architects and where the modern Building Congresses are organized, this is a subject well worth their consideration.

INTERIOR ARCHITECTURE

AN OFFICE BUILDING ALTERED *to* HOUSE *a* NEW YORK BANK

International Acceptance Bank, Incorporated

WALKER & GILLETTE, Architects

THE problem with which the architects were confronted in designing the offices of the International Acceptance Bank, Incorporated, New York City, was to transform the former offices of a life insurance company into modern banking quarters, concealing, as all alteration work should, the fact that the building was originally designed or even intended for any other purpose than that to which it is now to be put. The plans and photographs of the interiors reproduced herewith prove how successfully the architects overcame the difficulties with which they came in contact, for the bank now functions in

surroundings which seem in every way appropriate, without the semblance of a suggestion that the building housed at one time an organization of such contrasting facilities as a life insurance company. The cast iron columns, which, on stripping the piers, were found to be a part of the structural plan of the original building, suggest that the structure dates back at least 25 years, and the mansard roof, which was replaced in the alterations by two full stories, flush with the building line, bears evidence, too, that the original structure belonged to the last generation. Aside from the alterations made to the upper two floors, the



GENERAL VIEW OF BANKING QUARTERS, AS SEEN FROM MEZZANINE
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED, NEW YORK

THE AMERICAN ARCHITECT

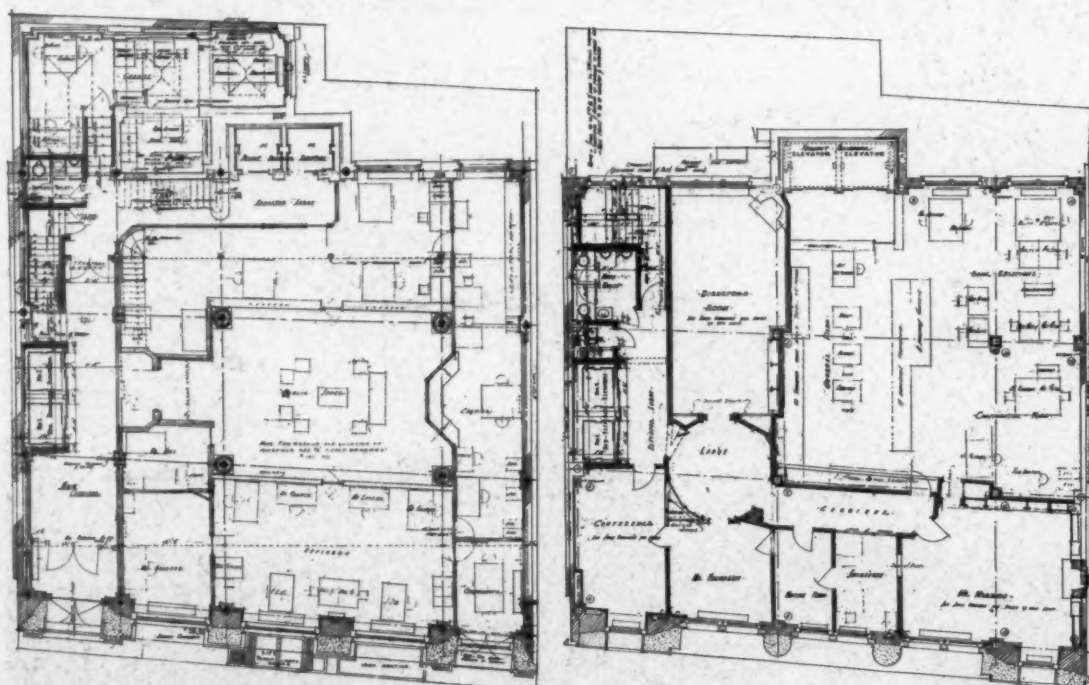
exterior was little changed. A door leading from the street at the extreme right of the plan was converted into a window, but any other changes that may have taken place had no effect at all on the exterior design. The alterations to the interior were much more substantial, however, and it was here that the architects were brought face to face with a real problem.

Before the alterations were made the first floor was practically one large office space, with elevators at the rear leading to the upper floors. Such a condition was not at all suitable to a bank.



THE DIRECTORS' ROOM
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED,
NEW YORK

A corridor was formed at the left entrance, two additional elevators installed there, and the main entrance to the bank opened out of this corridor. The wall of the corridor follows the line of the mezzanine which projects at the left, and in the alterations this mezzanine was continued along the rear wall to allow of additional space, being supported by small cast iron columns, similar to those employed in the original structure. The entrance to the bank, which also created a small vestibule, is constructed of white marble, with a trim and capping of black mar-



PLAN OF FIRST AND FOURTH FLOORS
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED, NEW YORK
WALKER & GILLETTE, ARCHITECTS

THE AMERICAN ARCHITECT

ble, and doors of Austrian oak in an interesting and unusual design. In the banking space proper, the old cast iron columns were completely stripped and Corinthian columns, treated in scagliola, in imitation of serpentine marble, enclosed them.

panels, and the woodwork, which includes the upper part of the banking screen and the partitions which divide certain of the space off into offices, is of Austrian oak, combining with the marble to give an air of security and dignity.



OFFICE OF THE PRESIDENT
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED,
NEW YORK



OFFICE OF THE CHAIRMAN OF THE BOARD
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED,
NEW YORK

These columns are surmounted by ornamental caps finished in dull gold. A railing and counter which continues around the public space, separating it from the offices and consultation rooms, is formed of white and black marble, set in panels, and the floor is treated in similar marbles, the white and black blocks being set alternately to form a check pattern. The panelled ceiling which is carried by the several columns and pilasters is exactly as existed in the original scheme, except that the greater part of the enrichment, which made these panels elaborate and out of place in the offices of a dignified banking institution, has been removed leaving only two ornamental members, where before the fields of the panels and the soffits of the beams as well were lavishly decorated in relief ornament. The walls and ceiling are simply tinted in cream tones, the lighting fixtures, in the form of hanging lanterns, are of brass with glass

The fourth floor includes the private office of the chairman of the board, the directors' room and a conference room which are all treated in the manner which is fast becoming so customary nowadays, of introducing a homelike atmosphere into



LOOKING TOWARD THE MAIN ENTRANCE FROM THE CORRIDOR TO THE
BANKING QUARTERS
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED, NEW YORK

THE AMERICAN ARCHITECT

industrial quarters, thereby relieving much of the strain and tediousness of a strictly commercial environment and making that part of life confined to the office infinitely more enjoyable. The office of the chairman of the board is perhaps the most inviting. The walls are panelled from floor to ceiling in pine, stained in a mellow tone which takes advantage of every line of figure in the wood, and this deep, rich yellowish hue is the predominant color in the entire decorative scheme. The furniture which, though substantial, has not the conventional look of office furniture, is covered in a light

brown leather, and the floor is covered with a rug whose general tone is also brown, but which is relieved by an allover pattern in a slight sugges-

tion of contrasting colors. The possibility of any monotony in color is immediately eliminated when once inside the room, for one wall, the wall not visible from the doorway, is devoted almost entirely to built-in bookshelves and the varied brilliant colors which the bindings of the books introduce into the scheme are all that is needed to counteract the simplicity and somberness of the dominating browns. A mantelpiece of black marble follows the



COMMITTEE ROOM
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED,
NEW YORK



OFFICE OF THE CHAIRMAN OF THE BOARD
INTERNATIONAL ACCEPTANCE BANK, INCORPORATED, NEW YORK

THE AMERICAN ARCHITECT

simplest lines, in keeping with the dignity of the occasion, and a few well chosen old prints of New York are placed where they prove that it is rather a question of selection and hanging than one of background which gives a picture a real part in a decorative scheme.

The directors' room is also panelled in pine. It is taken up almost exclusively by a huge table and surrounding chairs, covered in tapestry, although one corner of the room is given over to a series of desks and bookshelves above, and a fireplace, accentuated by a moulded serpentine marble facing, surmounted by a projecting wood shelf, is built on an angle in the opposite corner of the same wall. The abundant color in the tapestry upholstery material is only increased by the green

carpet which is in direct contrast with certain colors in the fabric and yet in harmony with others, as that of the marble of the fireplace facing. The conference room is even more friendly with its Colonial furniture, and, although a dignity has been retained by the plain painted walls, its furniture of early American tendencies, grouped on a tan rug, suggests more the setting for a friendly game of cards than a serious gathering of busy bankers, and it might well be imagined that the seriousness of their consultation would thereby be relieved of much of its gruesomeness. The president occupies quarters in closer proximity to the actual workings of the bank on the first floor, and his office is, therefore, more in keeping with the ideas of the bank proper.

The INTERIOR of THE PROVIDENT TRUST COMPANY of PHILADELPHIA, PA.

CARL A. ZIEGLER, Architect

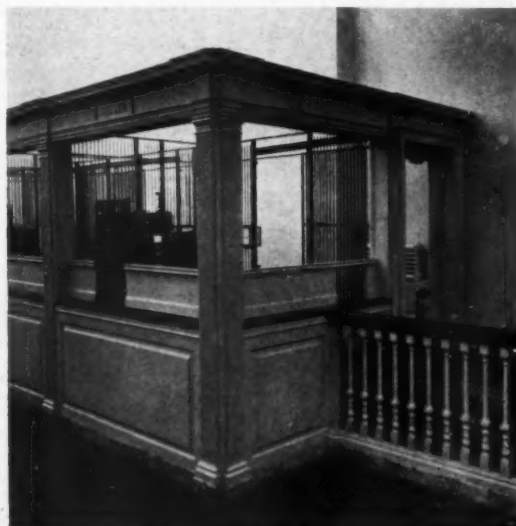
THE Provident Trust Company in Philadelphia is one of the oldest organizations of its kind in the United States and dates its history from that early time when the business of banking was not confined to money, but was conducted on a basis of consignment of farm products and light merchandise that had commercial value. Its traditions and the integrity that surrounds its entire history as a financial institution have been carefully cherished by succeeding managements from its very organization during the early Colonial period. It was therefore logical, and with a spirit that cannot be too highly commended, that in providing for its new building

it should be designed to make the structure outside and in, even to the last details of its decorations and furnishings, significant and suggestive of the early origin of this well established institution and of what it has always stood for in the history of Philadelphia. In commenting on the interior architecture of this building, it has seemed pertinent to refer to these facts that the reader may clearly understand the basic motives that actuated the architect in everything that he has done. It is a pity that more of this sort of thing could not be carried forward successfully.

Throughout, the architect has introduced those ideas and details which were distinctly of early



THE FURNITURE IN THE CONFERENCE ROOM



DETAIL OF THE BANKING SCREEN

THE AMERICAN ARCHITECT

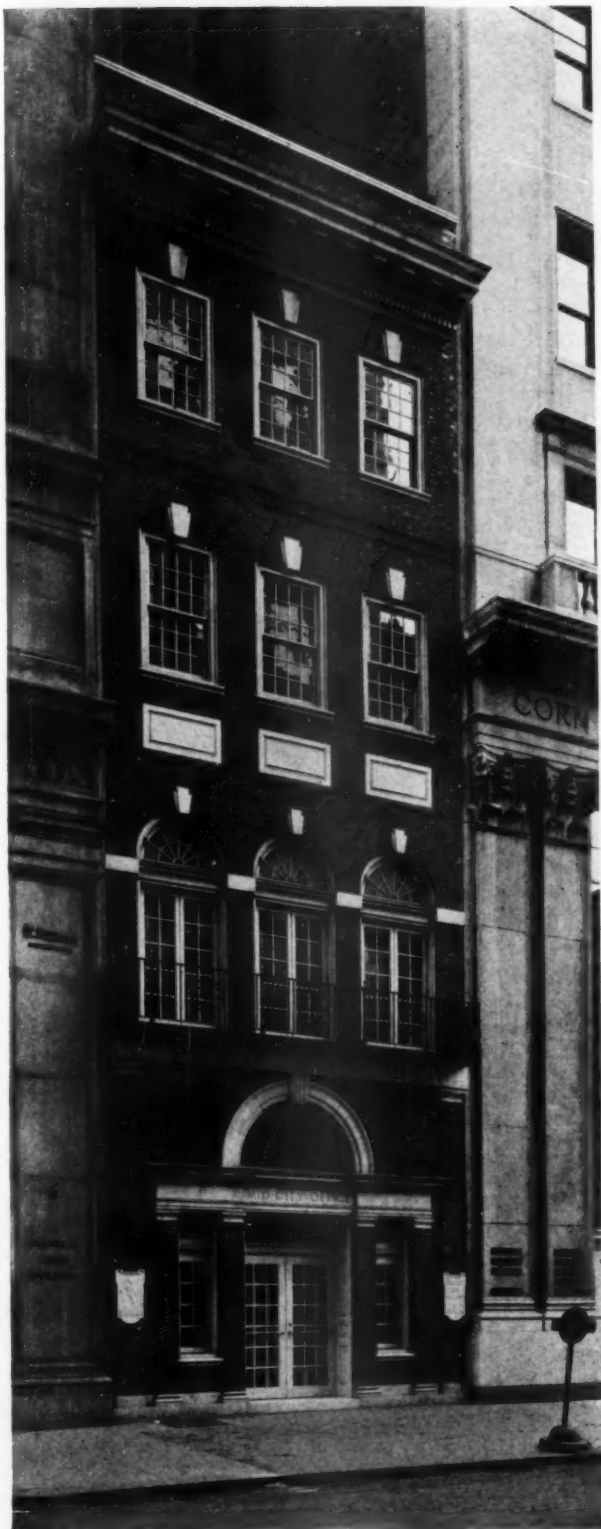
American origin, and those characteristics which make the bank individual and give to it its personality have been interpreted in its architectural and decorative treatments so that its individuality has been retained and even emphasized in this setting so thoroughly modern in its facilities and appointments. The wood screen with its metal grilles of severely simple design is perfectly in keeping with early American ideas; the informal proportions, everywhere discernible, in the floor plan, in the door openings, as well as in the banking screen, are peculiarly characteristic of early American ideals; and the furniture throughout, many of the pieces of maple, is representative of the best seen in American homes of the latter eighteenth century. Although the designs of the early American period are so suggestive of comfort and informality, characteristics which need be given little consideration in the design of a successful banking institution, the comfortable and informal atmosphere of the Provident Trust Company is one of its chief attractions. And yet those other characteristics, which are so vital in this type of building, strength and dignity, are well taken care of in the early American manner by the simplicity of the design and the entire lack of unnecessary and fussy details.

