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	PAGE		PAGE
Agencies—Clay Products	II	Brick Enameled	III and IV
Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

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CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

CARRÈRE & HASTINGS; FERRY & CLAS; HEINS & LA FARGE; LORD & HEWLETT; MANN & MacNEILLE; McKIM, MEAD & WHITE; HOBART A. WALKER; WALKER & MORRIS; WINSLOW & BIGELOW.

LETTERPRESS

	PAGE
FIFTIETH ANNIVERSARY AND FORTIETH ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS.—REPORT.....	1
REPORT OF THE COMMITTEE ON ARCHITECTURAL EDUCATION.....	4
MODERN ENGLISH SUBURBAN HOUSES	8
A TERRA COTTA LUMBER, WITH PLASTER FINISH, HOUSE.....	12
INTERIOR OF A VAN AND STORAGE WAREHOUSE..... <i>Illustrations</i>	14
STORES AND WAREHOUSE FOR UNITED STATES GOVERNMENT, PHILADELPHIA <i>Illustration</i>	15
POLICE STATION, ROCHESTER, N. Y..... <i>Illustration</i>	15
EDITORIAL COMMENT AND SELECTED MISCELLANY	16



PORTAL OF THE GREAT MOSQUE AT VERAMIN, PERSIA.



Fiftieth Anniversary and Fortieth Annual Convention of the American Institute of Architects.

THE Convention of the American Institute of Architects, held at Washington, January 7, 8 and 9, will be remembered by all who had the good fortune to be present as an occasion of great interest and of vital importance to the profession and to the Institute.

The sessions were held in the assembly hall of the New Willard Hotel. The attendance was a generous one, there being ninety-nine accredited delegates from the various chapters besides an unusual number of members of the Institute and architects who came in unofficial capacities. It was a representative gathering of the best elements in the profession from all of our large cities and many of our small ones. It is as one tries to gauge the influence and power of such a gathering that a just appreciation can be made of the extent to which architecture has grown as a profession administering public affairs. Mere figures are no measure of capacity, but they can show the extent of influence. Looking carefully over the list of delegates, there were at least six architects present who represented an aggregate volume of business amounting probably to over \$130,000,000, while the total amount of the interests which are committed to the direct care of the men who composed this meeting might easily run up to \$250,000,000 or \$300,000,000. Quite aside from a question of artistic achievement, trust of this sort implies, with all the responsibility, a degree of power and influence such as the profession could not have hoped for at the time the Institute was founded fifty years ago. And the fact that men burdened with such weighty concerns can find the time to attend a convention of this sort, and will take an active and interested part therein, speaks more for the vitality of the profession and gives more assurance of future prosperity and growth than perhaps any other one material fact.

But it was by no means the material side of successful business careers which stood forth most prominently in the convention. The professional and artistic spirit dominated in all the discussions, in all the reports and at all the meetings, and the high ethical standard for which the Institute has been striving these many years was made manifest in nearly every act of the convention. This was emphasized at the very beginning by the Hon. Henry B. F. MacFarland, President of the Board of Commissioners of

the District of Columbia, who, in his opening address of welcome to the convention, spoke of the great public service which has been rendered by the Institute to the country and to his city in the attempt to make Washington what it seemed so likely to soon become, the most beautiful city in the world.

The morning session of the 7th was occupied with reports, of the officers, of the Board of Directors, and a summary of reports from chapters. Then followed the report of the Committee on Education, presented by Ralph Adams Cram, a report which was listened to with the utmost interest and which showed in a remarkable degree how the different members of the committee, starting, apparently, with irreconcilable views on the matter of procedure in architectural education, had finally agreed unanimously on a course of study which would meet the requirements at once of the extreme academician and the most pronounced idealist. In other words, the report fitly brought out the fact that there is a tangible, easily demonstrated, broad basis from which to start an architectural student, even if his ultimate aims in work and thought may vary from any recognized canon. We print this paper in full elsewhere in this issue. It deserves to be read and reread and pondered upon by everyone who is interested in the proper preparation which can be given to those who are to take up the burden of architecture, and at the same time it is full of thought for those who are in active practice, for an architect never ceases to be a student until he ceases to grow, and the principles of education which this report has laid down apply just as truly to the man in the daily rush of intense professional affairs as to the student beginning his course at college.

Another paper of equally vital import was that of the Committee on Applied Arts and Sciences presented by Irving K. Pond of Chicago. So long as architecture is at once a science and an art there will be a certain amount of perplexing conflict between the applied arts and the mother art, and there will always be, also, decided differences of opinion as to how these allied arts can be brought into harmony with the master mind. Mr. Pond's report was extremely interesting in every respect, and surely no one is better qualified to discuss such a sub-

ject than one who stands, as he unquestionably does, among the foremost of the earnest, enthusiastic and idealistic architects who have done so much toward giving real life and vitality to the architecture of Chicago; and yet we feel that in certain respects the report does not do full justice to the state of the arts throughout the country as a whole, and would be more properly a statement of conditions as they exist in the middle west. When he speaks of the "intense apathy of the general public toward art" it would seem as if he were overlooking the public movement which has brought forth the Washington of to-day, which is re-building so much of New York in a thoroughly worthy way, which has manifested itself so enthusiastically in civic improvements at Philadelphia, Boston, Cleveland, Pittsburgh, even in Chicago and San Francisco. We can not feel that the public is apathetic toward art. On the contrary, there seems to be every indication that men of education are keenly alive to it and that the apathy arises perhaps quite as much from the unwillingness of the architect to meet the public demand. Again, when the report makes the statement that "once art was *lived*, now it is *taught*," that "schools do not seem to have justified themselves, while they do seem in no small measure to justify the proverb, 'when schools come in, art goes out,'" we feel that the conditions so described are local rather than general. In discussing privately this very report an architect, who has won a more than national fame for the artistic character of his work, claimed that just the opposite was true, that never before have architects been so able to live their work, to be in thorough harmony with the best elements of it; never before has it been so possible to impress one's individuality and personality upon one's work as right now in this twentieth century. Admitted the conditions are not always ideal, admitted all the materialism which is so rampant, there still remains a saving remnant of artists and public who live their art, who feel it just as truly as in the days of Michael Angelo or Giotto. Mr. Pond truly says that the so-called arts and crafts movement has not yet entered the stage in which it can be of much or any assistance to the architects, and he pithily characterizes the requirements for growth by saying that "a broader education, a wider sympathy, a deeper knowledge of the realities of life, a developed love of beauty in the mind of the race and a passionate zeal to express it, will reunite the sundered relation of intimacy which once existed between creator, interpreter and laity; that is, architect, craftsman and public." Everything the report contains would meet the hearty assent of every thinking architect, except that we cannot believe the existing conditions are quite as unsatisfactory as they are therein stated.

The report of the Committee on the Securing of Funds for the Purchase of the Octagon was presented by Cass Gilbert. This property was acquired by the Institute five or six years ago at an expense of about thirty thousand dollars. At the beginning of the current year the total amount of outstanding indebtedness was something under six thousand dollars. It was felt that this debt ought to be wiped out entirely and Mr. Gilbert, aided by a special committee appointed on the spot, after his report, succeeded in so arousing the enthusiasm, as well as the generosity, of the delegates present that

within a few minutes an amount of money was subscribed more than sufficient to take care of all the obligations. In reporting a second time to the convention on this subject, Mr. Gilbert wisely did not state the exact sum so secured, and offered the recommendation that the surplus should go towards an endowment fund. The suggestion was accepted with applause by the convention and a special committee appointed to take steps towards the securing of such an endowment as would enable the Octagon House to be fully self-supporting and would also enable it for the future to make such additions to the building as would be required to adequately house the Institute conventions. Also, the Directors of the Institute were urged to devise some method of legal procedure by which it would be impossible at any time in the future to load the property with any mortgage or obligation, keeping it thus for all time free and clear. The Institute cannot be too warmly congratulated upon this move. Considered simply as a real estate investment the Octagon House was a wise purchase and has already advanced considerably in value, while being, as it is, one of the interesting architectural structures of the city, it is eminently fitting that the Institute should own it and preserve it.

The other reports included a valuable study of the question of competitions, presented by Robert D. Andrews, which was referred back to the committee for further study, a comprehensive report on Schools of Architecture by H. Langford Warren, and a very admirable report from the Committee on the Relation of Architects to the Contracting System, presented by Cass Gilbert in a manner which met the hearty approval of all the delegates for its fearless and outspoken handling of a question which in large cities has at times assumed pretty serious proportions, namely, the relative functions of the large contracting companies representing enormous capital, and the architects who are sometimes called in to design buildings after these firms have secured contracts for the erection. This is a condition which cannot be ignored and which vitally affects the public architecture of our larger cities, especially New York. The troubles inherent therein will doubtless in time work themselves out in a satisfactory manner, but if all our architects would take the firm, self-respecting and highly-professional attitude which this report suggests, the troubles would right themselves very speedily.

There were reports of other committees presented, many of which held over until the next day. On Tuesday, also, the elections took place, resulting in conferring the honor of Fellow upon Messrs. Wm. S. Post, Henry Bacon, John Russell Pope, James P. Jamieson, Allen B. Pond and C. A. Martin, and the election of officers for the ensuing year as follows: President, Frank Miles Day; 1st vice-president, Wm. B. Mundie; 2d vice-president, R. Clipston Sturgis; secretary and treasurer, Glenn Brown; directors, Walter Cook, Edgar V. Seeler, J. L. Mauran, for three years respectively; auditor, Robert Stead. An amendment of the by-laws was also adopted, which, in its essence, provides that members of chapters shall consist only of those who are either full members of the Institute or are eligible for membership therein.

The evening session of Tuesday was held at the Corcoran Art Gallery, which was open for the occasion and

which took the form of a social function, beginning with a reception by the Director of the Gallery, the officers of the Institute and ladies, followed by the official presentation of the gold medal of the Institute to Sir Aston Webb, the distinguished English architect. The main floor of the Gallery was thronged with visitors and their guests. A low platform had been built at the base of the stairway leading to second story. On this were grouped the officers of the Institute, with Sir Aston Webb and the British chargé d'affaires, Mr. Howard. Mr. Day, the President of the Institute, was extremely felicitous in his presentation remarks, reviewing the notable works of architecture which had been produced by Sir Aston Webb, and bringing into prominence the relations existing between the members of the profession in this country and in England, the similarity of aims and methods and the close intimacy which has resulted partly from the bestowal of the medal of the Royal Institute twice to distinguished American architects, to Richard M. Hunt years ago and to Charles F. McKim more recently. Sir Aston Webb, in replying, could not but weave his remarks about the impressions he had received of American architecture and architects. It is not often that the Institute has been permitted to listen to criticism of our national work from the lips of so distinguished a foreigner. We are so inclined to deprecate some of our national achievements, we so often speak slightly of the skyscraper and our modern commercial attempts, that when a man like Sir Aston praises these as being distinctively American and sees in them a large measure of hope for the future, comparing them, as he did, to the relatively tall buildings of Europe and drawing before his auditors a picture of the future, when lower New York shall be built throughout with tall structures, and then can say that the streets as they will be then will recall the narrow streets and intercepted sky lines of the northern Italian towns, where the proportion between width of street and height of buildings is, in many cases, even less than similar proportions in New York, it is not strange that such remarks would seem almost over courteous to an American audience. But Sir Aston was perfectly sincere in what he said, and took occasion to remind his auditors thereof, and the general feeling running through all his remarks was that we had nothing to fear from our current architecture as manifested in the tall buildings, but rather that they are so distinctive, that there is so much virility and true life in them, that they constitute a phase of our national architecture which appeals to an educated foreigner as being most peculiarly American and full of promise for the future. Sir Aston's acceptance of the medal and the honor it implied was graceful in the extreme. The Institute honored itself in honoring him, and this medal, the first of its kind which the Institute has ever presented, has surely been rightly bestowed. No more distinguished representative foreigner could have been chosen for this honor. Mr. Howard spoke in very well-chosen terms as representing the British government, and he read a telegram just received from King Edward congratulating Sir Aston and the Institute upon the award of the medal. Sir Aston Webb also announced the receipt of a telegram stating that the Royal Institute of British Architects had elected to Corresponding Membership Mr. Day, Mr. Post and Mr. Gilbert.

Wednesday afternoon was devoted to a special programme commemorative of the fiftieth anniversary of the founding of the Institute. The address of welcome by Mr. Day was followed by presentation of greetings and addresses from the principal architectural societies and institutions of learning throughout the world. Mr. Peabody read a very interesting paper on the founders of the Institute who became its presidents, Mr. Upjohn, Mr. Walter and Mr. Hunt. There was also a paper by Mr. Stone on the early history of the Institute. At four o'clock in the afternoon, at the Octagon, a tablet in honor of the founders of the Institute was unveiled by Mr. Peabody, who took occasion to allude very felicitously to the fact that the Octagon was now free of debt and could properly be consecrated to its use. At the same time there was exhibited in the Octagon a comprehensive collection of reproductions of the work of Sir Aston Webb.

Wednesday evening was the culmination of the convention in the shape of a dinner held in the banquet hall of the New Willard and attended by some two hundred and fifty delegates and invited guests, the ladies of the convention occupying the balcony at the conclusion of the banquet. This dinner took on essentially the aspect of a social affair. The health of the President and of the King was proposed in appropriate words by Mr. Day and was drunk by the whole company standing. Secretary Root responded in very pleasing terms to the toast of "The Ladies." Sir Aston Webb responded for the Royal Institute of British Architects. The other speakers included Senator Lodge of Massachusetts, Mr. Owen Wister, Mr. F. Hopkinson Smith, Speaker Cannon and Mr. George B. Post. The fact that definite topics were assigned to each of these speakers did not seriously hamper them in presenting very entertaining, if not illuminating, discourse to the convention, and they were listened to with the keenest interest by the delegates. Among the distinguished guests seated at the head of the table were Secretary Taft, Representative McCall, Bishop Satterlee, Thomas Nelson Page, the British chargé d'affaires, Mr. Howard, and many other notable and distinguished men prominent in art and diplomatic circles. The President of the United States sent a letter of regrets and the King of England telegraphed his congratulations. There was not a dull moment during the evening and everyone seemed to be satisfied with the concluding exercises of the fortieth convention.

There are three features of this convention which call for special note. First, its high artistic and professional standard as represented by the reports of its committees; second, the social element which was made so prominent; and third, what might be termed the spectacular side of its appeal to the public.

It is so easy for a convention of this sort to drift into mere routine, to absorb itself in the kind of discussion which lacks a national flavor and could better be fought out in local circles, that the artistic element so strongly predominating in so many of the reports was appreciated with gratitude by the delegates. Almost without exception the reports are worthy of being printed and circulated publicly, something which could not have been said about the reports presented in many of the previous conventions. It seemed as if, by common consent, the committees had felt that this was not a time for practical,

uninteresting details, or considerations of local or personal affairs, but that the occasion called for a breadth of treatment and an artistic preference which should characterize the spirit of the Institute.

At no previous convention was the social element so pronounced. There was a far larger attendance of ladies than was expected and they were very much in evidence, not merely at the presentation of the medal and the dinner, but also at a number of the sessions of the Institute. The meeting at the Octagon on the occasion of the unveiling of the tablet and the reception at the Art Gallery were both made an occasion for what would be termed brilliant social gatherings. The Institute is essentially cosmopolitan in its character and that the social element should be so prominent was to be expected. The atmosphere of Washington encourages such manifestations, and it is our conviction that the Institute is decidedly the gainer by the increasing attentions which have been given to the amenities in the past few years. The architects who founded the Institute in 1857 would feel hopelessly out of place in a convention such as has just been held, but the change which has come over the country during the past fifty years has naturally resulted in accenting the social element of these conventions. Future meetings of the sort will hardly be less pronounced in this respect, and the undoubted tendency will be to make each succeeding convention more truly a function. Whether or not this is wise remains to be seen. It is certainly enjoyable, and the architect, in his daily busy practice, gets none too much of the social element.

The value to the profession of the spectacular element which of late years has been brought into the Institute meetings is also in our judgment beyond question. A dinner such as the one which closed the convention is in a sense playing to the gallery, but in this case the gallery was composed of the prominent men who rule the country, who are the chief employers of architects, in whose hands are entrusted the direction of public affairs, who provide the funds for public buildings. So long as the architect burrows in silence in his office, just so long is he

kept out of his share in public life and to that extent is his value curtailed as a designer of public buildings. The profession needs to be known and known well by the men who direct the political destinies of the country. That is one of the strong reasons for holding the conventions for succeeding years at Washington and the justification for the lavish display in money and in eloquence which accompanied the banquet. If the architects are to be really leaders they must take their place in the procession and must contribute their share to the public life of the nation's capitol. It would be far pleasanter for many of the delegates to go off to a quiet companionable convention, with never a thought for the ladies or the public officials, and eat their little dinners and discuss their pet artistic hobbies with each other, but that is not the function of the Institute as we conceive it. The Institute has a national function and its self-respect demands a certain keeping up with the public standards, and we therefore heartily approve of the spectacular features which brought the convention to a close. It was not simply eating an expensive dinner and listening to the chance words of the political leaders of the nation, but it was truly the asserting of the right of the profession to a share in the direction of the world's affairs; it was claiming an equality for leaders of art with the leaders in politics, literature and religion. It was putting the stamp of progress on the work and the growth of the Institute.

An appreciative tribute should be given to the presiding officer of the convention, for the admirable way in which every meeting was managed and for the tactful, courteous and dignified manner in which he presided. The fact that everything went off smoothly, that there were no unpleasant features to be remembered in connection with any of the meetings, and that all of the programme was carried through substantially on time, is ascribable in no small measure to Mr. Day, and by his bearing, his well-chosen words and his demonstrative executive ability he has shown himself peculiarly fitted to direct the affairs of the Institute and to represent it in the eyes of its invited guests.

Report of Committee on Architectural Education.

THE problem of architectural education is so important, so far reaching, and marked by such intricate ramifications, that we have been able hardly to do more than state the case, leaving to the committee of next year the more detailed study and the formulating of clearer inferences and conclusions.

It is an interesting fact and worthy of record, that this committee, made up of superficially diverse types, has found itself absolutely unanimous even in matters of detail. After some months of individual study, the chairman asked each member of the committee to embody his conclusions and recommendations in the form of a tentative report. Such reports were received from Mr. Carrère, Mr. Kendall, Mr. Sturgis and Mr. Trowbridge. These were examined at a meeting of the committee and, with the report of the chairman, were found to be identical in spirit and in matter.

It would seem, therefore, that under the appearance of diversity, there is a body of profound and unanimous conviction that argues well of the architectural profession in America.

In order to establish a basis of judgment, we fixed first of all upon working definitions of architecture and of an architect.

Architecture we defined as a Fine Art with three aspects: as a manifestation of pure beauty, as an enduring and trustworthy language that voices the existing best in civilization, and as an exact science through its structural relationships.

An architect we defined as one ranking in the class of men of culture, learning and refinement, differentiated from the others of his class solely by his function as a creator of pure beauty, as an exponent through material forms of the best secular, intellectual and religious civil-

ization of his time, and as an organizer and director of manifold and varied industries and activities.

From these assumptions, it follows necessarily that the object of architectural education must be the breeding of gentlemen of culture, learning, and broad sympathies, who understand the dignity and the significance of art both as beauty and as language, who are perfectly proficient in the technique of the art they follow, and who can inspire, organize and direct widely different classes of men.

Such was our view of the general situation and our unanimous conviction as to the essential nature of any sound system of architectural education. Examining the various agencies in America in this light, and that we might see how nearly they approached, severally and in mass, to the principles indicated above, we found them to consist in two forms, viz., the elementary, *i. e.*, the "architectural classes" connected with public instruction and philanthropic societies, and the "Correspondence Schools," and the Academic, *i. e.*, the regular schools of architecture; the voluntary combinations under the control of certain groups of architects, such as the independent ateliers, and the concours of the Beaux Arts Society, and the American Academy in Rome.

The elementary systems we have been compelled to disregard for the time being, but we believe they demand the closest scrutiny, for while they may give a certain plausible dexterity to boys ambitious of becoming architectural draughtsmen, they cannot be considered as systems of education, since their methods are superficial and rudimentary, the taste they inculcate frequently questionable, while they do nothing towards creating the basis of broad, general culture which is absolutely and primarily essential. Furthermore, we believe that these elementary systems may, and in some cases, do, accomplish serious harm through inducing boys temperamentally unfitted for one of the most noble and exacting professions to throw themselves into an impossible career through misrepresentations to the effect that "architectural drafting" is only a trade, to be acquired as easily and by the same methods as stenography. We believe the Committee on Architectural Education may be of great assistance to the elementary schools, and indirectly to the architectural profession by volunteering its friendly services in an advisory capacity, and we commend both this, and the close study of the systems themselves, to our successors in this Committee.

The Academic agencies may be divided again into two categories: one made up of those which aim to give a complete and final education, viz., the regular Schools of Architecture supplemented by the Roman Academy; the other of those whose object is to develop, through a special insistence laid on certain points, necessary elements in the equipment of an architect which students and draughtsmen have been unable to acquire satisfactorily through their collegiate or practical experience, viz., the ateliers, the Club classes, and the concours of the Beaux Arts Society.

Now it is evident to us that none of the systems named above, is in itself, and independent of all other agencies, able to produce the combination of general culture, good taste, instinct for beauty and executive ability which make up the ideal architect. The architectural

schools should, by their general training, do much towards the creation of broad and inclusive culture: they must ground their students in the history of art and civilization and the correspondence between these two things; they will give him his fundamental knowledge of the essential elements of architecture as an art; they must enable him to lay the broad foundation on which he is to erect his superstructure of professional capacity, but the crucial point, the development of good taste and the instant sense of beauty, they cannot touch through the scholastic agencies now marshalled to this end. We are unanimously of the opinion that this passion for beauty and this instinctive good taste may be inculcated, if at all, not through the methods of scientific pedagogy, but by the close personal relations and the keen enthusiasm that arise through the association of a group of students with a practicing architect, chosen by the free will of the student because of admiration for, and sympathy with, his principles, his personality and his achievements.

With the advantages of the atelier system comes a corresponding danger, that of a feudal following of one strong personality and an unconscious exaggeration of his peculiar theories and methods. This danger is counteracted by the system of general competitions between the students in the several schools and ateliers, where each man, as representing each system or impulse, finds himself on a field of battle where individualism is put to the test and stands or falls by just so far forth as it has acquired universality.

This combination of the atelier and the concours is, to a large degree, the method introduced and followed by the Beaux Arts Society, and we believe it essential in any scheme of architectural education; but so long as the atelier system is purely voluntary, and so long as the concours are conducted by a group of men without official status, and bound together by the traditions of one particular system and nationality of training, there is always the danger of an unwholesome predominance of one set of ideas, to the unintentional exclusion of others of equal value but of different origin. Such competitions conducted exclusively by advocates of Gothic or of Art Nouveau might conceivably defeat their own just ends.

Believing, therefore, that these two features of the atelier and the general competition are essential elements in any complete scheme of architectural education, and that to have their fullest effect they should become a part of the curriculum of every architectural school, we urge on the several schools the wisdom of action to this end, and on the Education Committee of next year consideration of the question how a scheme of general competitions similar to those now conducted by the Beaux Arts Society, but official and universal, may be brought into existence.

In scrutinizing the several schools to ascertain in how far each seemed to be working towards the development of the typical gentleman of general culture with special architectural ability, and acting on an unanimous opinion that design can best be taught, at least in its higher aspects, only through the personal influence of practicing architects, while the instinct for beauty may be best developed by personal contact with those who already possess this instinct and the power to communicate it, we took the ground that the work of the schools should

uninteresting details, or considerations of local or personal affairs, but that the occasion called for a breadth of treatment and an artistic preference which should characterize the spirit of the Institute.

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THE problem of architectural education is so important, so far reaching, and marked by such intricate ramifications, that we have been able hardly to do more than state the case, leaving to the committee of next year the more detailed study and the formulating of clearer inferences and conclusions.

It is an interesting fact and worthy of record, that this committee, made up of superficially diverse types, has found itself absolutely unanimous even in matters of detail. After some months of individual study, the chairman asked each member of the committee to embody his conclusions and recommendations in the form of a tentative report. Such reports were received from Mr. Carrère, Mr. Kendall, Mr. Sturgis and Mr. Trowbridge. These were examined at a meeting of the committee and, with the report of the chairman, were found to be identical in spirit and in matter.

It would seem, therefore, that under the appearance of diversity, there is a body of profound and unanimous conviction that argues well of the architectural profession in America.

In order to establish a basis of judgment, we fixed first of all upon working definitions of architecture and of an architect.

Architecture we defined as a Fine Art with three aspects: as a manifestation of pure beauty, as an enduring and trustworthy language that voices the existing best in civilization, and as an exact science through its structural relationships.

An architect we defined as one ranking in the class of men of culture, learning and refinement, differentiated from the others of his class solely by his function as a creator of pure beauty, as an exponent through material forms of the best secular, intellectual and religious civil-

ization of his time, and as an organizer and director of manifold and varied industries and activities.

From these assumptions, it follows necessarily that the object of architectural education must be the breeding of gentlemen of culture, learning, and broad sympathies, who understand the dignity and the significance of art both as beauty and as language, who are perfectly proficient in the technique of the art they follow, and who can inspire, organize and direct widely different classes of men.

Such was our view of the general situation and our unanimous conviction as to the essential nature of any sound system of architectural education. Examining the various agencies in America in this light, and that we might see how nearly they approached, severally and in mass, to the principles indicated above, we found them to consist in two forms, viz., the elementary, *i. e.*, the "architectural classes" connected with public instruction and philanthropic societies, and the "Correspondence Schools," and the Academic, *i. e.*, the regular schools of architecture; the voluntary combinations under the control of certain groups of architects, such as the independent ateliers, and the concours of the Beaux Arts Society, and the American Academy in Rome.

The elementary systems we have been compelled to disregard for the time being, but we believe they demand the closest scrutiny, for while they may give a certain plausible dexterity to boys ambitious of becoming architectural draughtsmen, they cannot be considered as systems of education, since their methods are superficial and rudimentary, the taste they inculcate frequently questionable, while they do nothing towards creating the basis of broad, general culture which is absolutely and primarily essential. Furthermore, we believe that these elementary systems may, and in some cases, do, accomplish serious harm through inducing boys temperamentally unfitted for one of the most noble and exacting professions to throw themselves into an impossible career through misrepresentations to the effect that "architectural drafting" is only a trade, to be acquired as easily and by the same methods as stenography. We believe the Committee on Architectural Education may be of great assistance to the elementary schools, and indirectly to the architectural profession by volunteering its friendly services in an advisory capacity, and we commend both this, and the close study of the systems themselves, to our successors in this Committee.

The Academic agencies may be divided again into two categories: one made up of those which aim to give a complete and final education, viz., the regular Schools of Architecture supplemented by the Roman Academy; the other of those whose object is to develop, through a special insistence laid on certain points, necessary elements in the equipment of an architect which students and draughtsmen have been unable to acquire satisfactorily through their collegiate or practical experience, viz., the ateliers, the Club classes, and the concours of the Beaux Arts Society.

Now it is evident to us that none of the systems named above, is in itself, and independent of all other agencies, able to produce the combination of general culture, good taste, instinct for beauty and executive ability which make up the ideal architect. The architectural

schools should, by their general training, do much towards the creation of broad and inclusive culture: they must ground their students in the history of art and civilization and the correspondence between these two things; they will give him his fundamental knowledge of the essential elements of architecture as an art; they must enable him to lay the broad foundation on which he is to erect his superstructure of professional capacity, but the crucial point, the development of good taste and the instant sense of beauty, they cannot touch through the scholastic agencies now marshalled to this end. We are unanimously of the opinion that this passion for beauty and this instinctive good taste may be inculcated, if at all, not through the methods of scientific pedagogy, but by the close personal relations and the keen enthusiasm that arise through the association of a group of students with a practicing architect, chosen by the free will of the student because of admiration for, and sympathy with, his principles, his personality and his achievements.

With the advantages of the atelier system comes a corresponding danger, that of a feudal following of one strong personality and an unconscious exaggeration of his peculiar theories and methods. This danger is counteracted by the system of general competitions between the students in the several schools and ateliers, where each man, as representing each system or impulse, finds himself on a field of battle where individualism is put to the test and stands or falls by just so far forth as it has acquired universality.

This combination of the atelier and the concours is, to a large degree, the method introduced and followed by the Beaux Arts Society, and we believe it essential in any scheme of architectural education; but so long as the atelier system is purely voluntary, and so long as the concours are conducted by a group of men without official status, and bound together by the traditions of one particular system and nationality of training, there is always the danger of an unwholesome predominance of one set of ideas, to the unintentional exclusion of others of equal value but of different origin. Such competitions conducted exclusively by advocates of Gothic or of Art Nouveau might conceivably defeat their own just ends.

Believing, therefore, that these two features of the atelier and the general competition are essential elements in any complete scheme of architectural education, and that to have their fullest effect they should become a part of the curriculum of every architectural school, we urge on the several schools the wisdom of action to this end, and on the Education Committee of next year consideration of the question how a scheme of general competitions similar to those now conducted by the Beaux Arts Society, but official and universal, may be brought into existence.

In scrutinizing the several schools to ascertain in how far each seemed to be working towards the development of the typical gentleman of general culture with special architectural ability, and acting on an unanimous opinion that design can best be taught, at least in its higher aspects, only through the personal influence of practicing architects, while the instinct for beauty may be best developed by personal contact with those who already possess this instinct and the power to communicate it, we took the ground that the work of the schools should

be considered primarily as a means towards the development of a man of general culture, and as an agency for establishing sound and basic principles of art, which, through intimate contact with architects themselves, should be developed to their highest estate.

Working on this basis, and using for purposes of general comparison the tables printed by the Committee on Education of the Architectural League, we found surprising variations as between six of the principal schools of the United States. Mathematics varied from 6.5 points at Harvard to 12 at Technology and Columbia; building construction from 5 at Harvard to 10.5 at the University of Illinois; languages from 7 at Columbia to 20 at Pennsylvania and the Institute of Technology; art theory and history from 7 at the University of Illinois to 18.5 at Columbia; freehand drawing and rendering from 5 at Illinois to 11 at Cornell; and design from 13.6 at Technology to 32 at Cornell.

While the tables referred to should be used only as a basis for the most general deductions, we are convinced that they show indisputably that our schools are weakest in providing what we have called general culture. For example, the Massachusetts Institute of Technology stands alone in giving more than two points to general history, and here the points number only four, while mathematics is credited with 12, science 9, and languages 20, the latter branch of education ranking 50 per cent higher than even design itself. We desire, therefore, to urge on many of our architectural schools consideration of the question, whether they may not advisably diminish the stress now laid on purely technical education and strengthen that placed on all that tends towards general culture; and on those schools, where, in the tables of the League the points credited to esthetics fall below 30, consideration of the possibility of strengthening themselves in this particular direction.

So far as education in design is concerned, we found that the atelier system had been accepted in its entirety only by Columbia, while Harvard had introduced a modification that was working well, and seemed to us very significant. Participation in the concours of the Beaux Arts Society was authorized by the University of Pennsylvania, Syracuse, Cornell, Washington University, St. Louis and the Massachusetts Institute of Technology.

There is every reason to be encouraged by the present system of architectural study at Columbia, which has been recently reorganized on thorough-going "University" lines. Here the course is not divided arbitrarily into years, but into grades, and in each the student must acquire a given number of credits before passing to the next higher. Students are required to carry on their work in design in some one of the ateliers or studios officially recognized by the University. A choice of two courses is offered, one for the Bachelors degree, the other for a Certificate in Architecture, the requirements for the former being more severe, while in the latter a course in structural design is offered in place of mathematics and engineering. Graduates of this school may pursue their studies in advanced design and research in foreign schools of architecture: the program consists in one major and two minor subjects: the first is one of design, and through an arrangement with France, is pursued in an atelier connected with the School of Fine Arts. One of the minor

subjects implies travel or library work, the other is in the line of general culture, the courses at the Sorbonne being available by arrangement.

It seems to us that the question has been taken up at Columbia with the broadest view and is being worked out logically and with every prospect of admirable results.

There are two points at Harvard that seem to us particularly noteworthy; the broad and lucid manner in which the theory and history of art are being taught, and the recent adoption of a modified atelier scheme. Four architects of established reputation set, in succession, problems in advanced design; each criticizes the working out, at more or less frequent intervals during the space of a month, and in the end renders judgment. This seems to us a step in the right direction, though by no means to take the place of the true atelier system. It is, however, an indication of one way in which architectural schools that, unlike Harvard, are at a distance from the large cities, may acquire something of the indispensable element of personal influence on the part of practicing architects.

In our investigation of the subject, many questions have suggested themselves as worthy of serious consideration. We do not feel that our data justify us in making a specific report on these matters, but we name them and commend their consideration to our successors in this committee.

They are as follows:

What do the schools teach as to the expressive function of art in general and architecture in particular, *i. e.*, as to art as an index of civilization, standing high or low in exact relationship to the civilization that brought it into being?

What is the attitude of the several schools towards the various styles, *i. e.*, do they all, or any of them, teach that there are one or more styles which are sound and logical, while there are others which may or may not be interesting from an archaeological standpoint only: If so, what?

What is taught as to the relationship between construction and function on the one hand, and design and decoration on the other, *i. e.*, is this relationship clearly brought out in the case of Classical, Byzantine, Romanesque, Gothic, Renaissance and modern architecture, or is it ignored, each style being considered as an abstract thing, regardless of its aspect as a manifestation of the close community that must obtain between function, construction, design and decoration?

What are the criteria of judgment of design in the several schools; do they vary, and if so, to what degree?

How much attention is given to the question of presentation in each school? And is there, apparently, an undue amount of time and labor given to this in certain schools, an inadequate amount of time and labor in others?

In view of the fact that the practice of architecture is rapidly becoming so specialized that it is apparently necessary that a student should decide at the outset as to whether he should follow the esthetic or the structural line of work, is it not desirable that the schools should divide their courses in such a way that a student might elect which one he would follow, artistic or structural, there being, in the case of the former, a maximum of

esthetic instruction and a definite minimum of structural education; in the latter a maximum of structural education, a definite minimum of that which is in its nature esthetic.

To give a general resume of our conclusions, we report as follows:

The object of all education is to make more effective units. For this, the fundamental equipment is that knowledge of the language, literature and history of his own country as will enable one intelligently to take advantage of opportunities; and such knowledge of the literature and history and art of other countries as shall give a broad general knowledge of what civilization is. The possession of this knowledge is what is meant by cultivation.

When a man adopts a special branch of industry and thus limits his useful effectiveness to a distinct field, special training and knowledge are required in addition to general cultivation, which nevertheless remains the fundamental essential.

Schools of architecture are established for the purpose, first, of insuring the pupil in the possession of general cultivation; second, to give him a thorough technical equipment in the history and literature of architecture and in the laws that have been established by precedent; this, to make him familiar with present conditions and practice. In no one of these fields is his study completed in the school; he is simply started in the right way. In general cultivation and in a knowledge of the history of architecture it is essential that the student should be fully equipped, while his acquaintance with methods and practice may be, and indeed will be, largely acquired later.

It is on the first two then, cultivation and the theory of design, that attention should be centered. Admirable as our schools are, it can do no harm to emphasize the point that they are training men to be intelligent architects, not skilled draughtsmen, and that manual dexterity is dearly bought if it is at the expense of intellectual equipment. Skill can readily be acquired with practice; nothing in practice quite takes the place of sound school training.

The schools should give the student a thorough grounding in the great architectural precedents and their application, and an intelligent understanding of them so that he may know why they became established and to what extent they meet modern requirements.

Of prime importance are the classic orders, not for what they are in themselves, but because they are the terms, the language, in which a very large part of our architectural heritage is expressed. With a thorough knowledge of the orders and their application in Greece and Rome, one is in a position to understand the varied expression of the Renaissance in Italy, in France, in England, in Spain and in her American possessions, and here in the United States.

Almost if not quite equally important is the knowledge of Christian architecture; the whole development that followed on the fall of the Roman empire, and which, through Syrian, Byzantine, Southern Romansque and Norman finally culminated in the wonderful architectural monuments of the Middle Ages. The one is the history of a great intellectual and sensuous movement,

the other of a great spiritual movement. In both is the sense of beauty very marked, in both is construction recognized as the basis of all good architecture.

The knowledge of these things is fundamental for the education of the architect; ability to apply the knowledge is essential for practice. The student may learn *how* to apply his knowledge in the school, even though the real application of it comes later. It is in teaching the student how to apply his knowledge that the architect can be of real use to the teacher. The man in constant active practice, to whom the school is but an occasional occupation, brings to his work a spirit, an enthusiasm, a point of view, which are essential for the development of the critical faculty.

We believe that the more important work of the school, general cultivation, and the theory of design, which can best be taught by the trained teacher, should be supplemented on the less important side, the practice of design, by the active assistance and coöperation of the architect.

If this is to be done in the most effective way unity both of aim and of action is desirable for the principal schools of architecture, so that those in charge, who are necessarily most familiar with the work, themselves may determine on the best methods.

This unification we are almost inclined to consider the crux of the whole matter. Important as they are, methods must be secondary to impulses. At present, it seems to us, not only does the idea of general culture as the indispensable basis, fail of its due recognition — the general tendency being towards the development of the specialist, or savant, rather than of the well rounded and cultured personality with a special equipment for architectural expression — but architectural education in the United States tends towards an undue individualism and centralization on the part of the several schools. Educationally, the architectural profession seems to be in about the position of the thirteen Colonies before the adoption of the Constitution — even before the ratification of the Articles of Confederation.

We believe that on the whole, Architecture is being taught in America with a broader view, and in certain respects more effectively than in any other country. Through coördination, a unification of standards, and coöperation, we believe that in a few years the education offered in this country might be looked upon as final, except for the absolutely necessary element of study and cultivation through travel and research amongst the inimitable monuments of the pagan and Christian past. We object to considering our own schools merely as feeders for the Schools of Fine Arts in Paris, and we look forward to the time when a great Post Graduate course shall be possible in America through a great central School of Fine Arts in Washington. To make this possible, we must first of all achieve a certain amount of coördination, unification, and coöperation between all our now somewhat aggressively independent schools, and we believe that the first step in this direction would be the acceptance by all of the principle of general competitions, and the establishing of an official, central, and representative body that should put this principle into practice.

RALPH ADAMS CRAM,

Chairman.

Modern English Suburban Houses. II.

IT is the fashion now in architectural circles to regard Ruskin as a perverted critic. The fervor of mediævalism has spent itself, and no high priest of it in architecture could gain such an ascendancy as Ruskin achieved. Our outlook has changed, every-day practicalities have asserted themselves; and there has been a hue and cry for better education. So other teachers have taken Ruskin's place. No one, however, ever wrote more forcibly about architecture than Ruskin. One calls to mind a score of vehemencies of his which strike

towns not only well-built houses but well-designed houses; and the general trend is towards improvement.

With villas built in rows, semi-detached, perhaps, but with a minimum of space between each block, the architect finds himself confronted with some problems which are awkward to solve. In such cases the frontage is small and the first difficulty arises out of the hall. It is generally recognized now, that to make the hall a sort of narrow passageway is a mistake, and, while there is not enough room at disposal to allocate any large portion to it, some fair-sized space must be allowed if the house is to be satisfactory. Then there is the question of



HOUSE AT LEICESTER. Ernest W. Gimson, Architect.

straight home, and there is one bearing on my present subject which may here be cited. "Those pitiful concretions of lime and clay which spring up, in mildewed forwardness, out of the kneaded fields about our capitals—those thin, tottering, foundationless shells of splintered wood and imitated stone—those gloomy rows of formalized minuteness, alike without difference and without fellowship." Now that is as true to-day about English suburbs as when Ruskin wrote it, but it is not the whole truth, for, as we endeavored to show in a former article, there are to be found in the outskirts of our

aspect and light. This is governed of course by the directions in which the roads run. In any case, sunlight must be able to penetrate the living-rooms and bedrooms at some hour of the day; a requirement, however, which is not always possible, by reason of the fact that adjoining houses block the way.

Another matter for careful consideration is the placing of the house on the site. Within recent years there has been a change in regard to this. It used to be the practice to dump the house in the center of the site and have a piece of garden on either side, but as in most



ROAD FRONT.



GARDEN FRONT.

HOUSE AT YORK. Walter H. Brierley, Architect.



HOUSE AT BIRMINGHAM. W. R. Lethaby, Architect.



HOUSE AT BIRMINGHAM. Bateman & Bateman, Architects.

cases the site was narrow and not very long, the result was that the garden at the front was more or less wasted while the remainder of it at the back was too small to be of any real use. Now the house is brought forward more, and while being set back a reasonable distance from the road—enough to gain privacy—there is left at the back a piece of ground of useful size. Some suburban houses treated in this way were shown in the first article. The houses illustrated on these pages, however, it will be seen, are of a more extensive character. They are the best and biggest examples of suburban houses, and in many instances they have been built for private owners instead of as speculations of an estate company.

It often happens that colonies of such houses will spring up in some secluded place on the fringe of a town. Four Oaks, near Birmingham, is an instance of this. There are dozens of well-designed houses to be found at Four Oaks. We show three, all by architects of note. Mr. Lethaby is in the forefront of English architects; his work is scholarly always, but quite free from any taint of the schools. He has not designed such a great number of houses, but there is freshness about each; his house at Four Oaks shows this. Mr. Bidlake is another architect whose work is always interesting, and very equal, too—which is more than can be said of some architects. Mr. Bidlake is known best for his church work, but he is great in house design also, and the several houses at Four Oaks for which he was responsible bear testimony to this. Of



HOUSE AT BIRMINGHAM.
J. L. Ball, Architect.

similar calibre is J. L. Ball. We illustrate a portion of a house by him at Edgbaston, Birmingham, excellent in every detail. None of these men have what might be called big practices; they are, indeed, outside the societies even; they do not parade themselves; but their merit is well recognized in the profession (albeit Mr. Lethaby has become almost a *virtuoso*). We would not infer that a big practice necessarily means mediocrity in the work produced; on the contrary, one might truthfully adopt the old adage that "practice makes perfect." Bateman & Bateman offer an example. They are architects in Birmingham with an extensive practice in house work, but all of it is good, and some of it is of first-rate character. Take the house at Four Oaks, here illustrated. This is clearly the work of a very able architect; and other similar instances might be cited. English

domestic architecture, indeed, has some very talented exponents, as witness again the superlatively clever houses of Mr. Gimson and Mr. Brierley, shown among the illustrations accompanying this article. There is nothing of the stock design about these houses; they are stamped with brilliant individuality, and they exhibit a most notable ability. It is not to be supposed that houses of such character will be found all about the country; they are clearly exceptional, the work of architects of the front rank; but there is no doubt that in suburban districts the houses that are now being built are very often of a good type, quiet and refined, and one can only hope that the standard thus set up will be followed by rank and file.



TWO HOUSES AT LEICESTER.
Everard & Pick, Architects.

A Terra Cotta Lumber, with Plaster Finish House.

FOR MR. MATTHEW SULLIVAN, OF MAGINNIS, WALSH & SULLIVAN, ARCHITECTS.

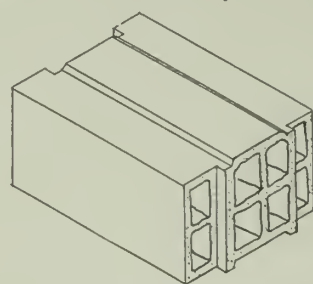
MR. SULLIVAN'S house at Canton, Mass., is one of the many examples now coming into existence of a dwelling built entirely of terra cotta blocks. In selecting this material the owner was influenced chiefly by considerations of cost and durability, it being obvious that the use of blocks so little larger in size than ordinary bricks would raise no obstacles to be overcome in the architectural design and general appearance of the house. The walls once covered with an ample coat of cement, the picturesque surface due to their peculiar construction is permanently hid, and they appear like those of many another cement-coated house, whose structure is of brick or wood. But the terra cotta blocks have other advantages. They form a fireproof wall, and when the cells are laid in horizontal courses there is a positive air space within the wall. This renders the house damp-proof and makes it possible to easily keep it warm in winter. The weight per foot of such a wall is approximately ninety pounds.

The blocks were especially designed for use in this house. By means of a pro-

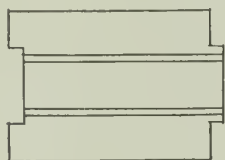
jection on the upper surface and a corresponding groove below, a lock bond is obtained, and the dimension of the block is such that there is a perfect tie through the wall. Lintels over openings are formed by three blocks held together and supported by two three-fourth inch steel channels grouted in cement, which virtually forms a reinforced cement lintel.

The illustrations show the house during construction and when completed. It was begun about the middle of July and was ready for occupancy December first of the same year. The 2,800 feet of terra cotta blocks it contains were laid up by two masons in five weeks' time.

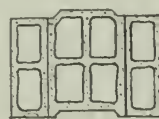
The cost of the house completed is about the same as it would have been in its particular locality if built of wood and painted. The cost of maintenance, however, will be much less, not to mention the item of insurance. And it is to be observed that all these practical advantages are obtained without any sacrifice of beauty or sign of effort in venturing the use of a comparatively new building material.



ISOMETRIC OF ONE BLOCK

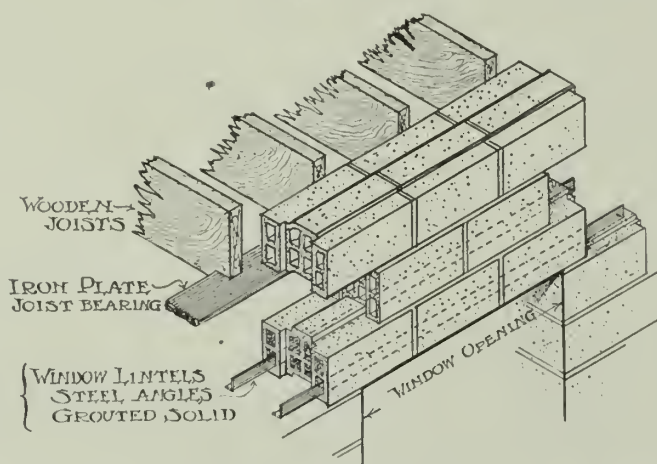


PLAN

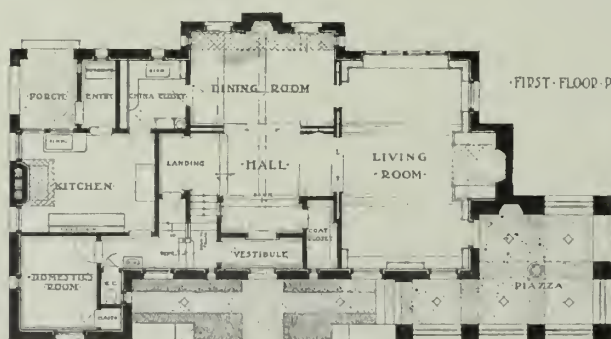


ELEVATION

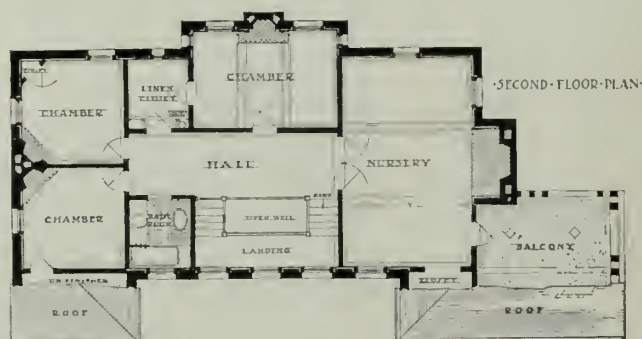
SCALE $\frac{1}{2}'' = 1'-0''$



SECTION THROUGH WALL.