This bank everywhere gives the impression of business. There is nothing to detract from the dignity of its purpose or to disturb the seriousness of its functioning. But its architecture is not conventional bank architecture, nor are its furnishings the stereotyped commercial line. This bank has a personality and its architectural and decorative schemes bespeak it. For personality can be interpreted in terms of architecture and decoration just as it can in the clothes that one wears. The failure to appreciate that fact has standardized our architecture to such an extent that in many instances it has little originality and nothing of individuality. "American work must smack of our own soil," is the way Theodore Roosevelt once put it, and the architecture of Greece and Rome, so freely used for the design of modern bank buildings in this country often leaves much to be desired.

It is encouraging, therefore, to find the design of a bank, whose history and associations are so closely knitted with the history of this country, following the ideals and traditions of early American architecture and decoration, and the management of the bank and the architect may be commended for their part in retaining the individuality which it has so long enjoyed.



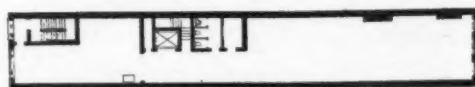
INTERIOR OF THE PROVIDENT TRUST COMPANY, PHILADELPHIA, PA.



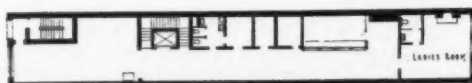
BUILDING FOR PROVIDENT TRUST CO.,
PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

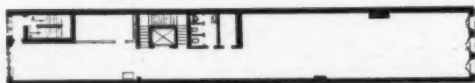
(See descriptive article on back and a review of interior
furnishings in Department of Interior Architecture)



FOURTH FLOOR PLAN



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN



BASMENT PLAN

BUILDING FOR PROVIDENT TRUST CO., PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

HE was a brave man who first had the courage to partake of that succulent bivalve commonly known as the oyster, but hardly less courageous is the architect who would attempt to design a banking house in any other than the traditional Classical mode. So well founded is this tradition that the simplest country bank must have the nearest approach to the glory of Greece or Rome that the village carpenter can devise, or suffer in the estimation of the community.

It is refreshing, therefore, to find an institution in a city of the first class sufficiently courageous to break through a tradition so firmly entrenched and to have its banking house designed in so modest a style as the Colonial. It is particularly appropriate that this should have occurred in Philadelphia, referred to by travellers as the most American of our cities, and one cannot refrain from speculating upon what a unique position Philadelphia would have occupied had she followed the admonition of William Penn and continued to construct her buildings of the type for which in our early days she became so justly renowned.

There is really no logical reason why a Grecian temple or a Roman bath should be particularly appropriate for the housing of a banking business unless one would enthrone a god, or perhaps wash away a stain and one does become surfeited with the massing of huge artificial marble monoliths and imitation coffered ceilings outrivalling those of Caracalla.

Perhaps the use of Classical architecture for banking houses came from the desire to create an atmosphere of opulence, but to many the impression is not unmixed with awe and the honest simplicity of the Provident Trust Company's building in Philadelphia will be a welcome relief.

This building which is the Mid-City office of one of Philadelphia's oldest banking institutions was more or less of an experiment and was undertaken with considerable trepidation. The results, however, have more than justified the judgment of the officers of that institution who conceived the idea of erecting a building in the early American manner in which to conduct their business.

The Provident Trust Company has a background of Colonial traditions and, therefore, the architectural style which they adopted is particularly expressive of its history.

The site was a most difficult one to develop for the purpose, having a frontage on Chestnut

Street of only twenty feet and a depth of one hundred and thirty-five feet to Ionic Street at the rear. On either side were huge office buildings with which any competition in point of size was impossible.

The complete change in materials from the surrounding buildings including the red brick pavement has exerted a queer psychological effect upon the passerby and it is quite impossible to pass the building without unconsciously observing that here is something different. Perhaps this effect is assisted by the fact that one really cannot see a twenty story building at one glance whereas a modest building of four stories having simplicity as its keynote is comprehended at once.

It is questionable whether there is not more advertising value in erecting a well designed small building among skyscrapers than there is in overtopping one's neighbors, only to be outstripped later on by still taller structures, as has so often been the case in New York. In Philadelphia this fact has been demonstrated in a number of cases, the Girard Trust Company being a case in point.

In the past twenty years the true principles of Colonial architecture have become much better understood, but the word Colonial still covers a multitude of sins. In the Provident Trust Company building, however, there is evidence of a sincere desire to follow the old manner of building without resorting to the tricky devices so often employed by those endeavoring to adapt this straightforward, logical manner of building to modern requirements. The detail is refined and such ornamentation as is used is handled with restraint, as witness the entire omission of any cornice in the counting room on the main floor.

The brick of which the front is constructed is a New England brick selected to give that very illusive texture so seldom caught in modern Colonial buildings. The fenestration is simple and well balanced, the old plank frames losing none of their dignity by contrast with their more elaborate neighbors.

We understand that the cost per cubic foot of this building was very low indeed and although we would not in any sense disparage the erection of magnificent business structures, there is merit in designing simple things simply and we believe that to design well in a modest and refined type of architecture is more self-respecting than to attempt that which is not what it appears to be.



BUILDING FOR PROVIDENT TRUST CO., PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

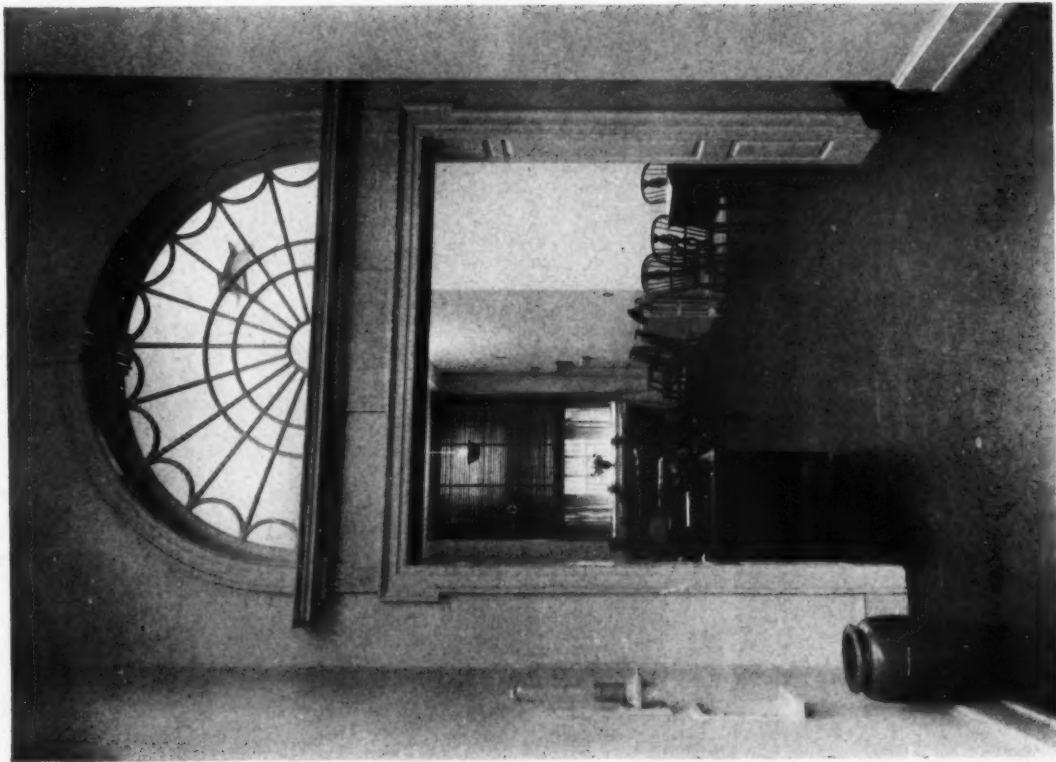


LADIES' ROOM

BUILDING FOR PROVIDENT TRUST CO., PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

THE AMERICAN ARCHITECT
August 12, 1925. Plate 220



NEW BUSINESS DEPARTMENT



TRUST DEPARTMENT

BUILDING FOR PROVIDENT TRUST CO., PHILADELPHIA, PA.

CARL A. ZIEGLER, ARCHITECT

THE AMERICAN ARCHITECT
August 12, 1935. Plate 221

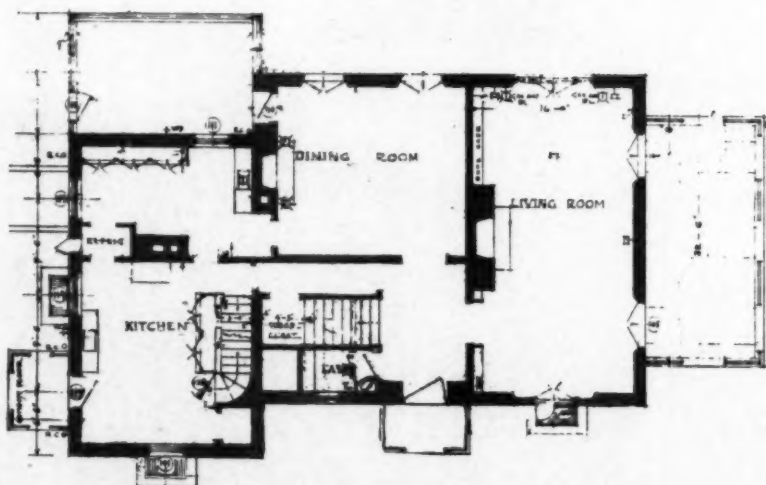
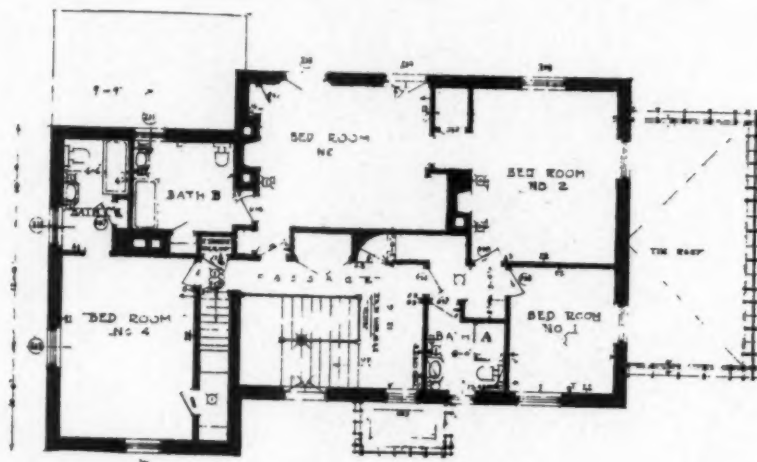


HOUSE OF M. H. HARRINGTON, GERMANTOWN, PHILADELPHIA, PA.