FIRST FLOOR PLAN

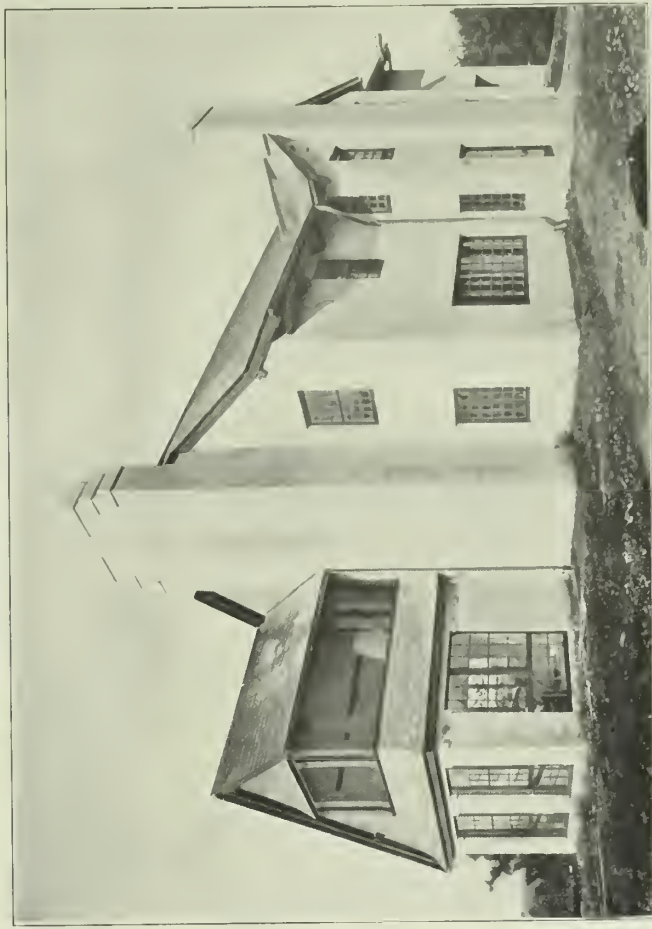
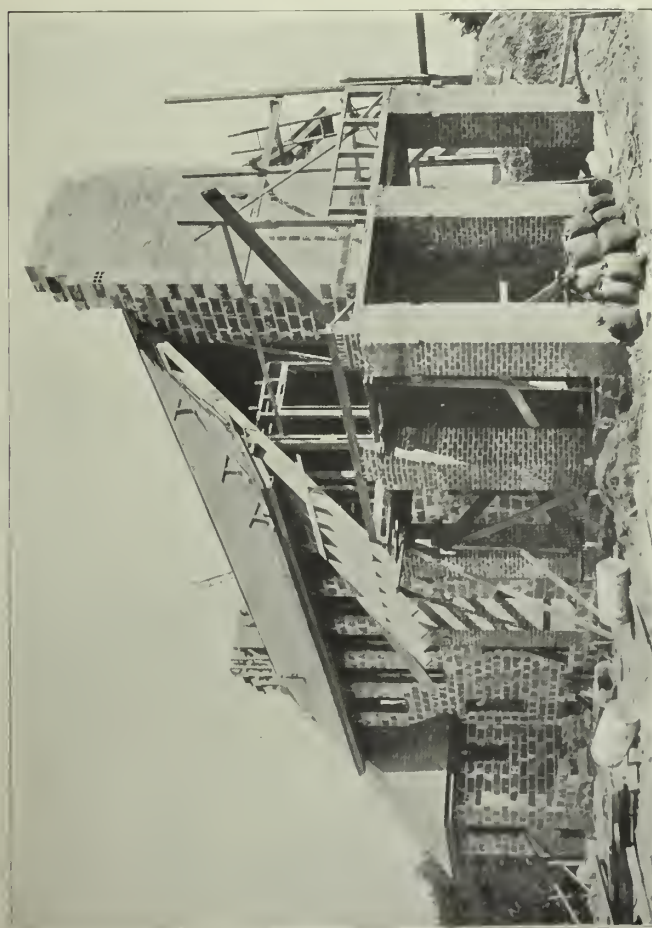


SECOND FLOOR PLAN

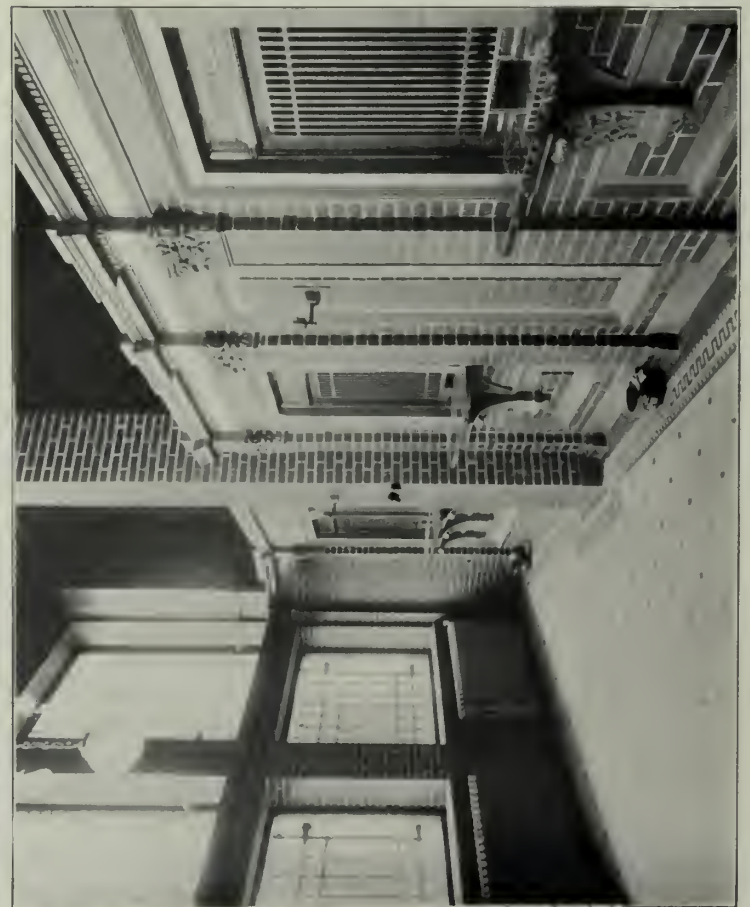
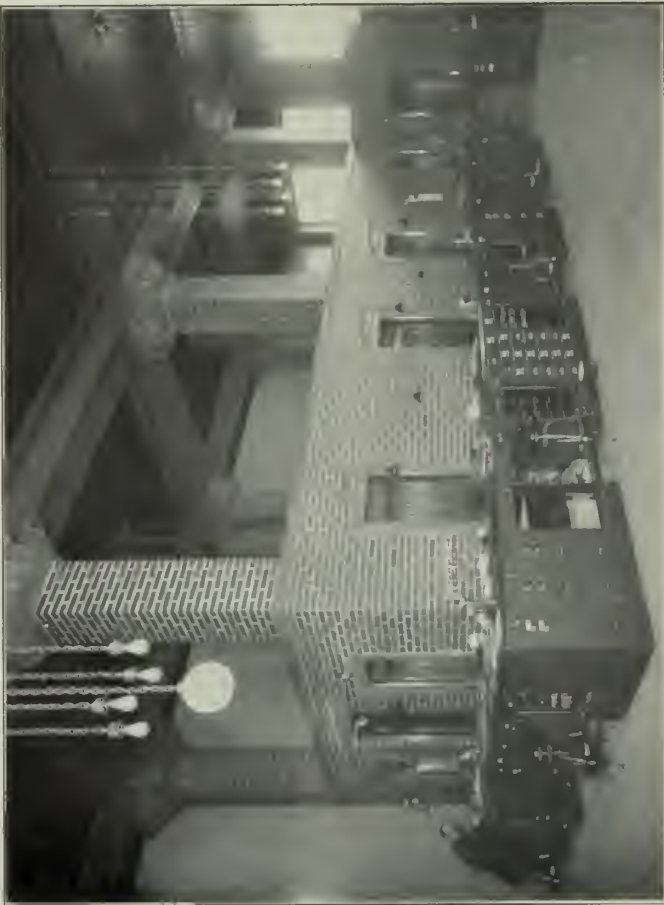
THE STRENGTH OF BRICK PIERS.

SOME tests were recently made to crushing per square foot, of three brick piers, each 12 inches square and 8 feet long, the first laid up in mortar composed of one part Portland cement and two parts sand and allowed to set seven days; the second, of bricks laid in pure Portland cement allowed to set seven days; and the third, of bricks in Portland cement allowed to set fourteen days. The first pier withstood about 250 tons, the second over 325, and the third practically over 400 tons

per square foot. Of course the piers were exceptional ones, laid up with extraordinary care and all the conditions of test and resistance were ideal; but in the face of such experiments it would seem as if ordinary brickwork laid up in an ordinary manner in good Portland cement mortar ought easily to be trusted with at least 25 tons per square foot, or about the same stress per foot as is considered wise upon sandstone.



HOUSE FOR MATTHEW SULLIVAN, ESQ., CANTON, MASS.
Maginnes, Walsh & Sullivan, Architects.



INTERIOR OF STORAGE AND VAN COMPANY'S OFFICE, CHICAGO Argyle E. Robinson, Architect.



OFFICES AND STORE HOUSE FOR U. S. GOVERNMENT AT PHILADELPHIA.
Rankin, Kellogg & Crane, Architects.



POLICE STATION, ROCHESTER, N. Y.
Bragdon & Hillman, Architects.

Editorial Comment and Selected Miscellany

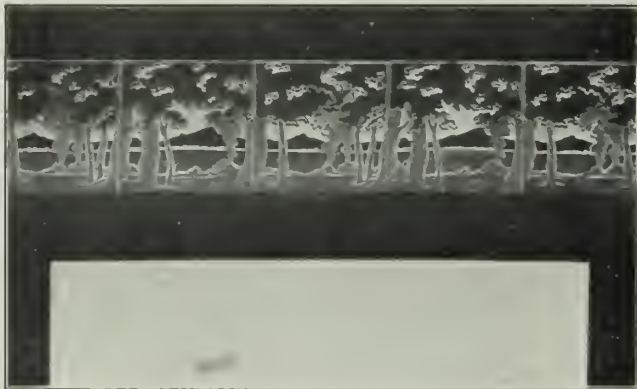
THE BANK BUILDING COMPETITION. AWARD OF PRIZES.

THE jury for the Bank Building Competition awarded First Prize (\$500) to George A. Licht, New York city; Second Prize (\$200) to H. C. Pittman and Henry H. Braun, New York city; Third prize (\$100) to Homer Kiessling, Boston; and Mention to the following: Claud W. Beelman, Detroit; Fred V. Murphy, Paris; Eugene Ward, Jr., New York; W. Cornell Appleton, Newton, Mass; W. A. Paine, Columbus, Ohio; W. B. Olmsted, Washington, D. C.

The Competition was judged in New York city, January 19, by Messrs. Donn Barber, Henry F. Hornbostel, John Mead Howells and Philip Sawyer.

BUILDING OPERATIONS FOR 1906 AND 1905.

OFFICIAL reports from some fifty leading cities throughout the United States, received by *The American Contractor*, New York, and tabulated, showing the building transactions of the past year as compared with those of 1905, are very interesting. The results will prove in the nature of a surprise to many people and do



FIREPLACE FACED WITH FAIENCE TILES
REPEATING LANDSCAPE DESIGN
Made by Rookwood Pottery Company.

much towards reassuring those who had come to look upon our remarkable building prosperity, as a thing of the past, and prepared themselves for a substantial decline during the present year. The total building transactions in the cities tabulated, for the year 1906, were \$591,283,571, a gain of \$13,077,622 over those of 1905, which stood at \$578,205,949. Figured on a percentage basis, this amounts to a gain of something more than two per cent.

This result is all the more gratifying because it was not anticipated except by those that had kept a close tab on the building operations of the various cities, and few of that class, before formulating and figuring the reports, expected a balance on the credit side of the building ledger. The result clearly demonstrates that the building movement is still with us, and that undiminished.



TOWER, MORRIS HIGH SCHOOL, NEW YORK.
C. B. J. Snyder, Architect.
Terra Cotta by New York Architectural Terra Cotta Company.

There have been losses, it is true, but they are widely distributed, and evidently depend upon local conditions, which argue little or nothing against future prospects. The loss in New York, where the operations of 1905 were exceptionally large, amounted to nearly 25 millions, yet this was offset with more than 13 millions in addition in other cities.

The fol-

lowing figures show the percentage of gain over 1905; Buffalo, 17; Chicago, 13; Cleveland, 32; Chattanooga, 77; Dallas, 13; Denver, 9; Detroit, 27; Duluth, 66; Grand Rapids, 16; Louisville, 14; Los Angeles, 18; Minneapolis, 6; Memphis, 22;



DOMES OF THE CONVENT, GLENN RIDGE, PA.
E. F. Durand, Architect.
Covered with eight-inch Conosera Graduated Tile
made by The Ludowici-Celadon Company.

Nashville, 11; New Orleans, 8; Philadelphia, 17; St. Louis, 27; Seattle, 77; Toledo, 52; Tacoma, 58. The losses of leading cities are shown in the following figures: Indianapolis, 23; Kansas City, 13; Milwaukee, 9; Mobile, 4; New York, 9; Pittsburg, 9; Providence, 15; Rochester, 8; Syracuse, 31; Topeka, 10.

THE ARCHITECTURAL GROWTH OF NEW YORK.

NEW buildings of New

York City which are either about starting or nearing completion would, according to a writer in one of the popular magazines, make a city of no mean proportions, and one of the greatest of ar-

more of magnificent residences, and \$14,000,000 worth of new school-houses.

Another city could be made up of the minor buildings and less expensive residences which are taking shape in



DETAIL BY F. C. BONSACK, ARCHITECT.
Winkle Terra Cotta Co., Makers.

chitectural beauty. To substantiate this claim, he mentions the following: The new Custom House, by Cass Gilbert, cost, more than \$5,000,000. The new hall of Records, by Horgan & Slattery, cost \$6,500,000. The new Public Library, by Carrère & Hastings, cost \$5,000,000. The sixty-five Carnegie Branch Libraries, cost \$5,000,000. The new Bellevue Hospital Group, McKim, Mead & White, architects, cost \$8,500,000. The new Post Office Building, cost over \$6,000,000. The new Health Department Building, cost \$3,000,000. The group of buildings for the College of the City of New York, George B. Post and



DETAIL BY F. B. & L. L. LONG, ARCHITECTS.
Northwestern Terra Cotta Makers.

Columbia University, costing several millions. The Cathedral of St. John the Divine, Heins & La Farge, architects, which, when completed, will cost \$15,000,000. New Madison Square Church, McKim, Mead & White, architects, cost \$1,000,000. New St. Thomas Church, Cram, Goodhue & Ferguson, architects, cost \$1,000,000. The Hotel Plaza, H. J. Har- denburg, architect, cost \$5,000,000.



DETAIL NORMAL LATIN SCHOOL, BOSTON, MASS.
Peabody & Stearns, Architects.
Atlantic Terra Cotta Co., Makers.

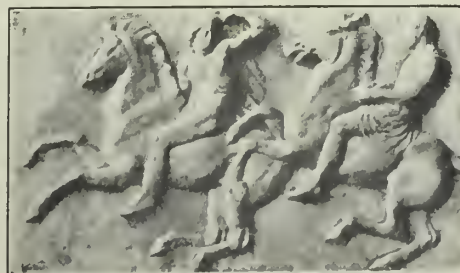
chitectural beauty. To substantiate this claim, he mentions the following: The new Custom House, by Cass Gilbert, cost, more than \$5,000,000. The new hall of Records, by Horgan & Slattery, cost \$6,500,000. The new Public Library, by Carrère & Hastings, cost \$5,000,000. The sixty-five Carnegie Branch Libraries, cost \$5,000,000. The new Bellevue Hospital Group, McKim, Mead & White, architects, cost \$8,500,000. The new Post Office Building, cost over \$6,000,000. The new Health Department Building, cost \$3,000,000. The group of buildings for the College of the City of New York, George B. Post and



DESIGN IN PEDIMENT FOR A BOAT CLUB.
Peabody & Stearns, Architects.
Excelsior Terra Cotta Co., Makers.

Son, archi- tects, cost \$5,- 000,000. New Dormitories, Science Build- ings and St. Paul's Chapel,

mosaic is now manufactured with the ut- most ease at remarkably low prices and with great



REPRODUCTION OF PARTHENON FRIEZE
BY HARTFORD FAIENCE CO.

The Hotel Knickerbocker, Livingston & Trowbridge, architects, cost \$5,000,000.

Apartment houses galore, a series of public bath houses and recreation piers, enormous bridges spanning East River, several new museums, large railway terminals, sky-scrapers, the tallest of which will be the Singer Building, forty-one stories, cost \$5,000,- 000.

In addition to these, sev- eral new theaters, a score or



DETAIL BY E. L. TILTON, ARCHITECT.
Conkling-Armstrong Terra Cotta Co., Makers.

swarms in and about Greater New York.

MOSAIC.

THE absence of color in our street architecture is a constant source of regret to those who love the picturesque element which color can so easily supply. So far as we can recall there are no buildings in this country in which an attempt has been made to combine terra cotta and glass mosaic, and yet the combination has been worked out in some cases with great success in North Italian work and there is no good reason why it should not be acceptable here. Glass



DETAIL BY NEW JERSEY TERRA COTTA CO.

variety of tones and effects. The contrast between the delicate, refined effect of the glass, with its brilliant colorings and cobweb-like detail, and the firm, bold texture of terra cotta, is one which is always fascinating to the artist.

IN GENERAL.

The exterior of the new Columbia Chapel illustrated in THE BRICK-



HOUSE AT CINCINNATI.

Robert Sharp, Architect.

Roofed with American Tile. Made by Cincinnati Roofing Tile and Terra Cotta Co.

BUILDER for December was built up of Harvard bricks which were furnished by Carter, Black & Ayers, 1 Madison Avenue, New York. Some 200,000 were required for the work. Sayre & Fisher Company furnished the old gold brick used in the interior.

A. W. Rudolph and C. W. Bates, architects, have formed a copartnership, offices, Central Trust Building, Altoona, Pa. Manufacturers' samples and catalogues solicited.

The Harbison-Walker Refractories Company, Pittsburgh, manufacturers of front brick, have opened a branch office at 1223 St. James Building, New York City. Mr. C. J. Henderson will have the management.

The "Garage" was the subject for a competition which was recently held by the T Square Club of Philadelphia.



HEINZ COMPANY PLANT AT GRAND RAPIDS.

Built of "Ironclay" Brick.

F. H. McDonald, Agent.

Note Sign made with Sunken Brick.

THE NEW BOSTON BUILD- ING LAW.

THERE has just been reported to the legislature a draft for an entirely new building law for the city of Boston. This law has been prepared by a special commission appointed by the mayor, including representatives from the Society of Architects, Master Builders' Association, Real Estate Exchange, the Building Department and the Law Department. Under this proposed law the allowed stresses upon brickwork are as follows, in tons per square foot:

- (1) For first-class work, of hard-burned bricks, and including piers in which the height does not exceed six times the least dimension, laid in:
 - (a) One part Portland cement, three parts sand, by volume, dry - 18
 - (b) One part Rosendale cement, two parts sand, by volume, dry - 15
 - (c) One part Rosendale cement, one part lime and six parts sand, by volume, dry; - 12
 - (d) Lime mortar, one part lime, six parts sand, by volume, dry - 8

- (2) For brick piers of hard-burned bricks, in which the height is from six to twelve times the least dimension:

Mortar (a)	-	-	-	-	-	-	-	-	16
Mortar (b)	-	-	-	-	-	-	-	-	13
Mortar (c)	-	-	-	-	-	-	-	-	10
Mortar (d)	-	-	-	-	-	-	-	-	7

- (3) For brickwork made of "light-hard" bricks, the stresses shall not exceed two-thirds of the stresses for like work of hard-burned bricks.

The entire silence of nearly all of our building laws as regards any limitations of strength for terra cotta fireproofing, and the care with which such provisions are elaborated regarding concrete, would seem to indicate a feeling of confidence that terra cotta in its actual use is perfectly equal to all the demands put upon it.

WANTED— A competent architectural superintendent for general work, one capable of draughting during spare time. Also wanted a competent architectural draughtsman. Especially good opening for any one seeking a mild and equable climate. Write, stating experience and salary, to Hebbard & Gill, Architects, San Diego, Cal.

Architectural draughtsman desires position in Boston or vicinity; preferably in small office doing a good class of work. Has had several years' experience with architects and builders. References and specimens of pen and color rendering furnished. Salary \$35 per week. Address Pen and Brush, care THE BRICKBUILDER.

WANTED— Good all-around architectural draughtsman. State experience and salary desired. Address R. Maurice Trimble, Ferguson Building, Pittsburg, Pa.

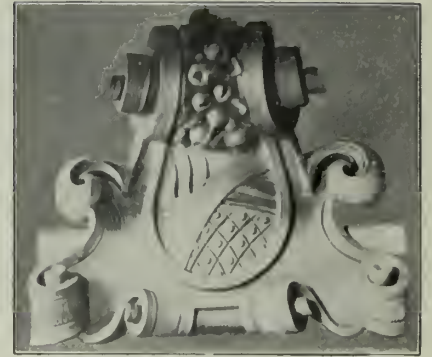
WANTED— Correspondence with a young architectural draughtsman who is well up on church design and familiar with English Gothic. Address M. O. Pillsbury, Fond du Lac, Wis.

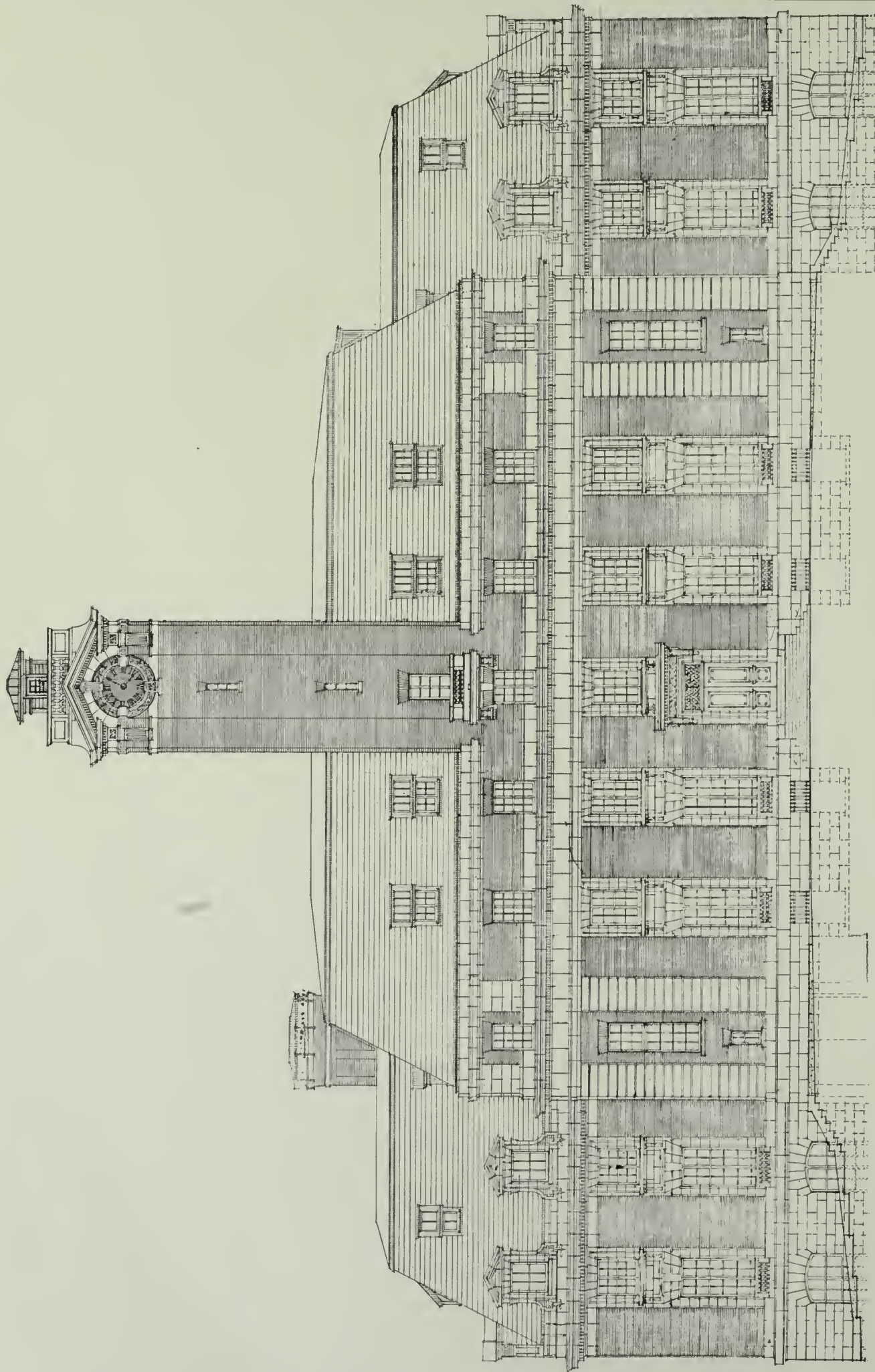
HARVARD UNIVERSITY

The Graduate School of Applied Science
and The Lawrence Scientific School

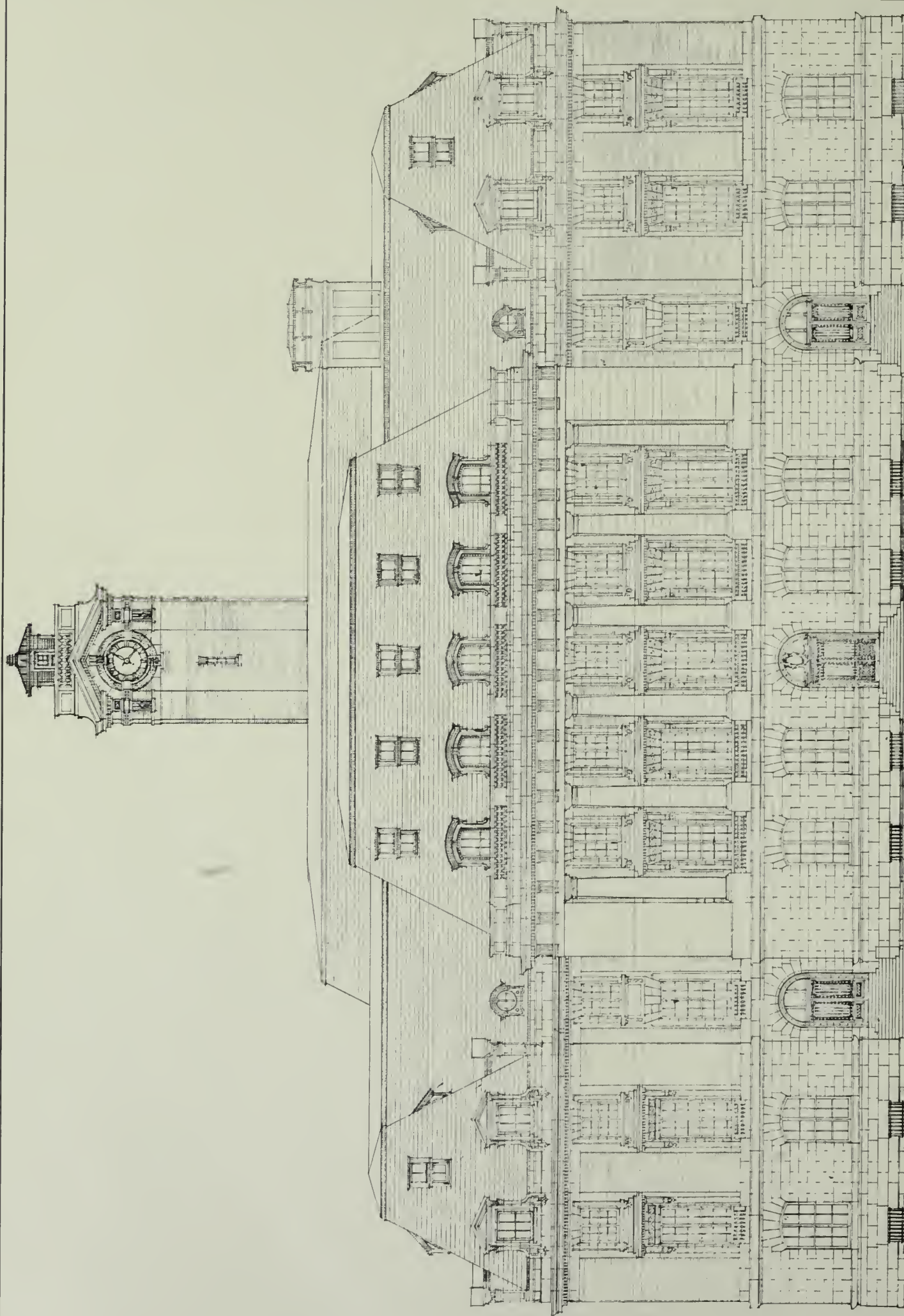
offer graduate and undergraduate courses in Civil, Mechanical, Electrical, Mining and Metallurgical Engineering, Architecture, Landscape Architecture, Forestry, Physics, Chemistry, Biology and Geology.

For further information, address W. C. SABINE, 14 University Hall, Cambridge, Mass.

DETAIL BY SAMUEL SASS, ARCHITECT.
South Amboy Terra Cotta Co., Makers.

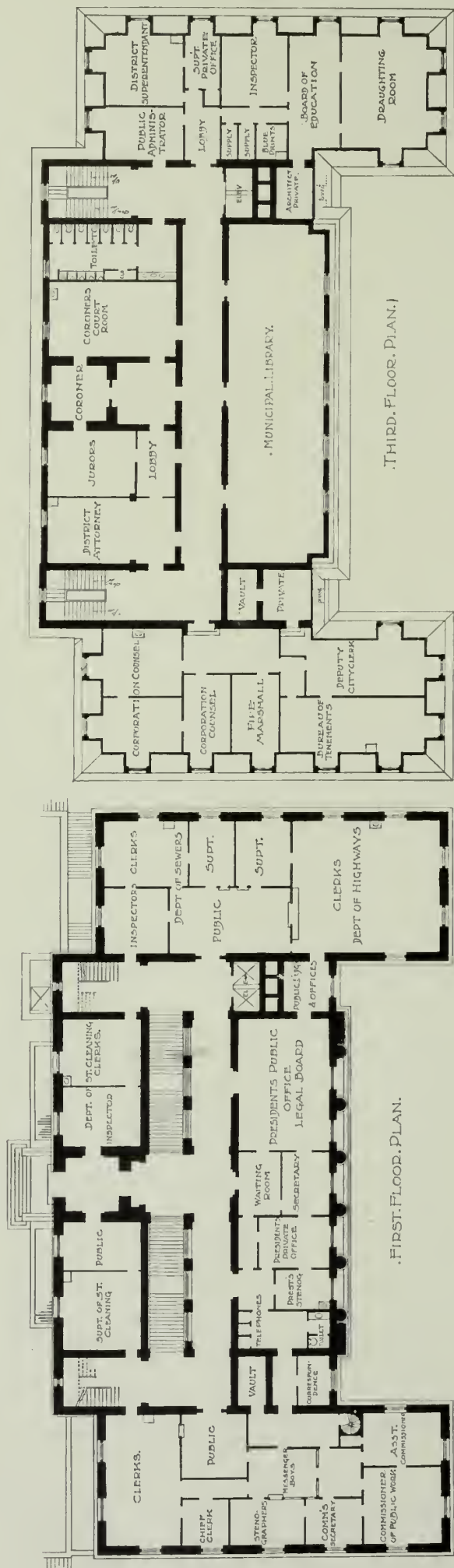


ELEVATION ON STUYVESANT PLACE.
RICHMOND BOROUGH HALL, ST. GEORGE, STATEN ISLAND, N. Y.
CARRERE & HASTINGS, ARCHITECTS.



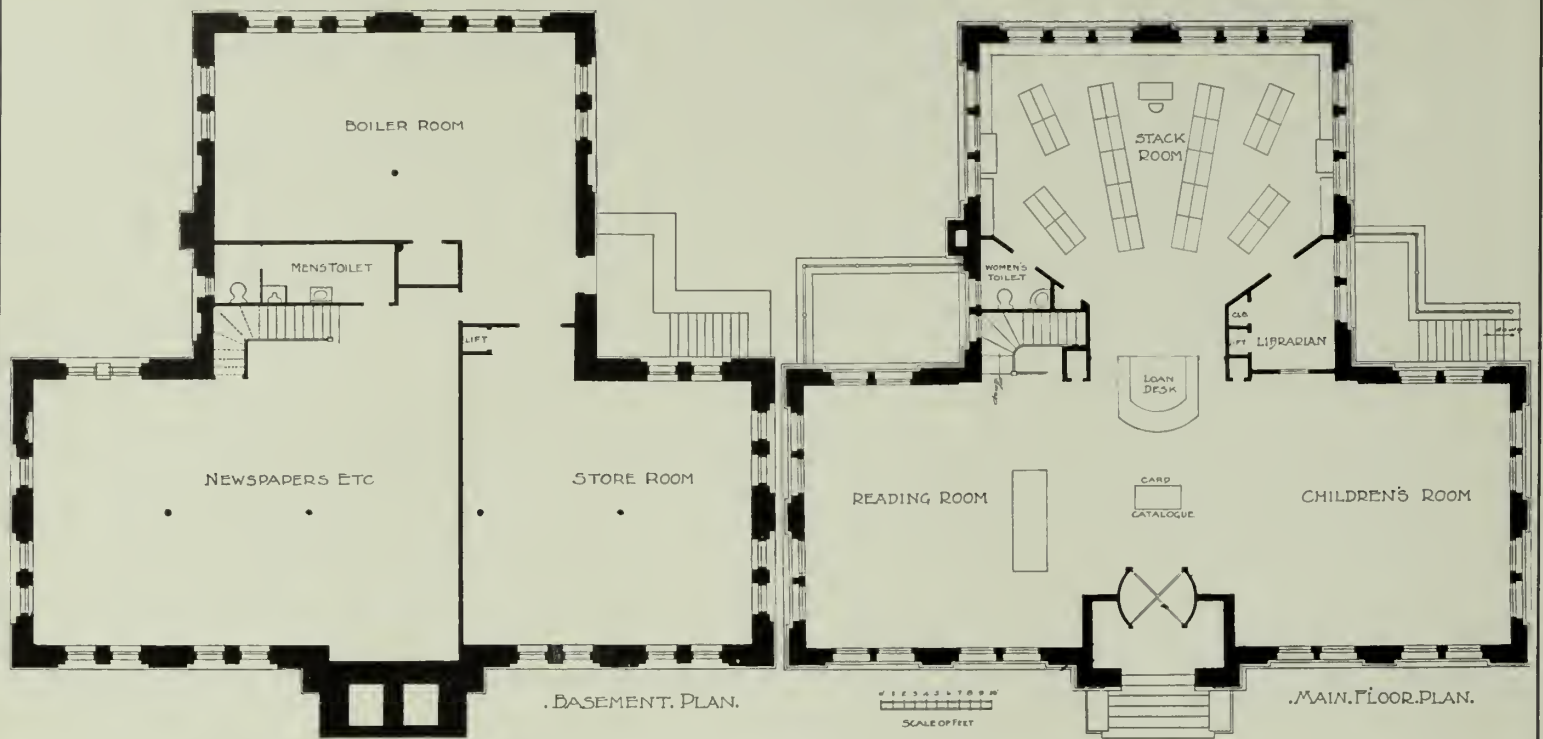
ELEVATION ON JAY STREET.
 RICHMOND BOROUGH HALL, ST. GEORGE, STATEN ISLAND, N. Y.
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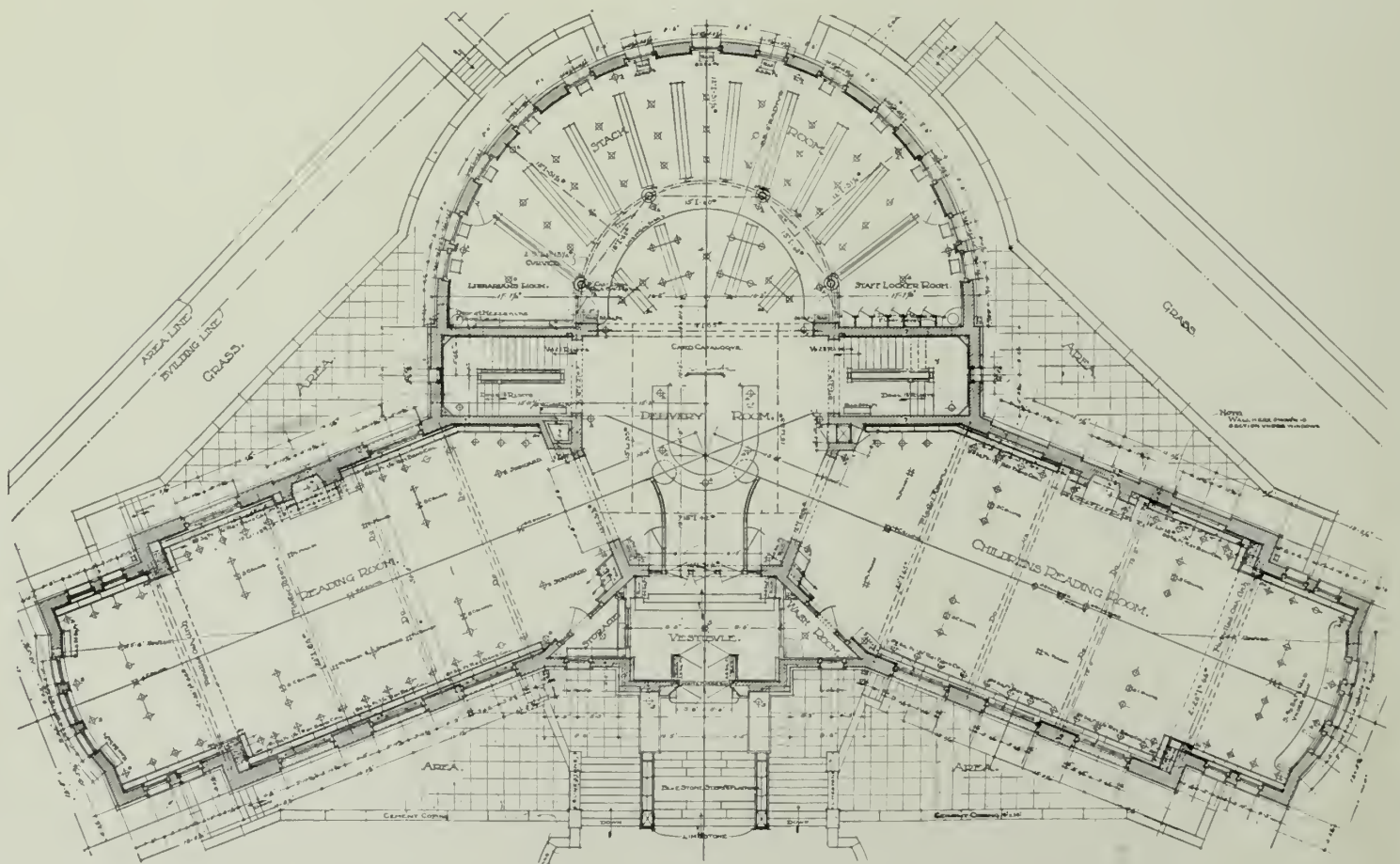


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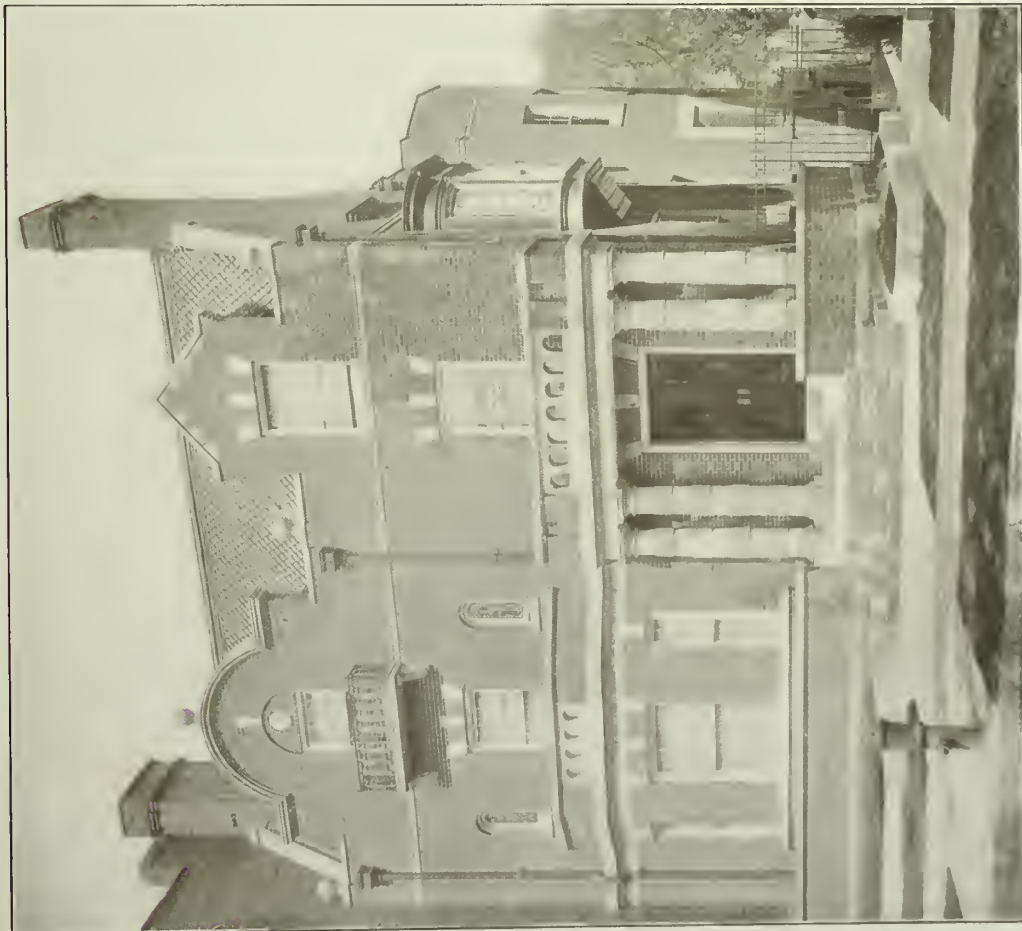
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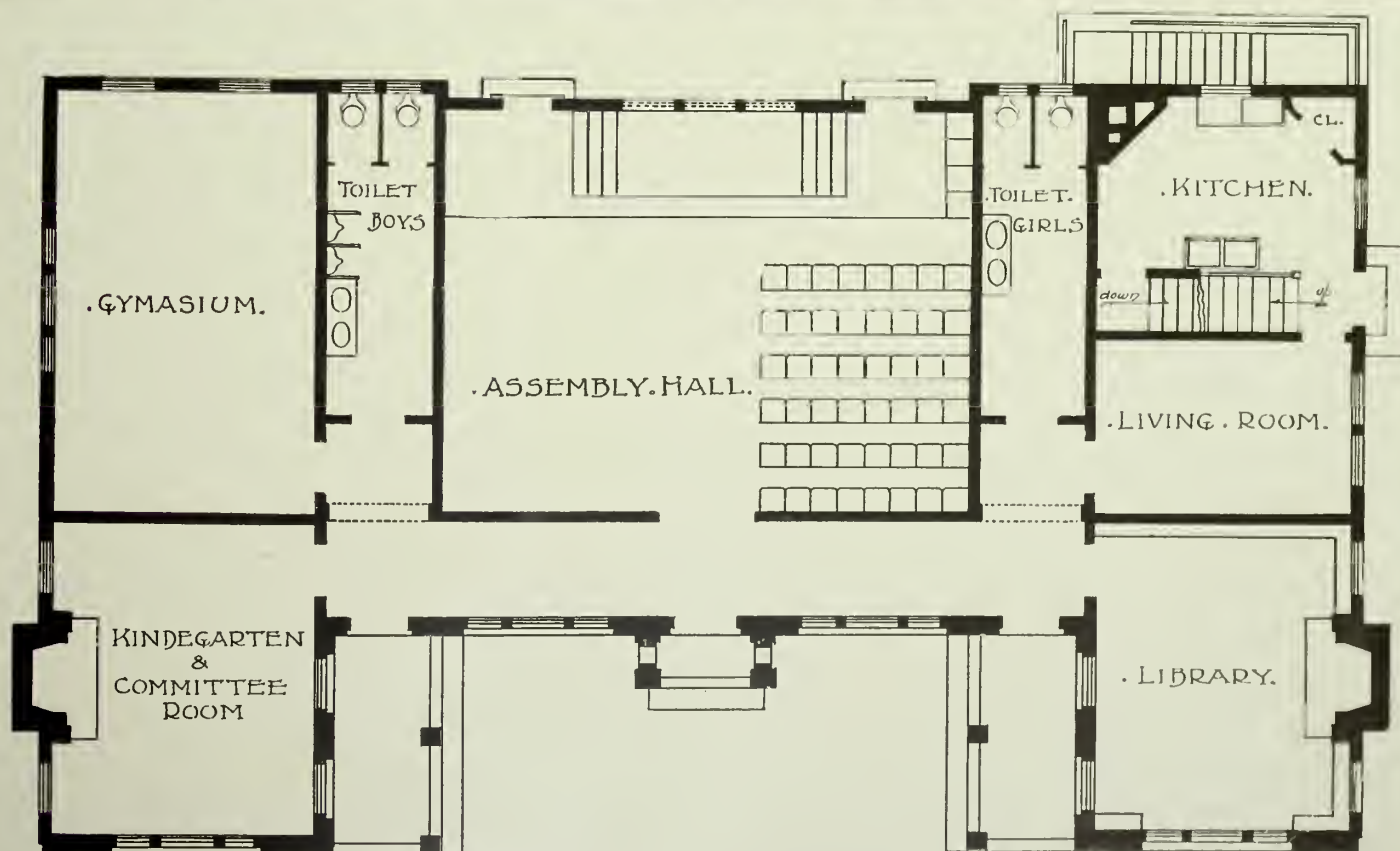
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MANN & MACNEILLE, ARCHITECTS.



HOUSE, CLINTON AVENUE, BROOKLYN.
HOBART A. WALKER, ARCHITECT.



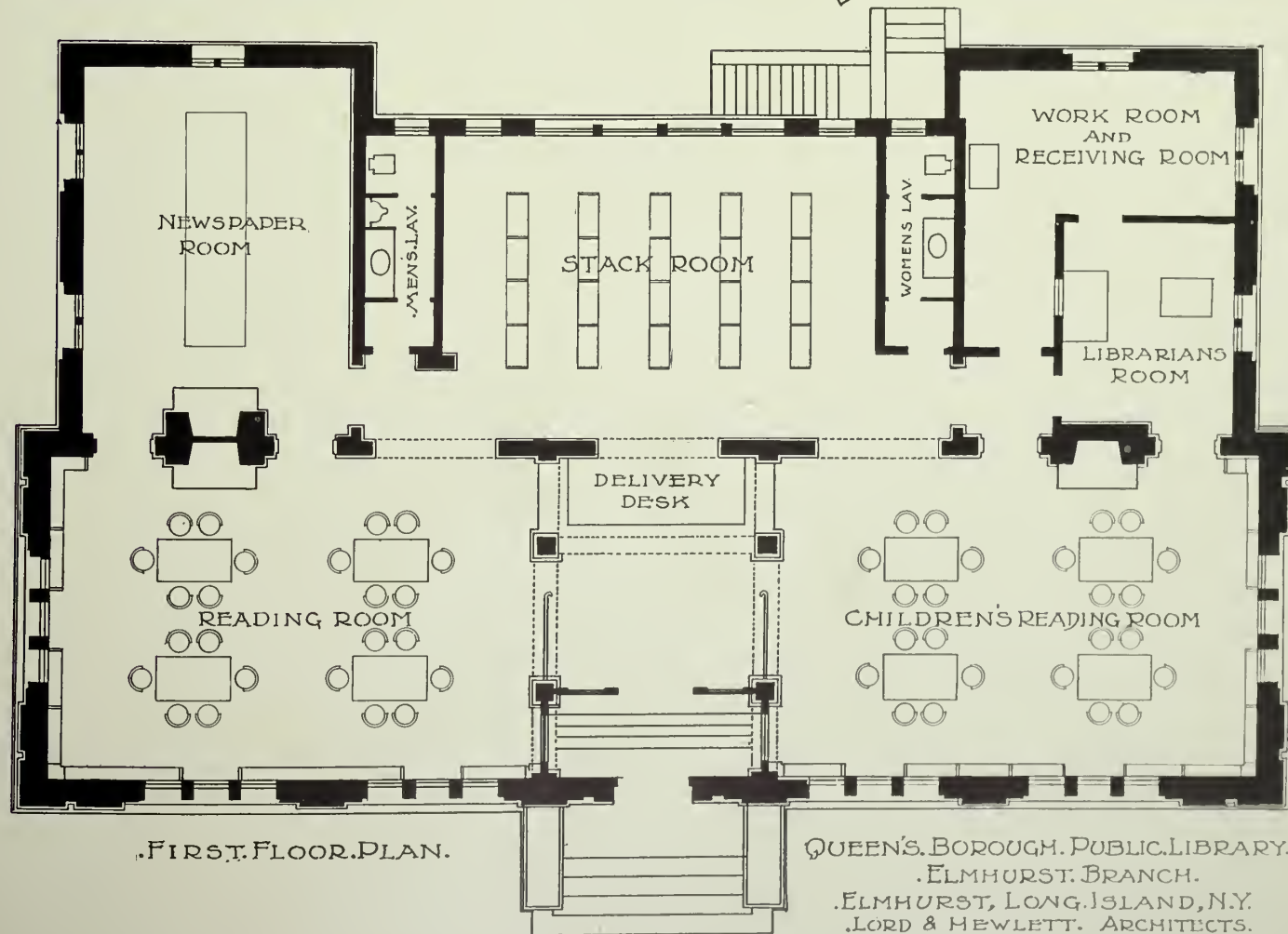
THE RATHSKELLER.
RESTAURANT, MILWAUKEE, WIS.
FERRY & CLAS, ARCHITECTS.