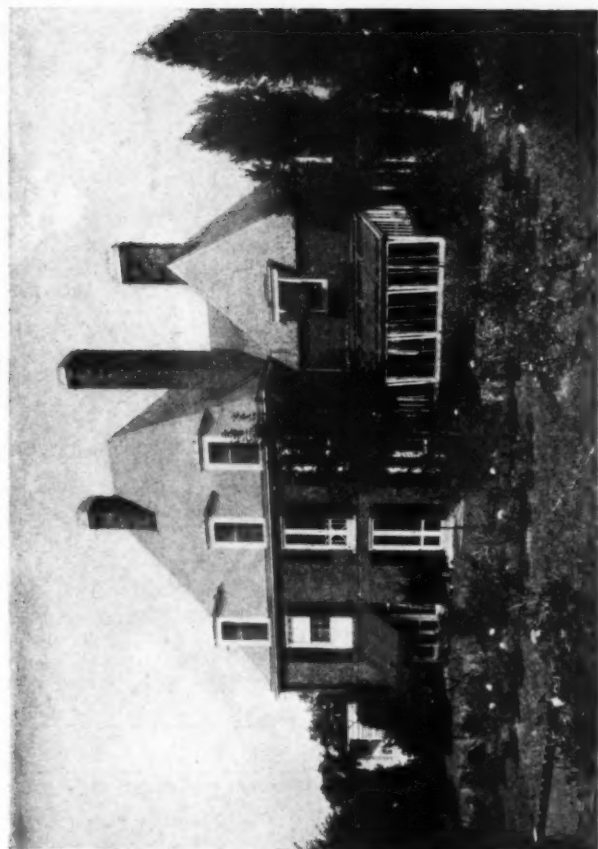
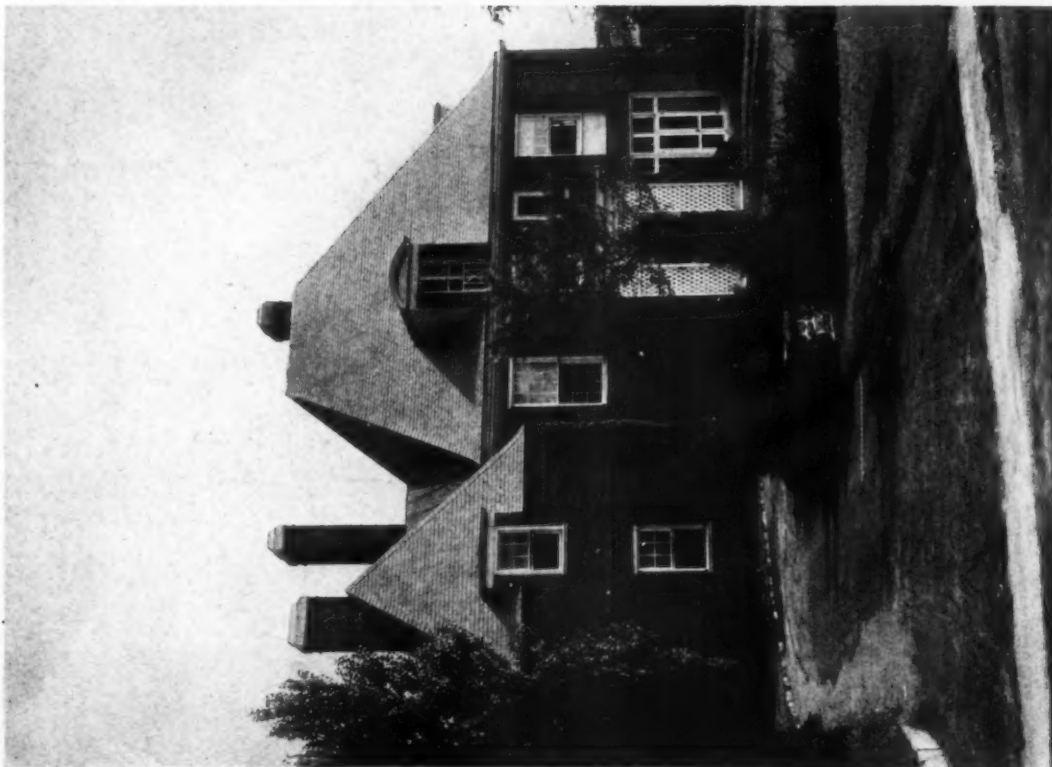
EDMUND B. GILCHRIST, ARCHITECT

(See plans on back)

THE AMERICAN ARCHITECT
August 12, 1925. Plate 222



HOUSE OF M. H. HARRINGTON, GERMANTOWN, PHILADELPHIA, PA.
EDMUND B. GILCHRIST, ARCHITECT



HOUSE OF M. H. HARRINGTON, GERMANTOWN, PHILADELPHIA, PA.

EDMUND B. GILCHRIST, ARCHITECT

(See interior view and description on back)

THE AMERICAN ARCHITECT
August 12, 1925. Plate 223

HOUSE OF M. H. HARRINGTON, GERMANTOWN,
PHILADELPHIA, PA.

EDMUND B. GILCHRIST, ARCHITECT

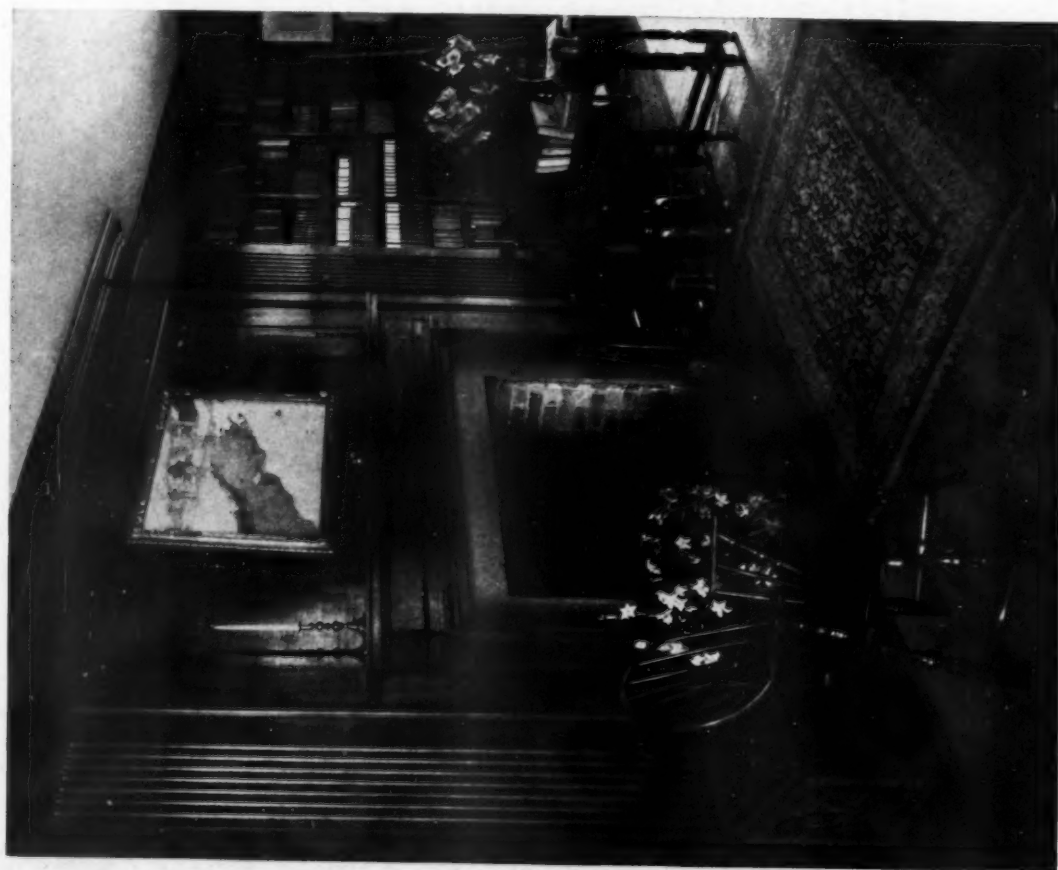
The exterior walls are of sand finished brick.
Slate roof.

All interior woodwork painted white and rubbed
down.

Partitions, plaster on wood studs. Floors, oak.

Interior walls are papered.

Cost 55c per cubic foot.



The LAW as to ARCHITECTURE

BY CLINTON H. BLAKE, Jr., of the New York Bar

THE increasing resort to arbitration to settle disputes between owners and contractors makes it important that the architect be diligent to see that his own rights are not prejudiced in any way by the arbitration proceeding.

I have had the importance of this thought emphasized recently by the submission to me of a case in which the owner and contractor had entered into an agreement for arbitration. The architect supported the position taken by the owner in general. The owner claimed that the contractor was in error and to this claim added the claim that, if it should be determined by the arbitrators that the contractor was correct, then the fault lay at the door of the architect. Taking this position, the owner demanded that the architect become a party to the arbitration proceedings. This the architect refused to do.

This case raises the interesting question, whether an architect, under such conditions, should become a party to the arbitration agreement and the effect of his refusal so to do. It is not difficult to understand the position of the owner in a case such as that to which I refer. His feeling is that someone is to blame and that it must be either the contractor or the architect. As a corollary to this proposition, it seems to him proper that they should both be joined as parties to the arbitration, so that the decision of the arbitrators, if favorable to the owner, will at the same time specify the person responsible for the damage. I think, however, that the position taken by the architect was both wise and proper. For an architect to become a party to an arbitration proceeding between owner and contractor at once opens up dangerous possibilities. Where, as in this case, the architect had given the best service which he could and claimed that he was not responsible in any way for the defective workmanship of the contractor, there is no reason that he should voluntarily submit to arbitrators the question of his responsibility in this connection, until at least it has been established by arbitration or some other procedure, that the contractor is not responsible. This remains true, even if the contract between the architect and the owner contains an arbitration clause. An arbitration between the client and the architect is one thing. An arbitration between the client and his contractor is quite another. What the owner, in effect, has tried to do in the present case, is to make his claim at the same time against both the architect and the contractor and to assert his claim against the architect without waiting until it has

been determined that his claim is not properly to be made against the contractor.

If the architect were to become a party to such an arbitration, it is obvious that it would be to his interest to throw the blame upon the contractor and, to the interest of the latter to throw the blame upon the architect. The result of this situation would be that the contractor in the arbitration would do everything that he could to shift the responsibility to the architect. The second result of the situation would be that the architect, who, in his capacity as arbitrator, was a witness in disputes between the owner and the contractor, would be in a position where it would be exceedingly difficult for him to be entirely impartial in view of his own interest in the matter.

As a party to the arbitration, he would be far less free to express his views, either for or against the contractor, than if he is acting solely as a witness. It is true that, if he is not a party, he will nevertheless realize, under such conditions, that a decision by the arbitrators in favor of the contractor, may mean that the owner will next proceed against him as architect. This cannot be obviated. There is no reason, however, why he should go further and embarrass himself to a greater extent by joining in the arbitration and so becoming professedly and as a matter of record an interested party. He should hold himself ready, of course, to give his testimony when called upon to do so and the testimony given should be impartial and as fair to the contractor as to the client. If the architect is careful to preserve his proper status in this respect, and to steer clear of becoming entangled in the controversy between the owner and the contractor, as a party thereto, he will run far less risk of the assertion against him of a claim by the owner, and he will occupy a far more ethical and logical position than if he becomes directly a party to the controversy. If the arbitration or other proceedings as between the owner and the contractor ends in a victory for the contractor and the owner proceeds then against the architect on the ground that the fault is his, the architect can meet the issue when it is presented, free from embarrassment and without the drawbacks which would attach to a three party controversy.

In special cases, of course, where there is a grave question whether the architect may not be at fault, and where it is essential that the architect shall be conversant with all that transpires in the controversy between the owner and the contractor, in order that an adverse decision to the owner in that controversy may not be made the

pretext or basis for a claim against the architect, it may be advisable for the architect to become a party to the proceedings. As such, he will be in a position to present his side of the case to the arbitrators and will not have to depend upon being called as a witness by the owner for that purpose. Where these special circumstances do not exist, however, and where the owner is not acting in any collusion with the contractor and the architect is in any event to be given the opportunity of testifying on the arbitration, it will be far preferable for him to avoid being entangled in the controversy between the other parties and to preserve his independent position and rights.

LEGAL DECISIONS

IN a suit by a contractor for the contract price on work done, the defendant claimed that, after the contract to perform the work had been entered into and completed, the contractor promised to do the work for a less sum than that stipulated in the contract. Evidence to this effect was offered and also evidence that the contractor had stated to a third person that he would do it for less than the stipulated amount, but that this preliminary statement had not been reported to the owner and that the parties had thereafter proceeded under the original contract. It appeared that the law governing the contract, which was for public work, required that the contract should be in writing and should be recorded.

The court held that the evidence submitted by the owner to the effect that the contractor had verbally agreed to do the work for an amount less than the sum agreed upon in the contract was not admissible, since it was an attempt to vary by parol evidence the terms of a written contract, and of a contract which under the law must be in writing. The court held, in addition, that, aside from the foregoing point, the promise alleged to have

been made by the contractor to charge a lesser amount, after the contract was fully completed, was wholly without consideration, and on this ground alone was unenforceable. As a third reason for holding the alleged promise of the contractor ineffectual, as a basis for a claim by the owner, the court held that the promise could not be enforced because it had not been made to the other party to the contract or his engineer, but merely to a third person.

MacWilliams v. Caldwell County, 224 S. W. 35.

A CONTRACTOR sought to abandon his contract, because of the increased cost of the work. He was requested by the owner to carry the work to completion and to leave the compensation to be given to him to the estimate of the owner's engineers. Thereupon, with the owner's knowledge, the contractor conferred with the engineers, and, as a result of this conference, agreed to proceed with the work. It appeared, also, that there was an agreement between the owner and the contractor that the owner would advance money to the contractor, with the understanding that the contractor would allow his equipment to be used on the work until it was completed.

The contractor sued on the basis of the oral modification of the contract agreed upon with the engineers.

The court held that the owner, in view of its action in having referred the matter to its engineers and its knowledge of the conference between the contractor and the engineers, was not in a position to contend that the engineers were not authorized to modify the contract. The court further held that, after the contractor abandoned the contract, the owner was not entitled to use the equipment of the contractor on the job, without payment to him of compensation therefor.

Johnston v. Cincinnati Etc. Co., 240 S. W. 429.





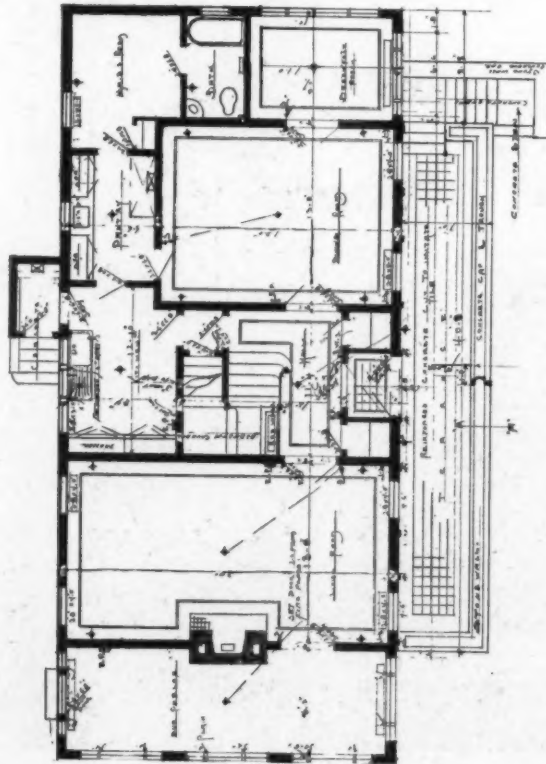
Photo by Dan Harris

HOUSE OF MRS. J. O'SULLIVAN, LARCHMONT SHORES, N. Y.

SALVATOR S. CALAFATI, ARCHITECT

HOUSE OF MRS. J. O'SULLIVAN, LARCHMONT SHORES, N. Y.

SALVATOR S. CALAFATI, ARCHITECT

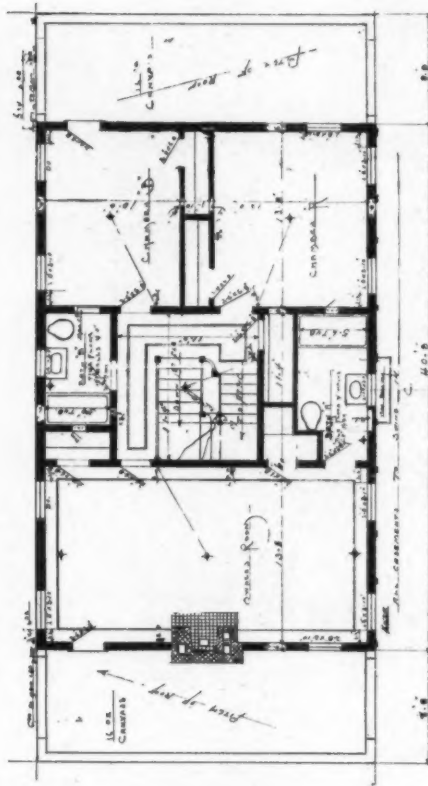


FIRST FLOOR PLAN

ITALIAN precedent has been effectively used in this dignified but livable suburban home. Colorful awnings on the windows lend interest to the broad expansive of stucco and agreeably soften a facade which might otherwise appear a trifle severe. The roof of glazed green Spanish tile is in good character with the design and harmonizes with the foliage of the adjacent trees. The judicious spotting of ornament above the windows, the wrought iron balcony and lighting fixtures on either side of the entrance door are commendable. The broad entrance terrace is conducive to sociability.

The basement has been arranged for the usual equipment required for heating, laundry and storage. In addition a portion has been utilized as a garage with the entrance planned beneath the terrace.

The rooms of the first and second stories are generous in size and



SECOND FLOOR PLAN

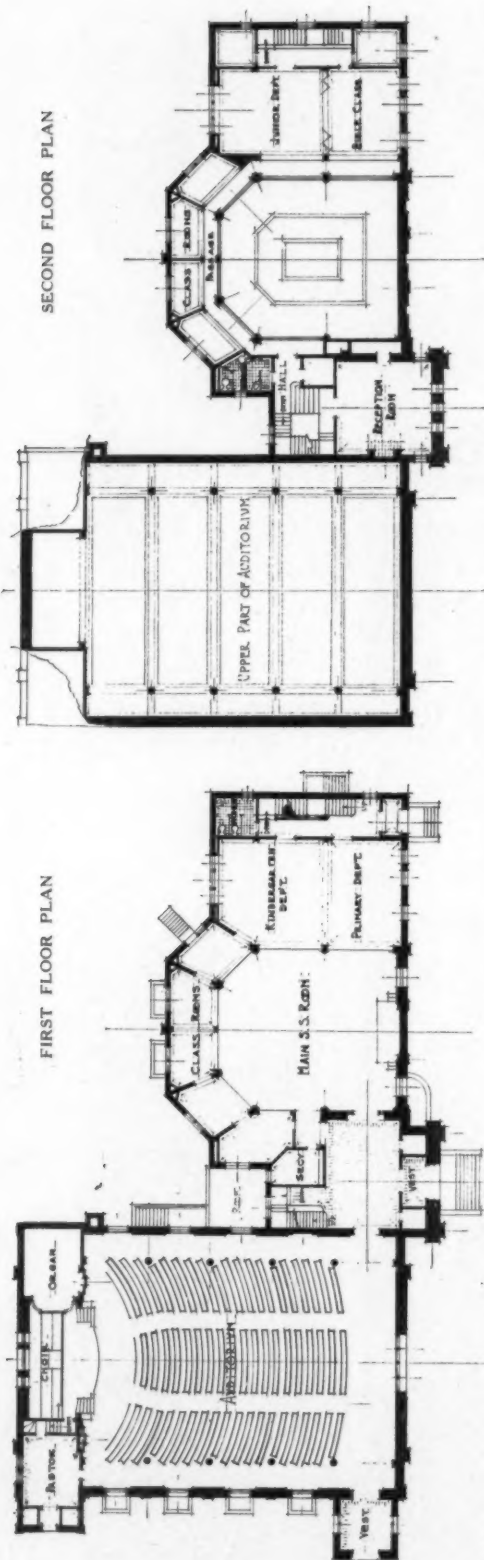
provided with sufficient wall space to permit proper disposition of furniture and other furnishings. The tendency to place the maid's room and bath on the first floor is looked upon with growing favor. The bathrooms are of a practical size without needless loss of valuable space, and closets are well arranged as well as generous in size. The roofs of the sun parlor and balancing one story portion containing the breakfast porch and maid's room are covered with canvas and made accessible to the adjoining bedrooms.

The wall and floor construction is of frame with stone foundation. Reinforced concrete slabs were used for the terrace floor and over the garage. Finished floors in the main living rooms are of quartered oak and the walls are plastered sand finish. Hot water is used for heating. House built 1924 at a cost of 50 cents per cubic foot.



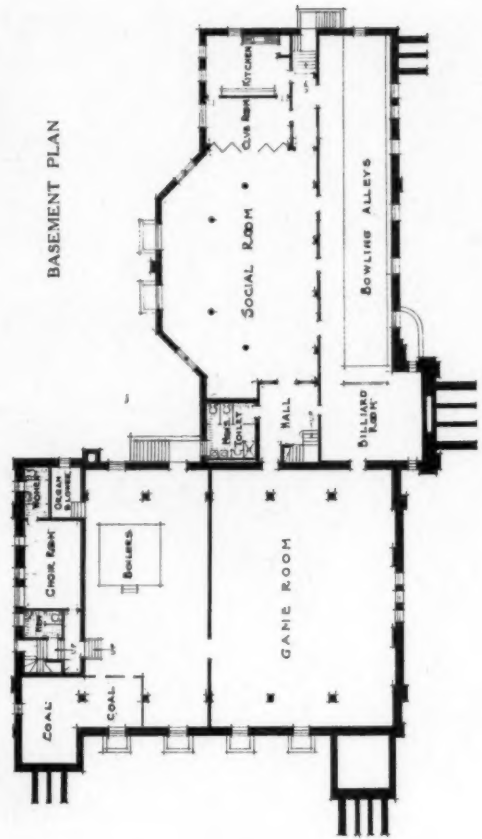
GENERAL VIEW, SHOWING CHURCH, SUNDAY SCHOOL AND MANSE
THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