PARISH HOUSE, ROSLYN, LONG ISLAND, N. Y.
MCKIM, MEADE & WHITE ARCHITECTS.

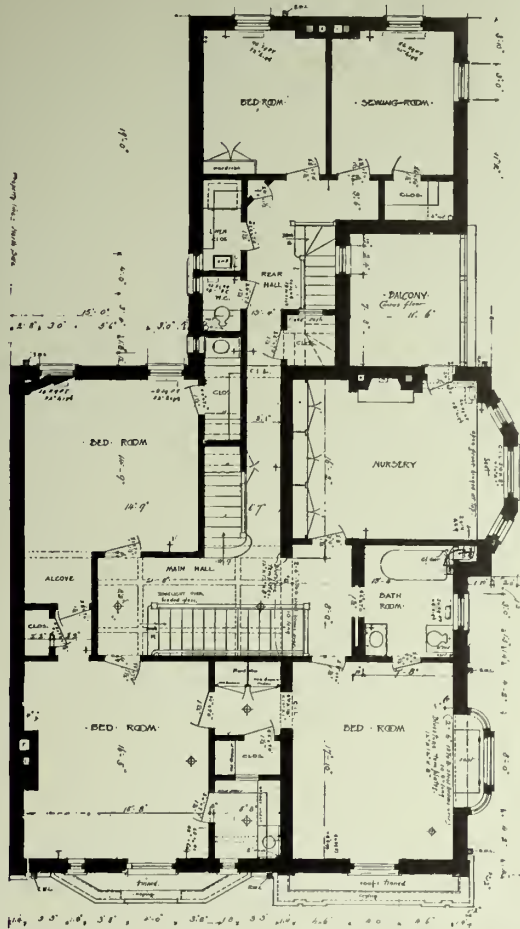


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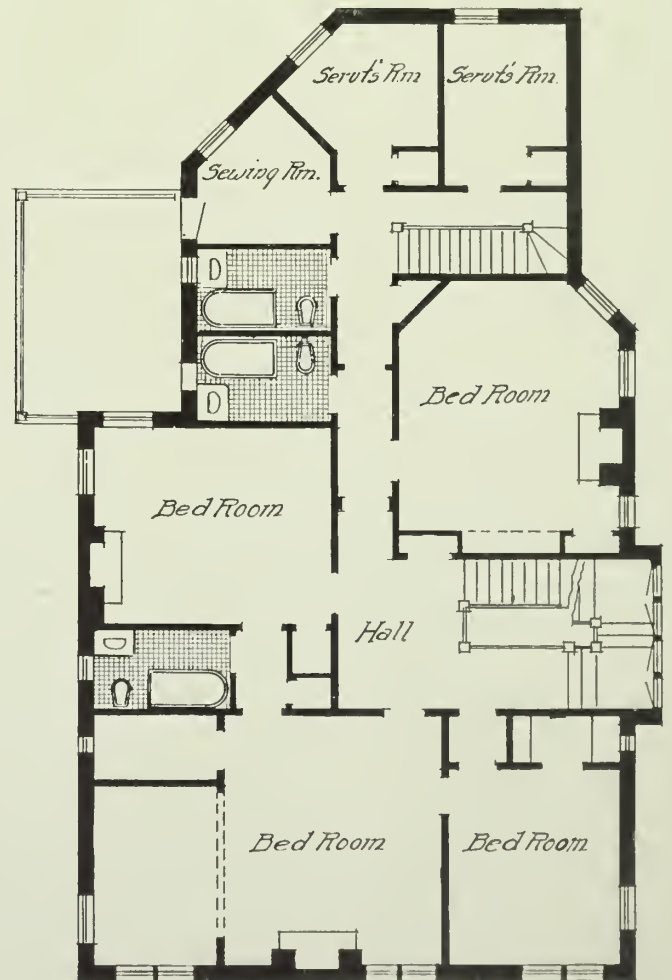
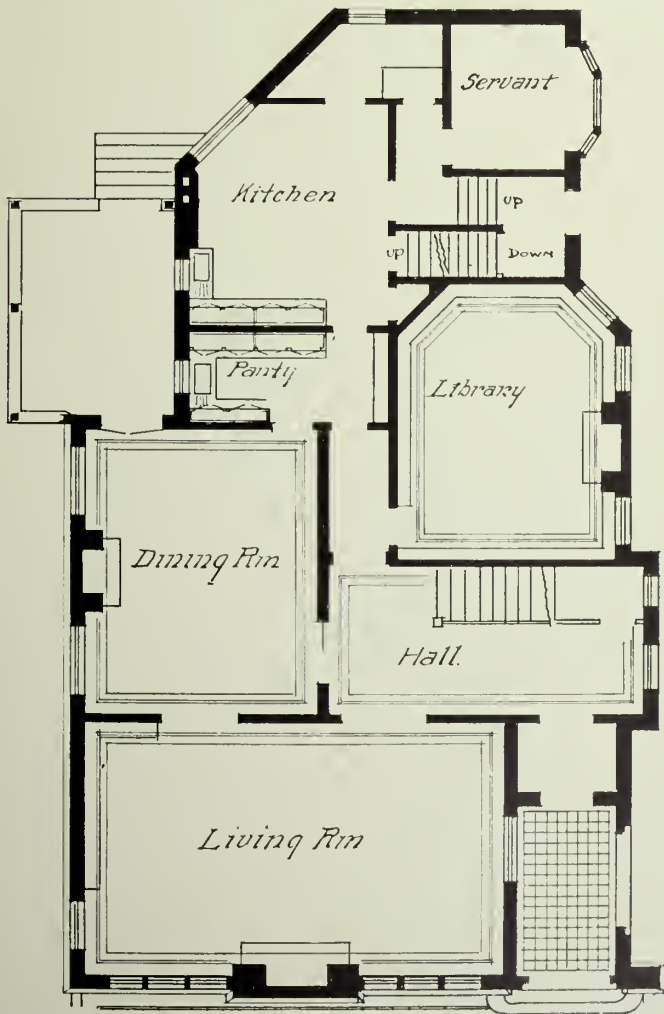
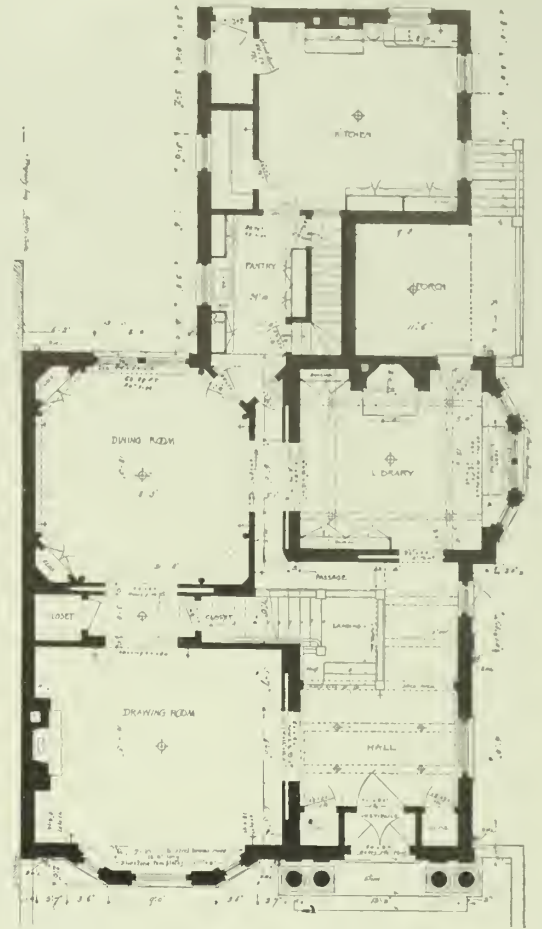


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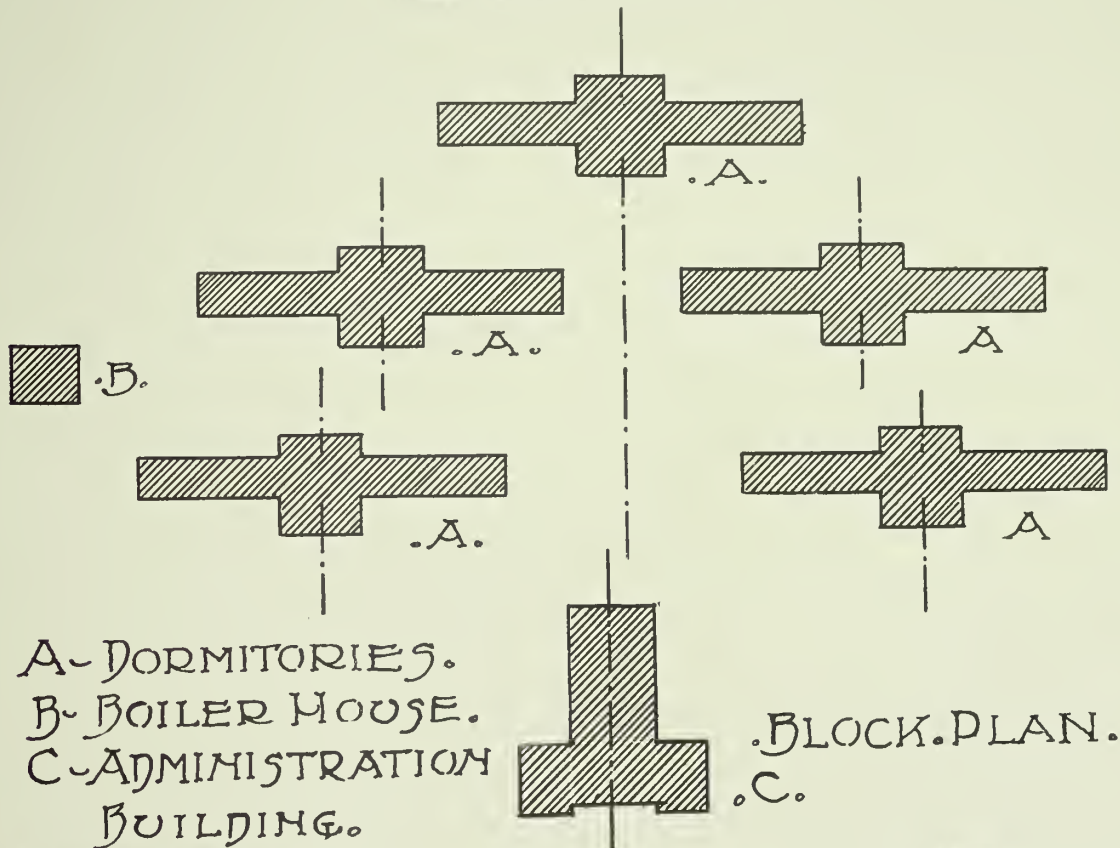
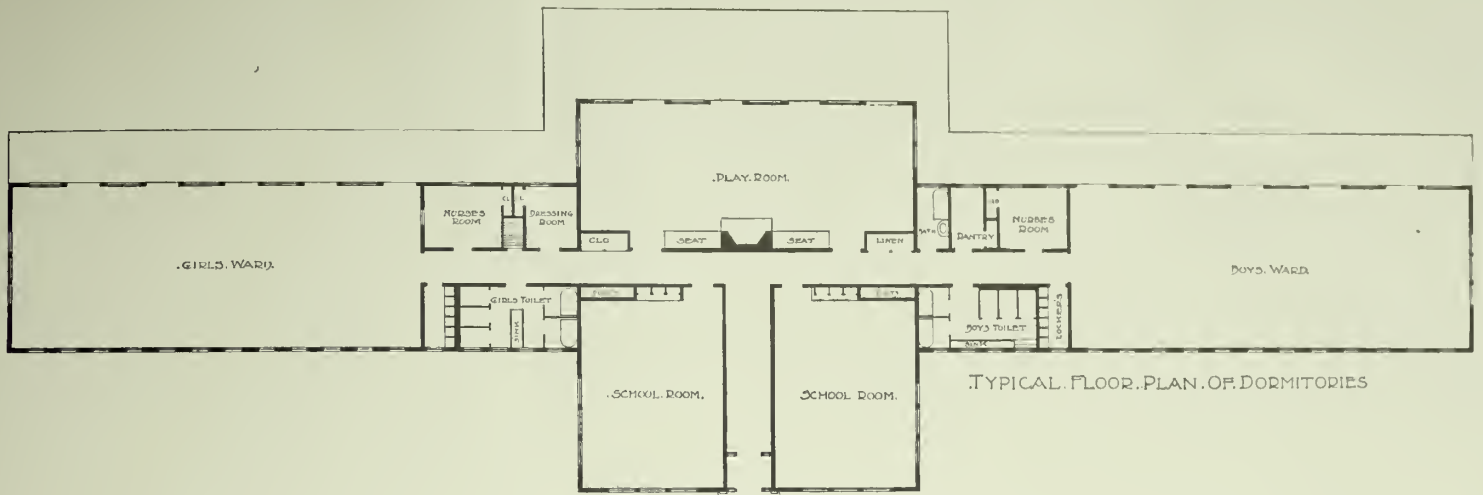


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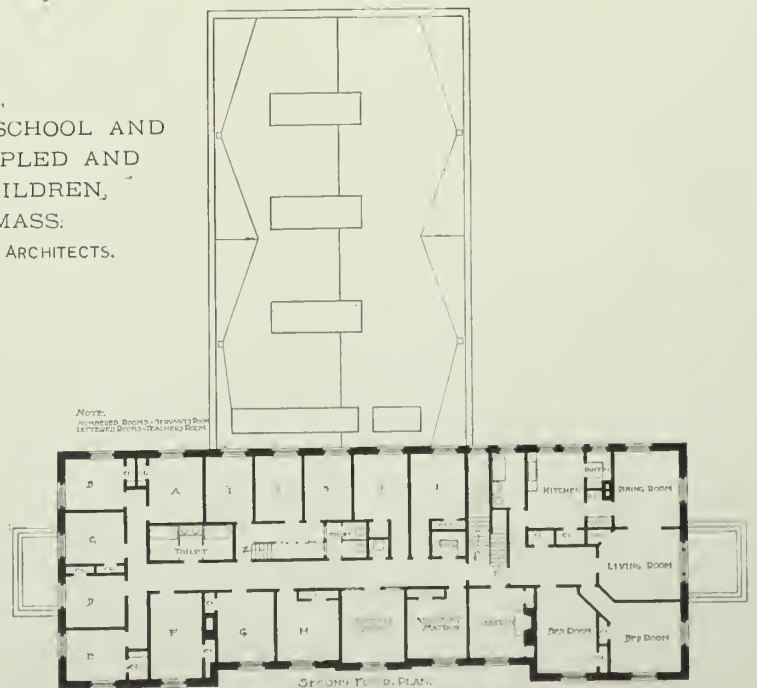
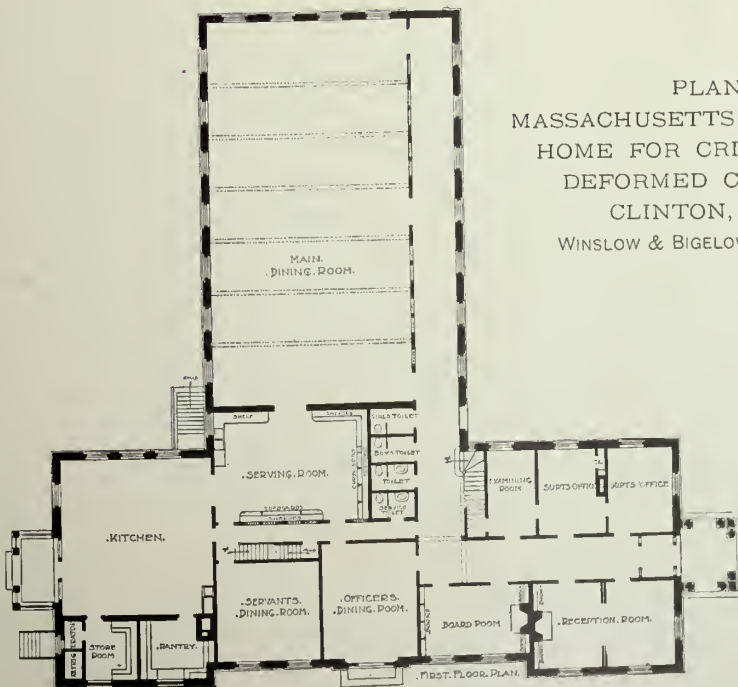


PLANS, HOUSE, WOODLAWN AVENUE, CHICAGO.
MANN & MACNEILLE, ARCHITECTS.



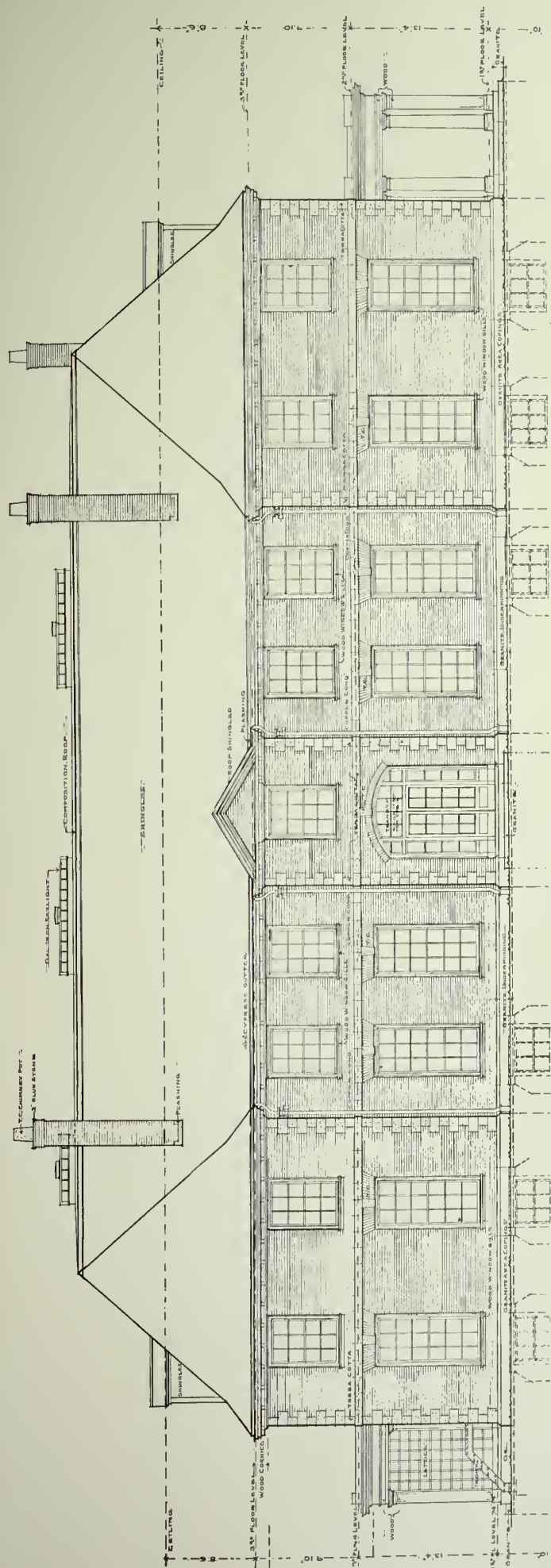


PLANS,
MASSACHUSETTS SCHOOL AND
HOME FOR CRIPPLED AND
DEFORMED CHILDREN,
CLINTON, MASS.
WINSLOW & BIGELOW, ARCHITECTS.

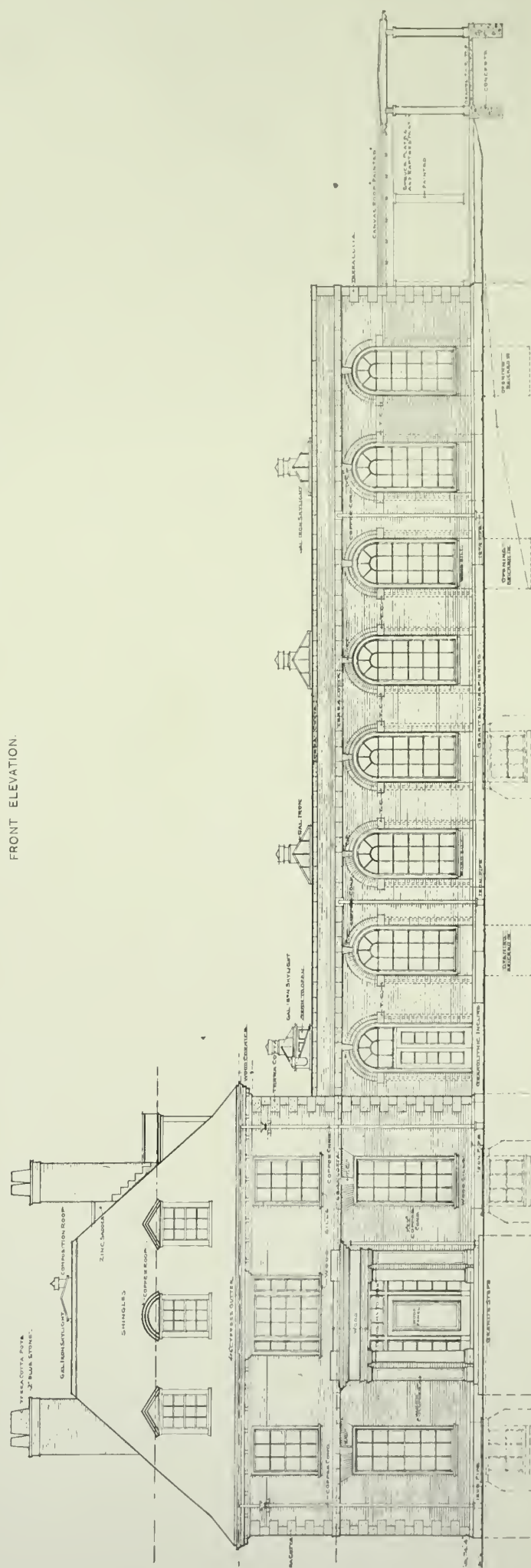


PLANS OF ADMINISTRATION BUILDING.



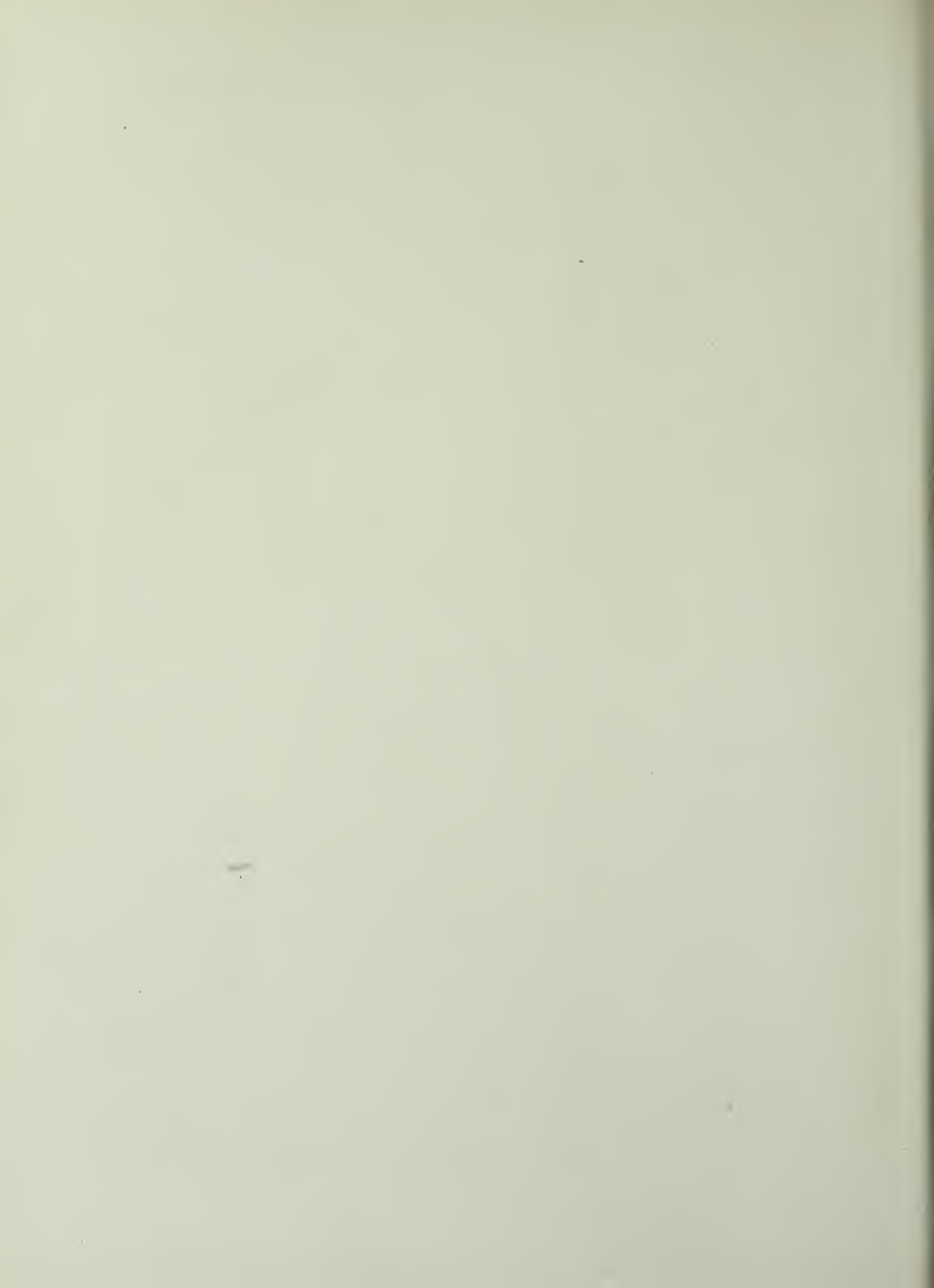


FRONT ELEVATION.



SIDE ELEVATION.

MASSACHUSETTS SCHOOL AND HOME FOR CRIPPLED AND DEFORMED CHILDREN CLINTON. MASS.



THE BRICKBUILDER

VOLUME XVI

FEBRUARY 1907

NUMBER 2

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	PAGE		PAGE
Agencies — Clay Products	II	Brick Enameled	III and IV
Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

ADAMS & WARREN; ANDREWS, JAUQUES & RANTOUL; CHAPMAN & FRAZER; ELLICOTT &
EMMART; ERNEST FLAGG; FROST & GRANGER; LORD & HEWLETT; PRICE
& DE SIBOUR; JAMES GAMBLE ROGERS; C. HOWARD WALKER.

LETTERPRESS

	PAGE
NORTH MYMMS, HERTFORDSHIRE, ENGLAND	Frontispiece
EDITORIALS	19
SYNAGOGUE ARCHITECTURE <i>Arnold W. Brunner</i>	20
MODERN ENGLISH BRICKBUILDING <i>Michael Bunney</i>	25
A VILLAGE COURTHOUSE. Article IV. <i>Edward A. Crane</i>	29
A VILLAGE COTTAGE. Article III. <i>Gilbert Hindermyer</i>	30
THE BANK BUILDING COMPETITION.—THE SUCCESSFUL COMPETITORS	33
EDITORIAL COMMENT AND SELECTED MISCELLANY	34



NORTH MYMS, HERTFORDSHIRE, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 2

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

FEBRUARY 1907

THE BRICKBUILDER.

THE name which was chosen for this magazine many years ago, and which it has borne courageously ever since, has been assumed by some to indicate a certain limitation of scope and absence of artistic possibilities. One of the best illustrations of the fitness of our name, however, as applied to a journal devoted to architecture and the fine arts, is afforded by two churches which were illustrated in our last issue. Here were two prominent public buildings, the one in the very heart of Manhattan, the home of one of the wealthiest congregations of the city; the other the spiritual center of a great university, and in both these structures the artistic element predominates, and the design in each is treated in a monumental manner. Each problem in the abstract would, at first thought, naturally suggest the employment of stone or marble, whereas in each a deliberate choice was made of burned clay. The result certainly justifies the choice, and the artistic results are fully equal to any work which has been done within the last year. Terra cotta and burned clay were not here chosen because they were cheap, easily applied, or could be produced in a hurry. They were selected to give an expression to a definite idea in architecture, and though the treatment in each case was different, and the conception of each was as varied as the talents of the architects which produced them, the result in each was a masterpiece of a nature which could not have been wrought out in quite the same way or with quite the same success on the same lines in any other material. Burned clay has certainly justified itself here, and THE BRICKBUILDER has a legitimate pride in presenting work of this nature, work which is peculiarly within its own province.

THE DESIGNING OF MONUMENTS.

IN a recent editorial we alluded to the change which has come about of late years in the designing of commemorative monuments, by which the architectural element has assumed its proper predominance. As the selection of an architect or sculptor for these monuments is usually made through a competition, it has been suggested that in order to secure the best results there ought really to be two competitions, the first simply among architects, to secure a scheme, and a general architectural composition, the architect then being employed in the usual capacity to carry out the monument. After that, models of the accepted design at a proper scale should be placed at the disposal of the sculptors who are invited to

take part in the second competition, each sculptor studying his group directly from the model and adapting it to the general scheme and to the specific design. In this way the difficulty will be avoided, which is so often encountered now, of having a design which is architecturally uninteresting accepted because it is coupled with sculpture of a very high order, or vice versa. Furthermore, the present custom of treating the sculptor as a contractor and agreeing with him for the delivery of a monument complete in all its parts for a specified sum, leaving him to work out all the financial problems, to make his profit or loss on the portions of the work which he does not execute with his own hands, this placing him in the humiliating position of seeming to save money in carrying out the work at the expense of the artistic results, will be entirely avoided, and the artist and the architect will both be free to study as they should, and will be employed in a self-respecting and professional manner.

STRENGTH OF BRICKWORK.

IN our last number we noted the proposed change in the building law of Boston, by which greater unit stresses were to be allowed on brickwork. Since then the Commission having the preparation of this law in charge, after careful consideration, has increased still further the allowable load per foot, so that if this statute goes into effect, as seems quite likely at this time, the recognized safe resistance of properly constructed brick piers will be officially set at twenty tons per square foot, an increase of thirty-three per cent over what has been allowed in the past.

All the tests with which we are familiar have, for years, shown that under the best conditions brickwork is far stronger than the existing laws would seem to indicate. We have repeatedly known piers to be loaded as high as twenty-five tons per square foot with every indication of safety, and judging by all the tests which have been made, an ultimate strength of eighty tons per square foot is a very conservative estimate for ultimate strength. The factor of safety in masonry constructions exposed only to quiescent loads can be very much less than is considered necessary for frame structures or columns, and as the moment of elasticity in masonry is very close to the ultimate resistance, a stress of twenty tons per square foot would probably be perfectly safe for a pier which would crush at forty tons per foot. It would be very poor brick indeed that would not stand far more than this.

Synagogue Architecture. I.

BY ARNOLD W. BRUNNER.

IT is generally stated that there is no Jewish architecture.

Guadet, in his "*Elements et Theorie de l'Architecture*," says that "it was to have been expected that the Israelites, with a region older than Christianity, would have produced an architecture with a history, but they did not. Accordingly, the synagogue to-day, the direct descendant of the Temple, is to us a modern problem not materially different from that of the contemporary churches."

The reason for this lies in the history of the Jewish people. That there were expressions of art in ancient Judea and aspirations for beauty and a fine sense of form is not to be doubted. The use of colors and their combinations was understood, and embroidery, engraving on metals and other ornamental work were extensively practiced. We know, not alone from the scriptures and from the detailed description of the Temple in Josephus, but from the results of actual explorations made in Palestine, that the beginnings of Jewish art were vigorous and promising. The state of Judea, however, was not allowed to pursue the arts of peace for any considerable period of time, and the dispersion of the Jews was necessarily fatal to any continuance or development of native art.



HANOVER

Of all the buildings of Judea that remain for our examination to-day, the most important is the base, or foundation, of Solomon's Temple in Jerusalem. The ruined portion of this great fortified wall fills us with admiration. It is a wonderful piece of masonry, composed of colossal stones which are carefully tooled and treated with chisel draughts around all the joints and beds.

The stones are laid perfectly true, without mortar. The remains of the great arch that connected the Temple with the palace are to be seen, and we find that ancient Judaic architecture employed not only the arch, but

vaults, moldings and sculptured decorations, and there are many other evidences of advanced architectural skill.

The Temple has interested many archeologists, and numerous curious restorations have been made of it and its accessories. The most notable one is shown in the careful and brilliant drawings made by George S. Perrot and Charles Chipiez; but one instinctively feels that their



FLORENCE

imagination has been allowed too much freedom and that these admirable restorations, while inspiring in the extreme, can hardly be considered as historic documents, nor do they indicate a sufficient degree of accuracy upon which to base an architectural style. The restoration attempted by Mr. Fergusson is more erratic and much less convincing, and can hardly be taken seriously.

Among the remains of the early synagogues that we know, those in Galilee, described by the Palestine Exploration Society, are the best preserved, but they give us only scant information. However, there are many details of ornamentation and construction that are most suggestive. The so-called Great Synagogue at Kifr Birim presents, perhaps, the best indication of the early style of architecture employed for these structures. The building is rectangular, and on its western end there is a porch supported by columns. We find three doorways on its main façade, framed by heavily molded architraves, the croisettes of which are much exaggerated. The central door is surmounted by a richly ornamented round arch enclosing a carved panel. In this and in other buildings of the period we may see numerous examples of triglyphs and metopes and columns with either Doric or an early form of Ionic capitals. The moldings are often decorated and are generally round and full, and arches and cornices and panels are heavily



INTERIOR OF SYNAGOGUE, PADUA.



INTERIOR, SHOWING ARK, PADUA.



INTERIOR OF SYNAGOGUE, PARIS.



INTERIOR OF SYNAGOGUE, PARIS.

carved. We must be impressed by the characteristic and distinctive treatment of sculptured palms, garlands, discs, grapes suspended from knotted cords, olive and vine leaves all cut with a crispness suggesting Byzantine work of the fifth or sixth centuries.

Viollet-Le-Duc, in his *"Discourses on Architecture,"* contends that early Jewish art provided inspiration for the Greeks, whom he believes borrowed many details from these primitive buildings.

While there is an absence of any representations of men or animals in the sculptured decoration, we discover among the remains of synagogues and tombs many treatments, such as pediments with moldings, dentils, ornamented metopes and others, that so clearly indicate the early Greek art that they may not be overlooked, and all of which lends color to this theory.



INTERIOR OF SYNAGOGUE (NOW CHURCH), TOLEDO, SPAIN

Josephus describes minutely the porticos of the Temple with its columns from which hung tapestry of various colors, embroidered with purple flowers, modeled clusters of grapes, and other indications of decoration, so that we must recognize that the beginnings of an architectural style were well advanced.

Upon examining the ruined remains that exist today, it is evident that whether this art inspired the Greeks, or was inspired by the Greeks, it was serious and important, and if circumstances had allowed it to develop, it would have probably continued on much the same lines as the art of Greece.

There were many laws governing synagogue architecture, but they were generally disregarded. The site of the building was to be, whenever possible, near the seashore or by a running stream. The structure itself, or

some part of it, was to be higher than the surrounding buildings, and there were Talmudic regulations determining the number of windows, size and position of doors and other matters. These regulations, however, were apparently treated with indifference, but the main traditions were invariably followed. The door of the synagogue faced the west; the ark was at the eastern end; the desk, from which the law was read, was approximately in the center of the building; the space on either side contained benches for the men, and a gallery was constructed for the exclusive use of women. This plan taken as a basis was developed and improved, but there was no deviation from the main idea. The building was always rectangular, with or without columns. There was no transept, the plan of the basilica being invariably adopted. The ark at the eastern end was erected on a platform reached by steps and the perpetual lamp was suspended in front of it.

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Beginning with these simple requirements, the synagogue developed, and as congregations became more wealthy the buildings became larger and more important, entrance halls and vestibules were added, and the stairways designed in a more dignified fashion. Increase in size demanded rows of columns to support the roof, but in every case the form of the basilica was retained. The ark, which was once a simple niche in the wall, or a more or less ornamental receptacle to contain the scrolls of the law, grew larger and received more decorative treatment until it became the main architectural feature of the interior and was often ornamented with columns or pilasters, covered with a canopy and surrounded by balustrades and approached by steps. Additional rooms were added at the back of the building for the elders of the congregation, and for the general administration of the synagogue affairs.

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A comparatively small number have survived from the sixteenth, seventeenth and eighteenth centuries and those that have escaped destruction are not, as a rule, remarkable for size or distinction. During the last fifty years numerous synagogues of great beauty, and some of undoubted architectural merit, have been built, and they present all varieties of style and construction.

The general architectural treatment of the synagogue buildings throughout Europe, with the exception of those designed in the Moorish style, to which I will refer later, depended entirely upon the locality in which they were built. The prevailing architectural style of the country was adopted; in Russia it was Russian, in Italy it was Italian, in Spain it was Moorish. In Germany and other parts of Europe there are synagogues built in the Gothic style, with interiors containing fine examples of vaulting.

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In the days when the Jews were a power in Spain their synagogues were designed by Moorish architects in the only style with which they were familiar and were naturally Moorish buildings. Since the expulsion of the Jews from Spain many synagogues have been built throughout Europe with Moorish detail, as it was evidently believed that the Moorish style was appropriate, and was, at least, "Oriental" in expression. The buildings were never really Moorish, for the style is not a flexible one and cannot readily be adapted to the conditions imposed in church or synagogue buildings. The plan was impossible and the interior courts of the Alhambra, which was the favorite model, could not well serve for the purpose. The mosque was equally unsuitable, so Moorish detail alone was employed and ornamental features and motifs from the Alhambra, or the Alcazar at Seville, or the mosque at Cordova, were engrafted on buildings in a haphazard way.

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Modern English Brickbuilding.

BY MICHAEL BUNNEY.

THE reëstablishment of material on its right basis as a factor of good building has long ago been acknowledged by every attentive observer of architectural development as one of the most far reaching of the results brought about by the Gothic revival and the craft movement that succeeded it.

As a means of architectural expression every building material, with the exception, perhaps, of stone, seems to have gone through a period of treatment which at one time or another not only forced an abandonment of traditional usage but even imposed a stigma of unworthiness which prejudice was slow to take off. So long as Palladianism and the strict ideals of the Classic Revival maintained their hold upon architectural taste, stone, as a material indispensable to the carrying out of those ideals, contrived to keep the traditional and masonic methods by which it had always been handled; but the very conditions which preserved the stone tradition were active in suppressing every vestige of this quality in the so-called baser materials.

The coming of cast iron, some of it admirable in its way, destroyed the fine school of wrought iron which Jean Tijou and Huntingdon Shaw had brought to such perfection; lead was slowly relegated to the melting pot of the sanitary plumber and lost all its delightful possibilities as a decorative medium, and woodwork became thin and wiry, good oak and deal giving place to polish and veneers.

In the case of brickwork insult was added to injury when, in order to get into their work what they were pleased to call dignity, the early nineteenth century architects turned to stucco as a cheap counterfeit for stone, and gave the final blow to what remained of a singularly fine tradition. Then a needy exchequer, casting about for fresh sources of taxation, imposed duties upon bricks, and had, as a consequence, to specify a maximum size; this had the immediate effect of standardizing all brickwork, of course, without relation to what was the most suitable size for good architectural effect. Unfortunately, the new standard size was made of larger dimensions than those of the common bricks in use at the best periods; under the pressure of the tax, therefore, the small brick was dropped and brickwork lost a great measure of the charm which the better proportioned brick had given it.

For all practical purposes this standard size, which is $8\frac{3}{4} \times 4\frac{1}{4} \times 2\frac{3}{4}$, and rises four courses in 12 inches, is still in force, whereas the older bricks often rose five courses in 12 inches, a common size being $8\frac{1}{2} \times 4 \times 2\frac{1}{8}$.

Mistaken zeal in the effort to obtain rigid uniformity of color and texture under each and every circumstance still further aided in the degradation.

It was under the powerful spell which the revival exerted upon all artists that Philip Webb, W. Eden Nesfield and Richard Norman Shaw, freeing themselves from the architectural vagaries of their forerunners, at one step restored material to its proper place as an element in design and brought back the treatment of the commonest of British building materials into such sound traditional lines that brickwork has ever since steadily developed in architectural quality.

carved. We must be impressed by the characteristic and distinctive treatment of sculptured palms, garlands, discs, grapes suspended from knotted cords, olive and vine leaves all cut with a crispness suggesting Byzantine work of the fifth or sixth centuries.

Viollet-Le-Duc, in his *"Discourses on Architecture,"* contends that early Jewish art provided inspiration for the Greeks, whom he believes borrowed many details from these primitive buildings.

While there is an absence of any representations of men or animals in the sculptured decoration, we discover among the remains of synagogues and tombs many treatments, such as pediments with moldings, dentils, ornamented metopes and others, that so clearly indicate the early Greek art that they may not be overlooked, and all of which lends color to this theory.



INTERIOR OF SYNAGOGUE (NOW CHURCH), TOLEDO, SPAIN

Josephus describes minutely the porticos of the Temple with its columns from which hung tapestry of various colors, embroidered with purple flowers, modeled clusters of grapes, and other indications of decoration, so that we must recognize that the beginnings of an architectural style were well advanced.

Upon examining the ruined remains that exist today, it is evident that whether this art inspired the Greeks, or was inspired by the Greeks, it was serious and important, and if circumstances had allowed it to develop, it would have probably continued on much the same lines as the art of Greece.

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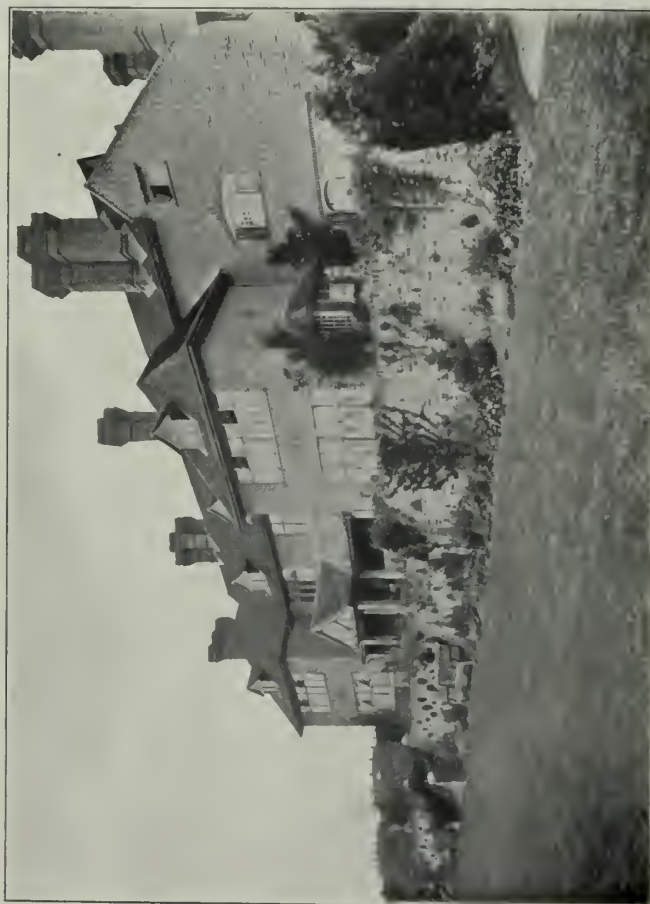
HOUSE BY E. TURNER POWELL, ARCHITECT.



HOUSE IN FERNCROFT AVENUE. E. Guy Dawber, Architect.



HOUSE BY SIR CHARLES A. NICHOLSON, BART., ARCHITECT.



GREAT HOUSE COURT, EAST GRINSTEAD. E. Turner Powell, Architect.



FRITHWOOD HOUSE, MIDDLESEX.
Mervyn Macartney, Architect.

In a broad sense this development works itself out along two lines—the first is an almost direct carrying on from that point to which brickbuilding had arrived in the eighteenth century before eclecticism had stifled every kind of architectural evolution. This Georgian brick architecture depended for its æsthetic effect less upon design, though that quality was never entirely absent, than upon the excellent manner in which material was used; in short, this was architecture with style about it, but style in its best and broadest acceptation, reasonable, reserved and orderly yet without a trace of affectation.

If these qualities could be associated with the way in which materials were used at that time they can be still more aptly descriptive of the brickwork executed then. One can therefore view with satisfaction a generation of architects who will devote themselves to following up this tradition even to the verge of copyism. One hundred and fifty years is a long void to bridge with success in matters architectural, yet not the least interesting of modern English domestic work, both in town and country, is based on a careful study and adaptation of the older brickwork.

Its aptitude, even nowadays, to the somewhat limited opportunities of town work is remarkable, as is evidenced by many London examples both old and new. On cramped sites demanding large, regular and repeating window openings, it is obviously best to eschew elaborate architecture and let the effect come from simple arrangements and from the proper use of materials. As a case in point, take the two new houses in Westminster, built by Horace Field for two members of Parliament, and part of that great street improvement that has been going on in the neighborhood for some years. As these houses were to stand among just such old work as has been described above, it was clearly the right thing to assimilate them as much as possible with their surroundings. The bricks used for the main walling are of a warm

gray color varying very much in shade, and their texture is sandy and irregular, they thus come nearer to the present tone of the old London stock bricks than is possible with the commoner yellow bricks.

Compared with the bricks used by Mr. Champneys over twenty years ago at St. Bride's Vicarage, hard pressed red bricks of great uniformity of appearance, these Westminster bricks show how great has been the advance towards a more reasonable means of obtaining effect by variety and judicious selection of material.

Apart, of course, from the fact of it being a fine specimen of the brickwork of the eighties, St. Bride's Vicarage is interesting because in it rubbed brickwork seems to have reached its apotheosis. This material, which with molded bricks was lavishly used for dressings and cornices, about the Cromwellian period, was revived by Norman Shaw at Lowther Lodge, Kensington, and frequently used elsewhere amongst his earlier works.

The little house at Croydon, with its extremely simple scheme, and, in a greater degree, Turner Powell's charming house at East Grinstead, bear witness to the adaptability of traditional treatment to detached houses in suburb or countryside.

Thanks to the enterprise of some far-seeing municipal authorities, who have carried out excellent brickwork in their housing scheme, even what may nowadays be truly called "vernacular" architecture seems to be influenced by the movement at work where more expensive houses are concerned. When this building work, which springs from the requirements of the small householder,—the man who does not employ an architect but lives in a ready made villa,—shall have come fully under the new influence, it will be possible to claim a high place for English domestic work, second only to that occupied by the seventeenth century buildings, when good design was spontaneous and seemed to permeate all that was done.



THE GRANGE, HAMPSTEAD.



HOUSES IN GREAT COLLEGE STREET.
Horace Field, Architect.



HOUSE AT CROYDON, SURREY.

A Village Courthouse.