WILLIAM S. GREGORY, ARCHITECT

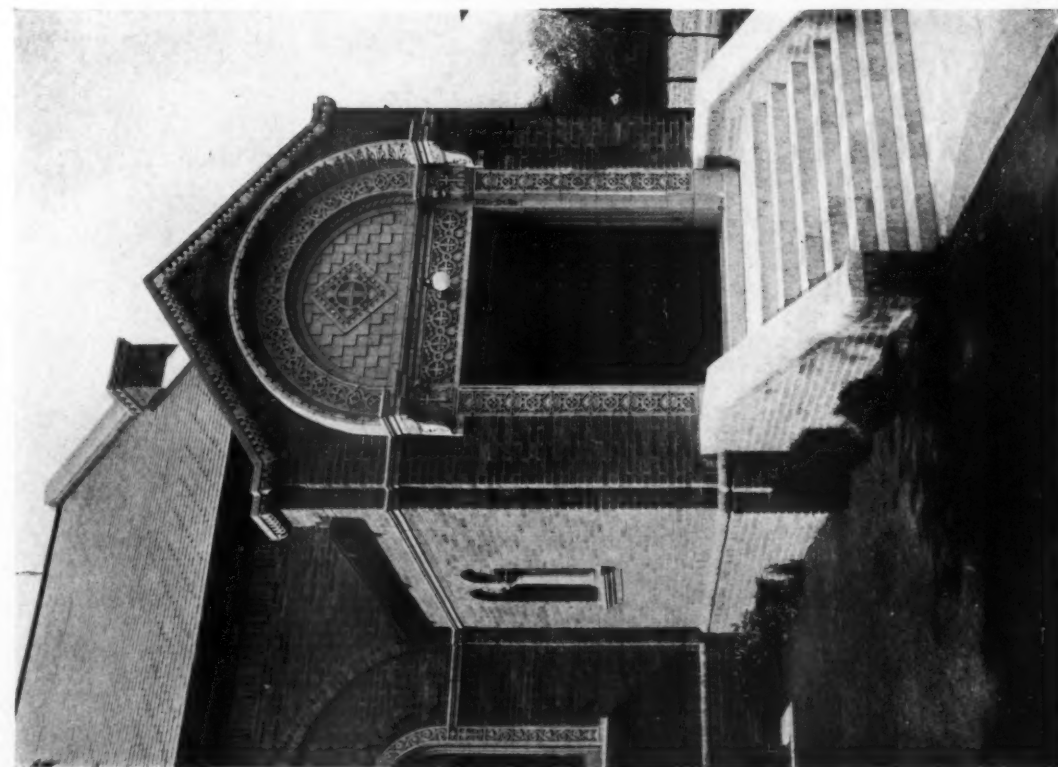


THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

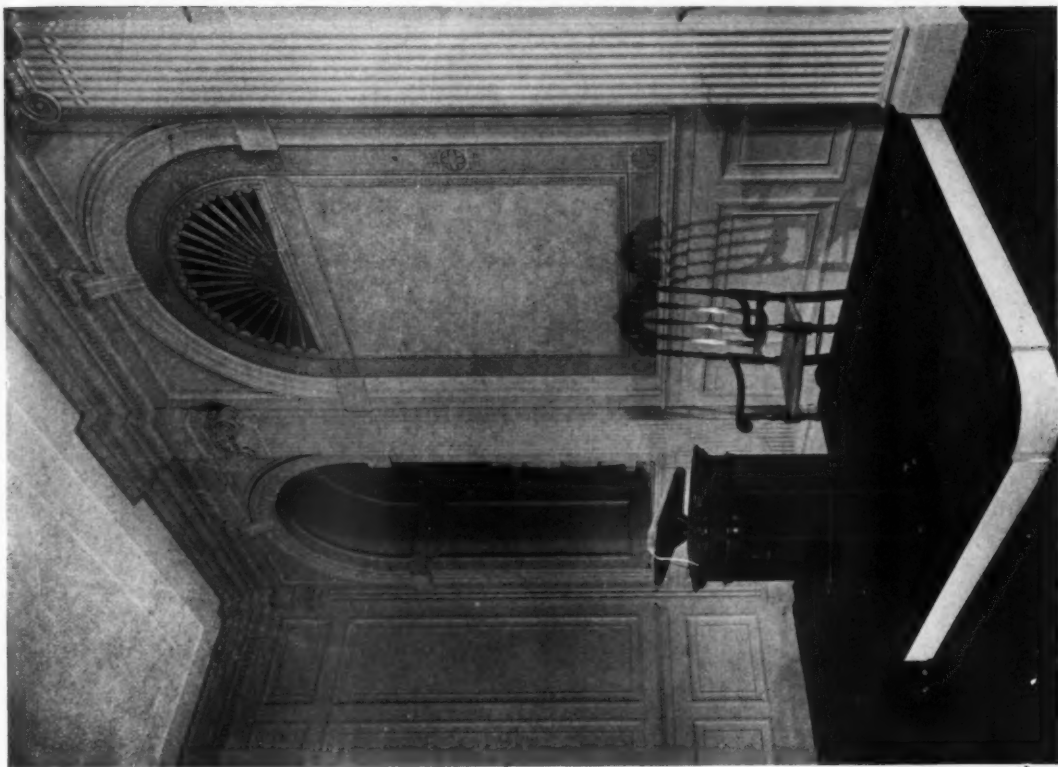
WILLIAM S. GREGORY, ARCHITECT



Exterior walls of $21\frac{1}{2}$ " x 4" x 12" tapestry brick in varying shades. Trimming, terra cotta. Columns at tower, including upper part, of polished Pompton pink granite, with polychrome terra cotta at upper part. All entrance steps of granite. Roof, green slate and copper. Trim, oak in church; chestnut in Sunday school. Steam heat. Cost per cubic foot, 19c exclusive of furnishings and organ.