ARTICLE IV.

BY EDWARD A. CRANE.

PICTURE an old New England town with its wide main street sheltered by elms of many years' growth and its old common dating back to the days of the colony when the town was founded. This town, or perhaps we should say city, for it has now had that title for many years, although its general air is that of a country village, is the seat of a small but prosperous county. For generations the courts have been held and the general county business has been transacted in the old brick building

three distinct groups: First, a courtroom of about twelve hundred square feet, with small anterooms for the judge and counsel, with private stairs leading from a separate rear entrance. It is suggested that this occupy a separate pavilion in the rear, the height of courtroom being carried up so as to form a small balcony on the second floor. The balance of the entrance story should be given to the second group, which should include on one side a room for the grand jury, about six hundred square feet, with anterooms, etc., and on the other side apartments for witnesses, prisoners and the district attorney. There should be an ample lobby on the first floor, with two flights of stairs leading up to the front portion of the second story, which should be given up to the probate



A VILLAGE COURTHOUSE.

Edward A. Crane, Architect.

facing on the common, but the inconvenient, dark and limited quarters have long been the subject of severe criticism, and, after much agitation on the part of the daily local paper, the county commissioners have decided that the necessary steps should be taken to erect a new and more commodious building. As this can only be done by borrowing the money in the name of the county, it is necessary to obtain authority from the state legislature for such action, and while these steps are being taken the commissioners have authorized the preparation of preliminary sketches with a view to advising themselves as to the arrangement and character of building that will be most suitable for their needs.

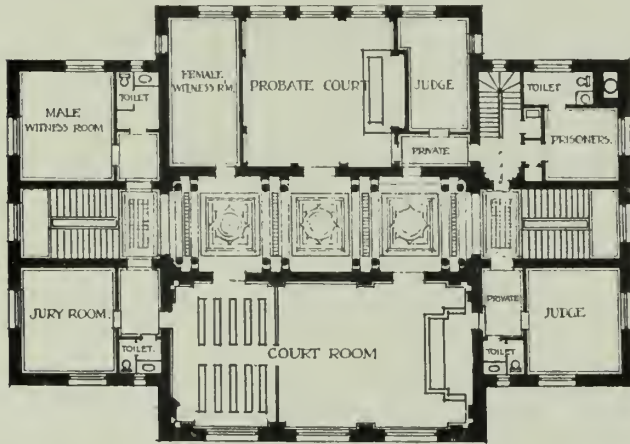
The requirements, as prepared by the commissioners, read: "The courthouse is to provide accommodation for

court, including a courtroom about six hundred square feet and registry of deeds about eight hundred square feet and offices for the registrar and clerks and a small waiting room. On this floor there should be a public lavatory."

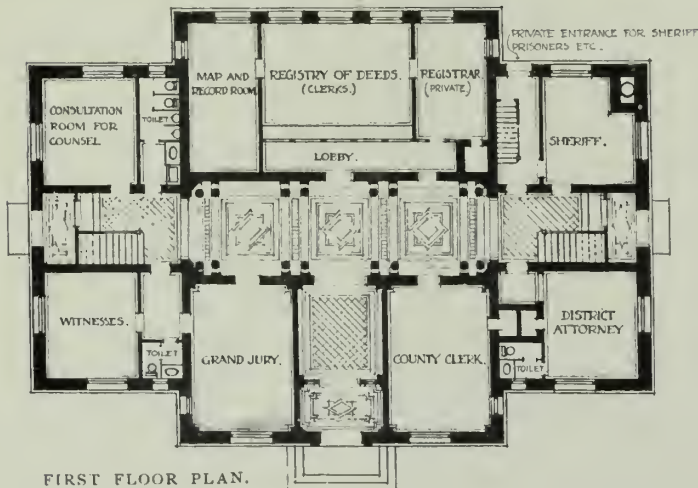
The general arrangement suggested does not seem to be a desirable one, for the reason that the registry of deeds and other county offices are constantly used by the public and should be placed in the most convenient and accessible locations, while the courts, which from their nature demand quiet and are in addition used only at stated intervals, should be so placed that those who visit the building for other than court business will not be required to pass in front of the courtrooms. It seems, therefore, extremely desirable to place the courtrooms and their accessories upon the second floor and the regis-

try of deeds, etc., on the first floor, and an endeavor to persuade the county commissioners of the desirability of this suggestion will be made.

Entirely aside from this question as to what seems to be the proper arrangement of a courthouse of this character is that of the architectural treatment, and the plans should be so arranged that the exterior will frankly express the purpose of the building, and with that in view the principal court has been placed in the pavilion on the front in the second floor. The very character of this room and its windows gives the idea of a small courthouse, the plan and elevation accuse each other frankly, which should be the case, but this would not be possible if the principal court were placed at the rear of the building on the first floor as suggested.



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.

In solving the problem it has been borne in mind that, as stated by the commissioners, the money available is limited, and while it is proposed that the building shall be constructed of fireproof material throughout, every economy consistent with constructing a building of suitable design will be practised. The exterior will be of dark red brick laid with English cross bond, with trimmings of light-colored terra cotta. Considering the limited amount available, the building has been kept as compact as possible, and in the plan this has received special consideration. The principal corridors, while monumental in character, are not extravagant or wasteful, and at the same time are so arranged that they connect directly with all the important rooms on both the first and second floors.

The Village Cottage. III.

BY GILBERT HINDERMYER

IT seems that the character and expression of this work are at once determined by "Village" and "Cottage." A village calls for quiet harmony; cottage demands simplicity, restraint, directness and economy; therefore the plot, the house, the garden and the stable are designed on this basis.

The conditions governing the present problem are pleasantly lacking in many of the difficulties frequently encountered. The lot is large and a fair shape, two hundred and fifty by three hundred feet; nothing mars or prevents the best exposure; there are no awkward grades to be handled and no natural features, such as rocks, trees or streams, to hamper freedom in the composition.

Because the length of a lot is of more use than great breadth, the present plot has been selected with its long axis running nearly north and south. This permits the house to be placed parallel to the road, as a partial screen to the garden, which, it is believed, should be entirely isolated from the public highway. Neither this nor the living-rooms of the house should look to the road for entertainment. A length of three hundred feet permits the house to stand well back from the road, yet leaves ample space for gardens, walks, a stable and other country house accessories on the remainder.

Next in importance is to make the most of the southern exposure. When it is remembered that the warm winds in winter and the cool breezes in summer come mostly from that quarter the reason is obvious. The next step is to shelter or screen the plot from the cold north and northeast. It will be seen from the plan that the placing of the house and stable helps to do this, and that the rows of trees, presumably maples, elms, or horse-chestnuts, along the front and one side, play an important part as a wind-break.

Having determined the exposure and indicated roughly the position of the big parts of the design, it will be well to select or bear in mind some architectural style or some character of design to which all the parts of the scheme shall conform. While it would be interesting to consider our lot located in a part of the country where unusual or picturesque conditions prevail, as, for instance, southern California, where the perpetually blooming patio gladdens the eye, great overhanging eaves cast cool, deep shadows, and tiles lend color and quality to roofs, still, it is felt that average conditions in a temperate climate will prove of more general interest. This is, therefore, a village in one of the Middle States, where snow would check the blooming ardor of the patio and make the tile roof ridiculous. One may claim that the American country house has achieved a style of its own, or that one need look no further than the colonial examples of either northern or southern type for beautiful precedent. Admitting both, it is still believed that the older civilization of England has evolved types of the dwelling house possessing a charm which belongs to neither of the others. They were evolved, too, under social conditions, methods of living and climatic influences similar to our own—and, therefore, serve especially well as a guide to the solution of our own problems which

are so nearly akin. This is the type upon which the present design is based.

In mass the house is long and low; long, because that means the best exposure for the most rooms, and low because long, horizontal lines harmonize better with a flat site and impart a greater degree of charm. Notice the persistent way in which the house turns toward the south; dining-room, living-room and library all have the sunny exposure and look toward the garden. It is also to be observed that the house is turned a little east of south, in order that it may have the benefit of the morning sun. The bedrooms above are also all on the south, and nothing is left for the northern exposure but halls, stairs and unimportant rooms.

The size of the house is often a difficult matter to determine. The probable cost usually reduces the size to a minimum consistent with necessities. The average client, especially if that client be a woman, sometimes

the same thing in area; so three rooms have been shown of the minimum size for comfort. There is also a second bathroom which serves the three bedrooms in common. It seems but reasonable to suppose that a family of this size will have use for a guest-room. The "spare-room" has therefore been provided. Across the north side of the house has been placed a serving-room, the staircase, a bath, a linen closet and the servant's stair. The servant may be placed on the third floor, which should also be used for storage and a play-room for the small children.

The area of the second floor being determined, we find that it results below in a dining-room, a long living-room eighteen by thirty-six feet; a library opening from it, with a den at the back. This may seem a generous arrangement, perhaps, but it will be none too much when the children have begun to receive guests separately.

The stair is placed in a hall by itself, a part of this being utilized as a vestibule. The entrance door is pur-



promises to be quite satisfied with three rooms on the first floor; but above, there must be four, five, or even six bedrooms, each with "a good, deep closet"; at least two baths—and one is lucky not to have a sewing-room, a linen closet and a "loggia over the porch" numbered among the absolute necessities of the second floor. All this is quite possible, but its accomplishment always astounds the client by the size of the first floor. Experience having proved it the wisest plan to determine the second floor so soon as the general shape of the house is settled roughly, let us begin that way. The requirements are for a man and wife, three children and one servant. "A man and wife"—that means usually one large room with probably a dressing-room adjoining, or sometimes two small rooms are preferred. In either case a bathroom and ample closets must form part of the suite. "Three children"—this implies either a room for each—they will require it later—or else that one room for two must be as big as two single rooms, which comes to

posely off center, permitting that "looking through the house," so dear to the average home builder, although a hall does not run through from front to rear. The living-room opens upon the terrace with three long, French casement windows. The library and dining-room may have similar openings at the side. Access to the stair may be had directly from any of the three rooms. The dining-room is placed to receive the morning sun. A pantry separates the kitchen from the front entrance, and forms a convenient passage for the maid to the front door. The northeast, or least desirable corner of the house, contains the kitchen and back porch. It seems an error to shut off air and sunshine from the living-room by a porch, and this is therefore placed on the southwest corner. An open paved terrace takes its place between the wings.

Passing into the garden, we find a broad walk across the entire front; next comes the formal garden—or flower beds—divided by narrow walks which would look well paved with flat, irregular stones. At the other side

of the beds a long walk borders them and terminates at the stable. To the south of the stable is placed the kitchen garden, adjacent to the main drive from the street to the stable.

Instead of dividing the lot into nearly equal parts with a walk centering on the house, it is felt that greater interest is derived by placing it at the side and centering it upon some special feature. The dining-room has therefore been made to open upon a platform from which we descend by a few broad steps to a lily pond shaded by tall shrubbery. Beyond this we find a long, straight path, covered by a simple arbor, offering a view of the tennis court on one side and the orchard on the other. This path terminates in an arbor sheltered by a tall hedge at the limits of the lot.

With an ample lot upon which to work, the temptation is to multiply features of interest or to amplify and elaborate those which are used. But restraint is a valuable quality, and care must be taken not to overwhelm a simple house by a garden too imposing. Having concentrated the interest in the most important area, it seems but wise to allow the remainder to take care of itself—or left to be planted with groups of trees for later picturesque development.

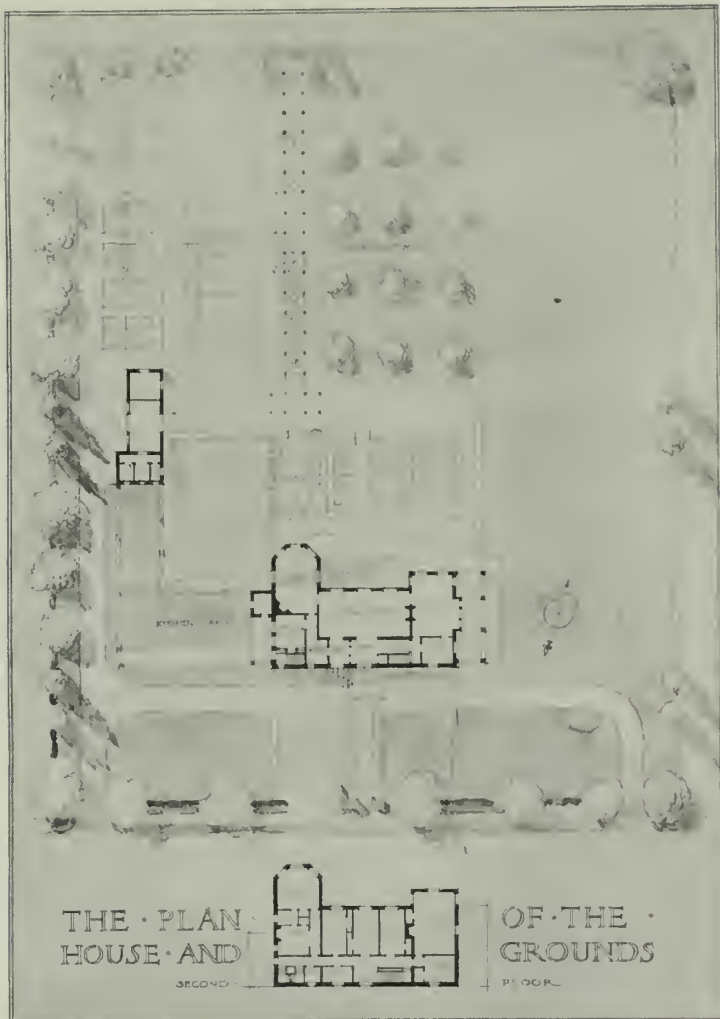
For the materials of the buildings, red bricks, rough in texture, laid Flemish or English bond, with a wide joint

in white mortar, would be quite appropriate and look extremely well. In place of stone, terra cotta used in short lengths offers an economical substitute. Chimney tops of this material may be made into rich and interesting features without undue expense. All this, of course, unless local traditions or methods had already determined a style of building and a method of using materials which would make those suggested lacking in harmony with the neighboring buildings.

In this problem simplicity must be the absolute rule. The endeavor must be to provide for comfort but to resolutely avoid and discard everything in mass and detail which tends toward luxury or mere ornamentation.

Perhaps it may be objected that the limitations of a "cottage" have been overstepped. With the modern ways of living, however, it is doubtful if a family of this size could

be satisfied with less, except by radical concessions, which, shown upon a drawing, would be difficult to understand and lead to adverse criticism. These arrangements are individual. It is hoped, however, that, bearing in mind always this matter of simplicity and using proper economy in the matter of interior finish, the solution indicated here may be happily suggestive for those whose building aspirations are necessarily limited to the scale of a village cottage.



HOUSE, NEWPORT, R. I. Hibbard & Gill, Architects.

The Bank Building Competition.

THE SUCCESSFUL COMPETITORS.

GEORGE A. LICHT, who was awarded the First Prize of \$500, received his early architectural training in the Atelier Freedlander, New York City; won the Paris Prize, or Beaux Arts Society Scholarship, which entitled the holder to two years' study and travel abroad; passed the examination in architecture at the Ecole des Beaux Arts with the highest mark; entered the Atelier of J. L. Pascal; was admitted to the first class at the Ecole through the special arrangement made with the

in the office of J. H. Freedlander, New York City.

H. C. Pittman and Henry H. Braun were awarded the Second Prize of \$200. They are at present practicing architects in New York City. Mr. Pittman received his architectural training in the offices of Melvin H. Hapgood of Hartford, L. C. Holden, Clarence True and A. J. Manning of New York City. Mr. Braun received his architectural training in the offices of Adler & Sullivan, Chicago, Henry Ives Cobb and George B. Post of New York City.

Calvin Kiessling, who was awarded the Third Prize of



GEORGE A. LICHT.



H. C. PITTMAN.



HOMER KIESSLING.



HENRY H. BRAUN.

French Government by the Beaux Arts Society, by which the winner of the Paris Prize entered directly into the School and the first class; took the Prix d'Emulation offered by the Government for the greatest number of values taken during the year; won the Grand Medaille offered by the Société Centrale des Architectes Française for the greatest number of values in projects rendered in three years; won the Gold Medal of the Architectural League for last year; has traveled through Italy and studied at Rome. He is now

\$100, received his early training in the better known offices of Boston. He is at present in the office of Guy Lowell, Boston.

Claude W. Beelman, who was awarded First Mention, received his early training in various offices in the cities of Toledo, Philadelphia, Cleveland and Columbus. In 1906 he was awarded the Harvard Scholarship, given by the Architectural League of America. He has also been successful in several smaller competitions. At the present time he is employed in the office of Albert Kahn, Detroit, Mich.



CLAUDE W. BEELMAN.

Editorial Comment and Selected Miscellany

THEY DO THINGS DIFFERENTLY.

A NEW Masonic Temple, to cost fifty or sixty thousand dollars, is to be erected at once in Flint, Michigan, and the building committee, represented by the judge of a circuit court and the superintendent of a school for the deaf, graciously announces that competitive sketches from architects will be received. The size of the lot is casually mentioned and there is an intimation of a few special rooms which might be desirable, the notice closing with a mandate that the building is to be "of the finest brick obtainable." This is so manifestly within the scope of THE BRICKBUILDER that we would seem to be justified in speaking of it, but somehow we doubt if the eminent judge and the superintendent of the deaf school will receive many replies to the alluring



HOUSE AT CHICAGO.

W. C. Zimmerman, Architect

Roofed with eight-inch Conosera Tile, Ludowici-Celadon Co., Makers.

advertisement. There are two mysteries connected with modern architecture. One is the imbecility displayed by the average business man when placed on a building committee in assuming that all he need do is to whistle and architects generally will tumble over themselves to capture his two-cent job. The other is the far greater imbecility of many of the architects in rising to such a bait, early, often, and on all occasions. We believe the architects themselves are to blame for the miscellaneous open competition evil, and perhaps after all we can hardly blame the committeeman when he receives such unquestioned evidence that there are plenty of men calling themselves architects who are ready to scrap for a morsel.

Unfortunately, in the eyes of the average business man, every architect is a good one if he wants to be, and only as the public is educated to know better by the architects themselves does the competition evil grow less acute. The public appreciates architecture but does not



ENGINE HOUSE, ST. LOUIS.

James A. Smith, Building Commissioner.

fully appreciate architects. This is a distinction which has to be borne in mind and is often forgotten by members of the profession.

The average builder is like the average citizen in thinking the average architect is like himself, open to any material advancement within his powers and with ideals not too keenly acute to resist a possible growth in bank account. Should the high ideals, the keen, sensitive temperament which go to make up a successful architect, be of necessity factors in the character of only the few? The many who respond so eagerly to vague notices of possible competitions are the ones who place themselves most in evidence, and by whom, unfortunately, the profession is often judged. Happily, there is the saving remnant of men who lift architecture into the realm of the fine arts.



OFFICE OF MINNEAPOLIS GAS LIGHT CO.

F. B. & L. L. Long, Architects.

Brick made by Columbus Brick & Terra Cotta Co. Terra Cotta by Winkle Terra Cotta Co.

NEW BOOKS.

A HISTORY OF ARCHITECTURE. By Russell Sturgis, A. M., Ph. D. Volume I. — Antiquity. New York: The Baker & Taylor Co.

The history of architecture would be wholly a record and examination of the monuments, or of a certain selected number of them, if men had been less wasteful of their inheritance. A little patience, a little consideration, a little sense of what makes up permanent value as compared with trivial changes of fashion, and much of the building of former ages would have been found to fit the requirements of a new age, and a frightful waste of the world's wealth would have been spared.

Of all the buildings treated in this first volume the Pantheon alone is still in use for purposes akin to those for which it was built. A few memorial buildings, also, are nearly intact.

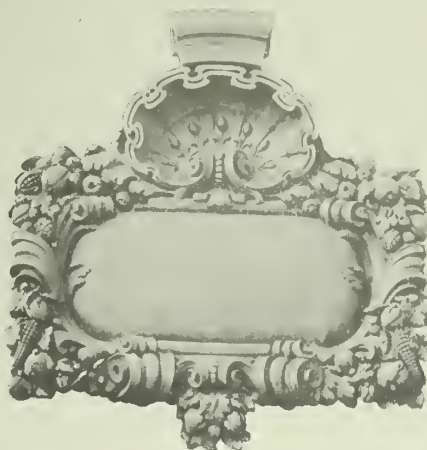


CAPITAL BY N. LE BRUN & SON, ARCHITECTS.
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Most of the structures dealt with are in hopeless ruin. Very many of them are known only by slight traces, and only since the accumulated rubbish of ages or the silt of rivers has been removed by the explorers of very recent years.

Under these conditions, only in part can such a volume as this be thought a history "from the monuments." In part it must needs be a history of the opinions as to the monuments, of many succeeding explorers and critical students. It is the business of a student of art and not of other men to write a history "from the monuments"; but in face of the problems connected with these half ruined or wholly destroyed buildings there must be sought the help of the reader of inscriptions, the decipherer of hieroglyphs and arrowhead characters, the student of comparative chronology, the practised and judicious reader of the books left us from antiquity, the curious searcher among vestiges of bygone beliefs and superstitions.

Those are the conditions under which the present work is prepared. The author has been



DETAIL BY ATLANTIC TERRA COTTA CO.



HOUSE AT WASHINGTON, D. C.
Wood, Donn & Deming, Architects.
Showing Edwin Bennett's Roof Tile.



DETAIL BY PRICE & MC-LANAHAN, ARCHITECTS.
Conkling-Armstrong Terra Cotta Co., Makers.

for many years a close student of the buildings which can be found erect and in use, which can be measured and photographed, and which allow the draughtsman to make sections and the curious constructor to study methods.

IN GENERAL.

The Annual Convention of the Architectural League of America will be held in Washington, April 22, 23 and 24.

Mr. Wm. H. Goodyear, Curator of Fine Arts in the Brooklyn Museum, has been elected an Honorary Member of the Royal Academy of Fine Arts in Milan, in recognition of the contributions to Mediæval Architectural research in Italy, which have been made by the Brooklyn Museum.

Milwaukee is to have a new Auditorium Building, to cost half a million dollars. A com-



DETAIL BY SOUTH AMBOY TERRA COTTA CO.

petition is to be held for the selection of an architect. For further particulars, address William George Bruce, 45 University Building, Milwaukee, Wis.

The Massachusetts School and Home for Crippled and Deformed Children, Winslow & Bigelow, architects, illustrated in THE BRICKBUILDER for January, will be located at Canton, Mass., and not Clinton, as stated.

The Church Street Terminal Station of the Hudson and Manhattan Railroad will be the largest and heaviest building in New York City. The structural steel necessary to hold up the structure will weigh over 24,000 tons, and the building when completed will have a theoretical living and dead load of 200,000 tons. 16,300,000 bricks will be required to build this structure above the curb line, enough, if placed end to end, to reach over 2,000 miles, or from New York to Salt Lake City. More than 4,500 tons of architectural terra cotta will be used in the exterior of the building.

The New York office of Fiske & Company, of which Parker Fiske is manager, has been



AN ALL ENAMEL TERRA COTTA FRONT,
PITTSBURG.

C. M. Bartberger, Architect.
Northwestern Terra Cotta Co., Makers.

The firm of Peters, Burns & Pretzinger of Dayton, Ohio, have dissolved partnership. Albert Pretzinger has opened an office for the practice of architecture in the Reibold Building, Dayton, and solicits manufacturers' samples and catalogues.

The Excelsior Terra Cotta Company supplied the terra cotta employed in the Police Station at Rochester, N. Y., Bragdon & Hillman, architects, illustrated in THE BRICKBUILDER for January.



DETAIL BY GILLESPIE & CARREL, ARCHITECTS.
Brick Terra Cotta & Tile Co., Makers.

awarded the contract to supply the front brick on the large new Power House for the Hudson Power Company at Jersey City. The brick selected is the Williams Grove Cream Buff.

John G. Siener, architect, 76 Thompson Street, Buffalo, N. Y., desires manufacturers' samples and catalogues.

F. D. Van Volkenburg and William Oppenhamer, architects, have formed a co-partnership, with offices in the Telegraph Building, Kalamazoo, Mich., Manufacturers' catalogues solicited.

The firm of Peters, Burns &

The American Enameled Brick and Tile Company, in order to meet the increasing demand for enameled brick, have added three large new kilns to their plant, which will give them a capacity of about 6,000,000 bricks per year. Although the demand for the brick made by this company was enormous during the past year, they have been able, by good management, to make deliveries promptly at the time agreed upon. It is an undeniable fact that builders too frequently fail to give sufficient information to manufacturers as to the date when material will be wanted. This always puts the burden on the manufacturer, and all too frequently he is held responsible for the lack of foresight on the part of others.



MAT GLAZE TILE IN FLAT COLORS.
Made by Rookwood Pottery Co.



DETAIL BY NEW JERSEY TERRA COTTA CO.

The building transactions of January, 1907, compared with those of January, 1906, show that the aggregate volume of building is less than in the corresponding month of last year, but the losses are so widely distributed and so interspersed with gains in many cities as to indicate that the building movement is simply following the fixed and imperative rule of supply and demand. Some cities appear to have met all pressing demands, while others are still placing liberal contracts for buildings.



TILE PAVEMENT.
Made by Grueby Faience Co.

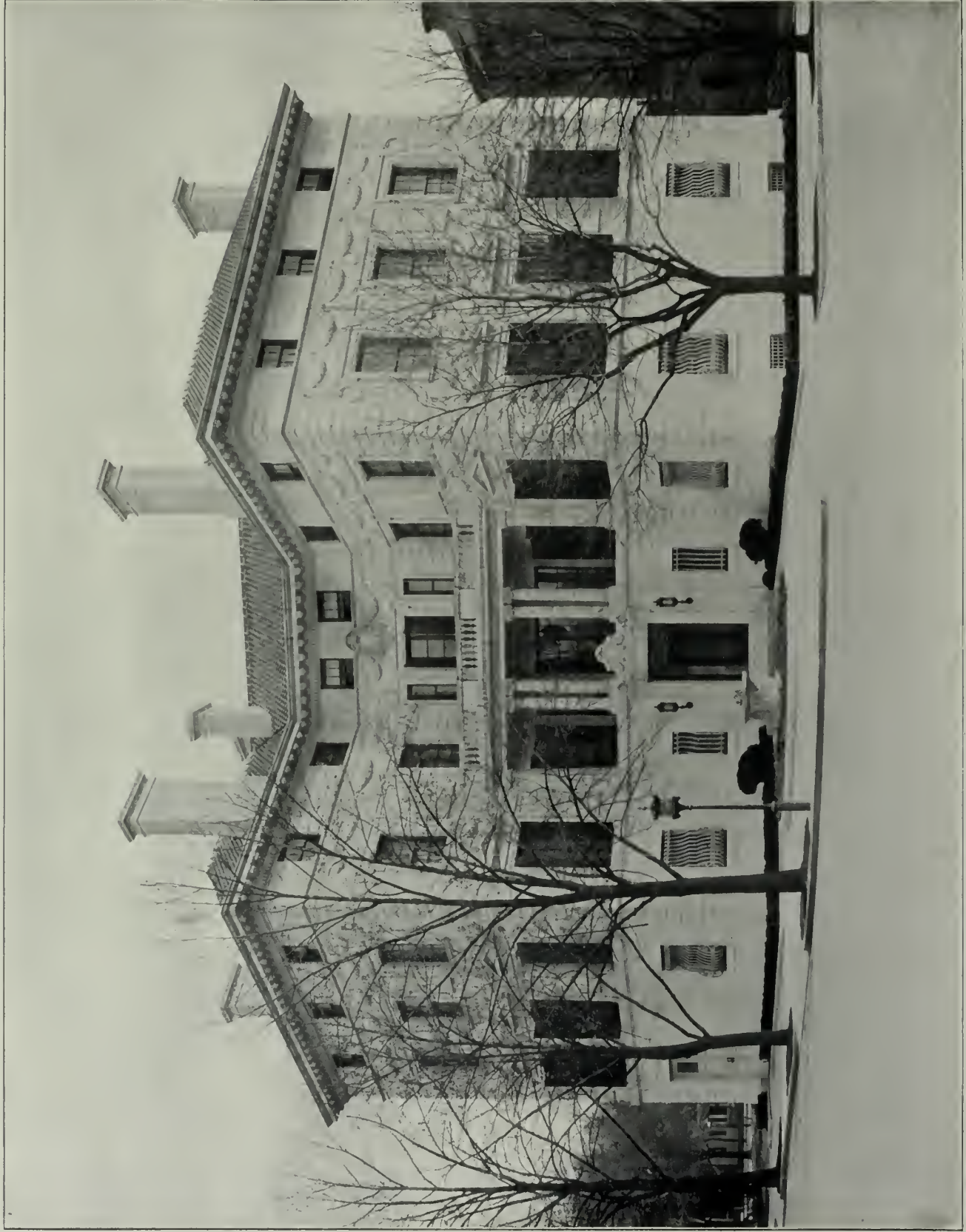
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For further information, address W. C. SABINE, 14 University Hall, Cambridge, Mass.





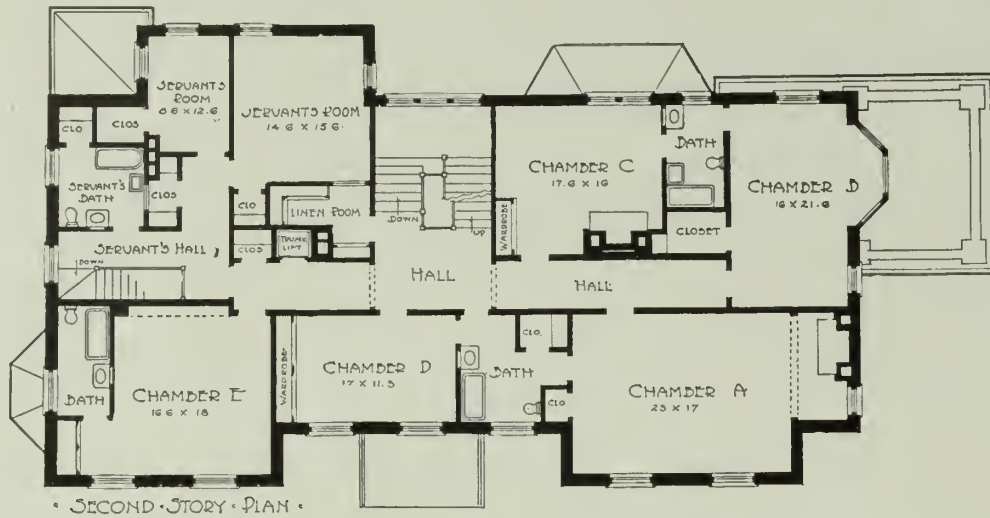
PATTERSON HOUSE, WASHINGTON, D. C.
MCKIM, MEAD & WHITE, ARCHITECTS.





HOUSE AT ROCKFORD, ILL.
FROST & GRANGER ARCHITECTS



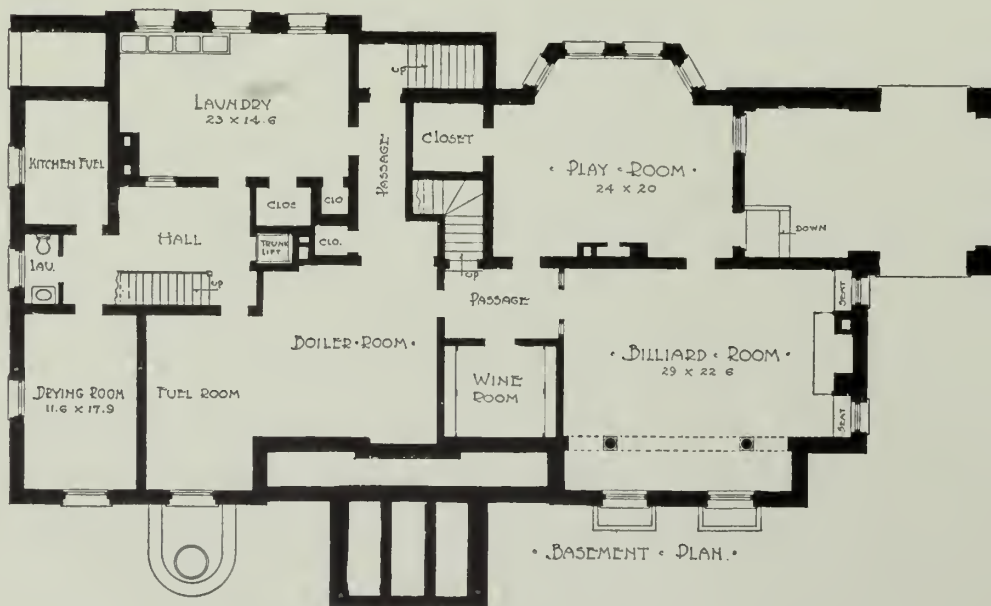
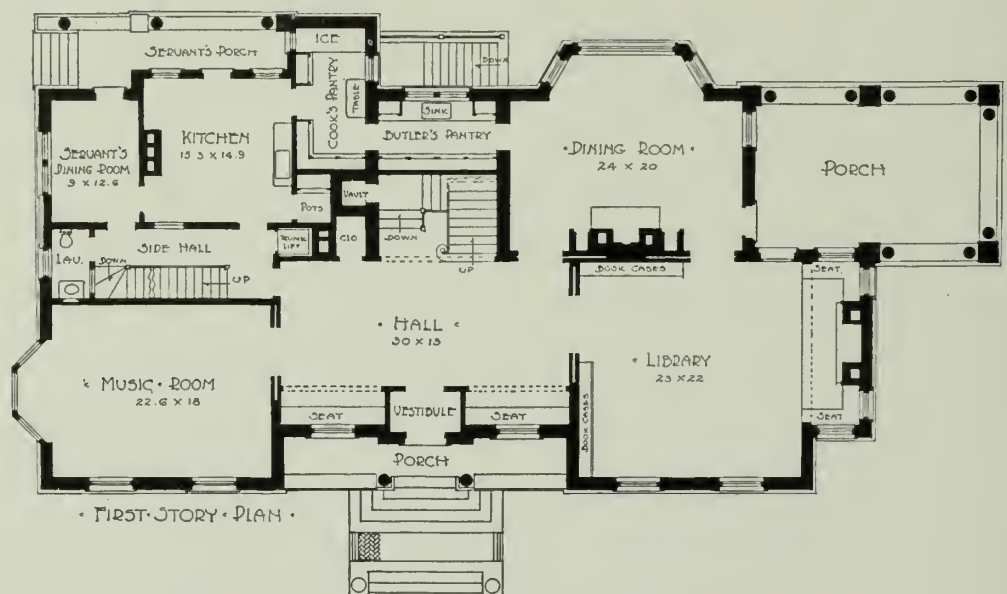


PLANS

HOUSE AT

ROCKFORD,

ILLINOIS



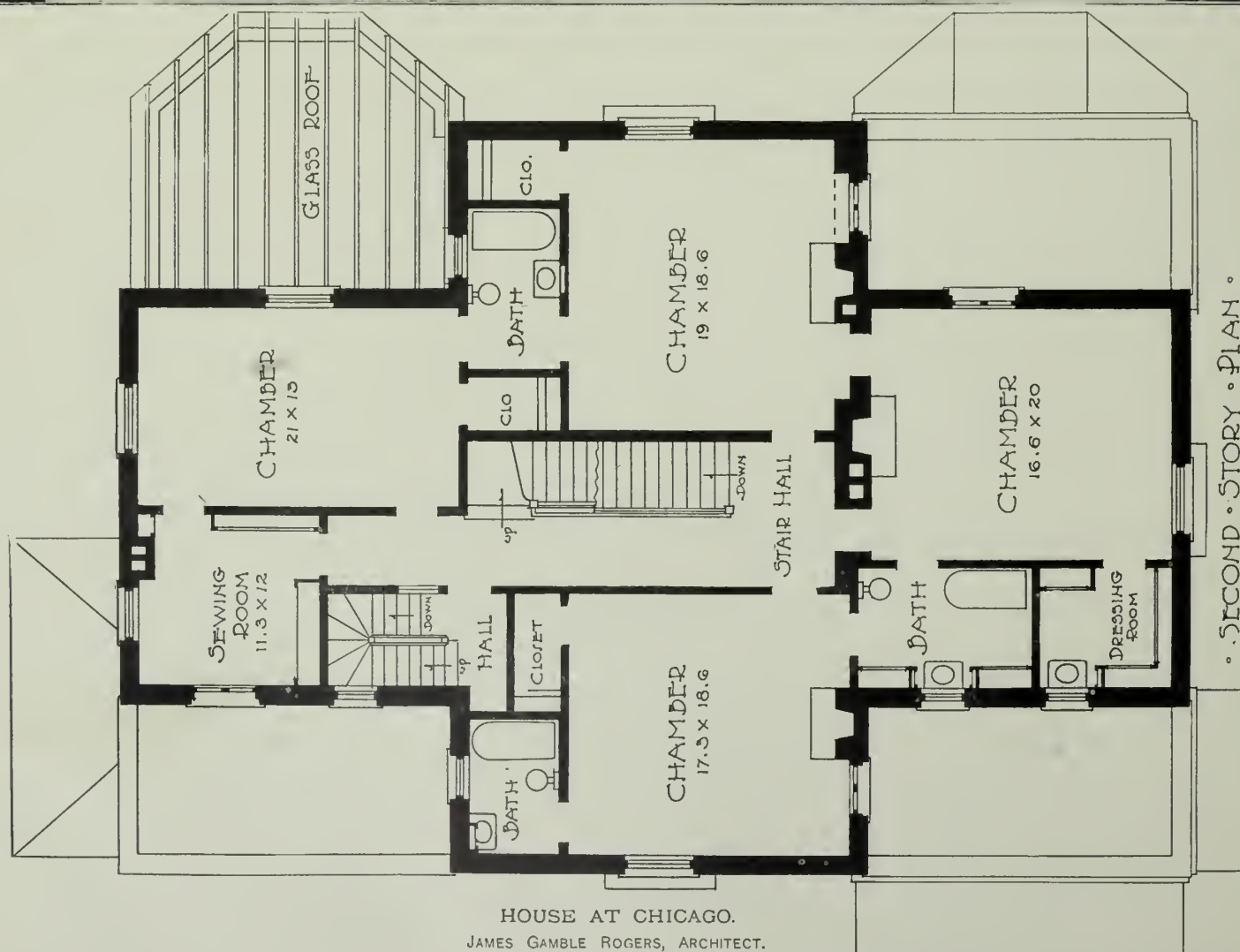
FROST

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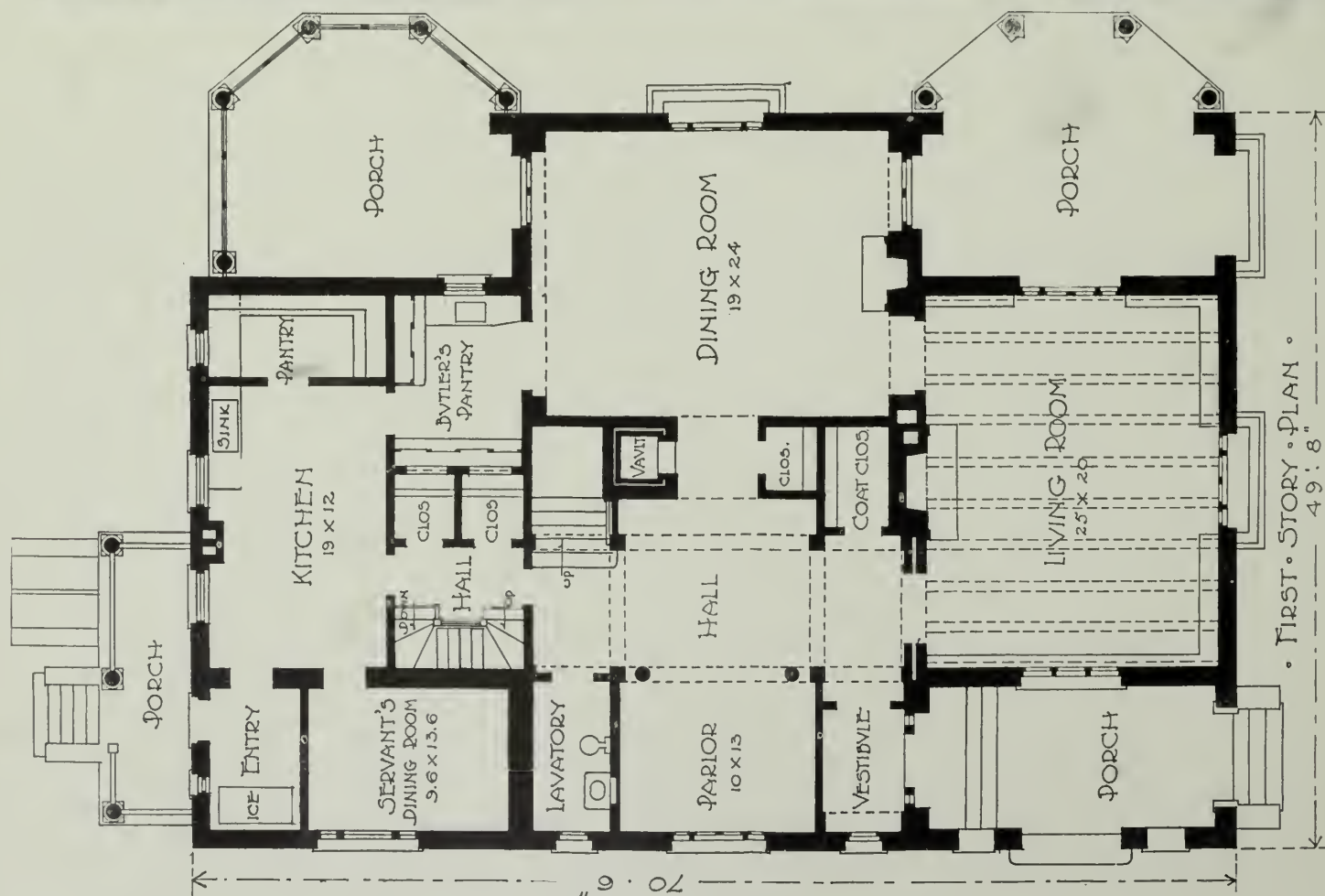
GRANGER,

ARCHITECTS



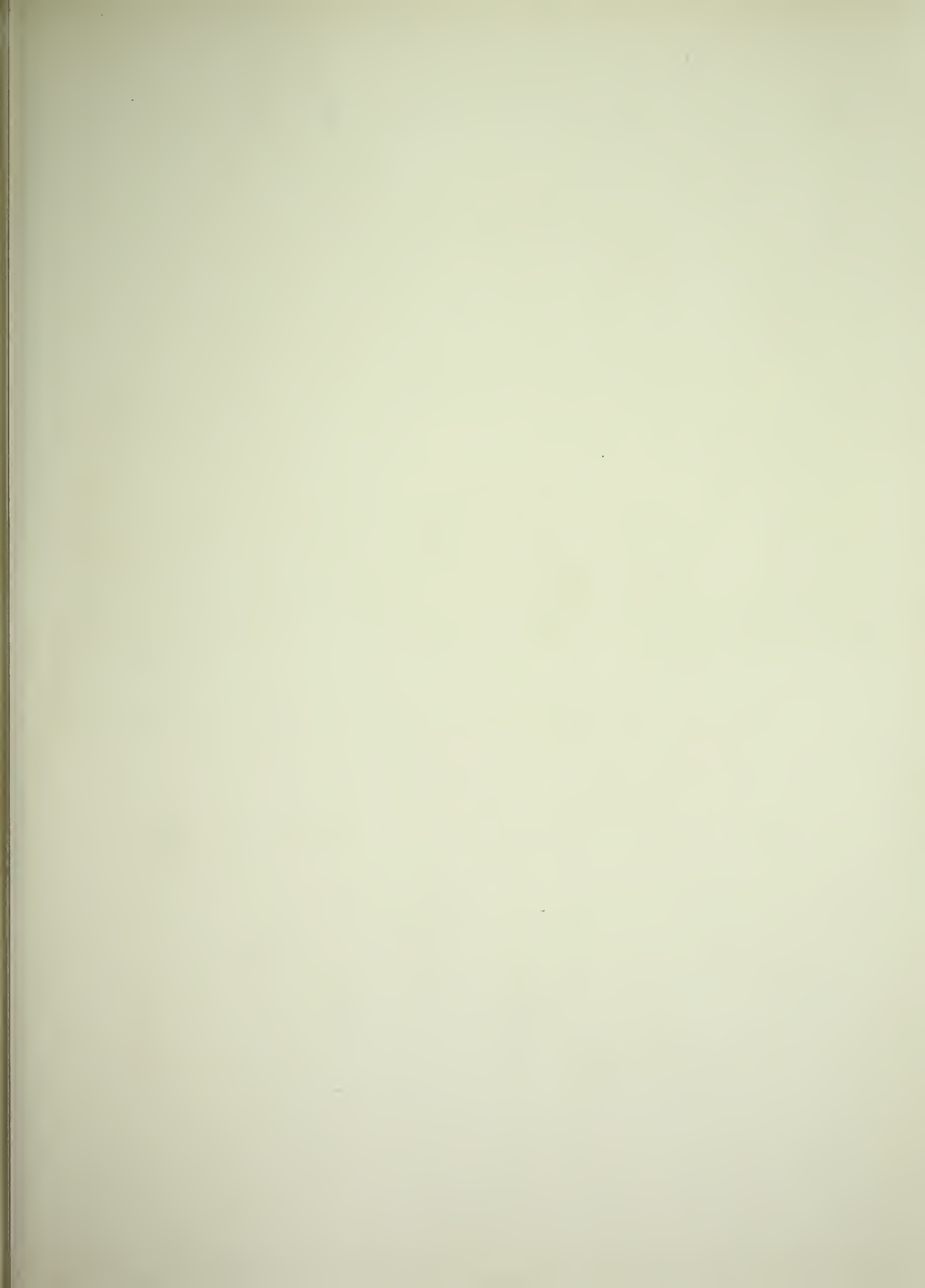


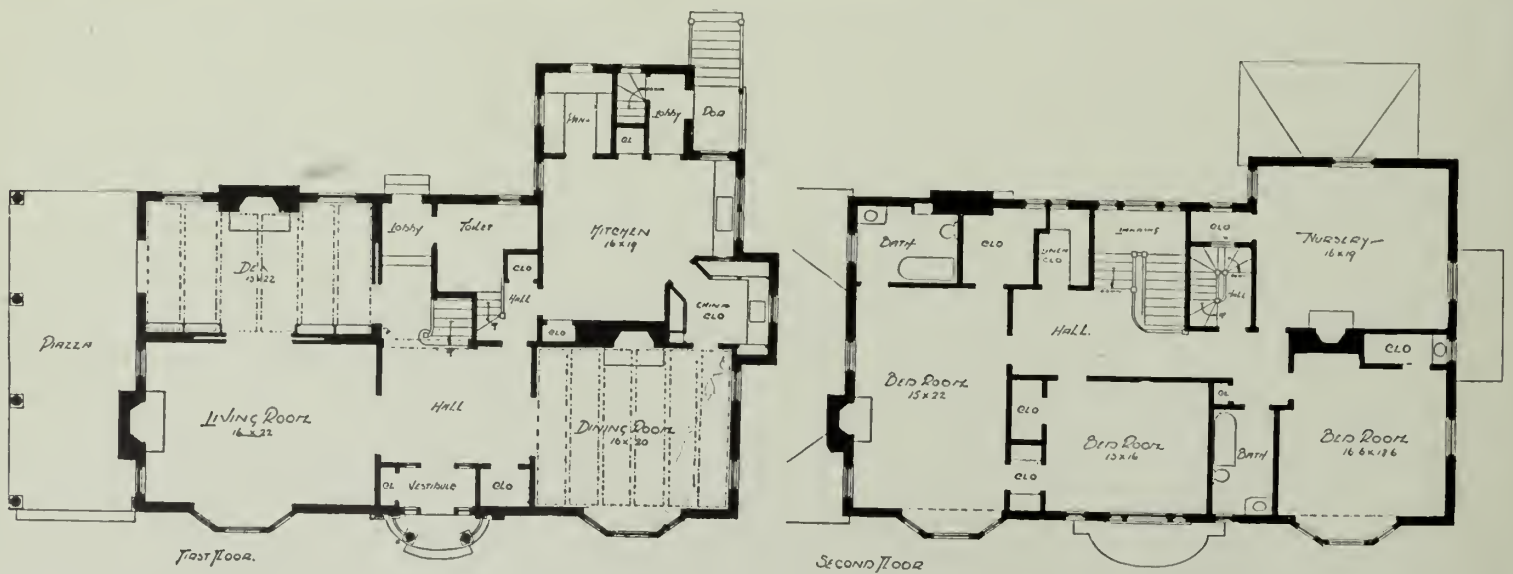




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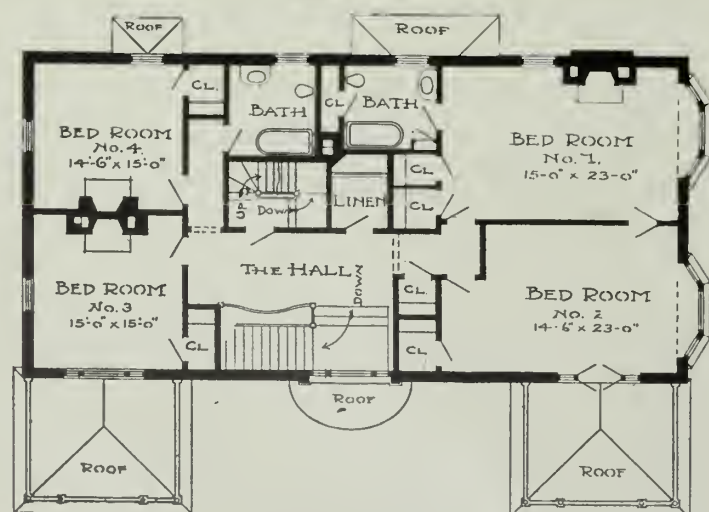
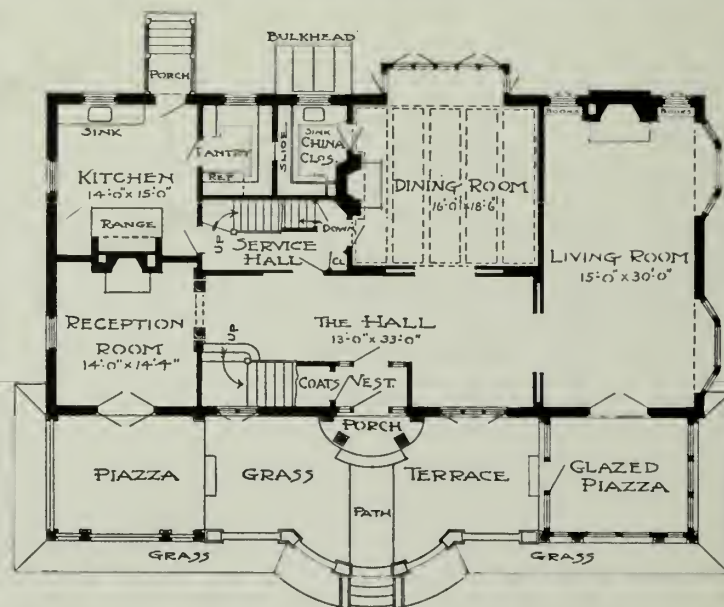
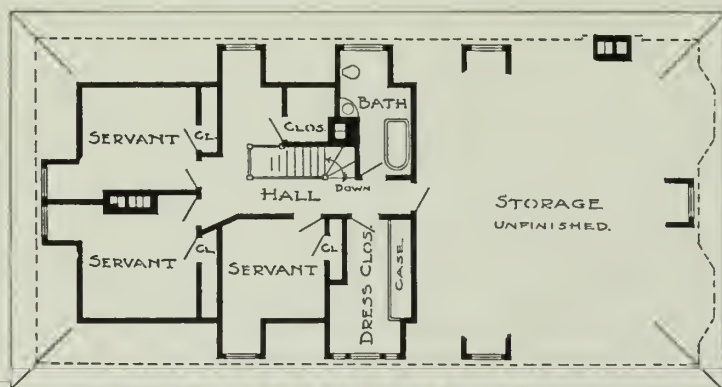
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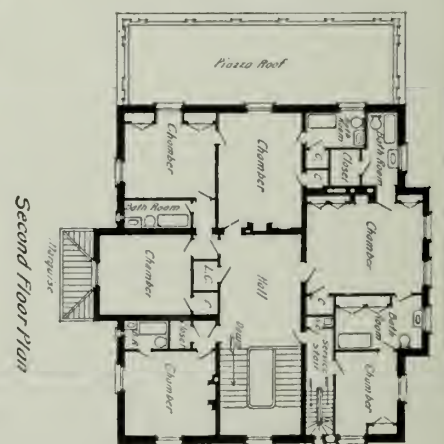
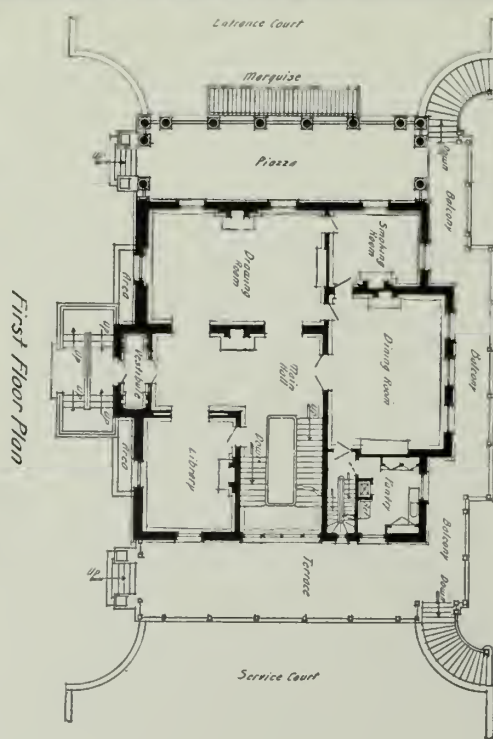
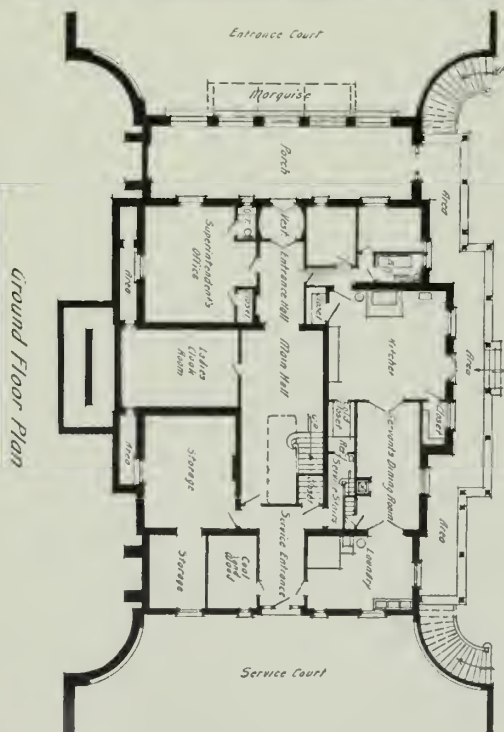




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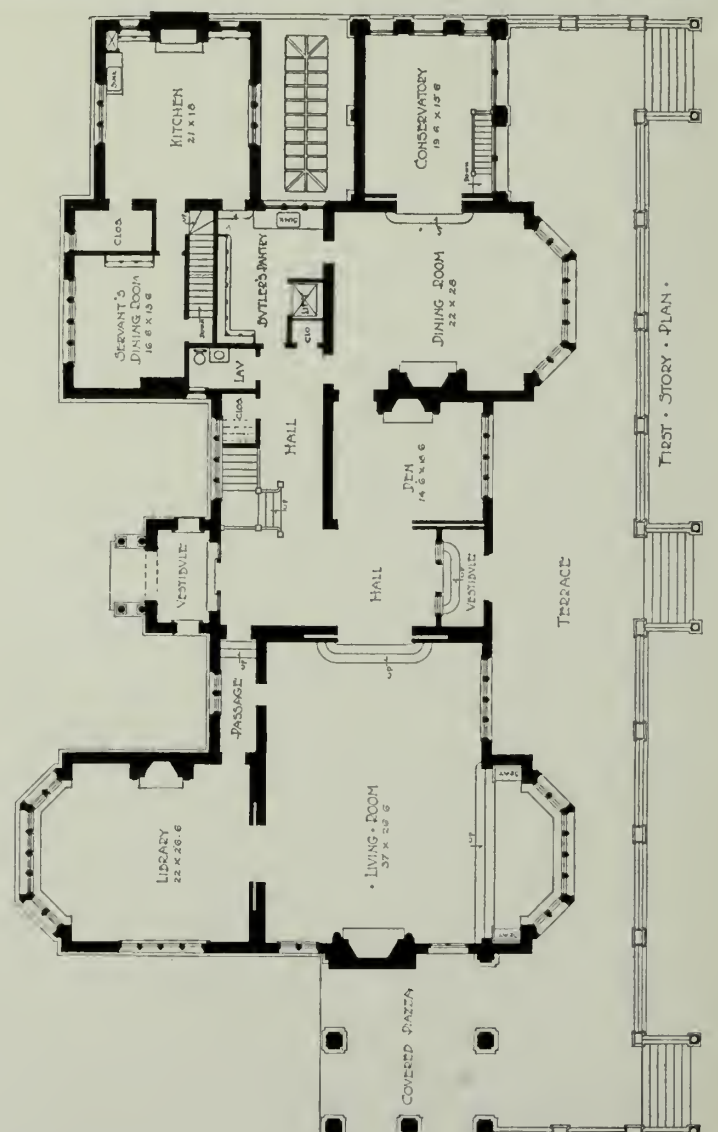
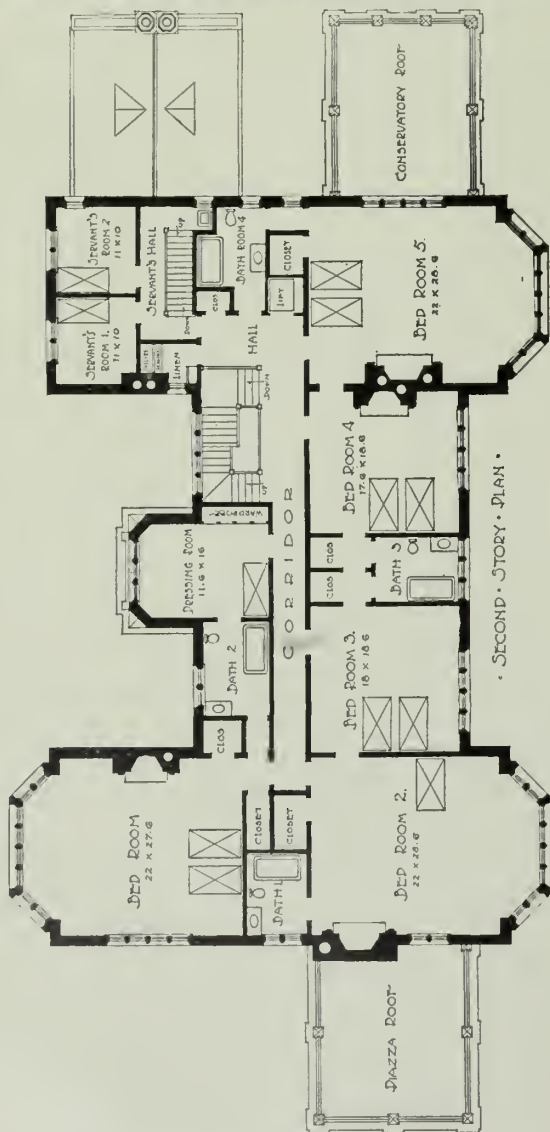
CHAPMAN & FRAZER,
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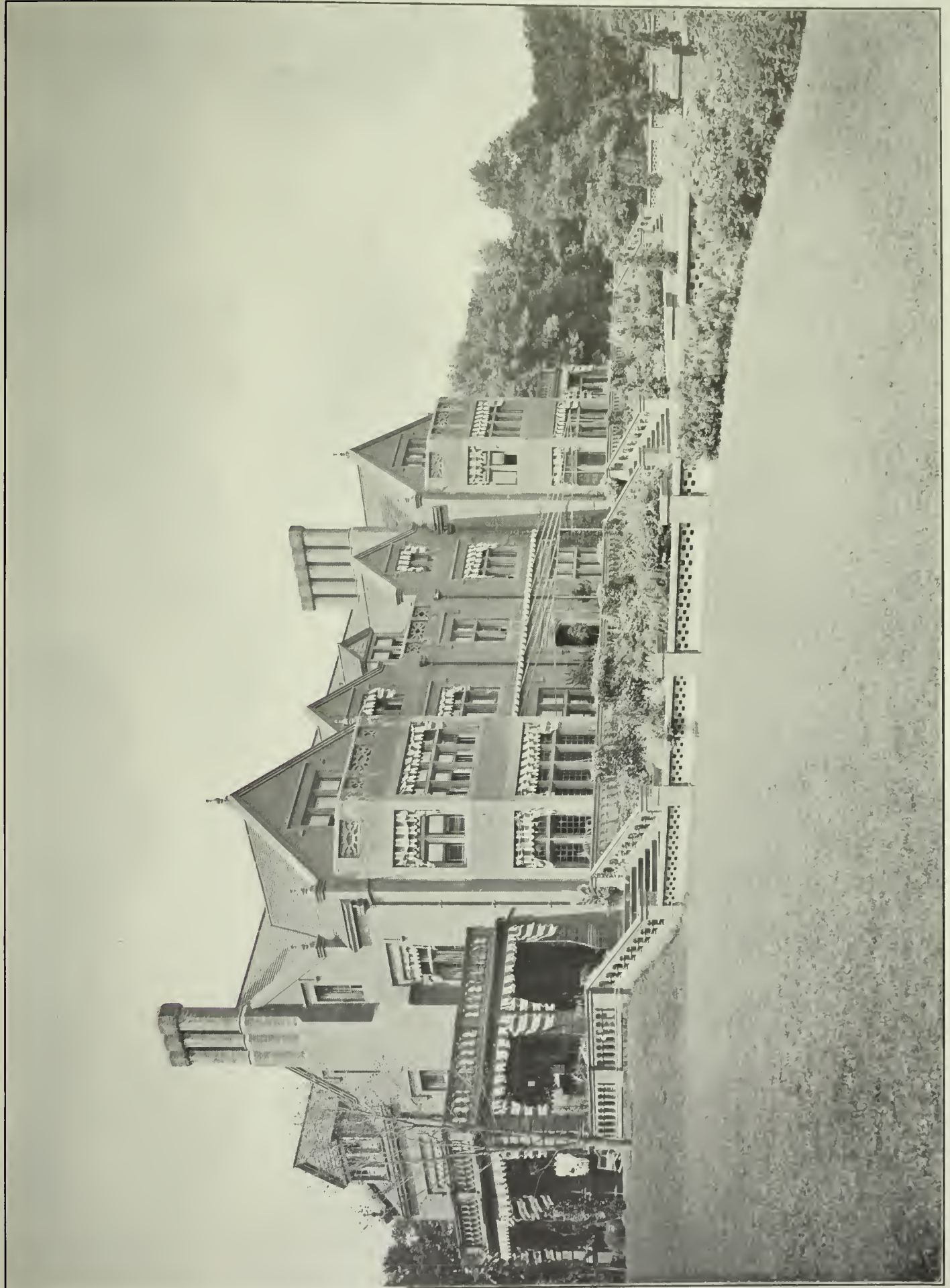


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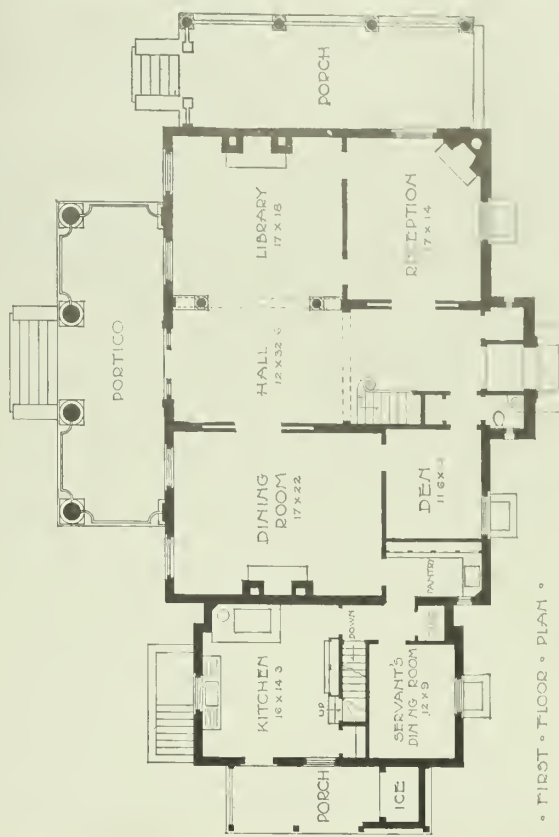
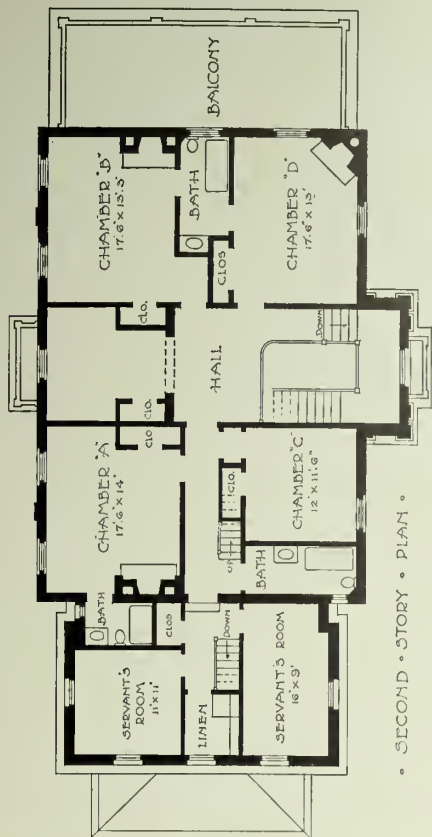
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HOUSE AT LENOX, MASS.
ADAMS & WARREN, ARCHITECTS.

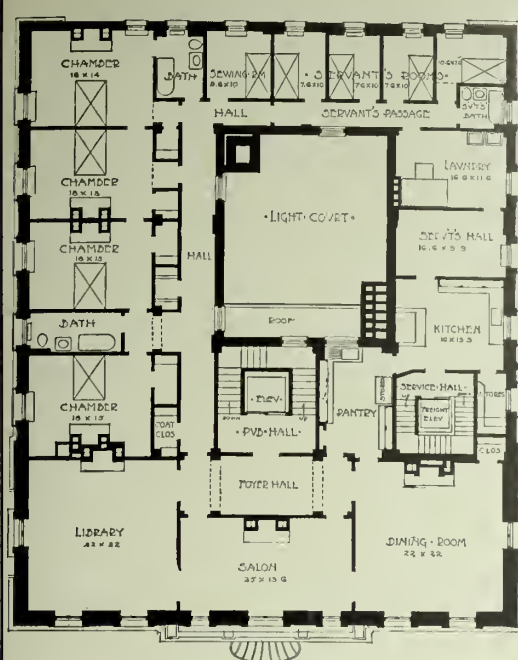


HOUSE, ROLAND PARK, BALTIMORE, MD.
ELLICOTT & EMMART, ARCHITECTS.



HOUSE, ROLAND PARK,
BALTIMORE, MD.
ELLICOTT & EMMART,
ARCHITECTS.





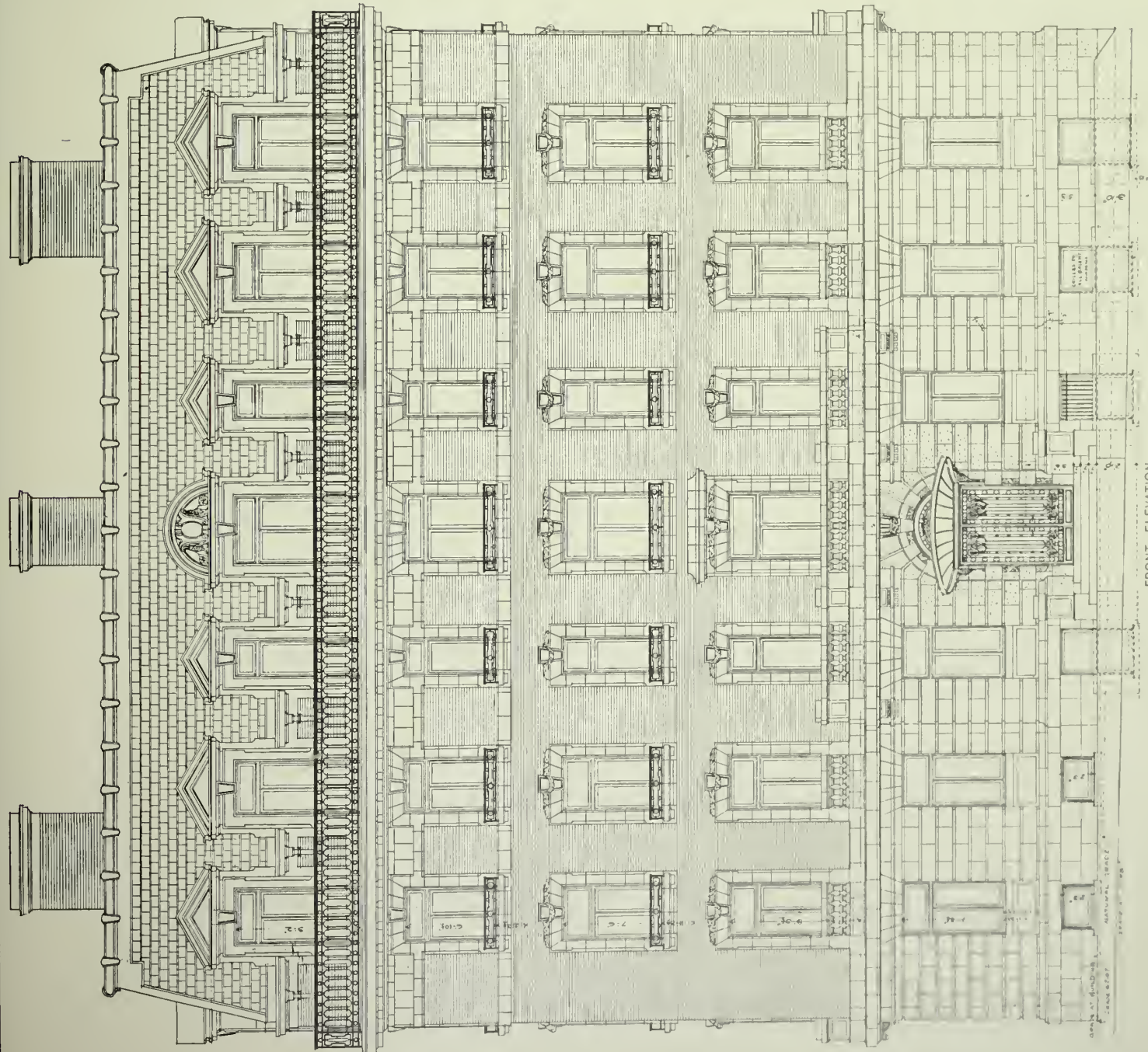
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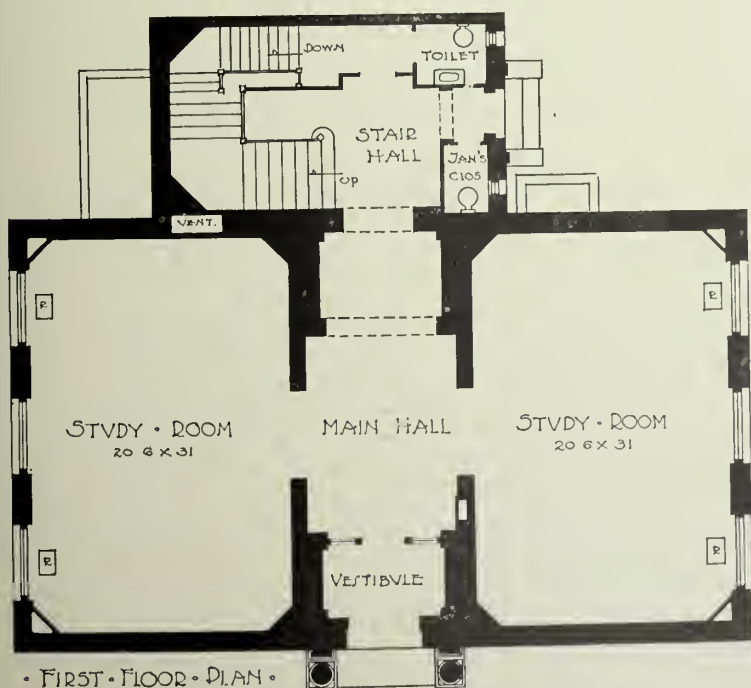
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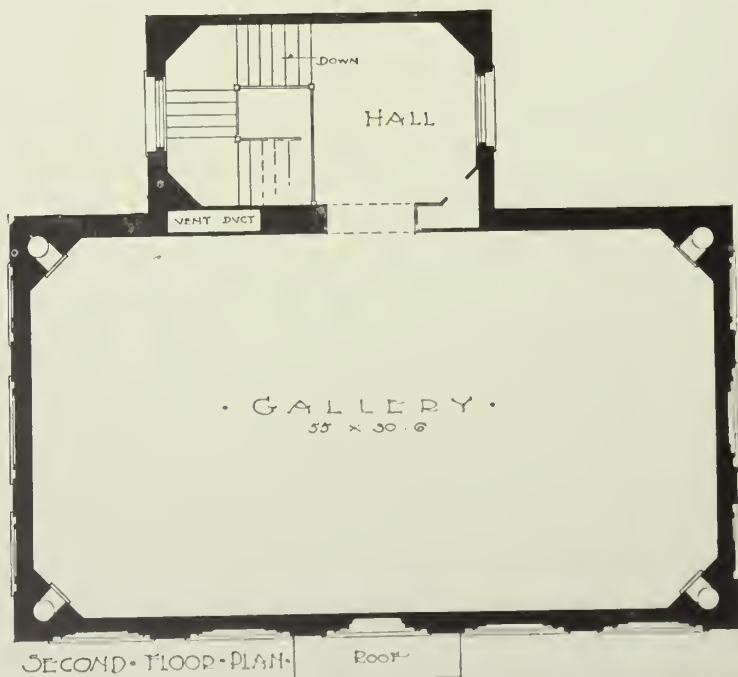
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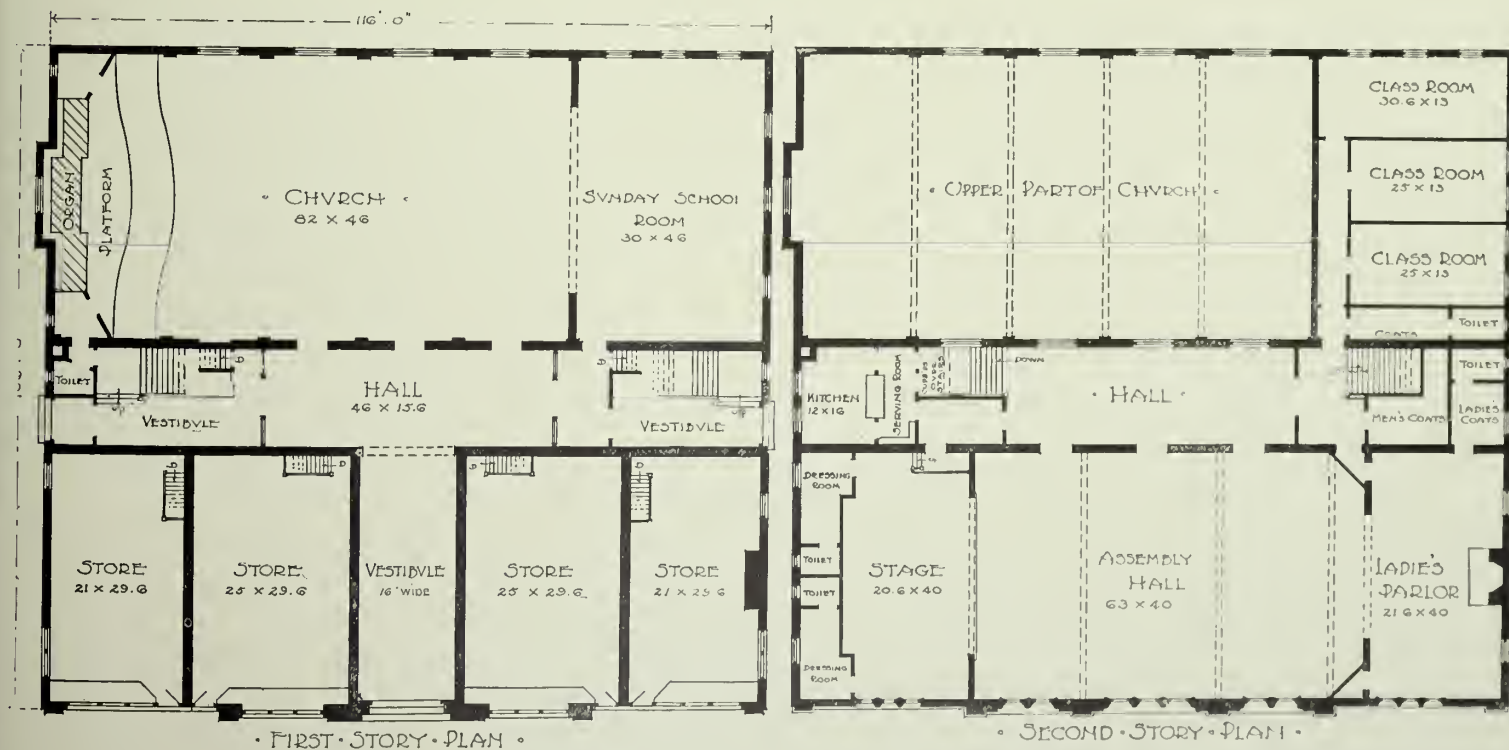


• FIRST FLOOR PLAN •



SECOND FLOOR PLAN

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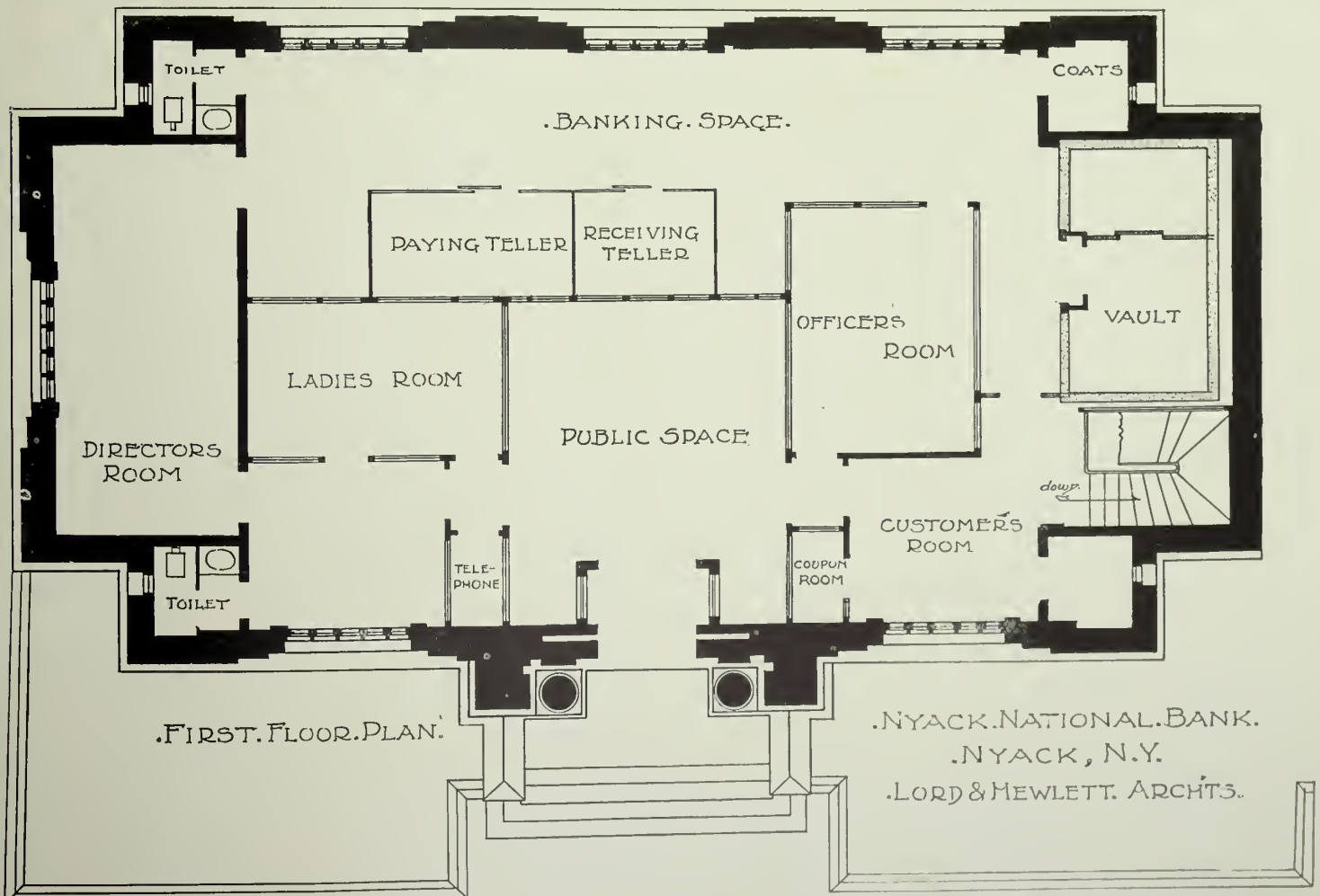


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THE BRICKBUILDER

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Brick	III	Roofing Tile	IV

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CONTENTS

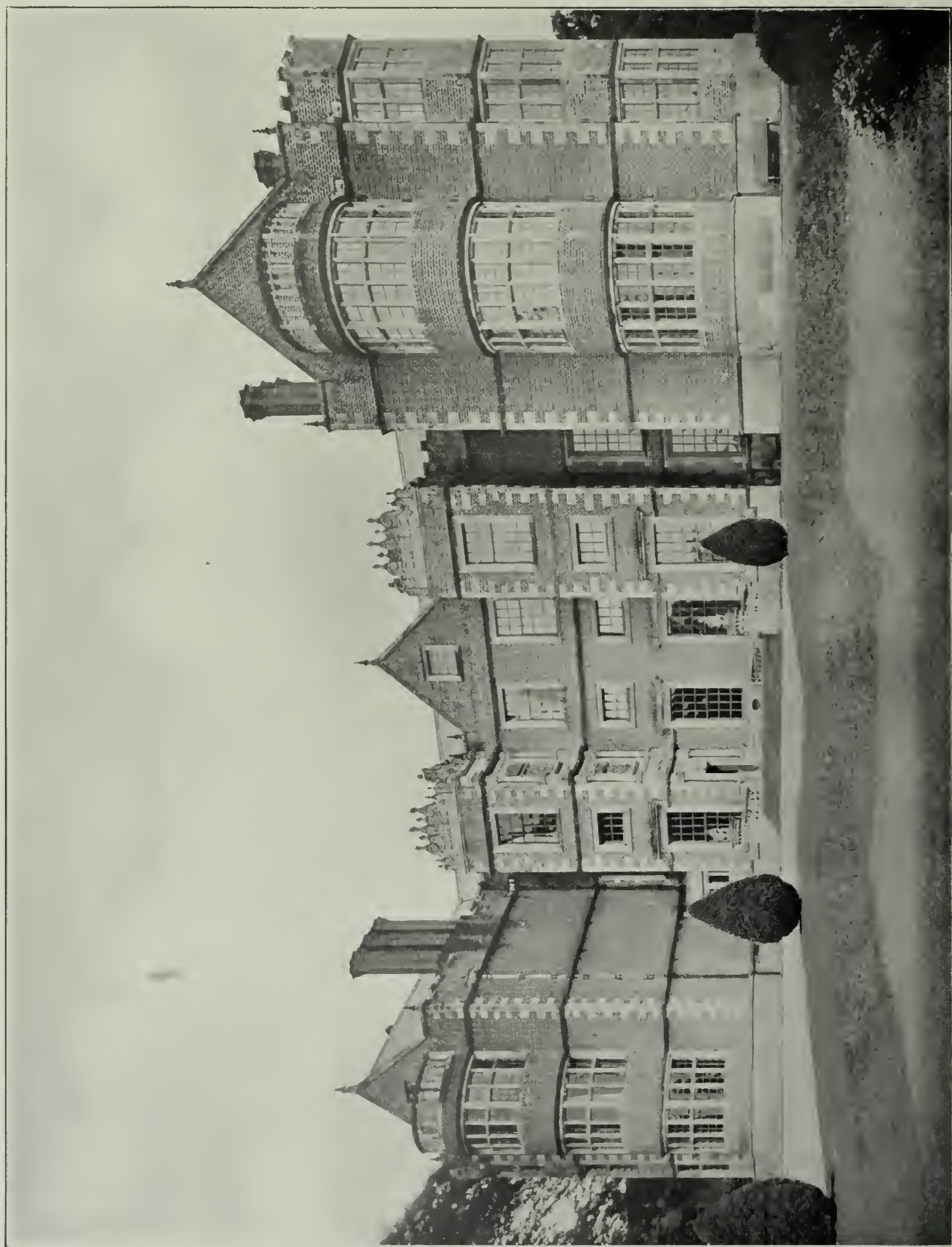
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LETTERPRESS

	PAGE
BURTON AGNES HALL, YORKSHIRE, ENGLAND	Frontispiece
SYNAGOGUE ARCHITECTURE. (Concluded).	Arnold W. Brunner 37
A NEW ATTEMPT IN HOUSE ARCHITECTURE.	45
TERRA COTTA BLOCK WALLS FOR DWELLINGS	50
EDITORIAL COMMENT AND SELECTED MISCELLANY	51



BURTON AGNES HALL, THE PRINCIPAL FRONT, YORKSHIRE, ENGLAND.

Synagogue Architecture.—(Concluded)

BY ARNOLD W. BRUNNER.

IN selecting a style to-day, I believe firmly that we should either go back to the early Judean architecture or follow the general custom that prevailed in building synagogues since the dispersion of the Jews, and conform to the style that is in vogue in the land in which the synagogue is erected.

As far as one may see, the style of the early Judean buildings, if it had been allowed to progress and develop, might not unreasonably have become to-day what we may call modern classic architecture, the type which is being used very generally for churches in America and elsewhere.

I shall not offer an opinion upon the appropriateness of the Gothic or the classic styles for the modern church. Both have their strong advocates and both are extensively employed. Gothic, however, is unquestionably from the history and its expression not suited to the synagogue, while the classic style is eminently adapted to this purpose.

Some years ago, when what was known as the "Richardson Romanesque" was apparently becoming the expression of American ecclesiastical architecture, it seemed that in a slightly modified form it would be appropriate

for the synagogue. When I built the Temple Beth El in New York I so believed. After Richardson's death, when his methods were not successfully continued by his fol-



TEMPLE ADATH ISRAEL, BOSTON.
 C. H. Blackall, Architect.



TEMPLE BETH EL, DETROIT.
 Albert Kahn, Architect.

lowers and imitators, the Romanesque practically disappeared and the choice for ecclesiastical buildings now, broadly speaking, lies between the two great styles—Gothic and classic. I am unhesitatingly of the opinion that the latter is the one that is fit and proper for the synagogue in America. With the sanction of antiquity it perpetuates the best traditions of Jewish art and takes up the thread, which was broken by circumstances, of a vigorous and once healthy style. By classic it is not intended to mean only the pure Greek and Roman architecture, as used in Greece and Rome and their colonies, but to include the Renaissance in its various forms of development as opposed to what Rosengarten calls the "Pointed Style."

Recently several synagogues have been designed with much skill and cleverness which not only do not declare their purpose but entirely conceal it. The architects, however capable as they may be, are evidently not familiar with Jewish methods of worship or they could not possibly wish to house modern Jewish congregations in buildings whose architectural treatment indicates the cult of Mohammed or the mysteries of Isis. The Temple in Jerusalem was not a synagogue and the various courts, the "Holy of Holies," the sacrifices and numerous ceremonies belonged to the Temple only. They ended with the Temple and never had place in the synagogues,

which were, and are, only places for instruction and prayer.

The service is extremely simple, and in the orthodox congregations consists only of readings from the scriptures, prayer, singing by a choir and occasionally a sermon. In the modern or "reformed" congregations the sermon is invariably a part of the service and the music of the organ is added. For worship of this sort a building designed in the Moorish or Egyptian style, or one that indicates something mysterious or unusual or "Oriental," is most obviously inappropriate. The very simplicity of the service indicates that simplicity combined with dignity should be the dominant note in the design of the building, which, if it means anything, should indicate the purpose for which it is built, not an imaginary condition of esoteric Eastern worship.

The desire to secure what is vaguely known as an "Oriental" feeling in design may well be understood,



MEMORIAL SYNAGOGUE, PHILADELPHIA.

Arnold W. Brunner, Architect.

but if to secure this elusive quality such anachronisms as symbols and indications of the idolatry of the Egyptians or the creed of Mohammed are the result, it is better to abandon the Eastern touch entirely. Besides, as I have pointed out, there is nothing essentially Oriental in the modern form of Jewish worship, the one for which our architects are called upon to provide buildings. The art of Judea had not sufficiently progressed for us to adopt it as a working basis on which to design larger buildings

to-day, and that is the only Eastern art appropriate or even logically possible. The history of the Jewish people is well known, and Bibles are given away and are to be had for the asking, so it appears that if a little thought and research are given to the subject there will be no more unfortunate anachronisms perpetuated in future synagogues.

The responsibilities assumed by a building committee when undertaking the direction of a Jewish house of



CROSS SECTION, TEMPLE MISHKAN ISRAEL, NEW HAVEN, CONN.

Arnold W. Brunner, Architect.



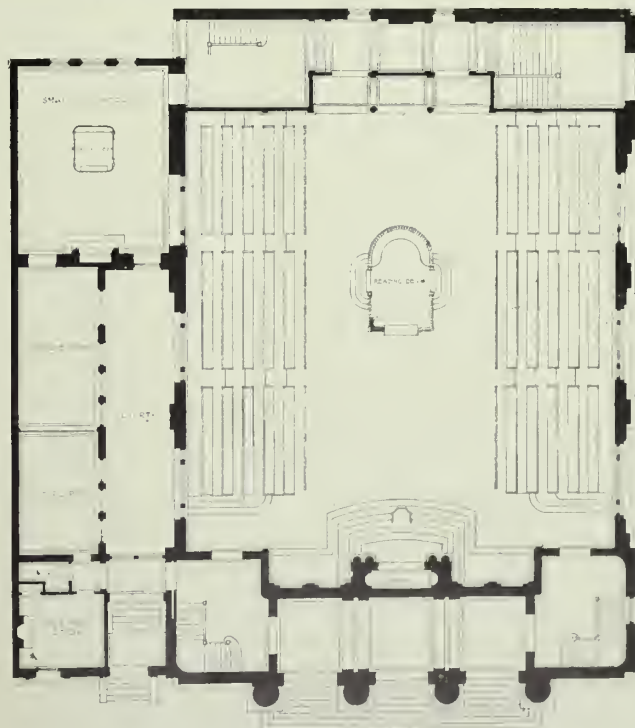
ARK IN SYNAGOGUE SHEARITH ISRAEL, NEW YORK.

Brunner & Tryon, Architects.

worship are most grave, and their serious duties should be fully realized at the outset of the work.

The building which they are to call into existence will represent those worshipping in it, but to the general, unthinking public it is apt to be accepted as an indication of the entire Jewish religion. As the "apparel oft proclaims the man," so the church always proclaims the congregation. The mute eloquence of the great monuments of the world is universally recognized, but the voices of the lesser ones, too, are unmistakable and full of meaning. The synagogue, both in its façade and its plan, should state the truth, the simplicity of the creed and the dignity of the service that it is built to perpetuate.

To accomplish this, severity



MAIN FLOOR PLAN.

TEMPLE SHEARITH ISRAEL, NEW YORK.

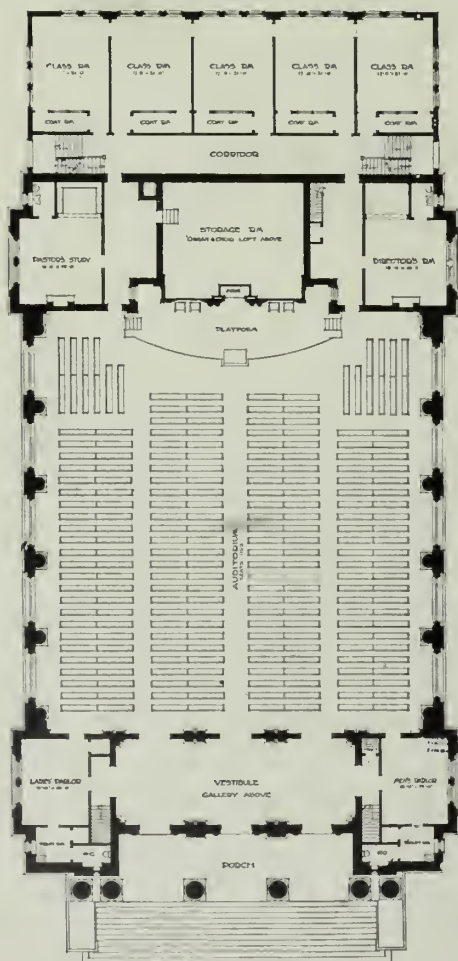
and simplicity of design, harmony of proportion, proper and worthy materials are all equally essential. The necessity of excellent design need not be insisted upon, but the importance of dignified material to produce a dignified result is not always recognized. Nothing can be more disturbing in a place of worship than the feeling of a lack of permanence and stability, which imitations and tawdry decorations and flimsy materials produce.

Ornament, when used, must be well studied and fit its position. "Ornamented construction, not constructed ornament," an old architectural truism, is here especially to be insisted upon. Color, the great harmonizing factor of an interior, must be rich and quiet, and the entire scheme

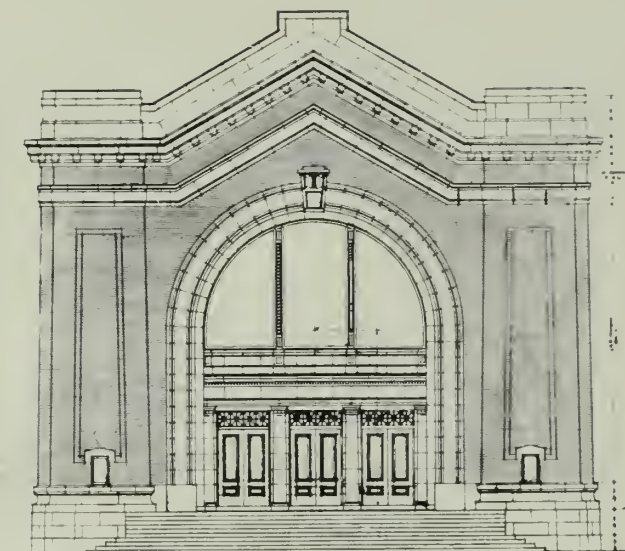
should be in accord and one part of the design blend perfectly with another.

A well-proportioned interior constructed of noble materials, almost without decoration, will produce an effect of grandeur and become a permanent monument of beauty and devotion which no amount of decoration or trivial design can secure. Stateliness without ostentation should be the aim of the architect who can well take his inspiration from the great cathedrals with their stone piers and columns supporting the vaulted roofs. The success of the buildings acknowledged to be the greatest in the world is in no way conditional upon carving or ornamentation, and depends almost entirely upon the proportion of the parts and the dignity of the material of which they are built. It has been well said that the "secret of great art is great repose."

There is but little symbolism permitted in synagogue building. The Star of David, the Lion of Judah, the lily, pomegranate, etc., almost exhaust the list.



MAIN FLOOR PLAN.
TEMPLE FOR K. K. BENE ISRAEL, CINCINNATI.
Tietig & Lee, Architects.