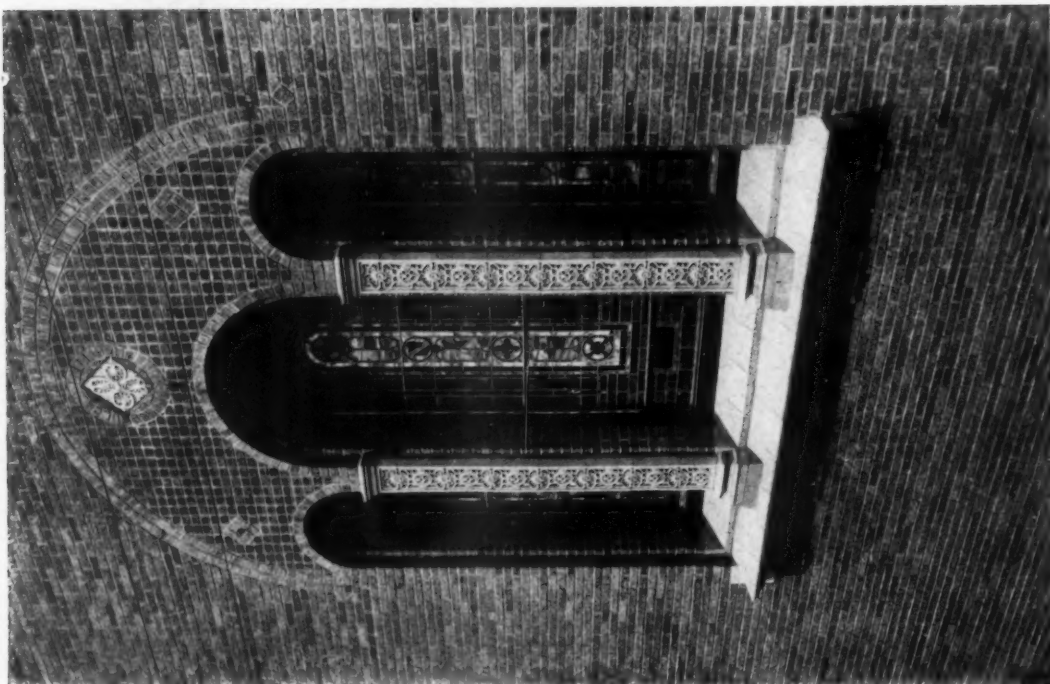
MAIN ENTRANCE



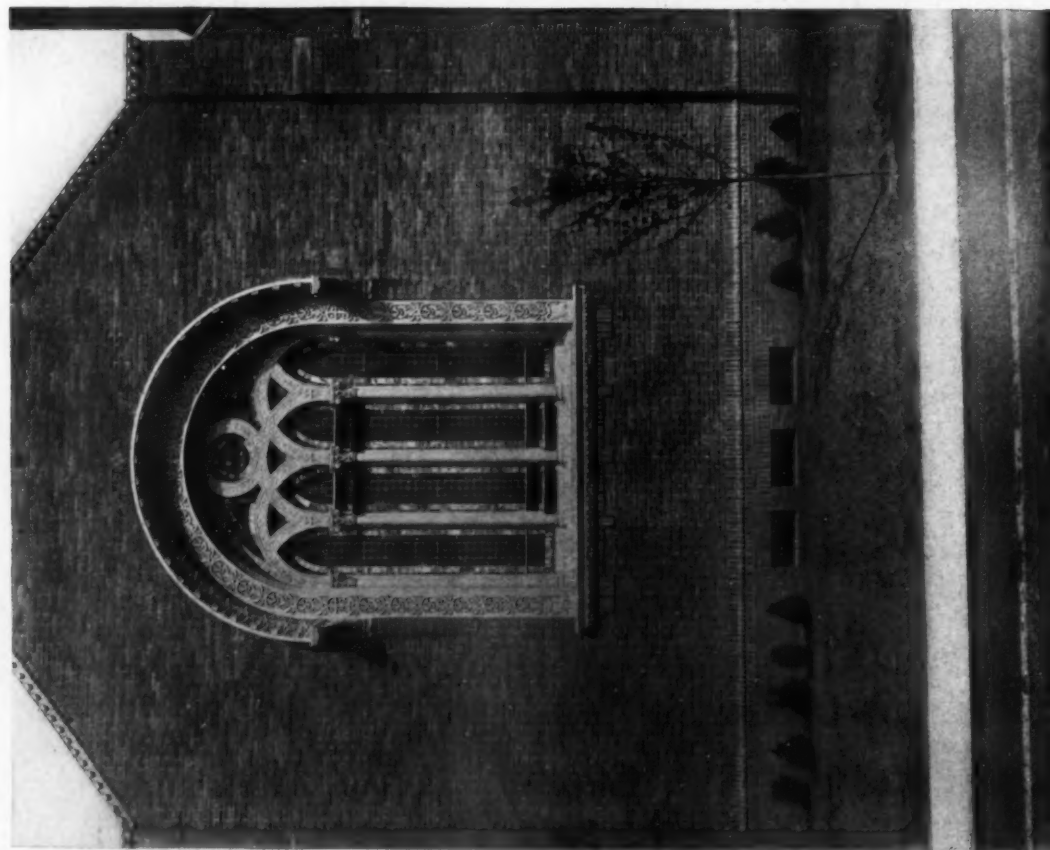
DETAIL OF END OF ROOM

THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

WILLIAM S. GREGORY, ARCHITECT



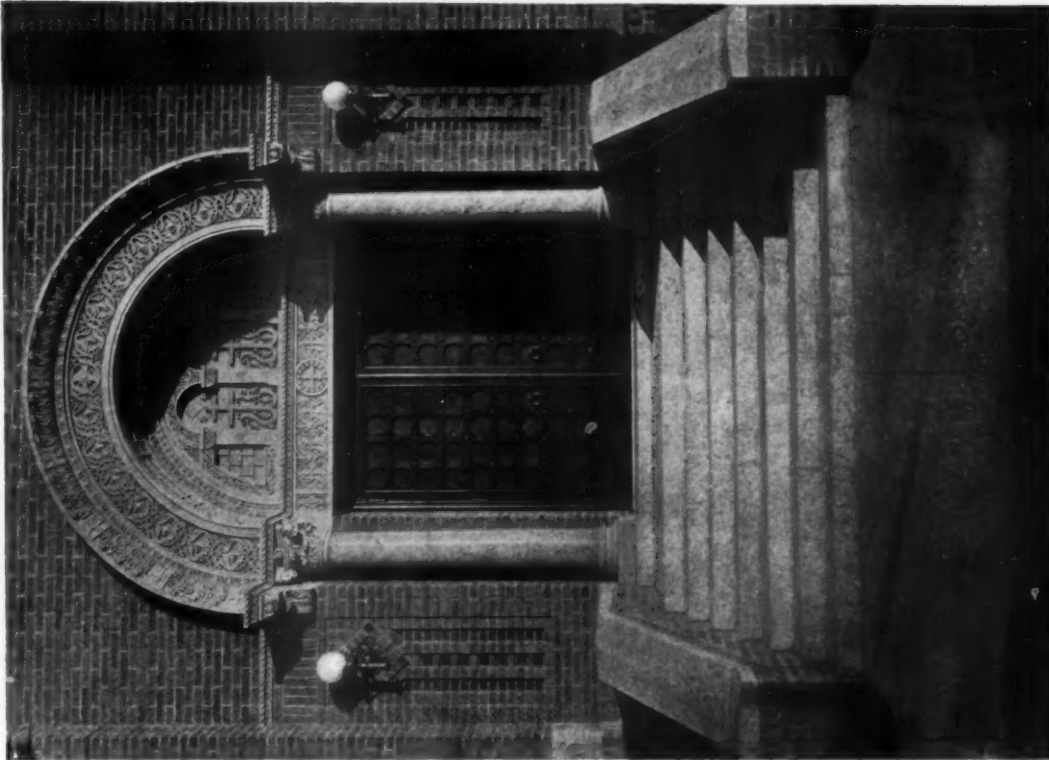
EAST WINDOW



WEST WINDOW

THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

WILLIAM S. GREGORY, ARCHITECT



TOWER ENTRANCE

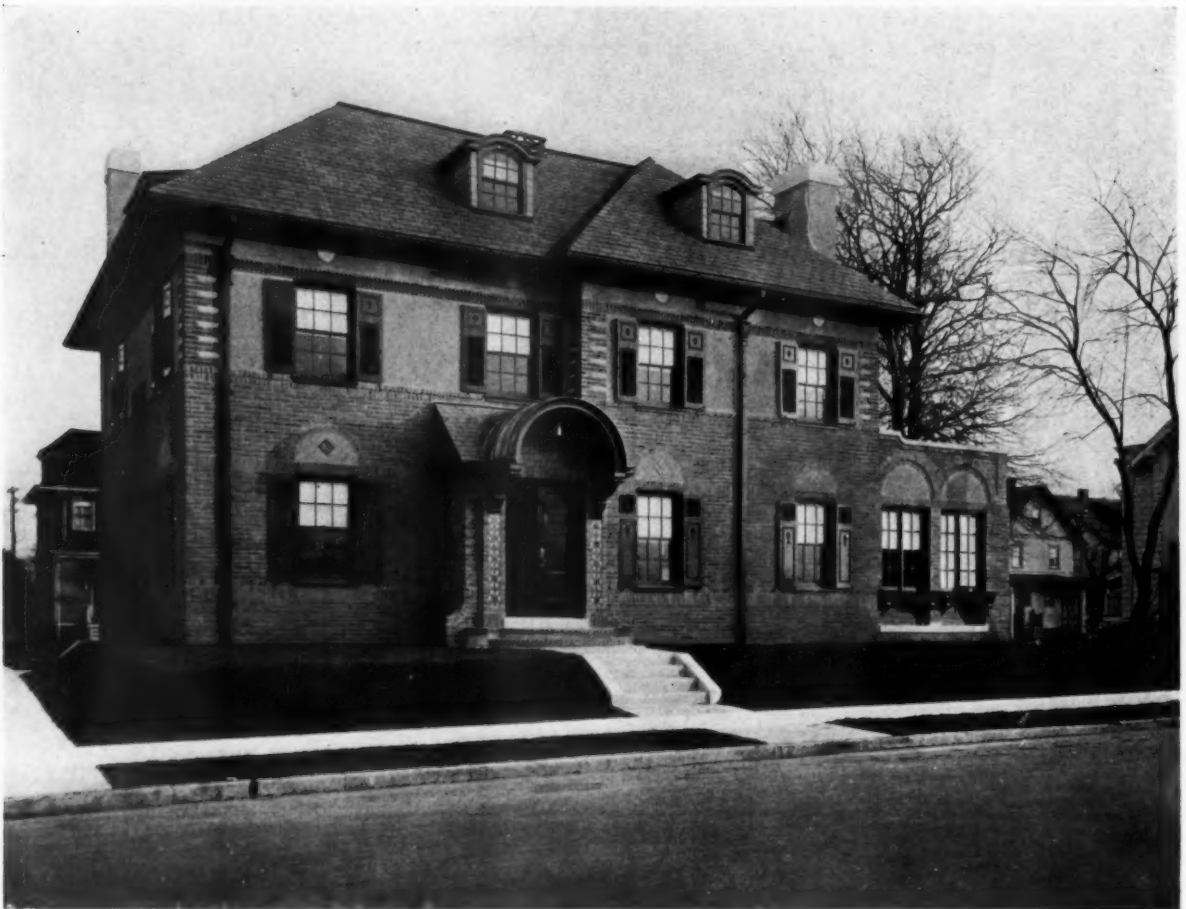
THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

WILLIAM S. GREGORY, ARCHITECT



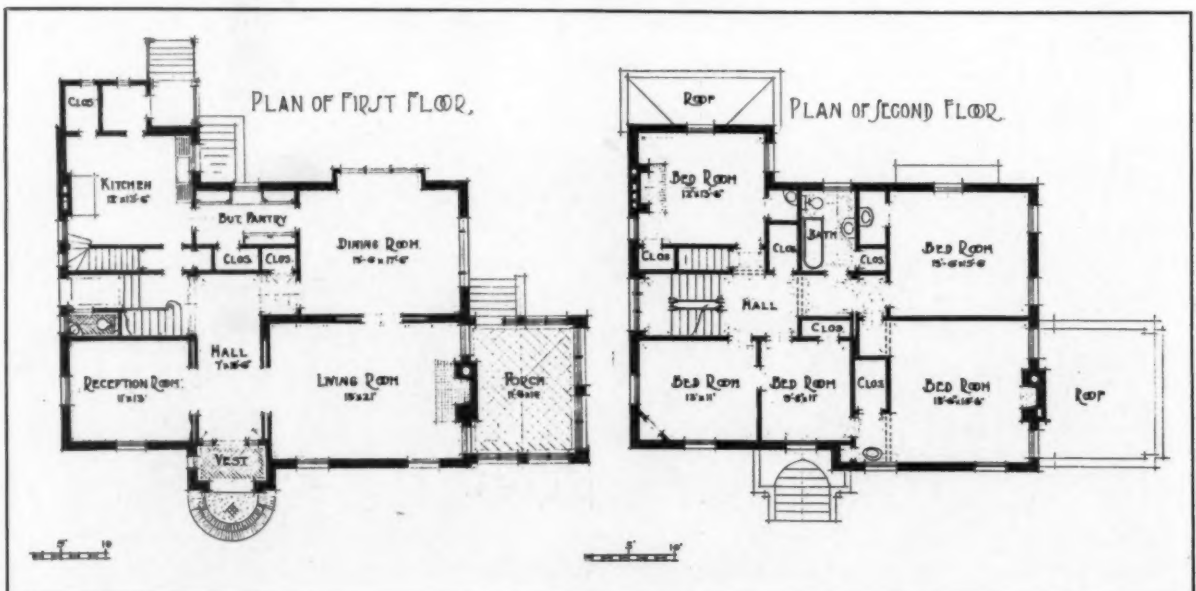
INTERIOR

THE AMERICAN ARCHITECT



THE MANSE, THIRD PRESBYTERIAN CHURCH, NORTH, NEWARK, N. J.

WILLIAM S. GREGORY, ARCHITECT



A LETTER *from* HARVEY WILEY CORBETT

THE following is, in part, a most interesting letter received from Harvey Wiley Corbett who, with Thomas Hastings, journeyed to England, to receive on the 4 of July, from Liverpool University, the degree of Master of Architecture. This letter received just at the moment of closing our forms, finds space here. The more formal announcement of the conferring of the degrees on Messrs. Corbett and Hastings will be found on the second editorial page of this issue. Mr. Corbett writes, in part, as follows:

"You may be interested to learn of some of the various things that have happened and which may possibly be of interest to your readers. When we stood on the deck of the Olympic as she drew into the harbor at Southampton late one evening we were robed in our heaviest Winter clothes and overcoats and still shivering. We were now approaching the land where there are only two kinds of people—'Those who look cold and those who are cold.' You can imagine our surprise when we got up to London and found that they had been through what, to them, was a very severe hot spell and that in Bush House through the ingenuity and genius of R. D. Peck, the London Director of the Bush Company, an experiment had been tried which might prove of genuine value to the heat prostrated New Yorker. One would hardly expect to find a solution of the heat problem in London. Well here it is and it is a very simple one when you think of it.

"Bush House, as you may know, has what they call over here central heating. Being a modern and very up-to-date building, there are no radiators and no registers anywhere. Anyone can go from top to bottom of this building and never be aware of the heating system because it is buried in the walls under panels a fraction of an inch below the plaster surface where warm water pipes circulate. This is the modern British system of

heating and has proved entirely satisfactory for this climate and is one which I hope some day to have occasion to install in America because I am convinced that if properly constructed, it will take care of our extremes of cold quite as effectively as it does here and do away with the ever present and unsightly radiator which the ingenuity of the architect has never yet successfully concealed.

"But that is not the point which I am particularly interested in making known. When the heat wave struck London, Mr. Peck asked himself, if we have central heating why should we not have central cooling; if we heat with hot water, why should we not cool with cold water? He promptly sent for his engineer, gave him the idea, connected the pumps with the artesian wells in the building from which the water supply is drawn,—it comes through at very low temperature,—and putting a few hundredweight of ice into the tanks, circulating pumps started up and the tenants of Bush House found themselves enjoying an interior temperature from 8 to 10 degrees below that in any other office building in the City. Can you imagine in a New York building, what the rent asset would be if one could announce central cooling during the Summer heat?

"We had an impressive ceremony at Bush House on the 4 July, when a statuary group by Malvina Hoffman symbolizing the Friendship of the English Speaking Peoples was unveiled in the great arch facing Kingsway. Unfortunately I was not able to attend this ceremony because Liverpool University was conferring the newly created degree of Master of Architecture on me at the same time in St. George's Hall, Liverpool, and in spite of the wonderful progress of transportation methods, we have not yet devised a method of being in two places at once unless one is as the Irishman said 'a bird.'



CARTOONS IN COLOR AND VERY LARGE IN SIZE, DISPLAYED OVER THE GALLERY OF ST. GEORGE'S HALL DURING THE DEGREE CEREMONY

THE AMERICAN ARCHITECT

"The degree ceremony was held in St. George's Hall, which is, as you know, one of the outstanding examples of the classical revival in England and is really a most impressive edifice. The hall was filled to the last seat in the balconies and people standing at the back; the rostrum was banked high with the dignitaries of the University and of the City all in most gorgeous robes; Lord Derby, Chancellor of the University, in a most sumptuous gown of black and gold directed the proceedings. Those receiving honorary degrees came up as each name was called from the floor of the hall, were presented to the Chancellor and invested with the degree and then seated on the platform. They certainly do this sort of thing extremely well over here, viewing it purely from the point of view of a spectacle largely, of course, because the form of symbolism is based on well established precedent founded on a long historic background.

"On the day previous to the ceremony a reception was held at the School of Architecture for Hastings, Adshead and myself with Professor Reilly, that exceptionally able director of the Architectural School, as Master of the Ceremonies. You know that Liverpool University is a truly remarkable school of architecture. Professor Reilly does not limit his educational activities to

carrying on his work simply on the basis of British precedent, but has exhaustively studied all methods of architectural instruction in America. He very wisely sent his prize men to work in New York offices as part of their educational equipment.

"The most surprising phase of the education situation in England is that the schools are turning to America and American methods for ideas but I must say that I think this only applies, and very properly so, to commercial and government work, as the British architect is still master of domestic work, achieving results which we are not able to secure in this field, we still being too conservative in the matter of styles and established precedent.

"I feel that Professor Reilly, for his conduct of the Liverpool School, deserves the greatest possible commendation because of the broad point of view he has taken and his ability to see the value of the best educational methods no matter what country they come from.

"We went from Liverpool to attend the R.I.B.A. conference which corresponds to an A.I.A. convention at home. I went simply as a Fellow of the R.I.B.A. and had a most interesting time."

HARVEY WILEY CORBETT, A.I.A., F.R.I.B.A.

AN INTERNATIONAL ART CONTEST TO INTERPRET THE SPIRIT OF RETAILING

APPROACHING the completion of one hundred years in business under the same firm name, Lord & Taylor, New York City, asks the art world to take a close-up of the modern store as an enterprise in service. Fourteen prizes, aggregating \$3,000.00 are offered for designs in line, or pigment or clay, that will translate the policies and aims of modern retailing in a graphic symbol, clear in thought and forceful in treatment. The offering is unusual in scope, since it is open to designers, painters, sculptors, architects and illustrators without restriction. For that reason, the Jury of Award represents all of the fine and applied arts, in a balanced expertness. In addition, it includes men who are prominent in promoting the alliance between art and commerce. The Jury comprises the following twelve members:

Robert W. de Forest, President, Metropolitan Museum of Art; J. Monroe Hewlett, President, National Society of Mural Painters; Samuel W. Reyburn, President of Lord & Taylor; William J. Beaulieu, Art Director of Hart, Schaffner & Marx; Heyworth Campbell, Art Director, Conde Nast Publications; Joseph Hawley Chapin, Art Director, Scribner's Magazine; Royal Cortissoz,

Art Editor of the New York *Tribune*; John DeVries, Art Director, Olmstead, Terrin & Leffingwell; Dr. John H. Finley of the New York *Times*, Jules Guerin, Mural Painter; Paulanship, Sculptor, and Walter Whitehead, President, Art Directors Club.

To obtain the best artistic advice in organizing this international art contest, Lord & Taylor have had the full and free co-operation of the Art Directors Club, which is one of the affiliated societies of the Art Center of New York. The competition is under this joint auspices.

The first prize is \$1,000.00; second prize, \$500.00; third prize, \$250.00; fourth prize, \$150.00 and ten prizes of \$100.00 each.

In view of the educational influence of this art competition, participation will not be limited to professional artists and illustrators, but will include art students from all over the country. The co-operation of the important art schools will be an important factor in stimulating native talent.

The competition closes October 15, 1925, and the decision will be announced by November 15, 1925. A comprehensive circular giving specifications and full details is available to all who request it from the Centennial Contest Department of Lord & Taylor, New York City, New York.



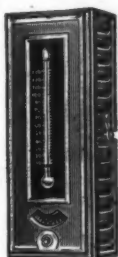
Minnesota State Capitol, St. Paul, Minn.--Cass Gilbert, Architect

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(S107-A)

The STANDARD SPECIFICATIONS of the NEW YORK BUILDING CONGRESS

THE recent announcement by the New York Building Congress that the Standards Committee of that organization is engaged in the preparation of standard specifications covering all trades in the building industry is received as an indication that the specification problem is nearer a solution than ever before and that further progress may be looked for in the near future. It is fitting that the Building Congress, as an organization in which all branches of the industry, including architects, engineers, builders and manufacturers may meet on common ground, should undertake the difficult task of preparing standard documents which will meet reasonable demands and at the same time be flexible enough to be of practical value.

While individual producers, specification writers, and numerous organizations have studied the writing of proper specifications for some years, these efforts have not produced a complete coherent, usable specification applicable to buildings of every character.