TEMPLE SHEARITH ISRAEL AHAVIS ACHIN, CINCINNATI, O.

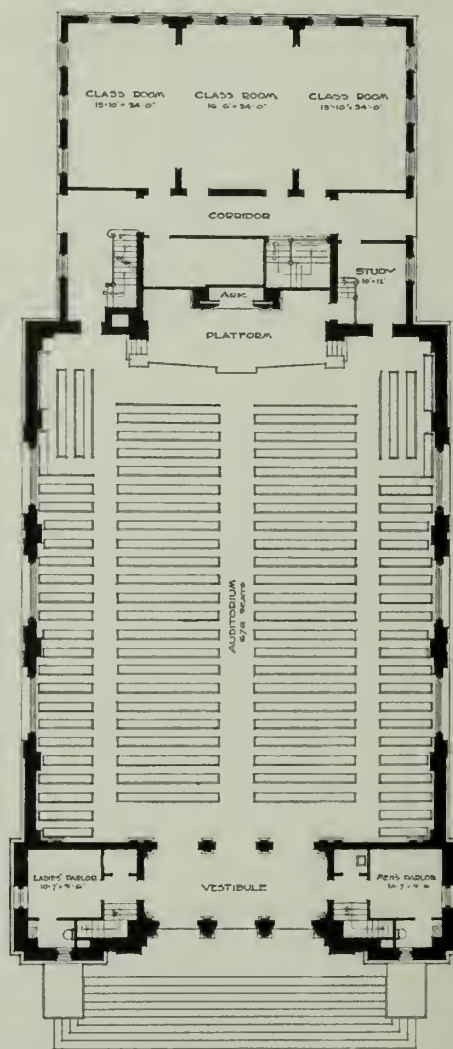
scriptions] are sparingly employed, but they lend themselves admirably to ornamental purposes, the script being very decorative in its character. It can be used to fill panels or be incorporated in ornament in many ways, and in the absence of other Jewish symbols, will assist the designer to secure the atmosphere of the synagogue in a perfectly legitimate manner.

Stained glass windows are most desirable; representations of the human figure have never been encouraged. The glass, like the rest of the interior, must imperatively be considered a part of the general

scheme, and to secure the best results the architect who designs the building should always be consulted when memorial windows, tablets, lamps, etc., are added in the future, otherwise the original scheme may be sadly disturbed.

Generally speaking, the problem that confronts the architect who would design a synagogue to-day is very similar to that presented to the designer of the average Protestant church. The main requirements of housing and seating the congregation, the facilities for ingress and egress, the light, ventilation, the necessary acoustic qualities, are the same. There are variations in plan which depend on whether the congregation is "Orthodox" or "Reformed," as the two broad divisions of the church are called.

From the architect's point of view the difference consists entirely in the position of the reading desk and



MAIN FLOOR PLAN.
TEMPLE FOR SHEARITH ISRAEL AHAVIS ACHIN, CINCINNATI.
Tietig & Lee, Architects.

The tables of the law, carved in marble, are invariably placed over the ark, which generally has a Hebrew inscription on a panel over its doors. In the interesting collection of objects of Jewish art in the Musée Cluny in Paris one finds few distinctively Jewish forms, symbols or ornaments. If it were not for the legends and inscriptions on them, many of these objects, charming in themselves, could not be distinguished from others of the same period in general use, and have intrinsically no Jewish characteristics.

Hebrew in-



WEST FRONT, TEMPLE BETH EL, NEW YORK.

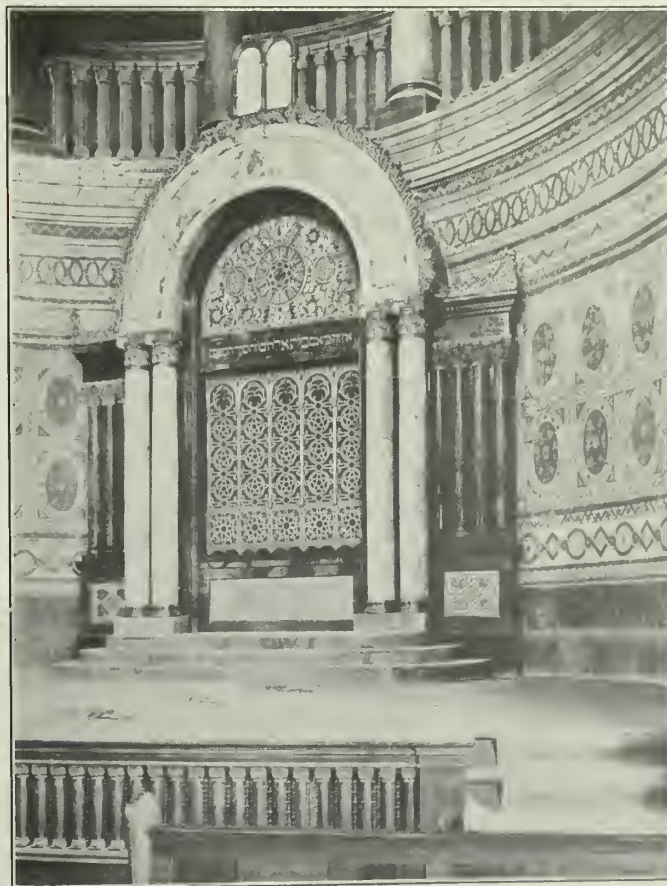


MAIN ENTRANCE, TEMPLE BETH EL, NEW YORK.

Brunner & Tryon, Architects.

the arrangement of the seats. If the traditional method is used the reading desk is placed approximately in the center of the main floor on a raised platform approached by steps, and contains seats for at least three or four people besides the minister, who stands at the desk. The desk itself is large enough for one of the scrolls of the law to be placed on it. These scrolls are the Five Books of Moses, engrossed on parchment and rolled on two sticks and protected by an ornamental cover. A desk three feet by four feet is ample to contain one sufficiently unrolled for reading and more ample dimensions are usual. Being the central feature of the building it is customary to treat the platform containing the desk with balustrades, bronze lamps, carved panels, or other ornamental devices to emphasize or to beautify it. The position of the ark is at the end of the building furthest from the main entrance, and it is also elevated and approached by steps, and in

orthodox synagogues so situated that the worshippers when facing it look towards the east, but reformed congregations do not insist upon this. An open space is thus left between the ark and the reading desk, which is always unoccupied, the only seats being placed parallel to the walls and back of the desk. When the lesson of the day is to be read, the minister leaves the central platform, goes to the ark, which he opens, takes out a scroll (of which there are generally several) and returns to the desk, the scroll is then opened and placed on the desk, a portion is read and the scroll is replaced. This impressive service necessitates an arrangement in which comparatively few seats are possible in even a large building. Accordingly, in reformed congregations, the reading desk is placed directly in front of the ark, the platform being somewhat enlarged to accommodate it, and the pulpit is either in front of the reading desk or at one side. This plan is



ARK IN TEMPLE BETH EL, NEW YORK.



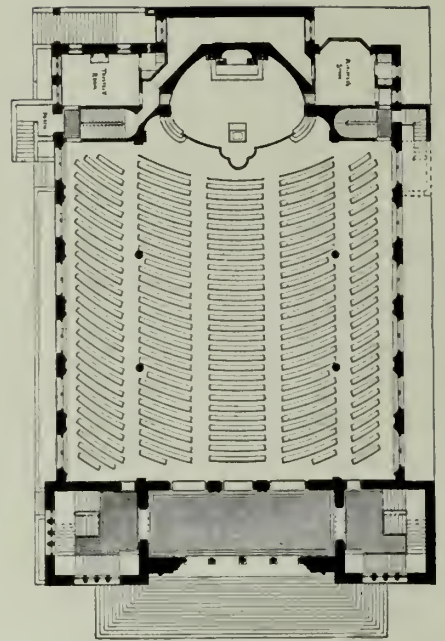
SYNAGOGUE, LA SALLE AVENUE, CHICAGO.
S. S. Beman, Architect.

now becoming general and nearly always adopted. It has the advantage of consolidating the service without materially changing it, and allows the entire floor space to be devoted to seats which are arranged like pews in a church, sometimes straight and parallel to the ark, or sometimes curved. The most satisfactory results are obtained by curved lines of pews with the floor rising gently toward the back rows. In orthodox congregations the sexes are divided and the galleries entirely used for seats for women, but in the majority of congregations to-day this distinction is no longer made, the men and women sitting

together in pews, so that the existence of galleries depends upon the number of sitting required.

A m p l e means of ingress and egress must be provided but the arrangement of stairs and vestibules is a question of individual choice. A large vestibule in the center, with smaller ones at the ends, offers the advantage of permitting entrance through two doors, thus making an air lock and keeping out the noise of the street, the

center doors being only used for exit. If the building is very long, exits should be placed at both ends. There should be rooms either side of the platform for the minister and the choir, and it is preferable to reach them by a separate entrance. The organ is sometimes placed above the ark or on the gallery opposite to it, or arranged to fill the spaces on either side in accordance with the general design of the interior.



PLAN, TEMPLE BETH EL, NEW YORK.

Rooms for the choir are needed, and it is most desirable to provide a place for the singers where their voices may be heard but where they will not be visible to the congregation. The solemnity and impressiveness of the service are much enhanced when the choir is not seen.

The practical requirements of the ark are few. It is virtually a bookcase containing the scrolls of the law, and as these are parchment rolls they are placed vertically on little shelves, the space required depending upon the number of scrolls owned by the congregation.

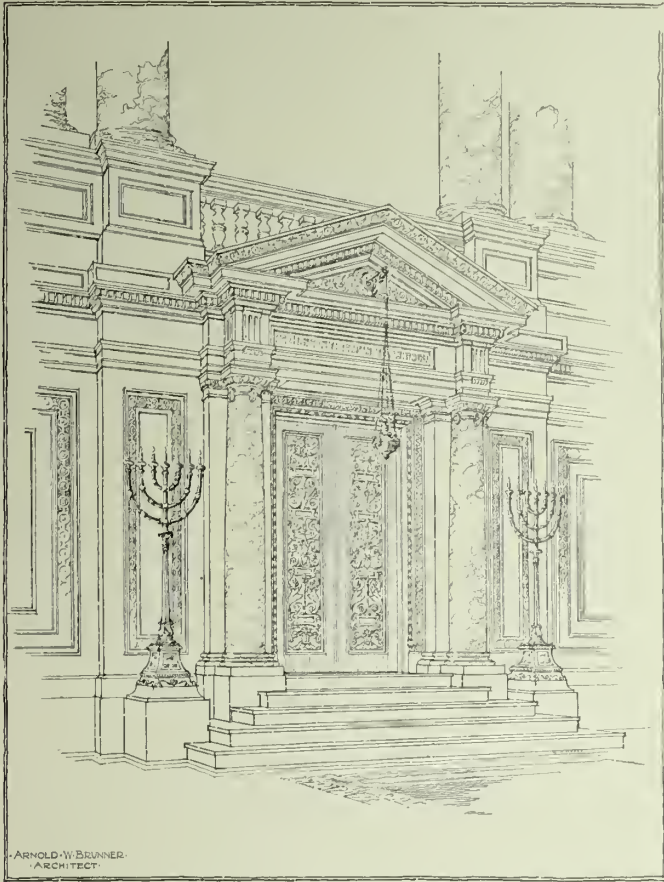
The doors of the ark may be hinged, but the best arrangement is to make them slide on rollers so that they may be readily opened. They are sometimes covered by a curtain and in any case they should be of dignified



PLAN, TEMPLE BETH EL, DETROIT.



SYNAGOGUE AT RICHMOND, VA.
Noland & Baskerville, Architects.



ARK IN TEMPLE ISRAEL, HARLEM, NEW YORK.

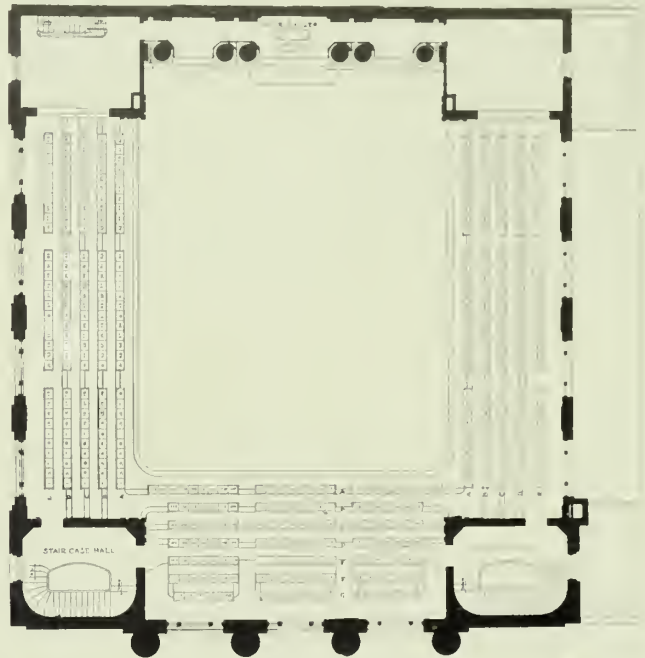
design and rich in material. Seven-branched candlesticks are appropriate at the sides or in front of the ark, and besides the perpetual light, memorial lamps are often hung in numbers and are extremely decorative.

The reading desk is sometimes used as a pulpit, but in modern synagogues a separate pulpit, from which the

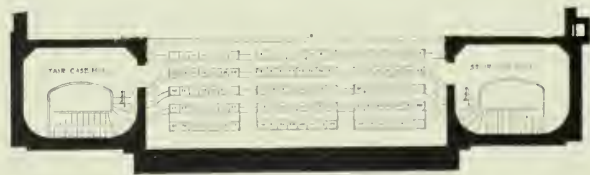
sermon is preached, is generally erected. There is no recognized position for it, the favorite one being immediately in front of the reading desk, or it may be placed on one side and at such a height as to enable the speaker to be easily seen and heard by the entire congregation.

Sabbath schools in connection with synagogues are always considered a matter of great importance, and a large proportion of floor space is required for them. A special building, if conditions allow it, is always advisable, but sliding screens and other methods of making the school temporarily a part of the main building are never successful.

In crowded cities the Sabbath School is generally placed in the basement, the main auditorium floor being

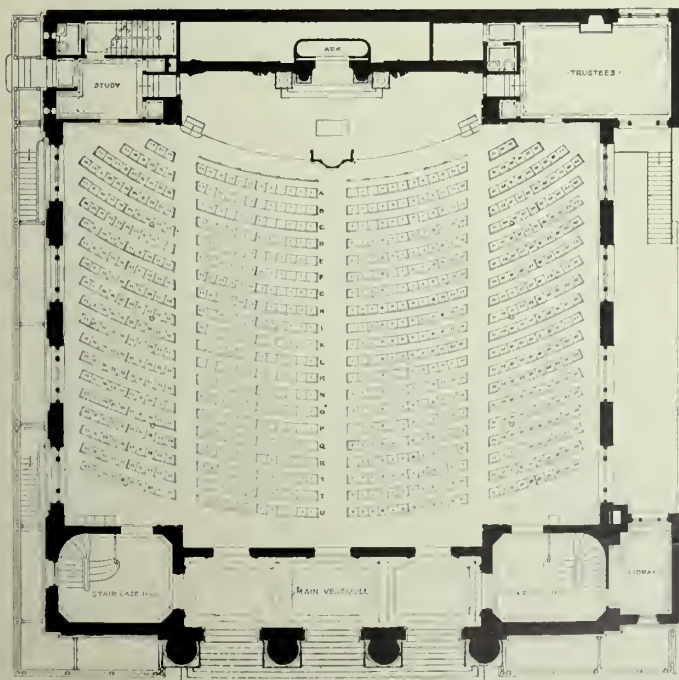


GALLERY.



UPPER GALLERY.

TEMPLE ISRAEL, HARLEM, NEW YORK.



MAIN FLOOR PLAN.
TEMPLE ISRAEL, HARLEM, NEW YORK.
Arnold W. Brunner, Architect.

sufficiently raised to allow sufficient light to enter the windows of the schoolrooms.

There must be a general well-lighted assembly-room, numerous classrooms, teachers' rooms, retiring rooms, etc., and a minister's study and a room for the trustees or elders of the congregation are always necessary.

The setting of the synagogue is of paramount importance. Like any other building it needs an appropriate position, and if crowded in the middle of a block it loses its dignity and importance. Whenever possible there should be some space around it, and if it can be set back from the street so that a little grass and a few flowers and trees are allowed to grow and a railing provided to separate it from the sidewalk, the general effect will be worth the small cost of the ground required for this purpose.

As a rule an attempt is made to erect a building on a site that is too small for it, and while in cities it is a natural temptation on account of the cost of property, both the practical and artistic results suffer greatly from this economy.



SYNAGOGUE, 70TH STREET AND CENTRAL PARK,
WEST, NEW YORK.
Arnold W. Brunner, Architect.

In New York the high value of desirable lots has cramped the design of the majority of the synagogues. Vestibules and stairs are seldom sufficiently generous. Sunday school rooms are habitually placed in the basement instead of housing the school in a separate structure, and frequently the courts at the sides are not large enough to insure good light and ventilation. The interiors also gave evidence of the same desire to economize, and the aisles and spaces in front and at the rear of the seats are reduced to their smallest dimension. Even the pews are sometimes placed too near each other for comfort.

Many of the best exterior indicate the lack of ground, and façades are flattened, approaches are dwarfed, entrances too small and steps too steep. The beauty and impressiveness of a synagogue depend largely upon proper approaches, and the fitness of the building for its position is a most important consideration.

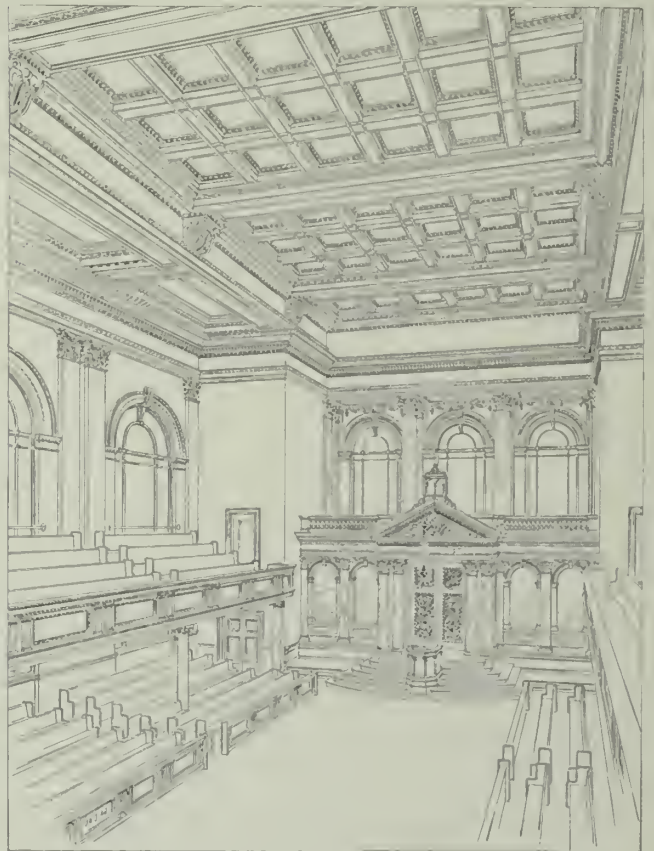
THE FATIGUE OF CONCRETE.

IN a paper on "The Fatigue of Concrete," published in the *Proceedings* of the American Society of Civil Engineers, Mr. J. S. Van Ornum says:

"The adhesive strength of concrete to steel, low in value at best, is undoubtedly severely tried by repeated application and relief of load, and the consequent successive production and relief of the various internal stresses which tax so severely this essential and vital factor of reinforced-concrete design and construction. Passing without comment the acknowledged fact that scale or thick rust will seriously impair the adhesion, it may be said that numerous critical examinations plainly indicate that any rust on the metal (while completely absorbed by the

concrete and so effectively preventing further corrosion) did materially lessen the normal adhesive power of the concrete; the bond was often found lacking opposite the rust discolorations on the concrete, while remaining firm on each side where rust had been entirely absent; and, where the adhesive bond was destroyed in the middle portion of the beam, this destruction habitually terminated in a discolored section, apparently indicating the encountering of an increased adhesive resistance at the cleaner portions of the steel.

"Another fact that has escaped deserved attention is the probability that a material excess of water used in mixing the concrete apparently lessens its adhesive power. It is realized that a moderately wet mixture is desirable, in order to prevent voids in the concrete as ordinarily placed, and especially to secure sufficient plasticity to insure a



INTERIOR OF SYNAGOGUE, 70TH STREET AND CENTRAL
PARK, WEST, NEW YORK.
Looking toward Ark.

complete filling of the space around and below the network of reinforcing steel; but there seems to be a real danger that the reaction against dry concrete is being carried too far. An excessively wet concrete not only contains numerous globules of water, which, when absorbed, leave the concrete porous, but these, also, especially weaken the adhesion of the concrete to the steel, because there is a tendency for such water globules to seek the surface of the reinforcement, particularly on the under side. The weakening of the bond from this cause was evident in certain beams in which the adhesion was noticeably weak, the water cavities being apparent at the bottom and sides of the steel bars."

A New Attempt in House Architecture.

THOSE whose fate it has been to attend innumerable meetings of architectural societies, and to go through papers and addresses of all kinds, will know that there is quite a collection of old stock subjects which crop up at regular intervals; like the moon, they have their periods; and so it happens that we must be bored by prosy presidents turning over the dry bones of architecture, or by those wholly estimable people who say the most irreproachable things and perpetrate the most villainous architecture. Do we not recall those well-worn subjects which are the last refuge of the afflicted?—"The relation of Architecture to Sculpture," "The Architect-Craftsman," "Color in Architecture," and all the rest of these dear familiar friends. But it is this very subject of color in architecture which bears on the matter in hand. Some writers and lecturers have displayed a wonderful diligence in hunting up all records of color architecture, from the barbaric splendor of the Mycenaens to the latest fashion in sanitary distemper. It is not often, however, that we see any actual attempt to carry out in practice the schemes which are indicated in such glowing terms. Times without number we have heard proclaimed the merits of glazed material for city buildings, its cleanliness, its possibilities in overcoming blackening and decay and the bright notes of color which it can give to the common dullness of our thoroughfares. But beyond the use of glazed tiles for fire grates, as a lining for bathrooms and lavatories, or in dairies and butchers' shops, with now and then some piecemeal application to doorways or passages, there is little to record. Out of the category of zealous advocates who do nothing, however, must be taken Halsey Ricardo. Among English architects no one has been more persistent in his claims for glazed work and color schemes, and Mr. Ricardo's particular merit is that he has had the courage of his convictions and the ability to carry his ideas into effect. His greatest achievement is the house which has just been completed for a wealthy client, Mr. Debenham, at 8 Addison Gardens, in the West End of London. It is quite an amazing work, and is made all the more prominent by being surrounded by houses of the most uninspiring character—dull London houses of the seventies, with stuccoed porches and window trimmings made spick and span with paint at intervals, in harsh contrast to walls begrimed with the smoke and dirt of the metropolis. In such a setting is this wonderful new house, like a great gem amidst a heap of bricks.

The plan of the house does not call for any detailed description, as the accompanying illustration shows it clearly; besides, this house does not concern us so much for its plan as for its treatment with glazed work throughout; in passing, however, it may be noted what a very large hall is provided in the house, running up through the first floor and forming the center around which all the rooms are grouped; attention is also directed to the "pavilion," connected by a covered way with the dining-room; this is really an open air breakfast room and, facing southeast, its position is peculiarly appropriate; moreover, this side of the house fronts on a large garden that runs back to the wooded boundary of

Holland Park; the garden scheme, in fact, is a very important feature; at the front of the house there is a Dutch garden, at the side is a squash court, the roof of which forms a terrace, and at the back of the house are lawns for croquet and tennis, with a large garden, beautifully laid out and embellished with a fountain.

On referring to the illustrations, it will be seen that the exterior of the house is treated with a series of wall arcades, above which comes a richly-modeled cornice, and, over this, an attic story.

It is first necessary to describe the color scheme, and here let it be noted that illustrations are sadly deficient in this respect, though the photographs were taken on specially-prepared color plates in order to secure as correct a rendering as possible.

The "frame" of the exterior, so to speak, is built up of blocks of Doulton's Carrara ware of a pleasing creamy-white color, with bands of a soft green tint above the arcading. The material has a glass surface; not highly glazed, however, but with a comparatively dull surface, and of good texture. The filling of this "frame" is of glazed bricks. First, for a few feet above ground, purple-gray Staffordshire bricks are used—semi-vitrified bricks, well suited to their position. Then, for the ground-floor story the filling is of glazed green bricks of a rich hue, not uniform in color, but varying quite considerably, and so gaining an effect which would be impossible with bricks of one uniform tint. Above these on the first floor, the filling is of glazed bricks of a lively blue tint—also of differing shades, as elsewhere throughout the house; while on the attic story the filling is of glazed bricks of a peacock blue color. Completing the whole scheme is the roof with its green Spanish tiles, while at either corner rises a bold chimney "framed" with Carrara ware and filled in between with peacock blue glazed bricks as used for the attic story.

The effect of this scheme is most brilliant, yet not in the least gaudy; it is clearly the work of a man possessing a keen sense of color, and the ability to handle it successfully.

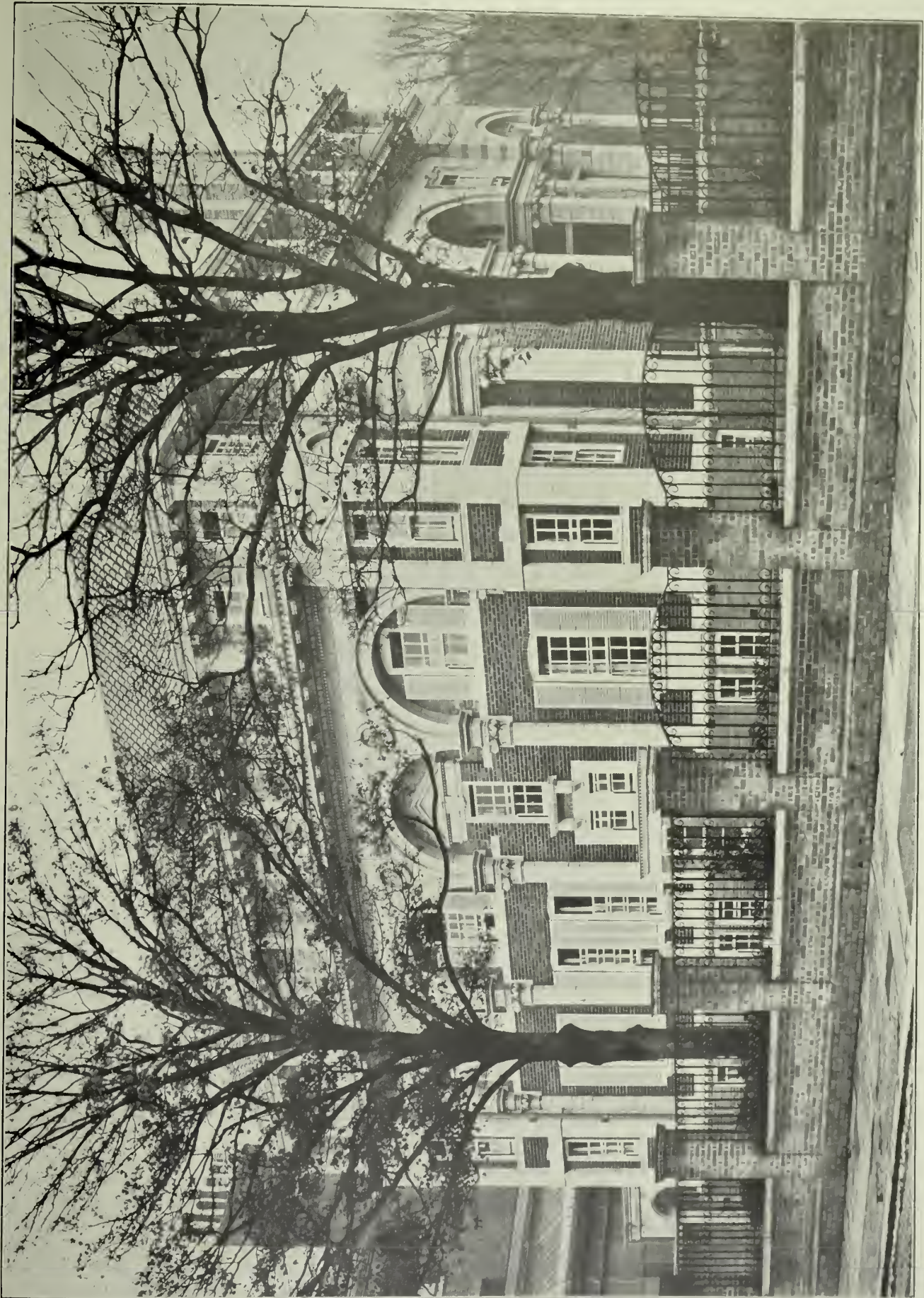
But this house is notable not only as a treatment of glazed material on the exterior; the same treatment is extended throughout the interior, with the addition in parts of some magnificent De Morgan tile patterns and peacock designs in blue and green. Over the vestibule door, for example, is one of these peacock panels, while the view of the pavilion or open-air breakfast-room shows the tile pattern that runs along the wall of the covered way to the dining-room.

The large hall in the center of the house is a most striking example of the use of glazed tiles for interior decoration and finish. Extending from skirting to cornice, these tiles are of varying tints of blue, and, in conjunction with the marble work, constitute a lovely scheme of color. (The illustration of the hall shows the wall whitewashed above the cornice; this is only a temporary arrangement, as the space will ultimately be covered with mosaic.)

A similar treatment of blue glazed tiles is seen on the staircase and corridor walls; in the dining and drawing-



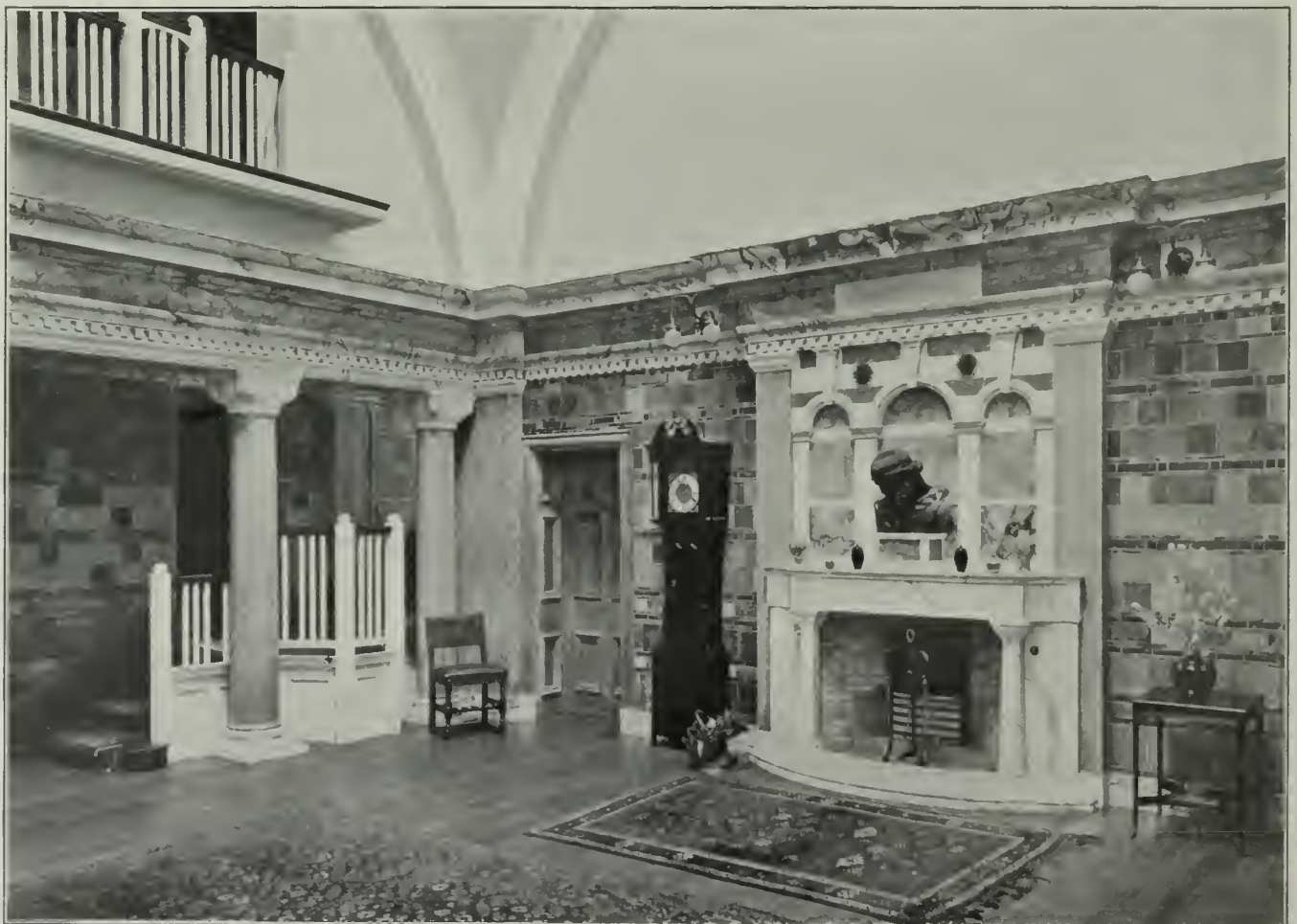
HOUSE, NO. 8 ADDISON ROAD, LONDON, W., SIDE VIEW.



HOUSE, NO. 8 ADDISON ROAD, LONDON, W., GENERAL VIEW.
Halsey Ricardo, Architect.



THE PAVILION OR OPEN-AIR BREAKFAST ROOM.



THE HALL.

rooms, too, we find tiles used in conjunction with the marble mantelpieces.

Throughout the house it is apparent that every detail has been evolved with the greatest care. There is not an atom of that feeling which is commonly associated with the trade firm imported to carry out a special design. In this case the architect has first worked out his general treatment, and having set up his standard has gone forth to achieve it; he has experienced no little difficulty in his task, for makers of such things as tiles have been spoiled by the craving for uniformity and "faultlessness" of surface, and it is not easy to get those varying shades of the kiln which, when used discreetly, can produce such entrancing results. Mr. Ricardo has not been able to pick up his material from the stock patterns of the showroom; on the contrary, there has been a diligent search and experiment, a vigorous selection and throwing out of what was not quite

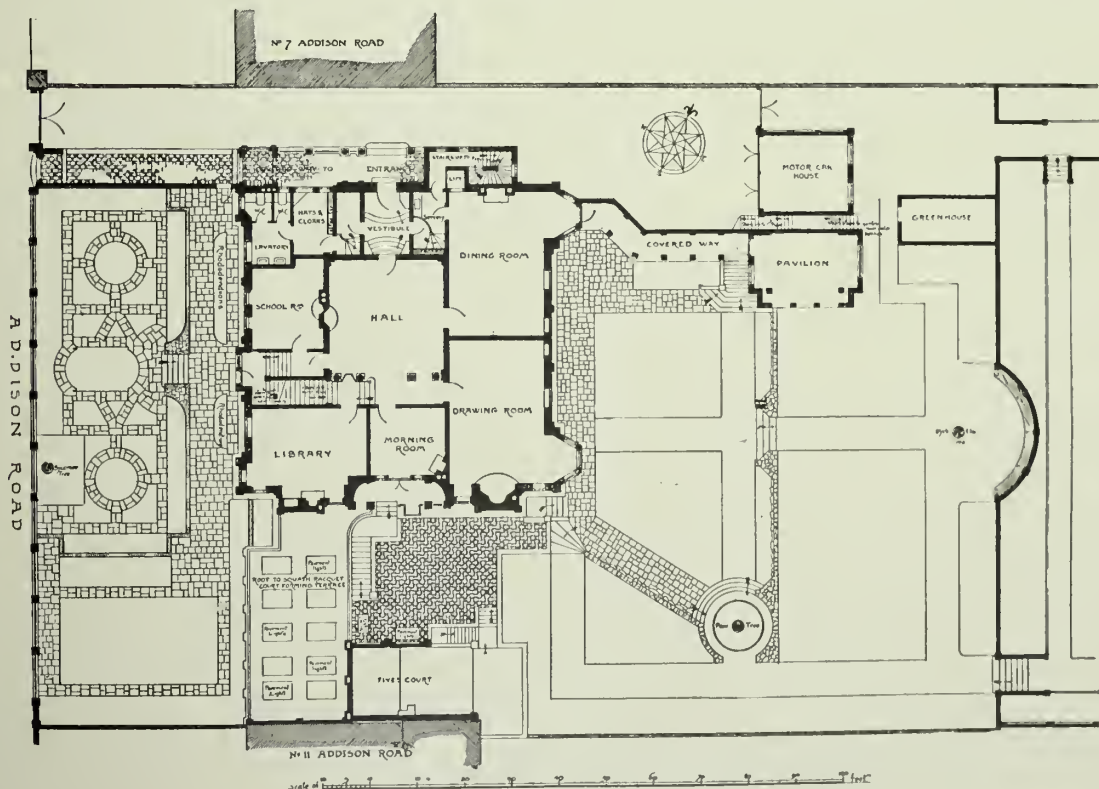
desired; everything has been obtained in exact accordance with the architect's scheme, and the result is eloquent. The color of the glazed brickwork is in itself a delight to the eye, while the total tone-value of the house is as pleasing as it is uncommon.

This, then, is the house where Mr. Ricardo has carried out his ideas with such striking success. He has had ample means at his disposal — in fact, the house, when complete, will have cost more than \$250,000 — and, as enhancing the effect of the rooms, mention must be made of Mr. Gimson's modeled plasterwork on the ceilings and Mr. Prior's stained glass.

The house strikes quite a new note in domestic work, and is sure to be copied as an example of the great possibilities which glazed materials offer, not as subsidiary or as embellishments to ordinary materials, but as constituting the entire treatment of a house, both internal and external.



THE VESTIBULE.



GROUND FLOOR PLAN.

Terra Cotta Block Walls for Dwellings

WE have received some suggestions from Architect Frederick G. Corser, of Minneapolis, concerning the use of hollow terra cotta blocks for building the walls of dwellings, which evidence progressive thought on lines of application of good material to sensible and desirable structural functions. Mr. Corser's argument is, that while many clients are willing to spend money on the architectural detail and interior trim of their houses, they do not give the same considerations to structural needs.

In seeking for a rational solution of a vexing problem, Mr. Corser has been using hollow terra cotta blocks for the wall construction, and finishing the exterior surface with roughcast plastering, substantially as illustrated in his detail (Fig. 1), which has merits over the boarded frame covered with plastering.

While such use of terra cotta blocks is not new, it is a desirable one; especially for moderate-cost houses, and may well be used in dwellings of considerably above the average cost, unless the client desires and is willing to pay the cost of brick or stone.

Standard make of terra cotta blocks have a coefficient of strength quite sufficient for buildings of moderate stresses; and when such blocks are filled solid with good concrete they make for a wall about as strong as solid brick or stone work. Masons can build such walls and make a good job of it if exercising the same care in laying and bonding as they would for brick or stone work. If the blocks are not too porous the surfaces will take and hold the exterior plastering, which will become a solid part of the wall, — if the facing is of good Portland cement. But if the blocks are too porous they will suck too much water from the fresh plastering, affect its intimate adhesion and make it brittle when set; so it is best to use in such cases a semi-dense terra cotta product.

This scheme of walling has the advantage of hollow spaces within the walls which make a house warmer in winter and cooler in summer, and less liable to retain dampness than a more solid wall of brick or stone, for the cellular wall readily takes in the internal heat of the house during the winter months, and when the cells have absorbed their full of heat they will retain it and afford protection against excessive changes of external temperature, more so than that of wood frame construction, and also with the external and interior plastering done directly upon the walling, give an extra solidity and protection against fire and vermin.

The standard shapes of terra cotta blocks are well adapted to this system of walling, and special shapes can be easily made to fit designs of door and window treatment; and for dwellings of more than moderate cost the architectural detail can be of finished clay products, which are much more desirable and more to be depended upon than other materials.

Our chief criticism of the accompanying detail is that the wall had best be built solid with terra cotta blocks; *i. e.*, laying the blocks back to back without interspaces between them. The extra air space (as per detail) is of no material advantage, presents some objections from a practical point, in respect to having the work level, plumb and true. An eight-inch wall with thorough bonding and blocks set back to back would be as strong as the twelve-inch wall shown, and would cost considerably less to lay up, for the needful care desirable to erect such walls in good shape would not be so much. Such compact building would afford more stable support for floors and roof bearings.

The laying of the blocks with the cells horizontal is a good scheme for it allows better beds and joints of mortar than a vertical setting. — has the advantage of confining the retained air in small chunks, and relatively even distribution. The matter of strength either way would be of no material difference.

The detail shows too much air space in back of the concrete sill; the woodwork of the window frames is likely to shrink some, allowing moisture to gather and affect the inside finish, — this space should be well filled and grouted with mortar; also the

side boxing and sashes should be so detailed as not to necessitate the plowing out of the back of the outside casing for allowance for weights to run. If the cincture is made (we are of the opinion that the majority of carpenters will skip it) it adds an item of cost which is needless.

This method of wall building and external finish has one material advantage — for the owner — provided the exterior plastering is thoroughly well done — in that it saves the cost of painting and repainting. The general idea of design, because of its more solid and dignified character, would lead the architect to eschew the too common trivialities of wood detail and staff embellishments (?) which more often fret and disfigure than add beauty to an otherwise well-studied design.

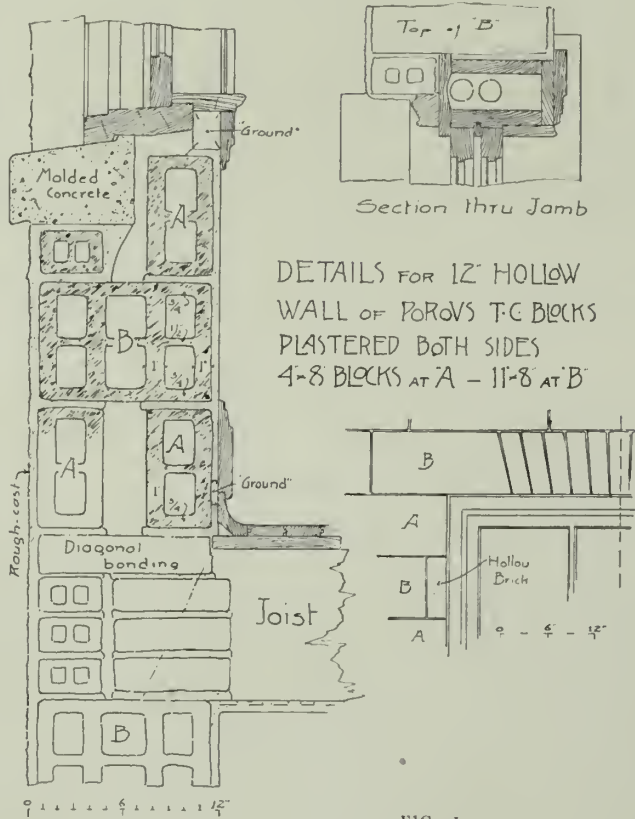


FIG. 1.

Editorial Comment and Selected Miscellany

NEW PLAN FOR THE IMPROVEMENT OF BOSTON.

SOME two years ago the Boston Society of Architects began the collection and coördination of the various schemes which from time to time had been presented and discussed by the public, looking towards the improvement of the city. Boston is not in the foremost line in respect to its general arrangement. The city was originally built in a most irregular manner, with absolutely no consideration to growth, thoroughfares or placing of public buildings. Possibly that is the very charm of the city; certainly we should be very sorry to see it lose its distinctive air, and one who is familiar with its tortuous streets and by-ways is very apt to consider them a convenience rather than otherwise. At the same time it is surprising how many ways have presented themselves in which the city could be reasonably improved, and the Society of Architects has just presented a report covering the work which it has investigated. This is a kind of public service which nobody could do so well as a body of trained and educated architects. It is a service which includes factors as wide apart as sites for a city hall and docks for steamship traffic, which takes into account intercommunicating lines of boulevard around the out-

side of the city as well as subway stations in the heart of the most congested portion. The report is only tentative but it has already aroused so much general approval and interest that a bill has been favorably reported to the legislature providing for the appointment of a technical commission, which shall exhaustively study and report upon this matter. It is to be hoped that the Society will be largely represented on this commission, and such will undoubtedly be the case, but the average politician, and the public generally, might very easily forget how thoroughly work of this kind is in line with an architect's bent and training. It is along such lines, in fact, that the differences between the point of view of the architect and the engineer or the architect and the landscape designer make themselves most manifest. The architect's training leads him to study mass first and detail only as an incident. In both the other professions the tendency is to consider mass as an aggregate of details, each of which is of vital importance. In considering municipal improvements the detail is, after all, of the least importance, and the general scheme is what has to be most carefully adjusted. One of the schemes reported by the Society provides for a huge system of docks in Dorchester Bay, involving an expenditure of something like forty million dollars. We imagine our engineering friends would possibly be somewhat surprised to know that the extensive dock improvements in Copenhagen, which rank among the most successful of their kind in Europe, were planned and carried out under the immediate direction of an architect, and while possibly the



HOUSE AT DES MOINES, IOWA.

Liebe, Nourse & Rasmussen, Architects.

Built of Standard Gray Brick made by Ohio Mining and Manufacturing Company

details of construction would be essentially engineering, the general planning of improvements of this sort is such as would call for an architectural mind.

This report of the Society was printed with the coöperation, as to expense, of several of the other prominent business and civic organizations, but the credit for the whole is due to the Society, and it has certainly performed a public service in an admirable way.

THE SPIRIT OF ARCHITECTURE.

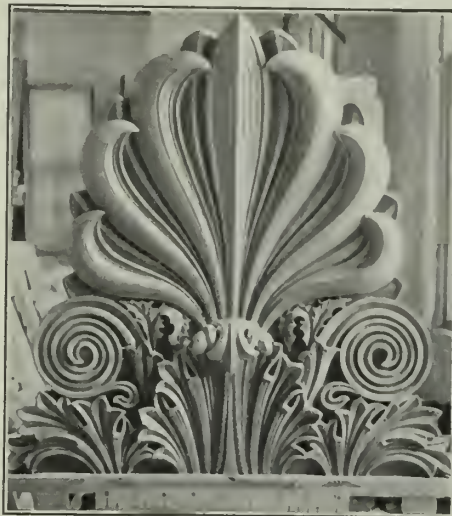
IN Mr. Walker's article in *THE BRICKBUILDER* for December he referred to "the economies of conditions, the predilections and prejudices of patrons, and the enervation that insidiously creeps in upon all artists, because of the deadly slowness of realization compelled by the lapse of time in the process of building." These are conditions which constantly beset the architect in his daily practice. Their untoward influences are not limited to those who win the great opportunities but they are just as potent factors in the growth of the humblest practitioner. The tendency to lower one's ideals, to be content



DETAIL BY MCCORMICK & FRENCH, ARCHITECTS.
Brick, Terra Cotta and Tile Company, Makers.



HOUSE AT RYE, N. Y.
Grosvenor Atterbury, Architect. Roofed with Ludowici-Celadon Tile.



DETAIL BY D. H. BURNHAM & CO., ARCHITECTS.
Northwestern Terra Cotta Company, Makers.