This subject has been given consideration by the Building Congress for some time, and in the autumn of 1923, the work was seriously begun by the Standards Committee under the leadership of Wm. Joshua Barney, Chairman, and Walter S. Timmis, Vice Chairman. To facilitate the work this committee has been divided into two groups. One, with Mr. Barney in charge, considers all matters relating to general construction, while mechanical equipment is under the direction of Mr. Timmis. These in turn are expanded into sub-committees covering each trade. W. E. C. Bigler of the architectural firm of McKenzie,

The committees include representatives of all branches of the industry who are in any way interested, from architects to estimators and material or equipment producers. Frequent meetings are held and the problems affecting all interested parties are discussed and the specifications written and readjusted until approved by the entire committee, after which they are finally edited and printed.

The committee first prepared an outline of the major headings of a general specification, and determined a sequence for the individual specifications. With these as a basis the sub-committees were appointed and actual work begun. As stated in the *Building Congress News* by Mr. Barney:

"The New York Building Congress, through its Committee on Standards, is endeavoring to determine standards for practice and specifications in the Metropolitan District with these purposes:

- (a) To secure a uniformity that will facilitate the work of estimating and lessen the cost of execution;
- (b) To make available for its members and others a convenient source of specifications embodying the latest

principles and requirements adapted to the current practice in the Metropolitan District."

Relative to the latter statement, it should be remembered that specifications are specifications the world over, and that there is no reason why the scheme should not be applicable to any section of the country, as well as New York City and vicinity, by properly rearranging the material to allow for local customs as respects the work done by different trades and the local building laws.

To use these standard documents, architects divide their specifications for each trade into two parts, A and B. Part A is written by the architect for the particular building in hand to indicate the sections of the standard specification, Part B, which apply and where the material is required. The specification at once has a working standard and the writing of the specification is simplified and shortened. As an example of the use of Part B, the architect's specification, Part A, might appear as follows:

GLASS AND GLAZING

For the X. Y. Z. Building, 75 W. 1000th Street,
New York, N. Y.

PART A

WORK INCLUDED

The Contractor shall provide all glass and setting materials and perform all work of glazing as shown on the drawings and herein called for in this Part A of this Division, in accordance with the requirements of materials and workmanship specified in the New York Building Congress Standard Part B of this Division.

A. POLISHED PLATE GLASS

(b) Selected glazing quality, for show windows, main entrance and vestibule doors of the first floor and for the windows on the north elevation on 2nd and 3rd floors set in steel muntins sash and frames.

(a) Glazing quality, for the north elevation on the 4th to 16th floors inclusive set in steel sash.

B. WINDOW GLASS

(a) First quality, 26 oz. for the windows on the north elevation of set back and for all pent house windows occurring five feet behind parapet walls.

(b) Second quality double strength, for doors of dressers in serving pantries.

C. WIRE GLASS

Polished, for lower sash on east, west and south elevation. Polished, 3-16" thick, for small lights in all elevator doors.

Rough, for upper sash on east, west and south elevation and for all sash doors opening from stairways.

Dated Firm's Name

The printed form, Part B for glass and glazing would immediately follow and be bound in as part of the set. This form as well as the list of trade sections will be found on the following pages.

All Part B standard forms will conform to the following sequence:



Pyle-National Floodlights make the Wrigley Building dominate Chicago's skyline. *Photo U. & U.*

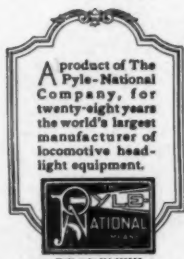
LIGHT DOMINATES!

IT must be gratifying, having one's works stand out against a black background at a time when all others are lost in the night.

Good business, too, for it throws the building into prominence, creates an atmosphere for it, overnight.

Floodlighting should be planned when the drawings are made. Let us advise.

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Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

THE AMERICAN ARCHITECT

- | | | |
|---|---|--|
| <ol style="list-style-type: none"> 1. Reference note to General Conditions: American Institute of Architects; any other general conditions or directions; 2. Work included, such as: What and Where Not Included 3. Special Conditions, such as: <ul style="list-style-type: none"> Shop Drawings Models Allowances Guarantees 4. Materials: <ul style="list-style-type: none"> 4-1 General 4-2 Delivery and Storage 4-3 Basic Materials Quality Finish Samples | <ol style="list-style-type: none"> Inspection Tests Mixtures <ul style="list-style-type: none"> Assembling Samples Inspection Tests 4-4 Special Materials 5. Workmanship: <ul style="list-style-type: none"> Quality General Requirements 6. Shop Work: <ul style="list-style-type: none"> Preparatory Work Assembling Finishing Packing 7. Field Work: <ul style="list-style-type: none"> Transportation Adjoining Work Cutting Setting Finishing | <ol style="list-style-type: none"> 35. ROOFING AND SHEET METAL: <ul style="list-style-type: none"> Skylights and their Glass. 37. VAULT LIGHTS: 39. ARCHITECTURAL IRON: 41. ARCHITECTURAL BRONZE: 43. CEMENT FINISH: 45. SPECIAL PAVING: <ul style="list-style-type: none"> Asphalt, Wood Block, Stone. 47. SPECIAL FLOORS: <ul style="list-style-type: none"> Cork, Rubber, Mastic, Magnesite, Linoleum. 49. METAL FURRING AND LATHING: <ul style="list-style-type: none"> Metal Beads. 51. PLASTERING: <ul style="list-style-type: none"> Keene Cement, Stucco, Sgraffito, Wood Lathing. 53. ACOUSTIC TREATMENT: 55. INTERIOR MARBLE AND SLATE: <ul style="list-style-type: none"> Structural Glass. 57. IMITATION MARBLE: 59. TERRAZZO: <ul style="list-style-type: none"> Marble Mosaic. 61. TILE: 63. CARPENTRY: <ul style="list-style-type: none"> Framing, Millwork, Screens, Weather Strips, Rough Hardware. 65. SPECIAL WINDOWS: <ul style="list-style-type: none"> Rolled Metal, Hollow Metal, Patented Operation. 67. HOLLOW METAL DOORS AND TRIM: 69. METAL COVERED DOORS AND TRIM: 71. SPECIAL DOORS: <ul style="list-style-type: none"> Revolving, Balanced, Folding, Rolling Shutters. 73. SHOW WINDOWS: 75. HARDWARE: 77. GLAZING: 79. MAIL CHUTE: 81. PAINTING: <ul style="list-style-type: none"> Wall Coverings. 83. DECORATIONS: 85. PLUMBING: <ul style="list-style-type: none"> Gas Fitting, Fire Lines. 87. SPRINKLER SYSTEM: 89. VACUUM CLEANING SYSTEM: 91. REFRIGERATION SYSTEM: 93. WATER SUPPLY SYSTEM: 95. SEWAGE DISPOSAL SYSTEM: 97. HEATING AND VENTILATING: <ul style="list-style-type: none"> Temperature Control. 99. POWER PLANT: <ul style="list-style-type: none"> Coal and Ash Handling, Cranes, Engines, Dynamos. 101. ELECTRIC WIRING: <ul style="list-style-type: none"> Signal Systems, Bells, Telephones. 103. LIGHTING FIXTURES: 105. FIRE ALARM SYSTEM: 107. CLOCK SYSTEM: 109. ELEVATORS: <ul style="list-style-type: none"> Power Dumb-Waiters, Elevator Accessories. 111. ESCALATORS: 113. MECHANICAL CONVEYORS: <ul style="list-style-type: none"> Pneumatic Tubes, Chutes. 115. EQUIPMENT: (Semi-independent: This list may be extended indefinitely): <ul style="list-style-type: none"> Kitchen, Laundry and Garage Fittings, Safes and Vaults, Furnishings, Tower Clocks, Chimes, Bells, Greenhouses, Landscape Work. |
|---|---|--|

The standards are printed on standard letter size sheets, 8½" x 11" and will be available at the office of the New York Building Congress for a nominal fee, or may be ordered through THE AMERICAN ARCHITECT.

The first standard which has recently been issued is for glass and glazing. Specifications for elevators and dumb-waiters will shortly be ready for distribution and these will be followed by masonry and concrete, excavation, piling, shoring, and others as they are completed.

This movement is decidedly worth while and should have far-reaching results through obtaining uniformity of documents, avoiding overlapping of trades, simplifying the preparation of a highly important contract document by the architects. Constructive work of this nature deserves support without reserve and whole-hearted co-operation by the profession.

(This sheet is in ready form for your use and files.)

March, 1925
Edition

NEW YORK BUILDING CONGRESS

LIST OF TRADE SECTIONS FOR SPECIFICATIONS

1. SPECIAL CONDITIONS: (Conditions, not actual work).
3. MISCELLANEOUS WORK: (Items of actual work to be done).
5. DEMOLITION:
7. EXCAVATION:
 - Filling, Grading.
9. PILING:
11. SHORING:
 - Sheet Piling, Underpinning.
13. FOUNDATIONS:
15. STRUCTURAL STEEL:
17. WATERPROOFING BY PLASTIC COATING:
19. WATERPROOFING BY BITUMINOUS MEMBRANE:
21. MASONRY AND CONCRETE MATERIALS:
 - Cement and other basic materials, Integral Waterproofing.
23. MASONRY WORK:
 - Mortar, Brickwork, Rough Stone Masonry, Structural Terra Cotta, Gypsum Blocks.
25. MASS AND REINFORCED CONCRETE:
27. CONCRETE ARCHES AND FIREPROOFING:
 - Reinforced Concrete Stairs, Hangers.
29. CUT STONE WORK: (Granite and Bluestone should generally be separate).
 - Stone Models, Carving.
31. IMITATION CUT STONE:
33. ARCHITECTURAL TERRA COTTA:

35. ROOFING AND SHEET METAL:
 - Skylights and their Glass.
37. VAULT LIGHTS:
39. ARCHITECTURAL IRON:
41. ARCHITECTURAL BRONZE:
43. CEMENT FINISH:
45. SPECIAL PAVING:
 - Asphalt, Wood Block, Stone.
47. SPECIAL FLOORS:
 - Cork, Rubber, Mastic, Magnesite, Linoleum.
49. METAL FURRING AND LATHING:
 - Metal Beads.
51. PLASTERING:
 - Keene Cement, Stucco, Sgraffito, Wood Lathing.
53. ACOUSTIC TREATMENT:
55. INTERIOR MARBLE AND SLATE:
 - Structural Glass.
57. IMITATION MARBLE:
59. TERRAZZO:
 - Marble Mosaic.
61. TILE:
63. CARPENTRY:
 - Framing, Millwork, Screens, Weather Strips, Rough Hardware.
65. SPECIAL WINDOWS:
 - Rolled Metal, Hollow Metal, Patented Operation.
67. HOLLOW METAL DOORS AND TRIM:
69. METAL COVERED DOORS AND TRIM:
71. SPECIAL DOORS:
 - Revolving, Balanced, Folding, Rolling Shutters.
73. SHOW WINDOWS:
75. HARDWARE:
77. GLAZING:
79. MAIL CHUTE:
81. PAINTING:
 - Wall Coverings.
83. DECORATIONS:
85. PLUMBING:
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87. SPRINKLER SYSTEM:
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 - Coal and Ash Handling, Cranes, Engines, Dynamos.
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103. LIGHTING FIXTURES:
105. FIRE ALARM SYSTEM:
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109. ELEVATORS:
 - Power Dumb-Waiters, Elevator Accessories.
111. ESCALATORS:
113. MECHANICAL CONVEYORS:
 - Pneumatic Tubes, Chutes.
115. EQUIPMENT: (Semi-independent: This list may be extended indefinitely):
 - Kitchen, Laundry and Garage Fittings, Safes and Vaults, Furnishings, Tower Clocks, Chimes, Bells, Greenhouses, Landscape Work.

Division 77 STANDARD FORM OF THE NEW YORK BUILDING CONGRESS, EDITION OF 1925

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New York Building Congress Standard Specification for
GLASS AND GLAZING

PART B

General Conditions:

1. GENERAL CONDITIONS OF THE CONTRACT of the American Institute of Architects, current edition, shall form a part of this contract, together with the Special Conditions, Division 1, to which this Contractor is referred.

Scope.