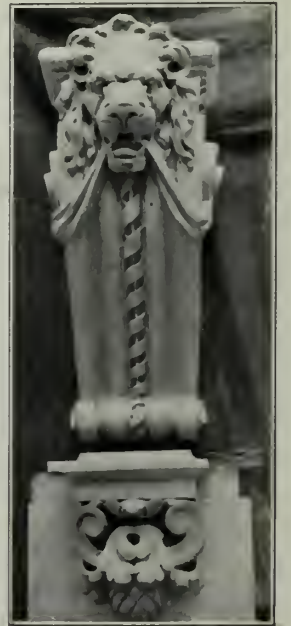
with second best, as the problem was a new one, to compromise and the commission having it in charge proceeded very cautiously. The example of the New York subway, however, showed beyond a doubt that if a reasonable attempt was made to decorate the walls of the stations the public would not only feel an interest but would approve. When the second installment of subways was started in Boston, the designs of stations followed the same lines as in the older work, but it is encouraging at least to know that now, largely through the efforts of the railway company which is to lease and operate the subway, some serious study is being given to the decoration of the wall surfaces. The work has been entrusted to one of the best architects of

really such by instinct would feel that the opportunities afforded in an academic life for study and introspective culture would go far to offset the financial limitations. The same is true of architecture to a certain extent. There are a few in the profession who have large opportunities. But after all, most men who really love their pro-

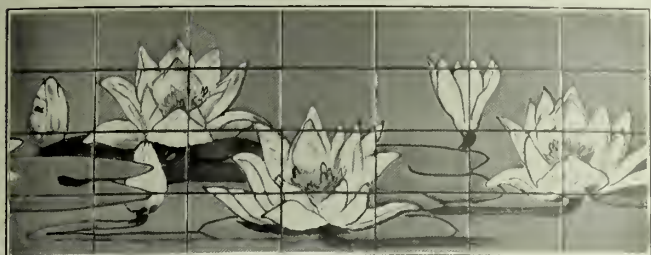
fession, who give themselves unreservedly to it, who build their life blood, as it were, into their work, must be content with no more than a fair average competence. There have been but few architects in this age who, while wielding great powers and reaping large monetary returns, have been able to mold their work, their best aspirations and their clients' wishes together in such a manner as Mr. Walker describes. Many have done this on a small scale. Only genius can do it on a large one.

SUBWAY DECORATION.

THIS journal has for years urged that the walls of subway stations should be treated in some other manner than as mere engineering surfaces. When the first subway was built in Boston, economy was a paramount consideration,



DETAIL BY FRANK S. LOWE, ARCHITECT.
South Amboy Terra Cotta Company, Makers.



FRIEZE FOR A BATH ROOM.
Made by Rookwood Pottery Company.

the city and studies are being made embodying combinations of bronze and tiling which promise very well. There has been a good deal learned in the past as to what will stand and what will go to pieces along such lines and as to how best to apply the material to the constructions, and even if the present attempts do not lead to the very best results they will at least be in the right direction and prepare the way for the future. It is inevitable that all our large cities will in time be equipped with systems of underground communication. It is the



DETAIL BY D. H. BURNHAM & CO., ARCHITECTS.
Conkling-Armstrong Terra Cotta Company, Makers.

only logical solution of the metropolitan transit problem and has been worked out pretty carefully and satisfactorily as an engineering problem. It only remains for the architects to so finish the engineering work that what is now tolerated as a practical necessity shall become an artistic addition to the public functions.

WATERPROOFING WITH CEMENT.

IT is often assumed that a solid concrete wall, if constructed in proper manner, would be practically impervious to moisture. As a matter of fact, it is almost im-



AN AMERICAN "S" TILE ROOF.
Made by Cincinnati Roofing Tile and Terra Cotta Company.



HARTJE BUILDING, PITTSBURGH.

Charles Bickel, Architect.

Entire front of cream white glazed Terra Cotta. Made by the Excelsior Terra Cotta Company. Now operated as a Subsidiary Company of the Atlantic Terra Cotta Company.

possible to make any concrete wall tight unless some special provisions are made for waterproofing. In the region around Boston the common practice in waterproofing cellars and walls is to make a seal of tarred paper set in hot tar and held in position, either against the walls or on the floor, by a top layer two or more inches thick of cement. If done with proper care, this will give most excellent results, but it is a clumsy expedient, taking up a good deal of space, and the inner layer of concrete is an expensive protection, besides not being perfectly sure of holding its place. Various attempts have been made to devise some material which could be incorporated with the cement to render the concrete more impervious to water. Soap and alum have been regarded as a



DETAIL BY INDIANAPOLIS
TERRA COTTA COMPANY.

waterproof solution and have been used for that purpose with varying success. Better results have been obtained by incorporating with the concrete a substance in a powdered form which seems to more completely fill the pores. There are several such powders on the market, of which a fair example is that manufactured under the name of Medusa Waterproofing, which has been used in many cases with excellent success. Unless precautions of this kind are taken, a concrete wall is hardly more impervious to water than a wall of good hard burned brick laid up in Portland cement mortar.

IN GENERAL.

The examinations for the Rotch Traveling Scholarship will be held in Boston beginning April 15. Anyone who has been employed during two years in professional work in the Massachusetts office of an architect resident in the state is eligible for the competition. Preliminary examinations are held in History of Architecture, Construction, French and Drawing from the East. Graduates from a regularly accredited architectural school may present their diplomas in lieu of these examinations. Those who are successful in the preliminary examinations will be admitted to the final competition in Design upon which the award will be made. The successful candidate receives \$1,000 per year for two years to be expended in study and travel abroad. Further details can be obtained upon application to Mr. C. H. Blackall, Secretary, 20 Beacon Street, Boston.

The Department of Architecture of the Massachusetts Institute of Technology is to hold a competition to award a traveling scholarship of twelve hundred dollars. The award is to be made solely on the basis of distinguished merit, as it is felt that the prize would thus possess a greater value for the advancement of architecture than if restricted to benefit only the regular or the needy student.

Candidates, therefore, will be received from both regular and special students, but they must have passed two consecutive years in the Department within the last three years, and at least one of the years must have been in the graduate

class. They must besides have proved themselves during these school years to have been earnest students and of first-rate ability. The competition will begin April 12



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
New Jersey Terra Cotta Company, Makers.

with the sketch *en loge*, and end May 18, and all the work upon it must be done in the Department. The winner of the scholarship is expected to sail for Europe by September 1, 1907, and to remain abroad a complete year unless otherwise authorized. He will travel and study under a programme prepared in consultation with the Department of Architecture and the Faculty.

Hollow tile was first used in this country in the Vanclears Flats, New York city, erected about thirty years ago. It was the first tile of that style made in the United States. The experiment was successful, and in 1877 there were 100,000 tons of hollow tile fireproofing material sold in the United States. To-day the output exceeds 2,500,000 tons a year, a plant at Perth Amboy alone having a capacity of 20,000 tons a month.

Marshall S. Mahurin, formerly of Wing & Mahurin, architects, Fort Wayne, Ind., has entered into partnership with Guy M. Mahurin who have opened offices under the firm name of Mahurin & Mahurin in Swinney Block, Fort Wayne, Ind. Catalogues and samples solicited.



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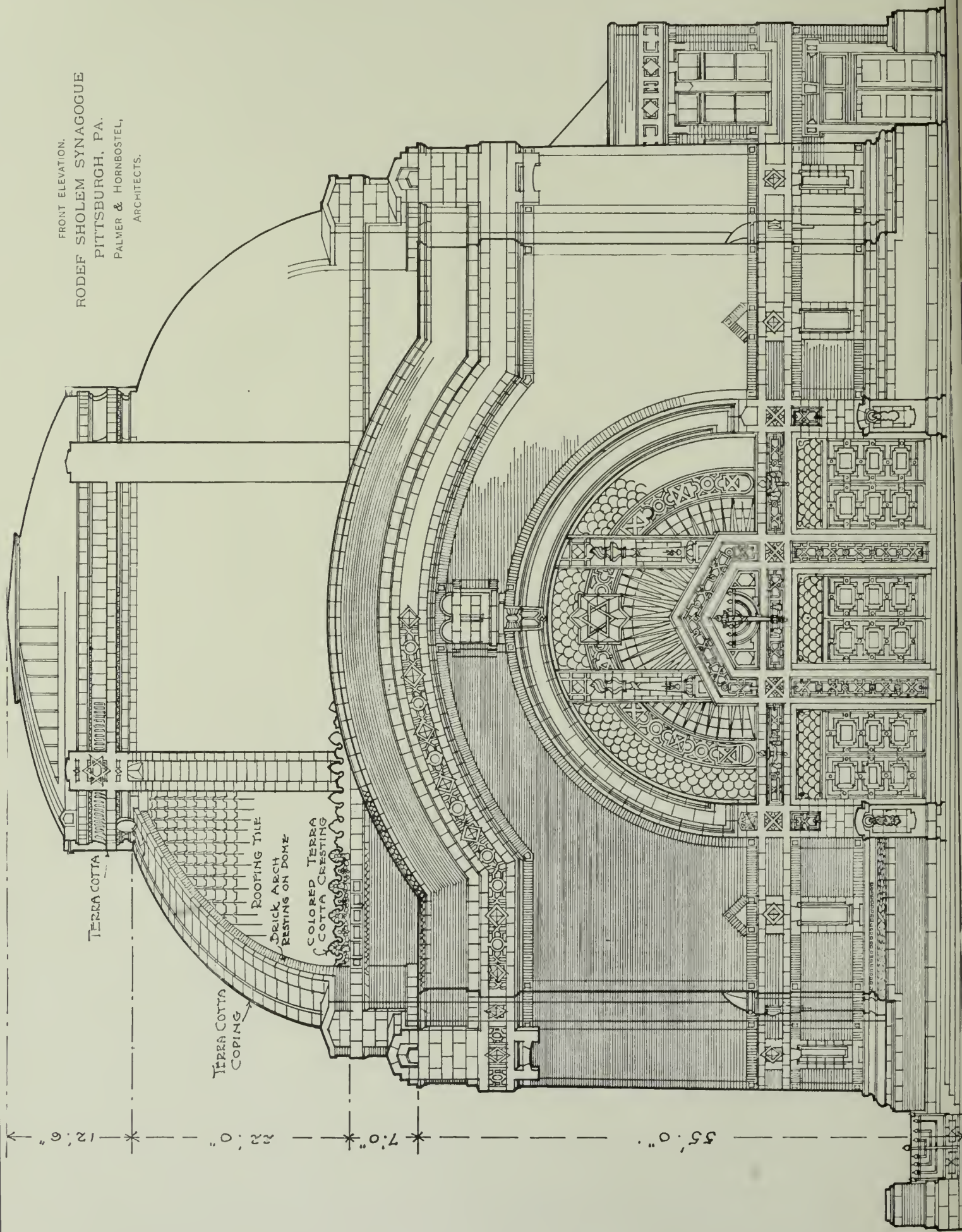
For further information, address W. C. SABINE, 14 University Hall, Cambridge, Mass.

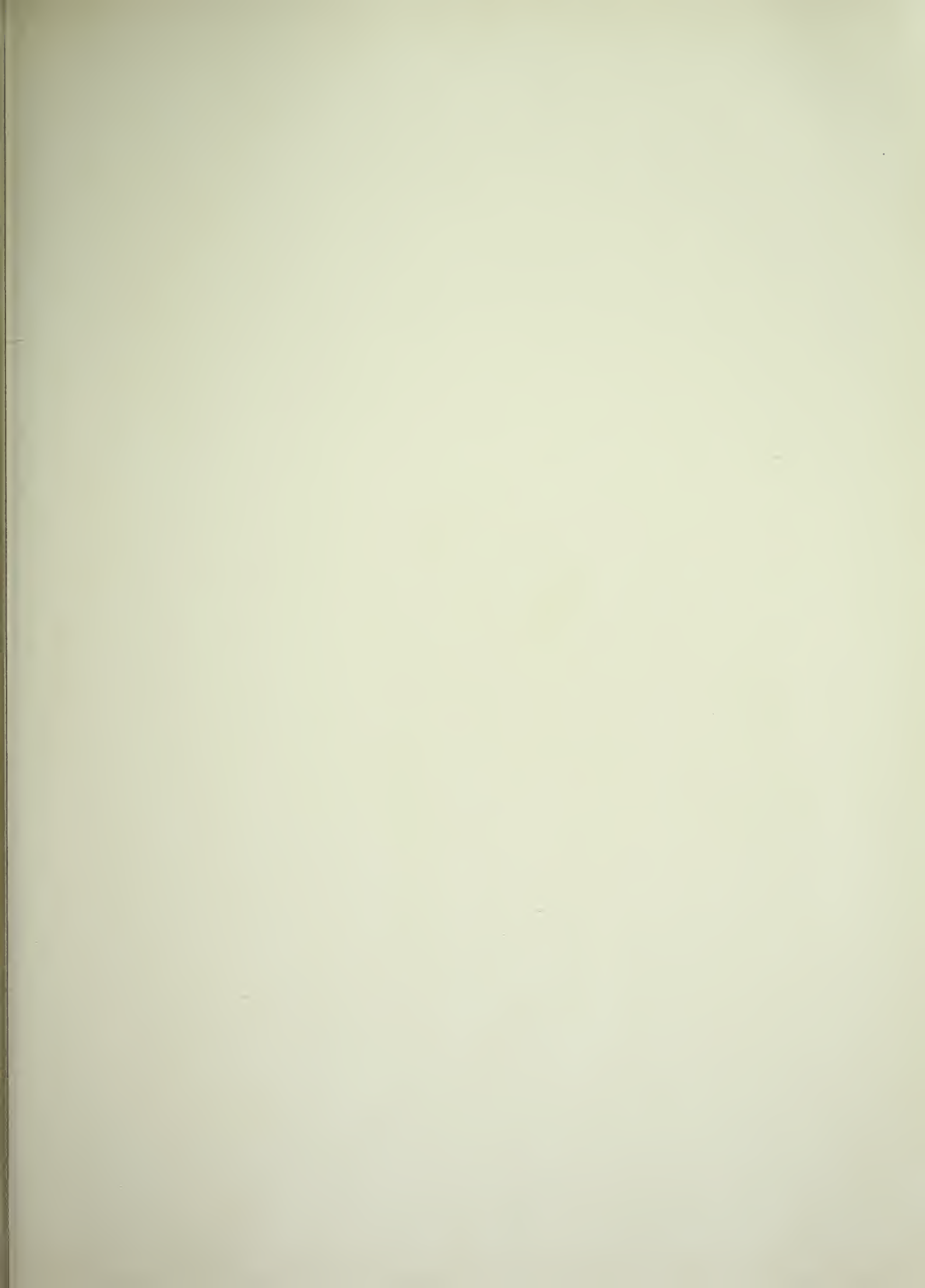


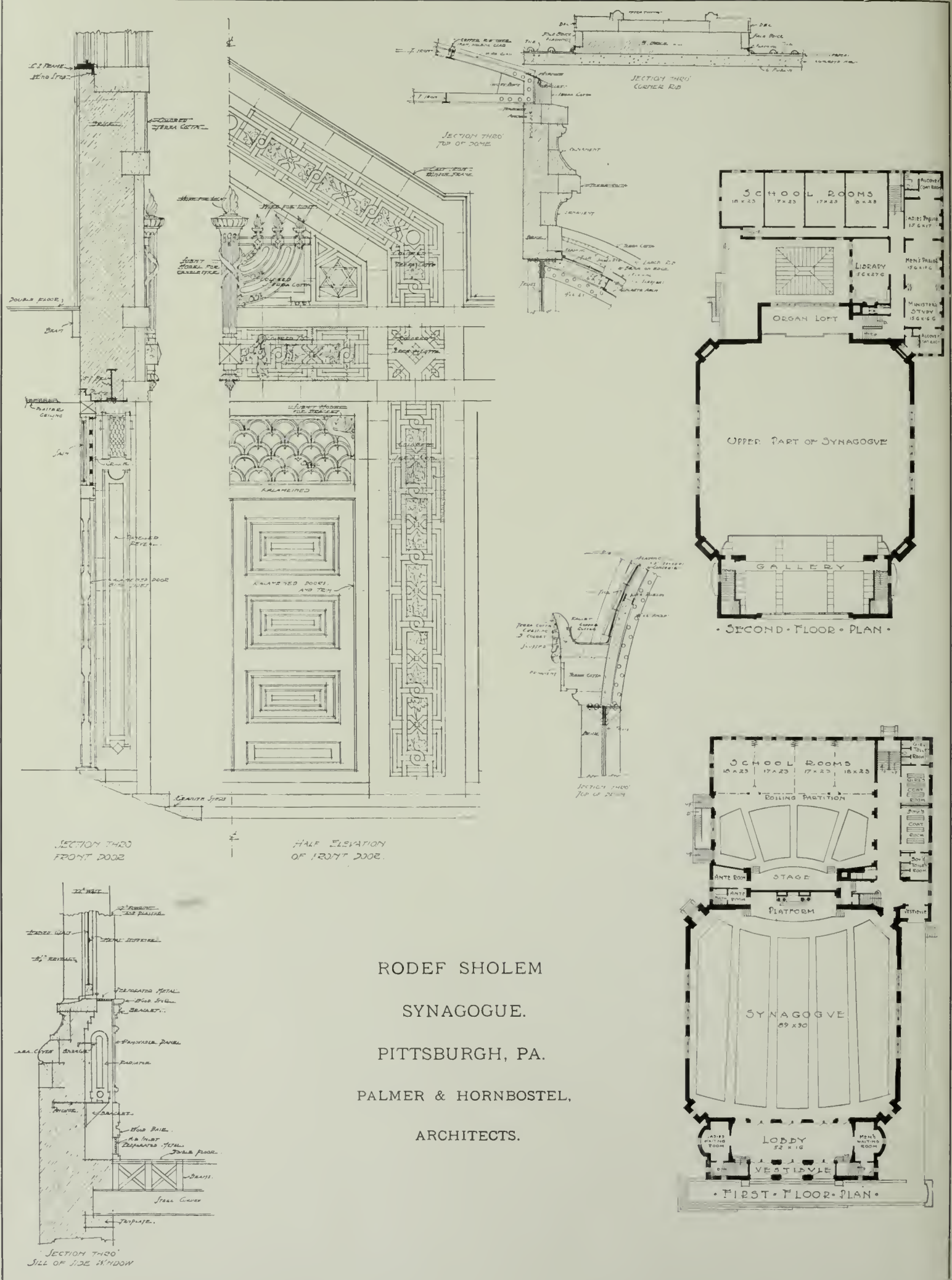
DETAIL BY SIMONSON & PIETSCH, ARCHITECTS.
O. W. Ketcham Terra Cotta Works, Makers.



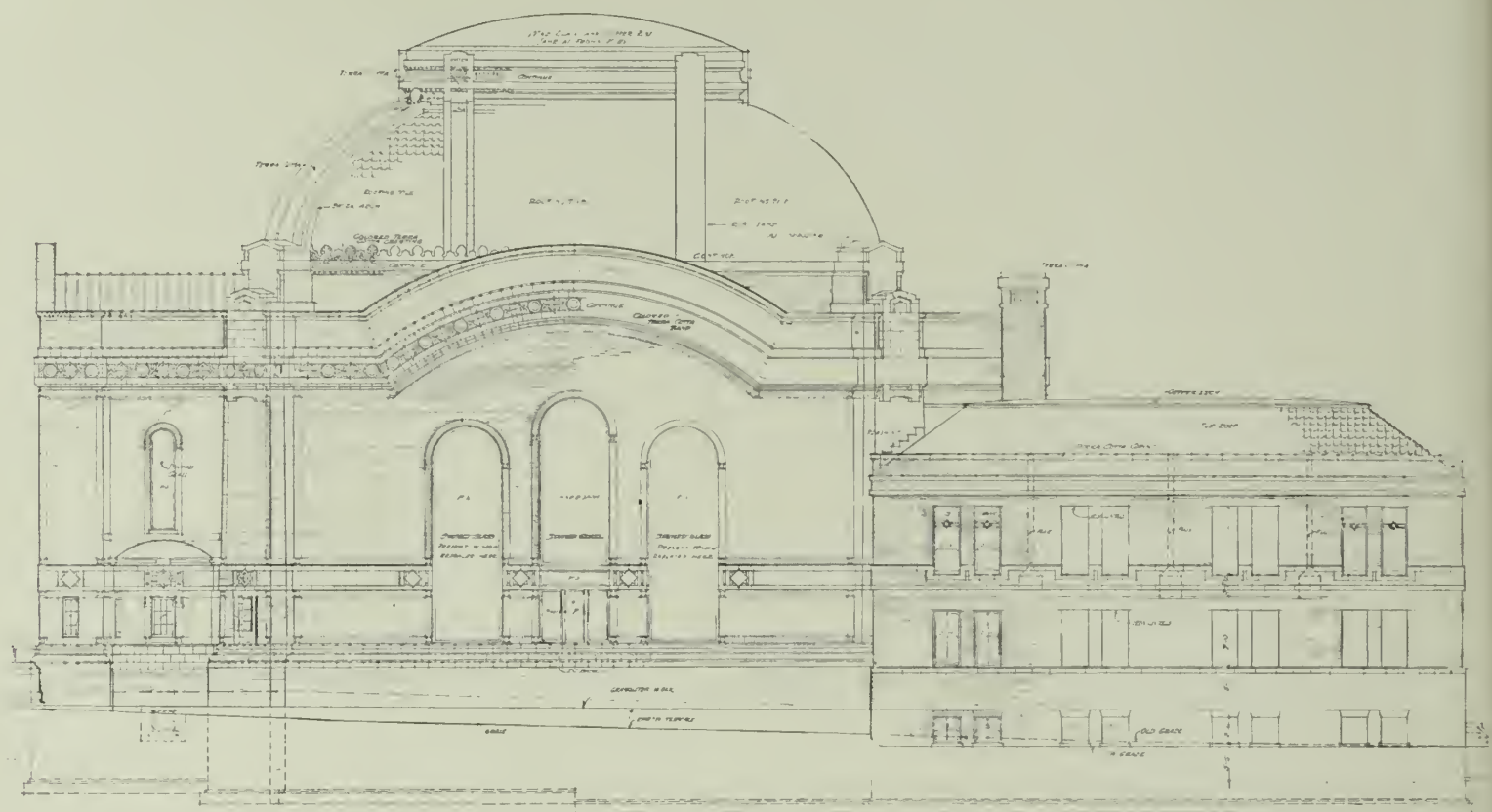
FRONT ELEVATION.
RODEF SHOLEM SYNAGOGUE
PITTSBURGH, PA.
PALMER & HORNBOSTEL,
ARCHITECTS.



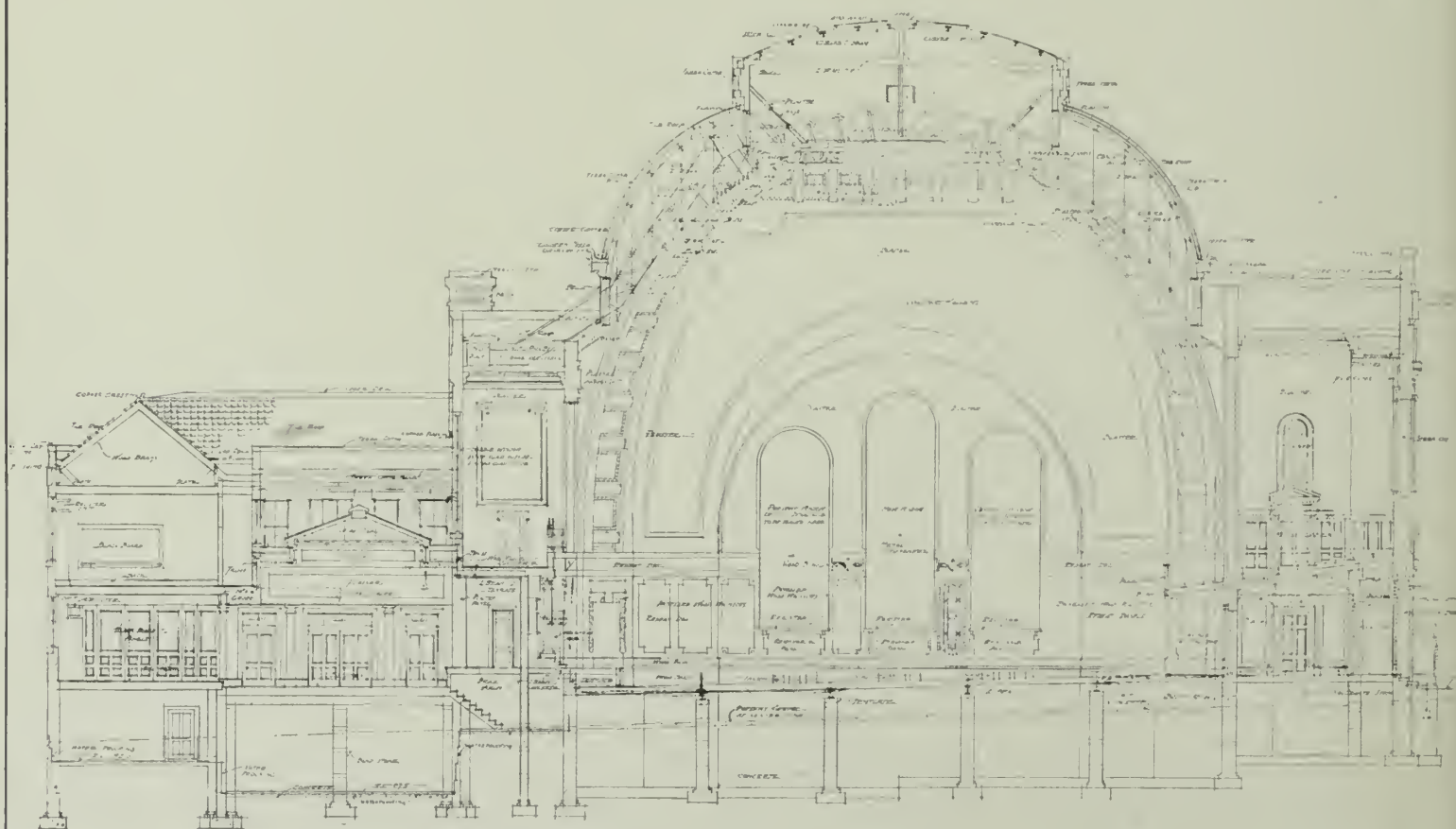








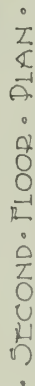
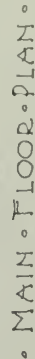
SIDE ELEVATION.



LONGITUDINAL SECTION.

RODEF SHOLEM SYNAGOGUE, PITTSBURGH, PA.
PALMER & HORNPOSTEL, ARCHITECTS.





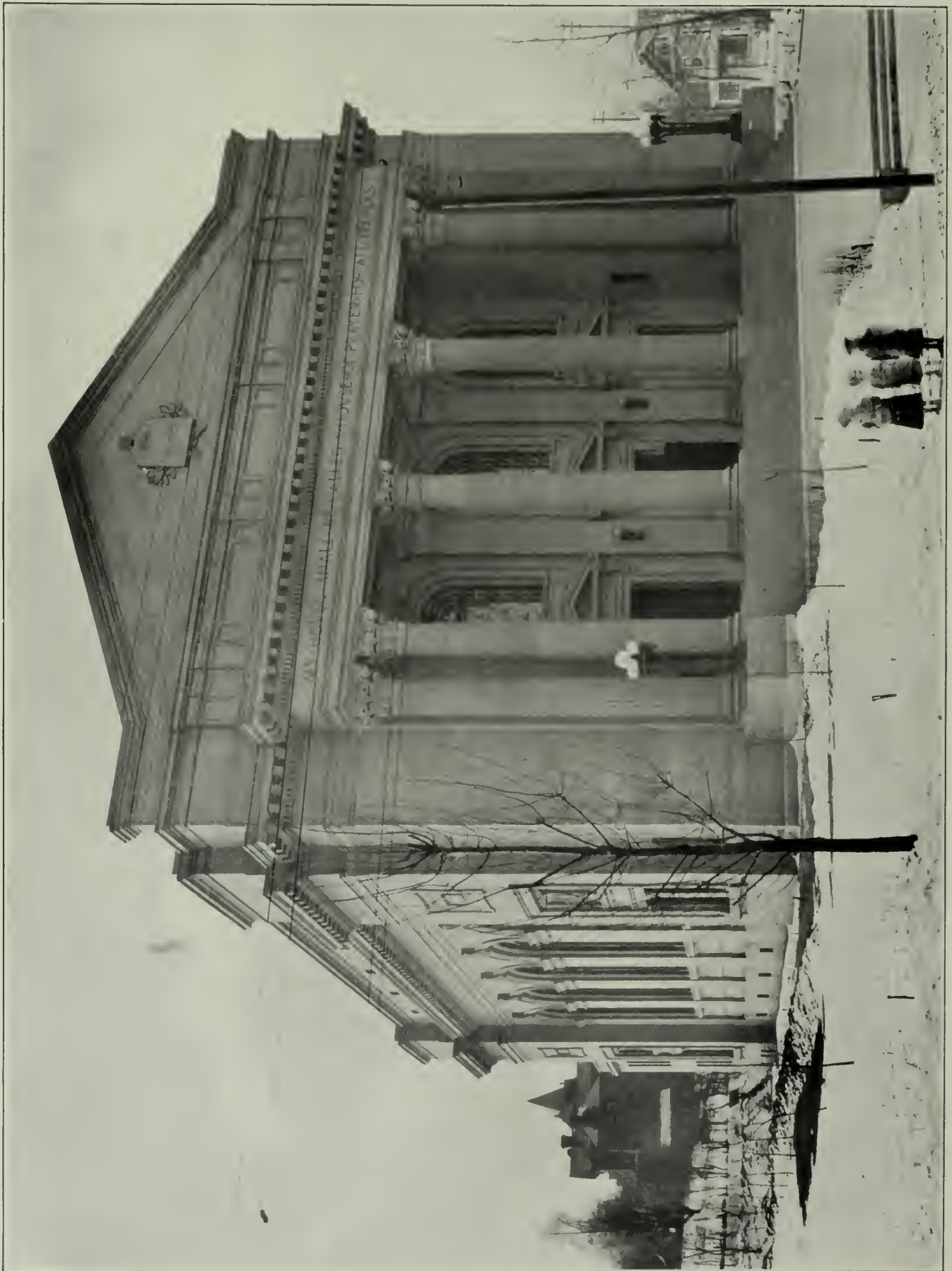
FLOOR PLANS
THE TEMPLE (SYNAGOGUE), ST. PAUL, MINN.
CLARENCE H. JOHNSON, ARCHITECT.





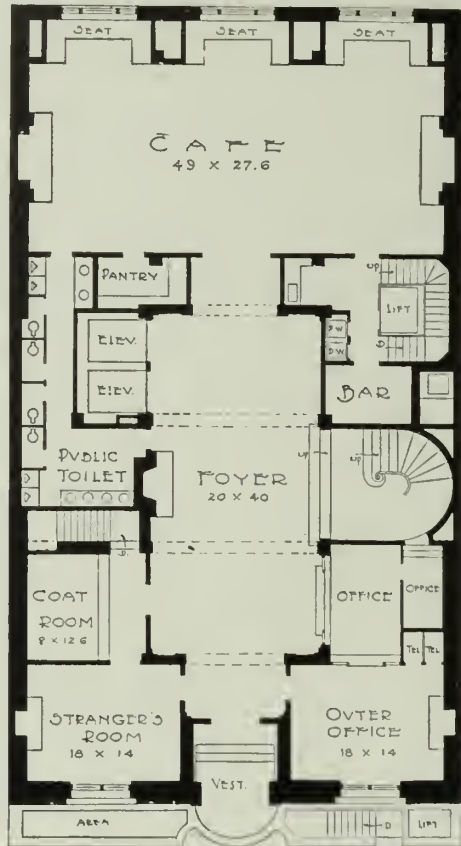
THE TEMPLE (SYNAGOGUE), ST. PAUL, MINN.
CLARENCE H. JOHNSON, ARCHITECT.





TEMPLE (SYNAGOGUE) K. K. BENE ISRAEL, CINCINNATI, OHIO
TETIG & LEE, ARCHITECTS





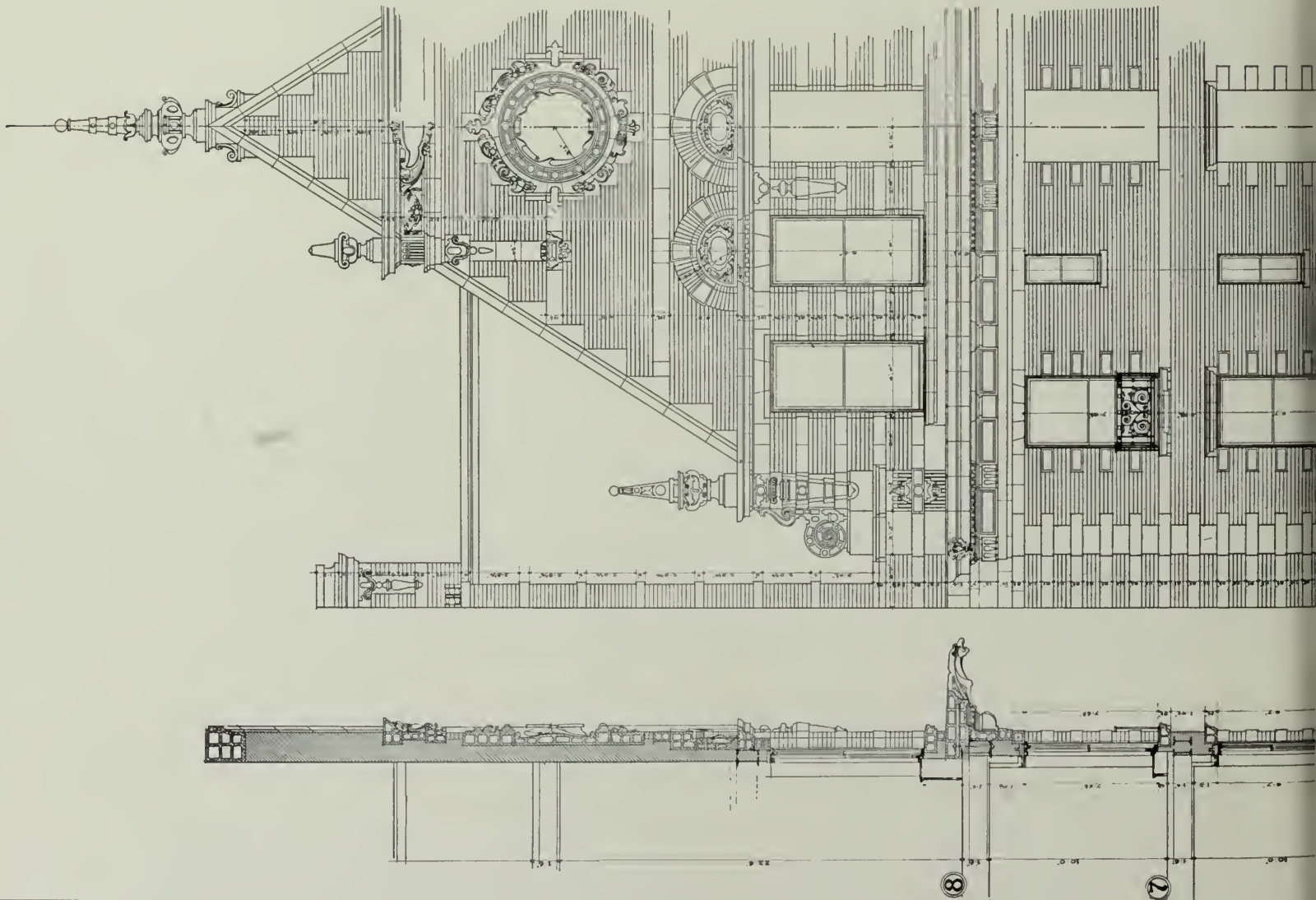
• FIRST FLOOR PLAN •

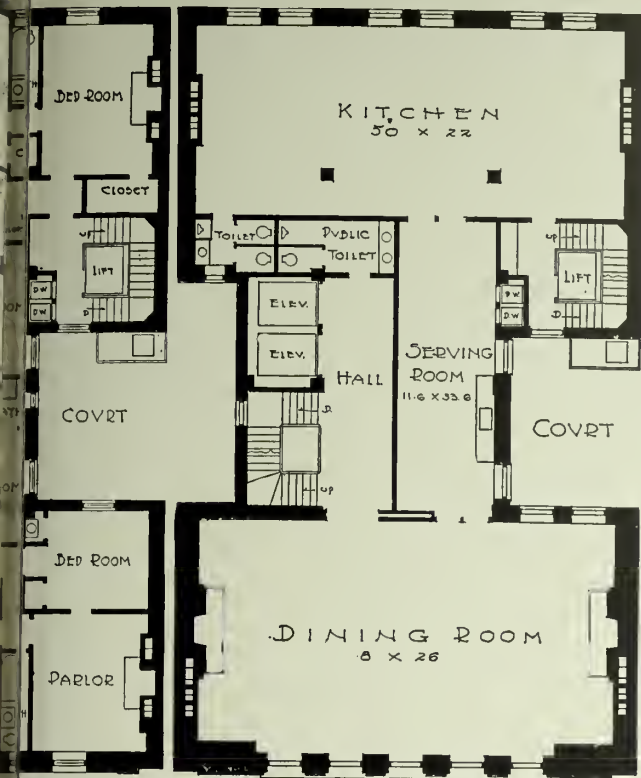


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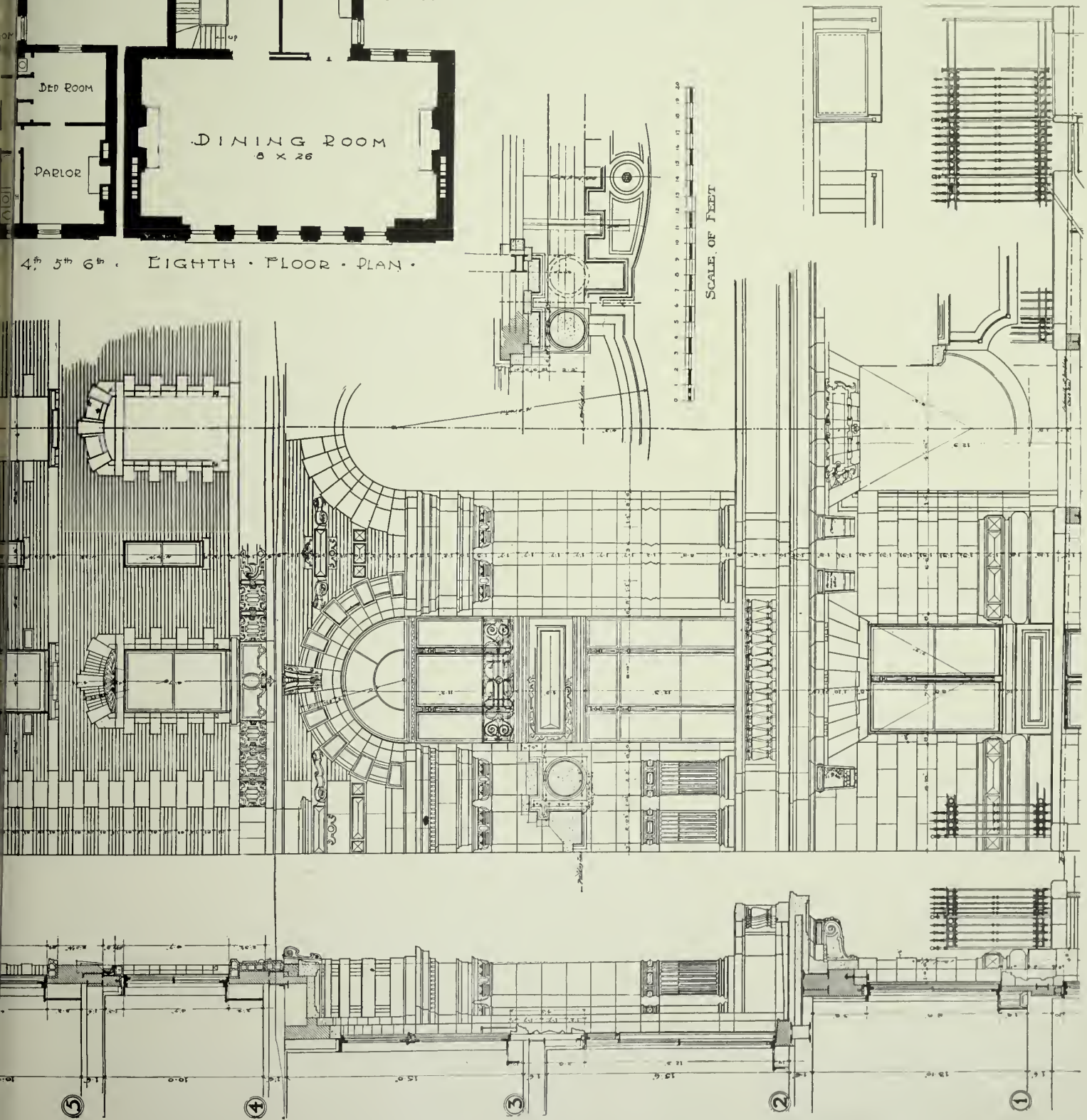


• THIRD FLOOR PLAN •





4th 5th 6th. EIGHTH FLOOR PLAN.



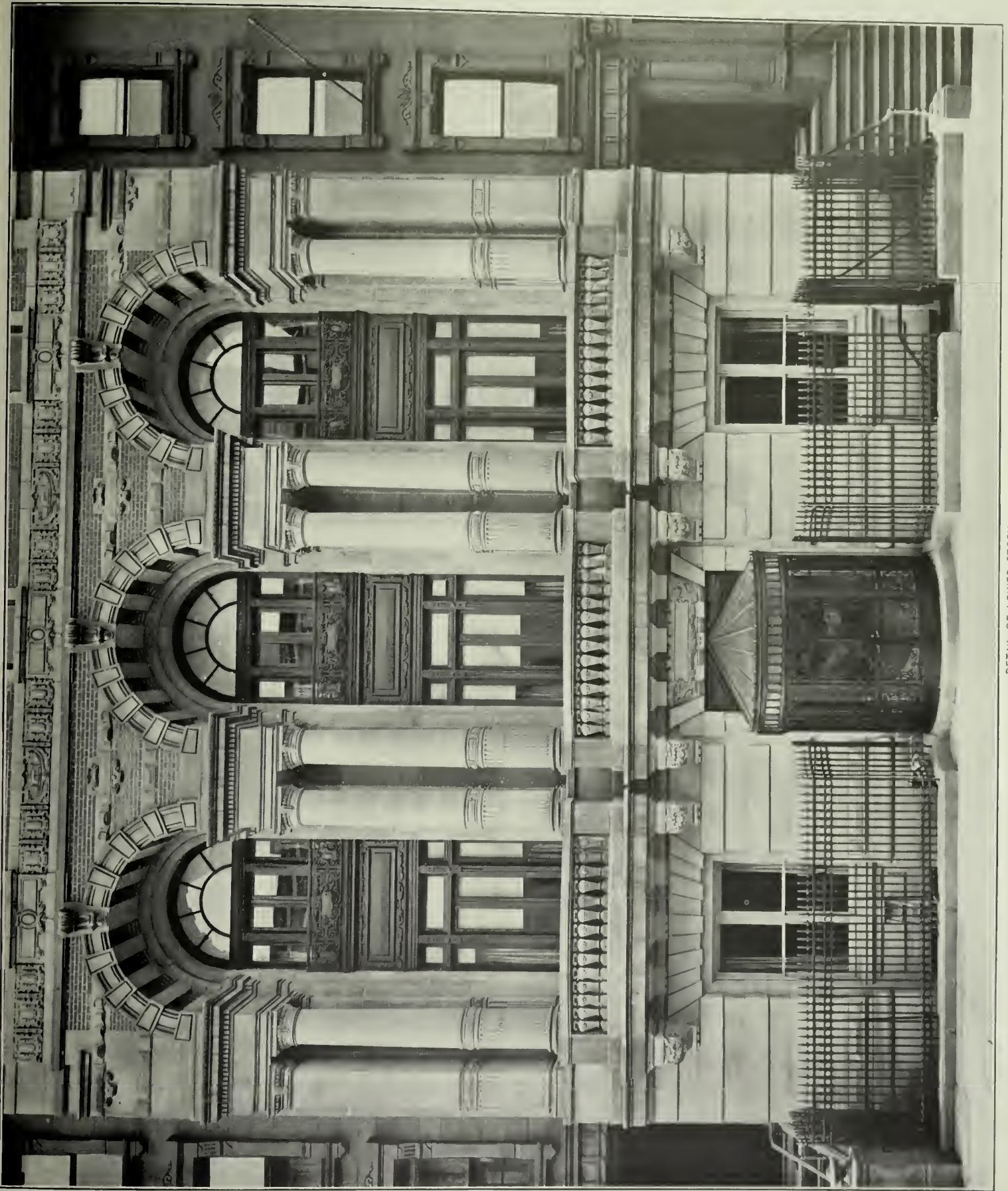
DETAIL OF FRONT OF NEW YORK CLUB, WEST FORTIETH STREET, NEW YORK.
H. J. HARDENBERGH, ARCHITECT.



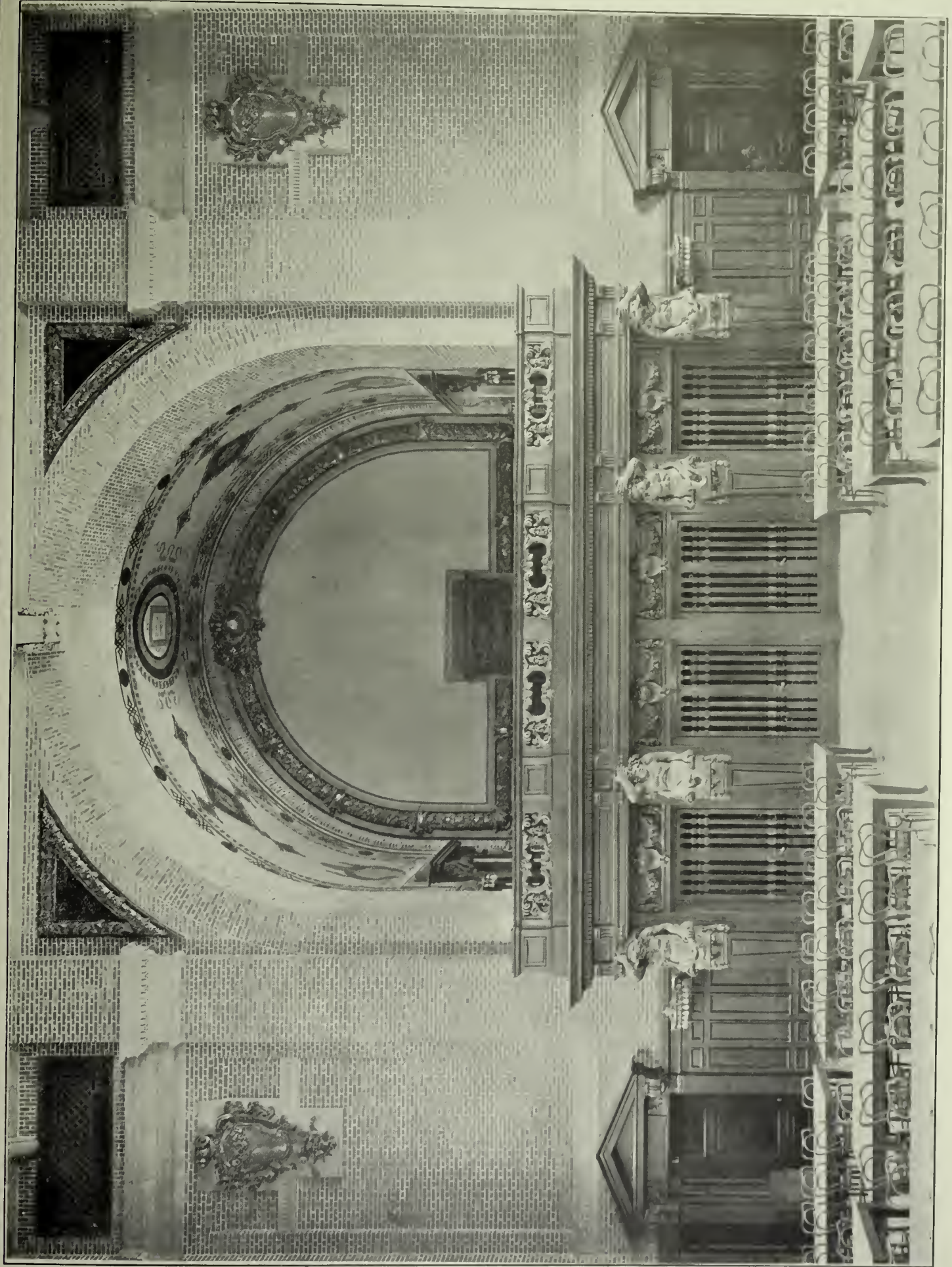




NEW YORK CLUB, WEST FORTIETH STREET, NEW YORK.
H. J. HARDENBERGH, ARCHITECT



DETAIL OF LOWER STORY.
NEW YORK CLUB, WEST FORTIETH STREET, NEW YORK.
H. J. HARDENBERGH, ARCHITECT.