2. The following Requirements for Materials and Workmanship specify the required standards for Glass

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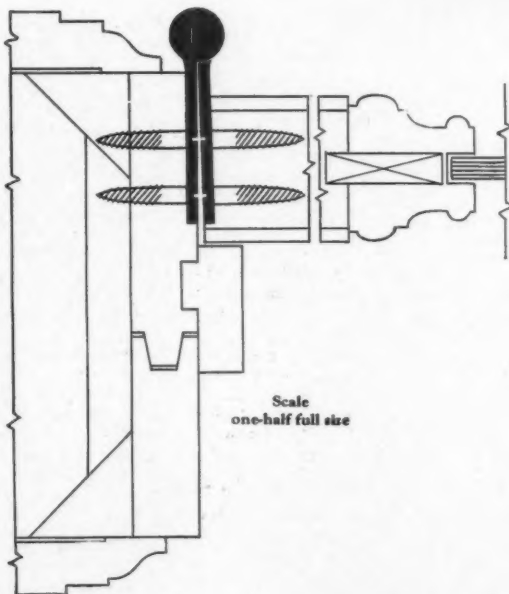
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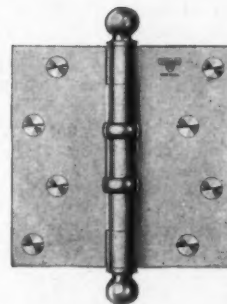
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Architects:
John Parkinson and Donald B. Parkinson
Los Angeles



Scale
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and Glazing to which the work included in the Contract, as described in Part A of the Division of the Specification, shall conform unless otherwise therein specified.

3. Parts or items of work for which materials and workmanship are hereinafter specified in Part B but which are not mentioned or described in Part A of this Division nor shown on the drawings, are excluded from the Contract.

Work Included.

4. The furnishing and setting of all glass of whatever nature excepting skylight, floor glass, vault light glass, leaded glass or items specially omitted under Part A shall be done under this specification and as indicated on the drawings. All setting material to properly set all glass shall be furnished.

Materials.

5. All glass shall be of the best quality, as free from waves, bubbles, seed, and other defects as possible under the grades of glass as specified below.
Note: For definitions of terms see U. S. Govt. Master Specifications for Flat Glass for Glazing Purposes No. 123, adopted April 1, 1924.

A. Polished Plate Glass.

6. Three grades as established and selected by the manufacturers are recognized, increasing in quality in the order named:
 - (a) Glazing quality for commercial run.
 - (b) Selected glazing quality for high grade building, showcase, mirrors, etc.
 - (c) Silvering quality for finest mirrors.
7. For ordinary glazing, thicknesses shall vary between 7/32" and 5/16". Special requirements as to thickness shall be specified under Part A.

B. Window Cylinder Glass and Flat Drawn Glass.

8. Three grades as established and selected by the manufacturer are recognized.
 - (a) First quality carefully selected, free from blisters over 1/8", strings or cords or stone and free from sulphur marks or burnt spots, known as "AA" quality, for special purposes.
 - (b) Second quality may contain small blisters, strings and stones but free from sulphur marks or burnt spots, known as "A" quality.
 - (c) Third quality may contain but three of above defects, known as "B" quality.
9. Cylinder and flat drawn glass shall be of weights per square foot and number of lights to the inch as packed in the box as follows:

Classification	Thickness In Inches		No. of Lights Per Inch		Average Weight In Ounces Per Sq. Ft.
	Min.	Max.	Min.	Max.	
Single strength	.080	.100	10.5	12.0	18.5
Double strength	.111	.125	8.0	9.0	24.5
26 oz. Glass	.125	.135	7.5	8.0	26.0
29 oz. Glass	.135	.148	6.5	7.0	29.0
34 oz. Heavy Glass	.150	.175	6.0	6.5	34.0
39 oz. Heavy Glass	.176	.205	5.0	5.5	39.0

(U. S. Govt. Master Specifications for Flat Glass for Glazing Purposes No. 123).

C. Wire Glass.

10. Wire Glass shall be, for commercial use, "1/4" thick", varying from 1/4" to 5/16", special thickness to be as specified under Part A.
11. Polished, rough, ribbed or figured wire glass shall be used in locations specified under Part A and cut so as to be glazed with wire laying in one direction.

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New York Building Congress Standard Specification for
GLASS AND GLAZING

PART B

D. Prism Glass.

12. Three grades are recognized:
 - (a) Rolled sheet prism.

- (b) Polished pressed plate prism.
- (c) Tile prism.

E. Special Glass.

13. Cathedral, figured, rolled, colored, tapestry or other special glass shall be furnished where specified under Part A to match selected sample approved by the architect.

F. Decorated Glass.

14. Decorated glass such as ground, silver embossed, chipped and mitre cut glass shall be furnished plain or in pattern as shown or specified under Part A. Ground glass shall be sand blasted or acid ground to depth and obscurity to match selected sample. Chipped glass shall be single or double process to match selected sample.

Samples.

15. Samples shall be submitted for selection by the architect to show the grade, pattern, kind and color of the various types of glass required under Part A and the material furnished is to closely match the approved samples.

Setting Materials and Workmanship.

16. IN WOOD AND KALAMEIN WORK: WHITE LEAD PUTTY is to be composed of:
 - 78% pure calcium carbonate.
 - 8% pure white carbonate of lead.
 - 14% raw linseed oil.

100%

17. IN METAL: SPECIAL PUTTY is to be composed of:
 - 70% pure calcium carbonate
 - 14% pure white carbonate of lead
 - 14% extra heavy boiled linseed oil
 - 1.81% red oil
 - .19% lamp black in oil.

100%

or a manufacturer's product may be offered for the architect's approval.

18. Glazing in wood doors, sash or frames shall be done with white lead putty. All exterior glass shall be thoroughly bedded. Where wood glazing beads are specified the beads should be on the inside with the moulding filled in. All glass in interior doors shall be filled in with putty. In all wood glazing, use zinc glaziers points. White pine blockings shall be used to act as cushions on bottom and sides of lights.
19. Glazing in metal doors, sash or frames shall be done with special metal glazing putty. All metal glazing beads shall be well bedded and filled in. Use white pine blockings for all lights. No felt or rubber materials are to be used.
20. Workmanship shall be careful and neat. The putty shall be neatly run against the glass in straight line with corners carefully made. Drive in glazing brads or pins and screw home all screws in metal work. Wood sashes shall be glazed and allowed to stand until the putty hardens.

G. Mirrors.

21. Mirrors of first quality shall be made from silvering quality polished plate glass, selected so as to give as true a reflection as possible; second quality may be made from selected glazing quality polished plate glass.
22. Silvering shall be done with nitrate of silver applied in two coats, shellaced and painted.
23. Setting of mirrors shall be carefully done to insure as perfect reflections as possible. Block with white pine for cushion.

H. Deal Plates, Desk and Counter Tops.

24. Deal plates, desk and counter tops shall be supplied and set where ever called for in Part A of sizes and thickness as detailed or required to fit conditions. Cut and drill for reception of metal or other fittings as required. Great care must be had in setting. Cover foundation with felt or billiard cloth of approved sample and color where specified.

The PUBLISHERS' PAGE

Notice to Subscribers and Advertisers

BY mutual agreement between THE AMERICAN ARCHITECT and The American Specification Institute, THE AMERICAN ARCHITECT has ceased to act as the official publication of that organization—a position which it has occupied since April, 1921. We believe that our subscribers and advertisers are entitled to an explanation of the circumstances which have made this action necessary.

Prior to its appointment as the official publication of The Specification Institute, THE AMERICAN ARCHITECT published, and has since continued to publish, annually "THE AMERICAN ARCHITECT Specification Manual," the scope and character of which are well known. In 1923, without the approval of THE AMERICAN ARCHITECT, The American Specification Institute, as we are advised, entered into an agreement with others for the publication of a book known as "The Specification Record." This book was published in the latter part of 1923, and carried the advertising of manufacturers whose products the members of The American Specification Institute were in a position to approve and specify or to disapprove, in the ordinary course of their professional work.

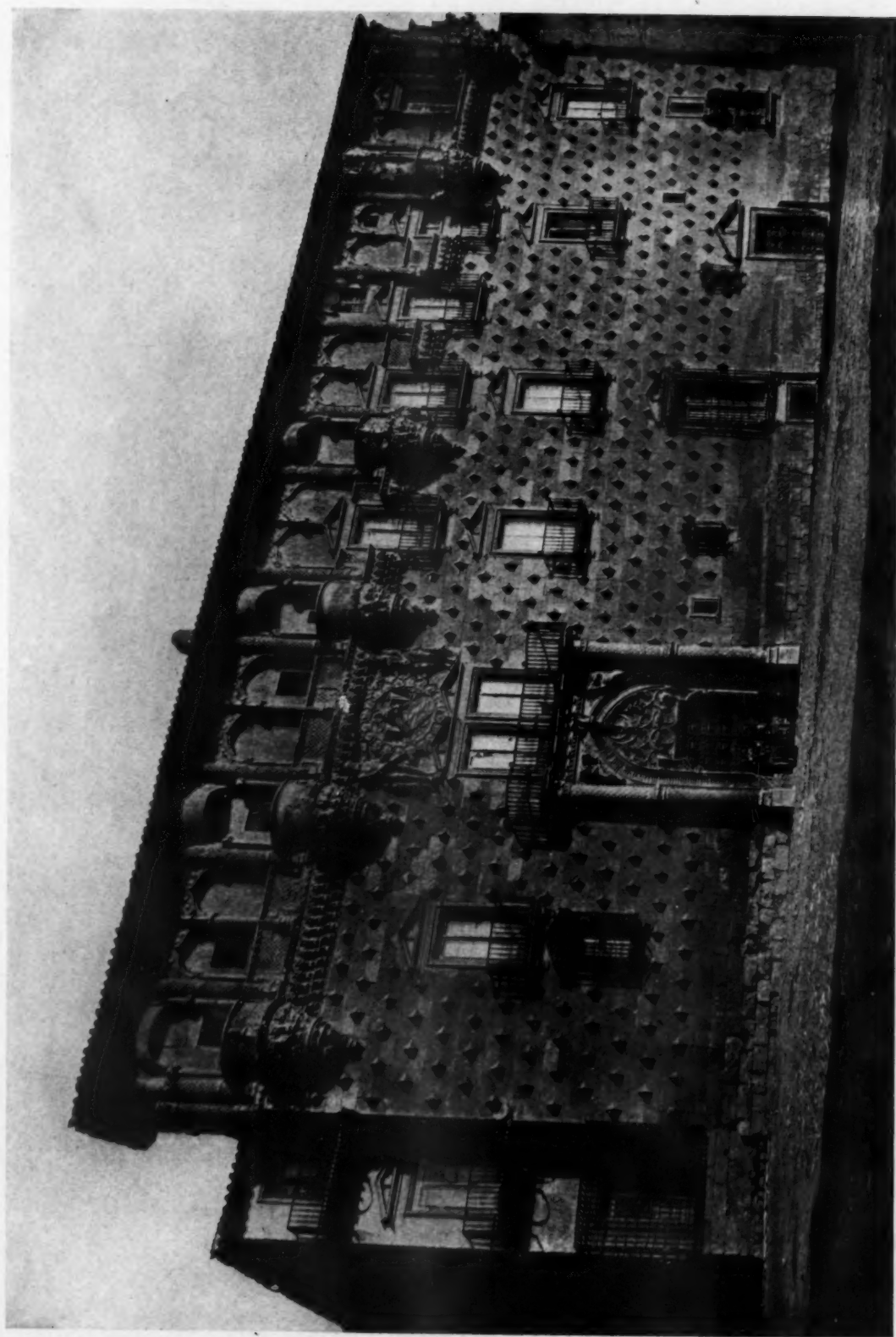
THE AMERICAN ARCHITECT believes that it is obviously impossible, by reason of the relationship between The American Specification Institute and "The Specification Record," for the latter to solicit advertising, without creating in the minds of its advertisers—and assuming that it has no intent so to do—the impression that by advertising they will secure the favor of the members of The American Specification Institute and that, by failing to advertise, they will risk incurring their displeasure.

Holding these views, as it does, THE AMERICAN ARCHITECT has felt that it could not, directly or by implication, approve the issuance of "The Specification Record." By continuing to act as the official publication of The Specification Institute, THE AMERICAN ARCHITECT believes that it would impliedly give this approval. It is satisfied, also, that the publication and sale of "The Specification Record" have created and must necessarily continue to create confusion between it and "THE AMERICAN ARCHITECT Specification Manual." In justice, both to itself and to those who use its Specification Manual, THE AMERICAN ARCHITECT cannot acquiesce in a condition which is calculated to cause such confusion.

We are now advised that another volume of "The Specification Record" is about to be published, and we have been forced, accordingly, to take the position that, if this is to be done, THE AMERICAN ARCHITECT must withdraw as the official publication of The Specification Institute.

Our readers and advertisers will understand, therefore, that neither THE AMERICAN ARCHITECT nor "THE AMERICAN ARCHITECT Specification Manual" has now any connection, official or otherwise, with The American Specification Institute or with "The Specification Record."

Publishers, THE AMERICAN ARCHITECT
and THE AMERICAN ARCHITECT Specification Manual



PALACE OF THE INFANTA, GUADALAJARA
DETAILS OF SPANISH ARCHITECTURE

THE AMERICAN ARCHITECT