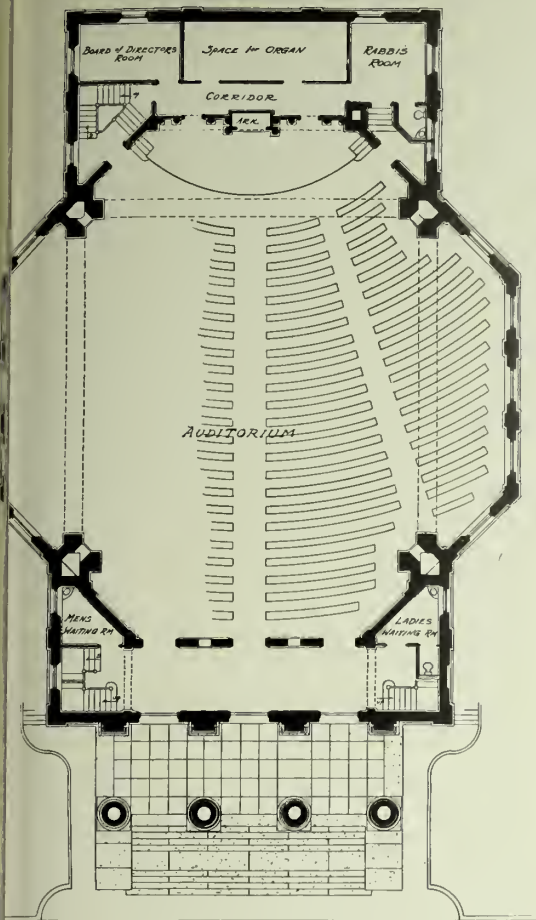
INTERIOR OF DINING-ROOM, MEMORIAL HALL, YALE UNIVERSITY
CARRÈRE & HASTINGS, ARCHITECTS.



SYNAGOGUE AT RICHMOND, VA. NOLAND & BASKERVILLE, ARCHITECTS.



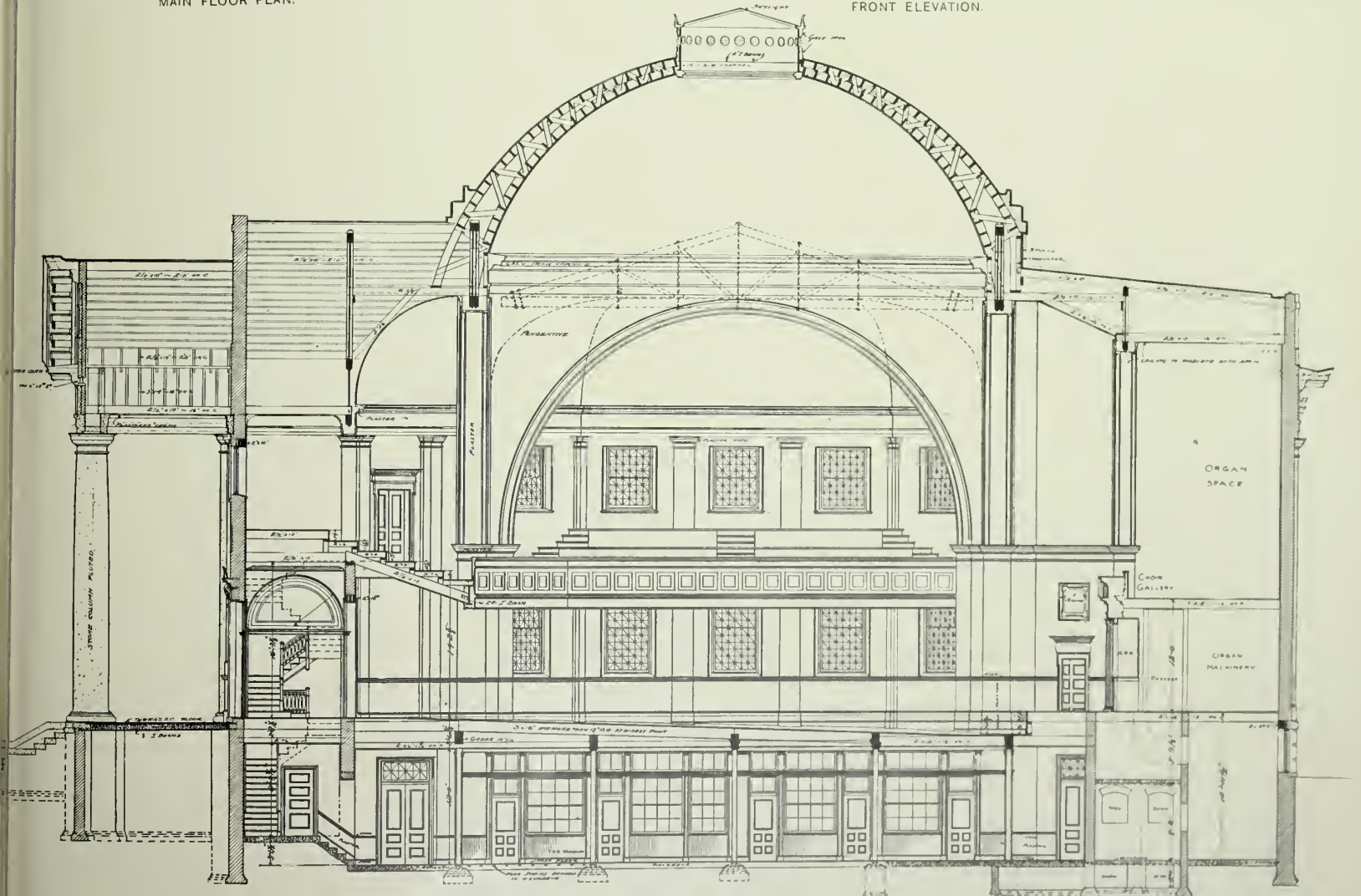
SYNAGOGUE AT NORFOLK, VA. JOHN KEVAN PEEBLES, ARCHITECT.



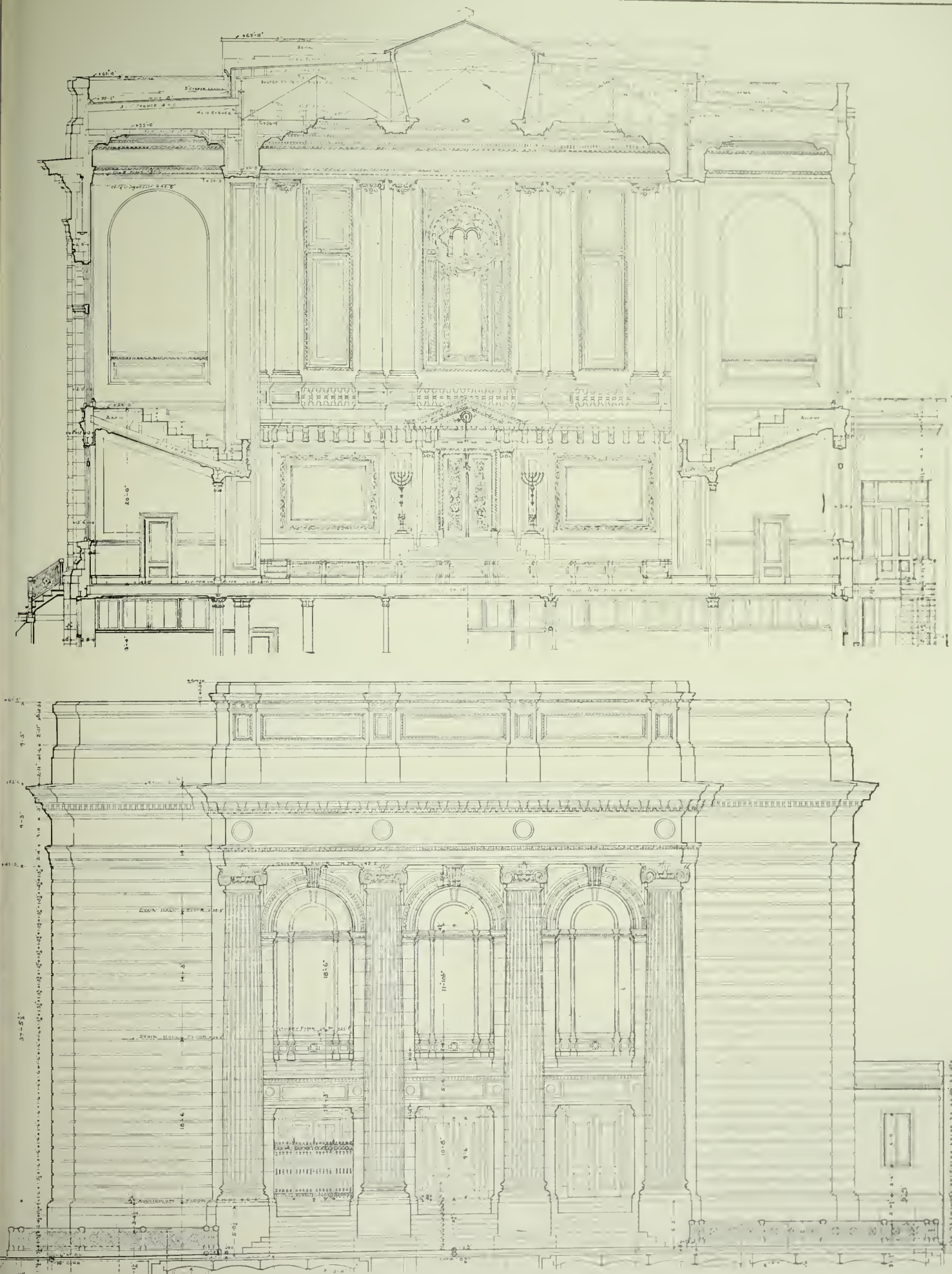
MAIN FLOOR PLAN.



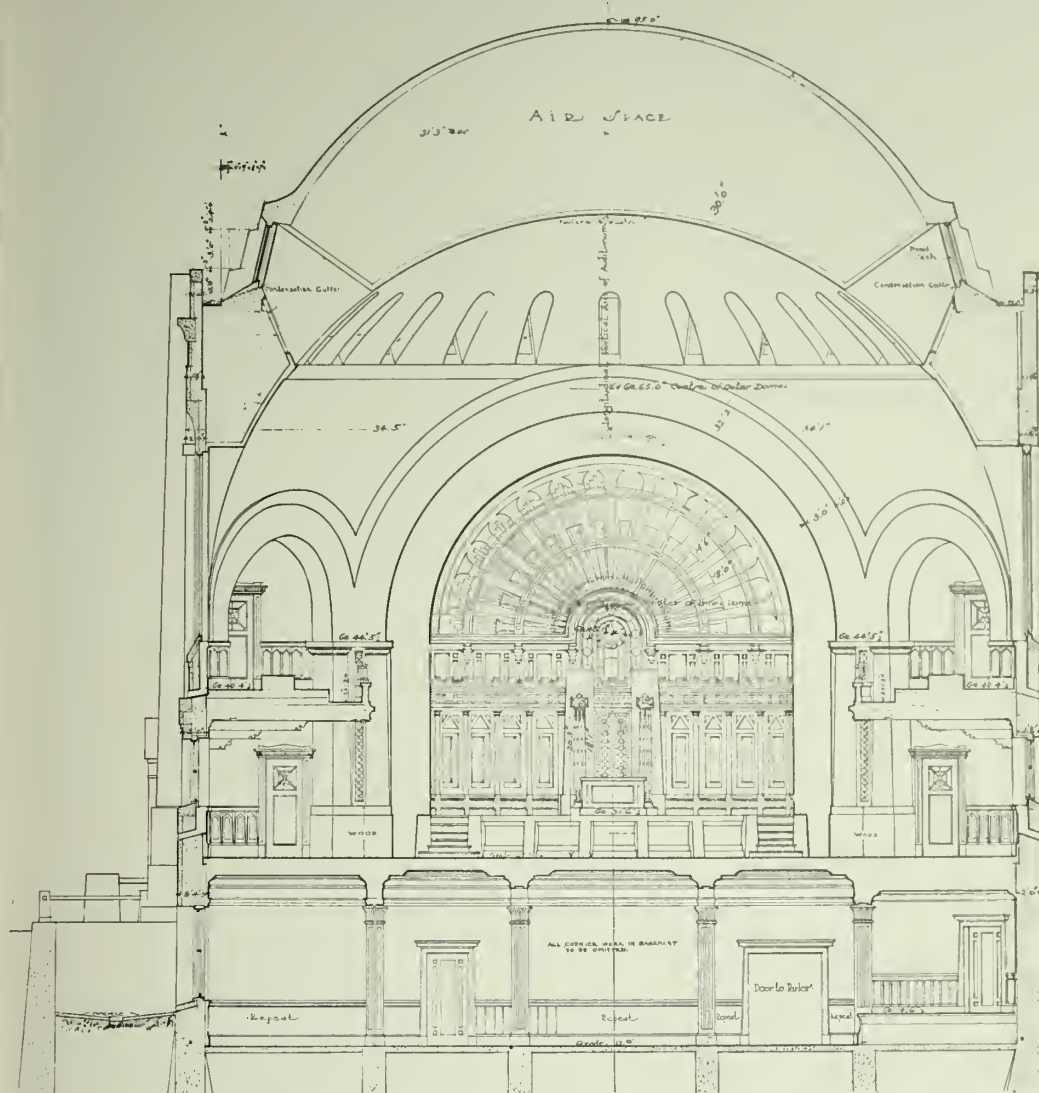
FRONT ELEVATION.



LONGITUDINAL SECTION
SYNAGOGUE AT RICHMOND, VA.
NOLAND & BASKERVILLE, ARCHITECTS



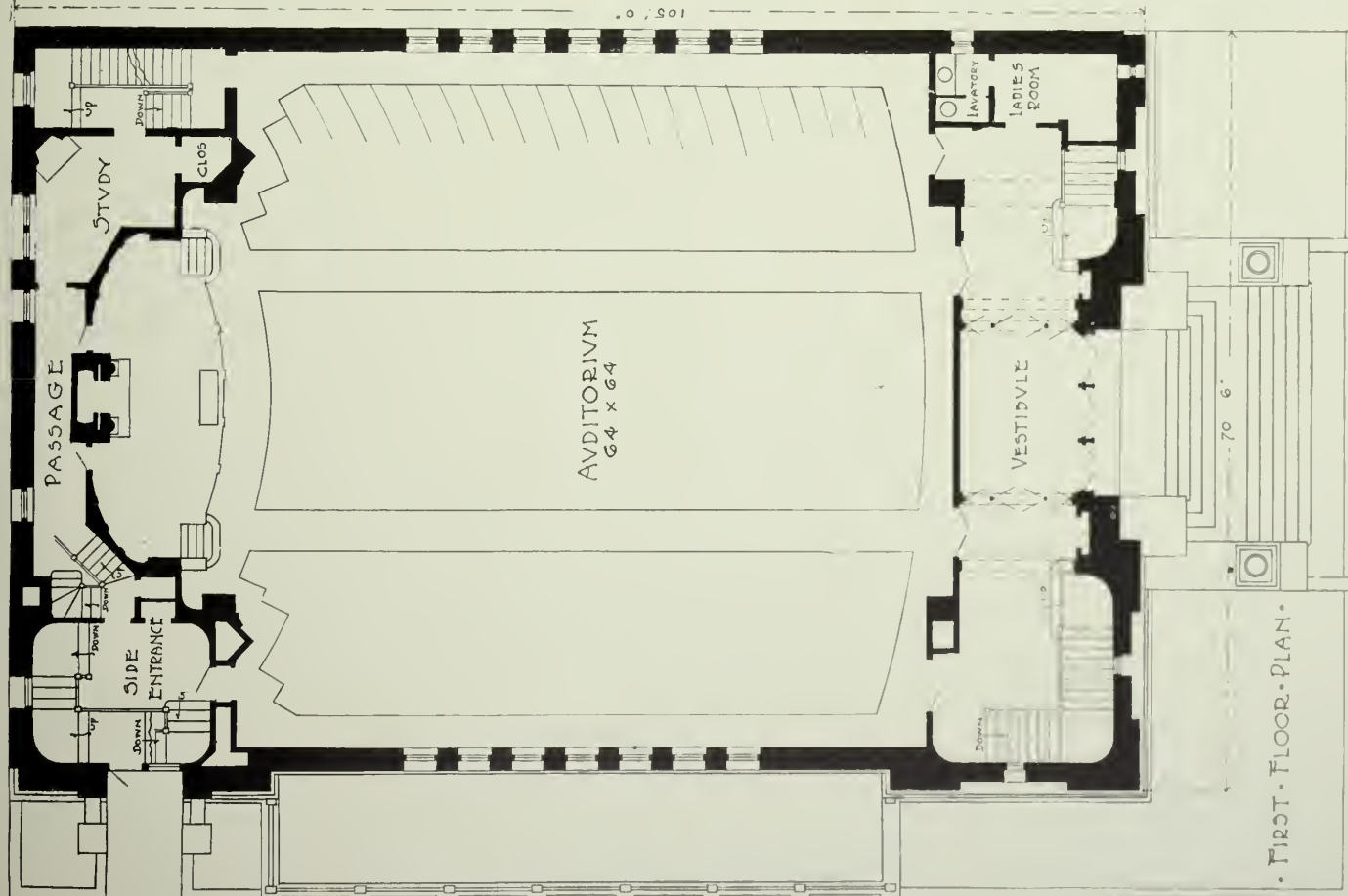
FRONT ELEVATION AND CROSS SECTION.
TEMPLE ISRAEL (SYNAGOGUE), LENOX AVENUE NEW YORK
ARNOLD W. BRUNNER, ARCHITECT.



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▲ PLAN OF MEZZANINE ▲



• FIRST FLOOR PLAN •

*TRANSVERSE SECTION AND PLAN.

TEMPLE ADATH ISRAEL (SYNAGOGUE), BOSTON

C. H. BLACKALL, ARCHITECT



C. H. BLACKALL, ARCHITECT.

THE BRICKBUILDER

VOLUME XVI

APRIL 1907

NUMBER 4

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Brick	III	Roofing Tile	IV

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CONTENTS

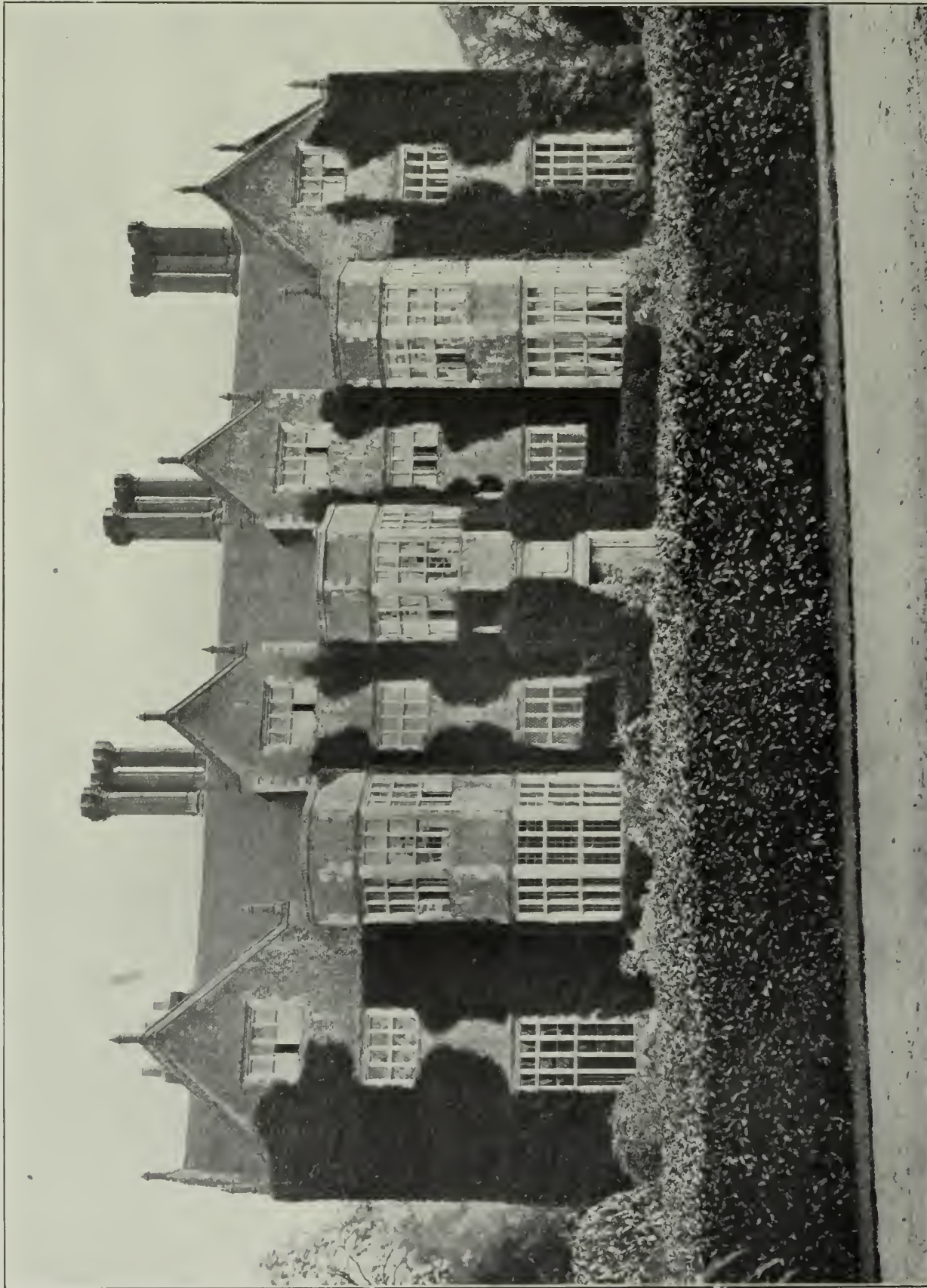
PLATE ILLUSTRATIONS

FROM WORK BY

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LETTERPRESS

	PAGE
MOYNS PARK, THE FRONT, ESSEX, ENGLAND	Frontispiece
EDITORIALS	55
SANATORIA FOR CONSUMPTIVES	56
STRENGTH OF BRICK AND BRICK PIERS	62
A GROUP OF MODERN ENGLISH HOUSES	66
EDITORIAL COMMENT AND SELECTED MISCELLANY	68



MOYNS PARK, THE FRONT, ESSEX, ENGLAND.

THE BRICKVILDER

VOL. 16 NO. 4 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY APRIL 1907

The Final Report on the San Francisco Fire.

THE disaster at San Francisco of a year ago has been exploited so exhaustively in the technical journals that it seems hardly worth while to take up space with new statements regarding the fire, earthquake, or the results of either or both combined, but the final report published in the proceedings of the American Society of Civil Engineers is in some respects of so extraordinary a nature that we can not refrain from certain comments thereon. The statement is made that all the evidence from the recent shock favors reinforced concrete; but this is directly offset by the added statement that "the steel frame offers the best solution of the problem." If a steel frame is better than one of reinforced concrete for the building as a whole, the question of floor construction resolves itself simply into a matter of fireproofing, and later on the emphatic statement is made that "concrete floors generally had hung ceilings and *where* thus protected were uninjured. Where exposed, the concrete was in most cases destroyed, as in the Sloan, Rialto and Aronson buildings and the Crocker warehouse. The concrete in these cases was dry and while in many cases hard, it was virtually destroyed." We fail to see why, under such circumstances, the report is not virtually a condemnation of concrete as a fireproof material, after a general condemnation of it for reinforced work; and though the report cites instances where the terra cotta failed to maintain itself intact, the explanation always follows that it was of a hard, dense type, quite brittle when exposed to heat, but that even then the terra cotta answered its purpose as "the steel frames were the least injured of any part of the various structures."

With one part of the report we are thoroughly in accord. "A logical deduction from the statement that all materials were destroyed is the conclusion that all structural parts of a building, of whatever material constructed, must be protected by another material which will be a more or less complete loss in a fire. This applies to a steel frame, to floors of any type and to roofs. It is impossible to protect some parts such as fronts, partitions and other parts directly exposed. The floors and frame constitute the structural parts, failure of which means destruction of the building. All such should be fireproofed. This remark applies with equal force to buildings with reinforced-concrete columns, girders, beams and floors. As integral structural parts they

should be fireproofed as well as similar members of a steel-frame structure, *for concrete is destroyed by fire nearly as quickly as steel.*"

Accepting this statement, we can hardly agree with the deduction made by the Society that terra cotta is the least valuable of all the materials that are used for fireproofing. In a conflagration where everything goes to pieces, even when built with care, which was certainly not always the case in San Francisco, where the terra cotta used was not of the grade which is considered the best for fire protection, and where every form of column and beam protection is first rudely shattered by earthquake shocks, and then in its loosened condition exposed to the most destructive influence of a conflagration, the wonder is not that concrete and terra cotta both suffered, but that anything was left to tell the tale.

We cannot read a description of the results of the fire, even as presented by this report of the Society of Civil Engineers, without a conviction which seems to be supported by the fact that concrete in most cases was shattered beyond repair and almost totally destroyed by fire, leaving, in many cases, the columns entirely bare; while terra cotta, because of its very elasticity, suffered less initial damage and was finally able to resist the fire more completely. It would be manifestly abortive to establish any comparison between the poorest terra cotta and the best concrete, and yet that seems to be the attitude which is taken by many of the investigators who have studied San Francisco. In no other one city has concrete been used so extensively and with so free a hand, and in the light of Mr. Stewart's figures, which we print elsewhere, we can feel drawn to only one conclusion: any material would be wrecked by combined earthquake and fire; and, when dependence is placed entirely upon an unprotected constructive material, the building is sure to fail throughout, so that the proper construction would seem to be a well designed and thoroughly braced steel frame protected by and filled in between with the material which suffers least by the direct action of fire, and that material is unquestionably burnt clay in some of its various forms. The report emphasizes this when it states further that "for columns, the fireproofing that will stand up best is red brick set in Portland cement mortar." *Terra cotta, when properly constructed and applied, will resist more heat than red brick.*

Sanatoria for Consumptives.

At a meeting of The Architectural Association, held recently in London, Mr. Edwin T. Hall, a member, who had made a very thorough study of sanatoria for consumptives in England and on the Continent, submitted a paper upon that subject which was illustrated

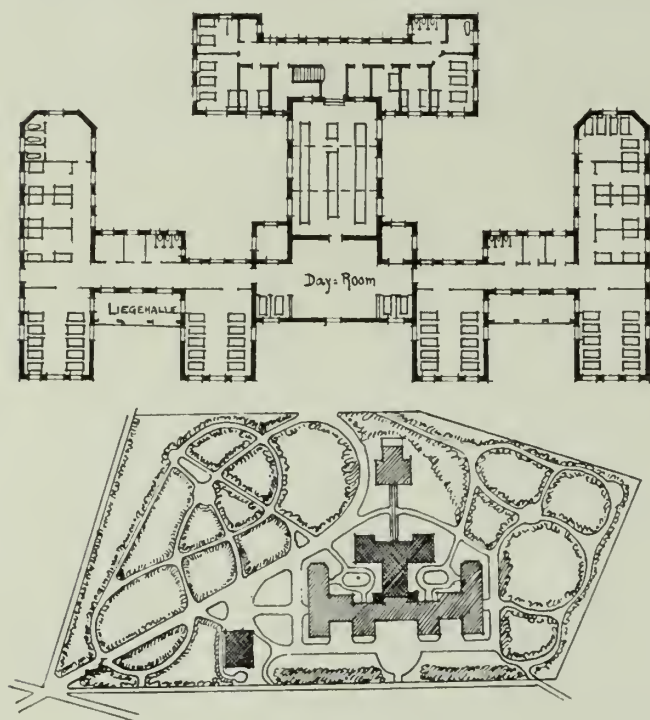


FIG. 1. SANATORIUM, ALBERTSBERG, GERMANY.

by a large number of plans, of which those given in this issue are a representative selection.

It was pointed out that Germany had given first attention to the provision of such buildings, and, as a result, hospitals and sanatoria were to be found all over the German Empire.

Before proceeding to deal in detail with the plans illustrated, Mr. Hall made some preliminary remarks in regard to sites and types of buildings. In practically all the cases which he illustrated the sites selected had open prospects (broadly speaking toward the south), with shelter from the north, and with extensive areas for exercise: in other words, dry sites at bracing altitudes, aspects with the maximum of sunlight for patients' rooms, protection from chilling winds and sleet, and open-air living, were regarded as essentials for the reinvigoration of the invalid, while broad prospects were mentally stimulating, widening the interests in life and inculcating hope in the future. Pine woods as a screen were much appreciated for their exhilarating resinous aroma, and the sandy soil on which they thrived was considered the best on which a sanatorium could be situated.

EVOLUTION OF TYPES. — The earliest sanatoria were ordinary houses. Given the essential requisites of location, all that was sought was a place in which patients could sleep: disciplinary treatment was relied upon for the rest. A reputation for the cure being once established, buildings became larger as demands for accom-

modation increased, and many houses grew into hotels. Gradually the development of the sanatorium has led to a type with a corridor on the north and rooms on one side only.

Another branch of development has been the aggregation of small houses, first by the natural process of the acquisition of adjacent buildings, and later by a deliberate scheme of constructing small houses on the village principle, with central administrative buildings.

A third type is the large hospital with wide verandas on the south side of wards, where the open-air treatment is practiced by placing couches on the verandas, and on these the patients are reclined for eight or ten hours a day. Another ramification of the same idea, even with buildings specially erected as sanatoria, has been the construction of what in Germany are called, *liegehallen*, or reclining halls. These are generally one, but sometimes two-storied verandas enclosed on three sides, and open to the south; sometimes attached to, but often entirely separated from, the building proper. They are very general in Germany. Most of these buildings on the Continent are of three or more stories in height, as though the military idea of a barrack were the motive of the design adopted, and as experience taught the managers that the patient must come out of his nightly domicile, and could not be going constantly up and down stairs, provision had to be, and was, made for his resting during the day in shelters in the open air.

Hospitals are necessary for any advanced stages of consumption, but sanatoria are more particularly intended

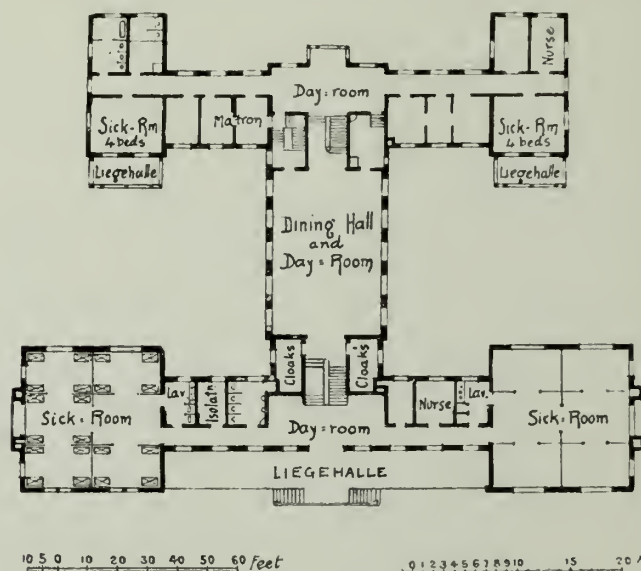


FIG. 2. EDMUNDSTHAL SANATORIUM, HAMBURG.

for, and are more successful with, early-stage cases of pulmonary tuberculosis. While, therefore, a hospital of three or four stories might be justified where sites were limited or concentration was considered imperative, sanatoria were better of one or two stories with verandas on the ground floor, and with such a type Mr. Hall considered *liegehallen* to be unnecessary.

He believed, too, that the medical view is gradually

coming to regard the treatment of keeping these patients lying down for many hours at a time as prejudicial to any permanent recovery and conducive to idle habits, and is in favor of regular and regulated exercise and employment, as in every way — physically and morally — better for the patient, and as educating him to become a more useful member of the community. The results obtained on these lines in the Brompton Hospital Sanatorium at Frimley, England, are most satisfactory.

From the sanitary building

permanent sanatorium, but the two cannot be fairly compared. It would be as reasonable to compare the cost of a soldier's camp of tents or huts with that of a depot barrack — the one is temporary, the other permanent.

The wood hut is primitive, and although medical skill may in any given individual case produce as good results in the one institution as in the other, the essential difference remains so far as buildings are concerned.

ESSENTIAL DETAILS.—Two essential details in design are

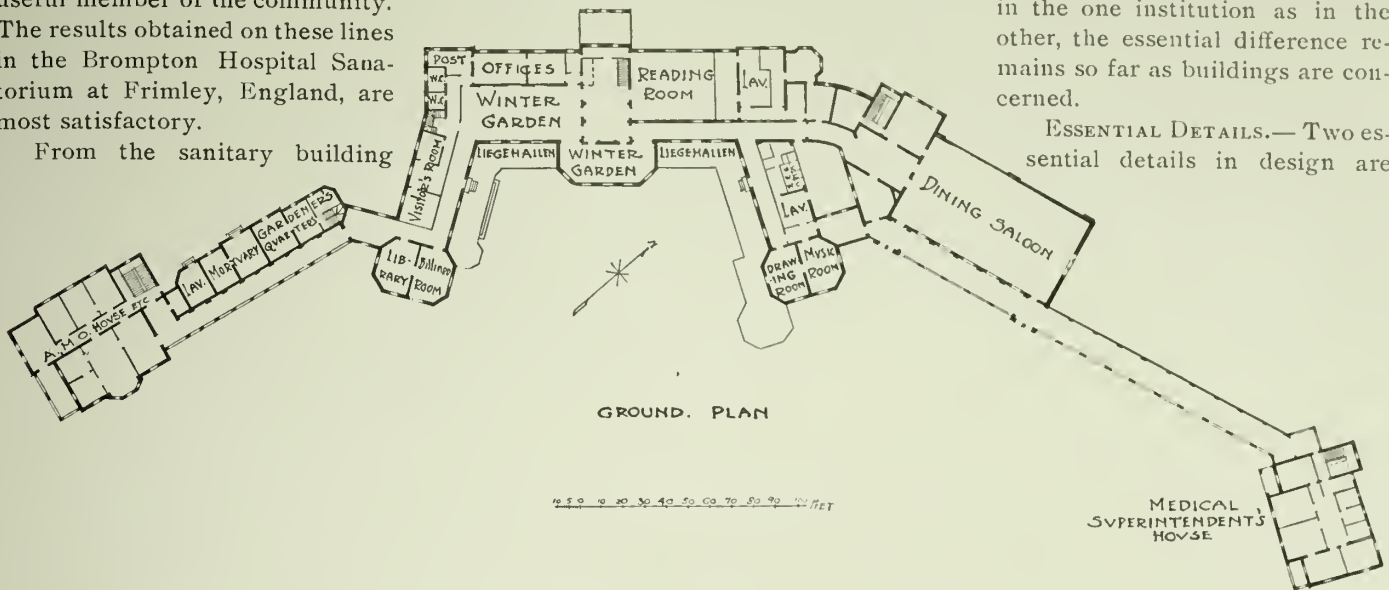


FIG. 3. SANATORIUM, FALKENSTEIN, NEAR FRANKFORT.

point of view, Mr. Hall said the long central corridor with rooms on both sides was not to be commended for patients, and even with one corridor sanitarians recommended that there should be ample windows in the outer wall of the corridor, with corresponding openings in the walls of the rooms, so that air might blow right through.

MERITS OF BUILDINGS OF ONE AND TWO STORIES.—Of the relative merits of one and two-storied buildings this much may be said: the one-story is the easier and better for patients; the two-storied, in a large institution, gives better concentration for the staff. The former in a

(1) that all windows or other openings shall be carried up to the ceiling, so that all parts of the rooms and corridors may be scoured with fresh air; (2) sanitary apparatus should be external to the building.

It is considered that, with such provision, a minimum of 1,000 cubic feet for a single-bed ward was sufficient, and 9 feet to 10 feet ample height in such wards. Single-bed wards should be the rule, but two and three-bed wards were useful. In a hospital where all kinds of cases were taken the case was different, and in these, wards of eight to twenty beds were found.

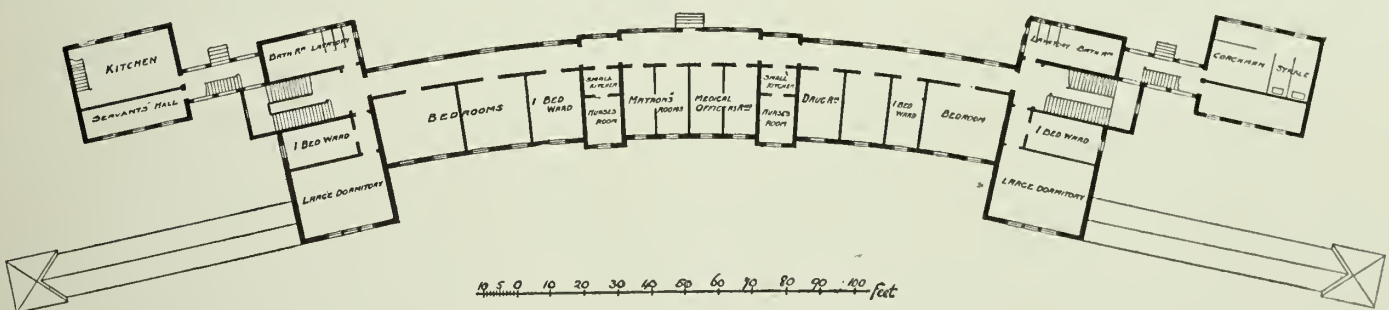


FIG. 4. SANATORIUM, RUPPERTSHAIN, NEAR KÖNIGSTEIN, GERMANY.

permanent building is the more expensive when foundations, roofs and sanitary apparatus are taken into account.

COTTAGE AND CHÂLET TYPES.—There are many advocates of the cottage type of sanatoria as tending to greater classification, but that is an argument only of weight where other than first-stage cases are dealt with. The cottage has its advantages for paying patients, because greater privacy can thus be secured.

Much is heard, too, of the chalet type, or wood hut for a single patient, and its trifling cost as compared with a

Floors should not be laid direct on the ground, but should have a ventilated space beneath.

In rooms where windows are practically always open, no ventilating flues are necessary.

VARIETIES OF PLAN.—In the designs exhibited there were great varieties of plan. Some buildings were straight; some T-shaped; some crescents; some like an inverted U, the center straight, the arms opened out at angles from about 110° to 160° ; some cruciform. For moderate-sized sanatoria, say under fifty beds, preference should be given to the open U plan. Care should be taken

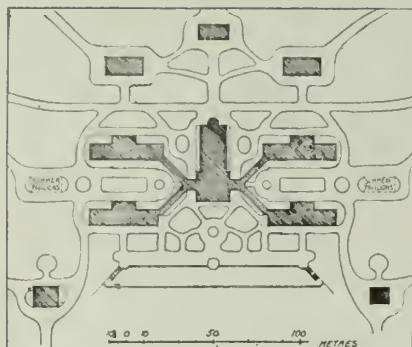


FIG. 5. BLOCK PLAN,
OSTERASSENS SANATORIUM, SWEDEN.

Mr. Hall then proceeded to describe the various sanatoria which he had examined.

GERMAN SANATORIA.

BEELITZ, near Berlin. — A large scheme, consisting of twenty main buildings and many smaller ones. The main pavilions are two-storied, E-shaped and patients' rooms mostly face south. Present accommodation, 308 patients.

BELSIG, near Berlin. — A long two-storied building with axis east and west, the center being recessed, the whole forming an interesting and picturesque group. Accommodation, 125 patients.

BADENWEILER. — Four-storied, and on plan an inverted T, the base, with east and west axis, containing the patients' bedrooms, and the perpendicular block containing the public rooms, etc.

MESCHEDE. — Again a four-storied building with other rooms in the roof. On plan it is a crescent with southern aspect. Accommodation, 114 patients.

ALBERSTSBURG. — A large building with a main corridor running east and west, with pavilions at right angles, those on the south side forming single wards of ten beds, each lighted on three sides, with *liegehallen* between them (Fig. 1). Those on the north side face east and west respectively, and contain on one floor six wards of three beds each, and one at the northeast of six beds. The public rooms are in the center, the dining-room connecting the main building to another parallel block at the rear. Accommodation, 121 patients.

EDMUNDSTHAL. — The main building for men (Fig. 2) is roughly H-shaped, the front block having two end pavilions, with windows on three sides, for twenty beds each, connected by a corridor having a *liegehalle* on its south side. A large central dining hall connects this block to a parallel one at the rear, in which are four-bed wards with their own balconies. There are other pavilions for women and children.

SCHREIBERSHAW. — Again a lofty building, the rooms in the center being in single file, those in the side blocks being in double file with a central corridor.

MELSUNGEN. — Another lofty block, forming a very flat crescent, with center *liegehalle* on the upper floor and large dining hall behind.

not to put too large a number of patients in one block or pavilion, because of the danger from a large fire. If the building were more than one story in height, there should be, as far as practicable, no way by which the vitiated air of the lower story might ascend to the upper one.

FALKENSTEIN, near Frankfurt. — Four stories high. The nucleus of this sanatorium was a large private house, and its kitchens and offices are in the basement. Its plan (Fig. 3) has the public rooms in the center, with an east and west axis, and two wings with axis south-south-east and south-south-west. It will be seen that there is a central corridor with some bedrooms facing west, north-west and east-north-east. Accommodation, 120 paying patients of either sex, with seventy single and twenty-five two-bed rooms.

RUPPERTSHAHN, near Königstein. — Three stories in height, the main building crescent on plan (Fig. 4). It contains one hundred and twenty-two patients' beds, all

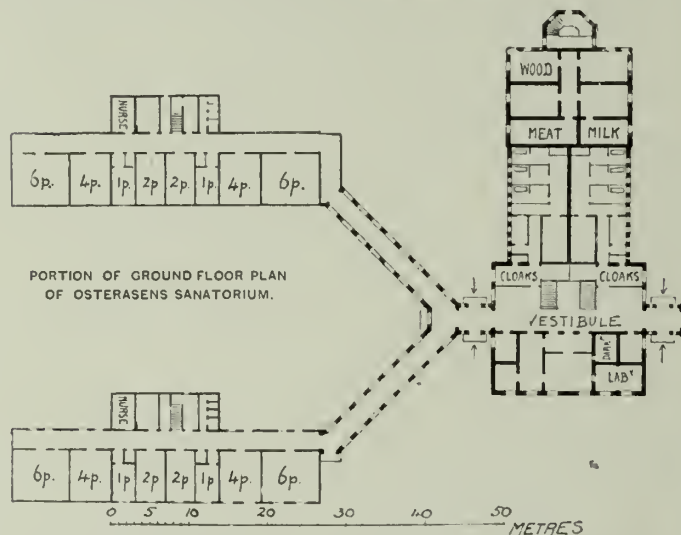


FIG. 6. FIRST FLOOR PLAN, SANATORIUM,
HALAHULTS KRONOPARK, SWEDEN.

facing towards south — ninety beds for men, thirty-two for women. There are six six-bed wards, seventeen four-bed and eighteen one-bed wards, all in single file south of a well-ventilated corridor. Its annex has further accommodation.

THE VOLKSHEILSTATTE KRAILING, near Planegg, Bavaria. — Accommodation, 120 patients. This sanatorium has a central block with east and west axis and two wings with east-south-east and south-south-west axis. There are thirteen single-bed wards, fourteen of two beds, six of three beds, two of four beds, six of five beds, and two of six beds, but more beds are occasionally used to accommodate the maximum number. Well planned.

HARLACHING, near Munich. A large hospital for 212 patients. There are six wards of twenty beds, six of twelve, and some with single beds. It is E shaped on plan, with the axis of the main block east and west, the arms north and south. In the main block, the long wards are lighted from north and south, but the south side is shaded by balconies or *liegehallen* of solid masonry, 12 feet wide.

This hospital is not exclusively for consumption.

It will be noted in most of these German sanatoria that the sanitary arrangements are most imperfect. Frequently, water-closets are in the heart of the building, in some cases three

being in one room, lighted and ventilated by only one window, and having a door of access to the main passage. Sinks and lavatories are as badly placed.

SWISS SANATORIA.

There are many sanatoria in Switzerland, but only that of Schatzalke is notable — a long parallelogram of four stories, with a central corridor from end to end. The principal floor is largely appropriated to the public rooms.

SWEDISH SANATORIA.

STOCKHOLM. — A large consumption hospital, designed ultimately to consist of 18 blocks of buildings, containing in all twelve hundred and forty-eight beds. There are three principal buildings, containing three hundred and eighty-four beds in each, in groups of eight to a ward. All wards are in single file, the corridor behind being wide and well ventilated. There are three stair-cases and there is a cloak-room on the ground floor, a very useful accessory. In another building there are forty beds, in wards of two beds each. Two summer pavilions have twenty-eight beds in each.

OSTERASENS (Fig. 5). — This sanatorium consists of one group of buildings, containing one hundred and four patients' beds. In the center is the administration, connected by four bifurcating arms to four parallel pavilions of one story each, containing two six-bed, two four-bed, two two-bed, and two one-bed wards. The defect of this plan was that the rear blocks looked on to the back of the front ones.

HALAHULTS KRONOPARK (Fig. 6). — It contains on three floors one hundred and two patients' beds, with a central administration, having its axis north and south, and two wings facing south-east and south-west — one for men, the other for women. There are eighteen four-bed

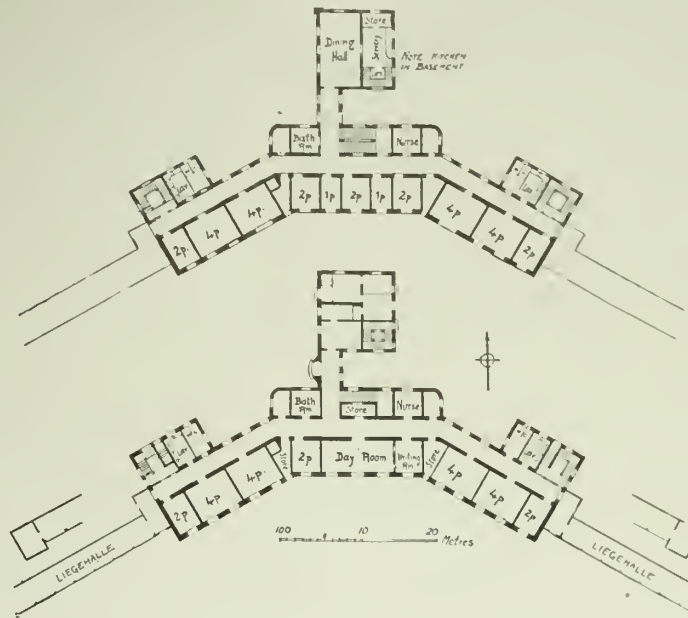


FIG. 7. A SWEDISH FIFTY-BED SANATORIUM.

wards, the others being for two beds and one bed each. In addition to this main building, there are seven others, including two summer pavilions grouped around the first and largest.

DESIGN FOR A FIFTY-BED PAVILION (Fig. 7). — This has a central block, with axis east and west, and patients' rooms in wings having their axes east-south-east and west-south-west, a type corresponding to that of Planegg, with *liegehallen* beyond the wings. This has eight four-bed wards, eight two-bed, and two one-bed wards.

DUTCH SANATORIA.

ORANJE-NASSAUS OORD. —

A semi-circle on plan (Fig. 8), with rooms in single file and *liegehallen* at intervals, forming a part of the design. It provides accommodation for patients on two stories, the wards facing south, east and west. There are excellent public rooms, the dining-room having windows on all sides.

HOOG-LAREN. — A sanatorium for the city of Amsterdam. The building (of which the ground and first floors are shown in Figs. 9 and 10) is straight with a central corridor. The ground floor contains the administration and the patients' recreation rooms. The first floor contains eight single-bed wards, two four-bed wards, two six-bed wards, and two isolation wards of single beds opening on to a central balcony. The dining saloon and offices are at the rear, and a corridor connects the two blocks.

FRENCH SANATORIA.

ANGICOURT (Oise) (Fig. 11). — This sanatorium is in three hundred and twenty acres of grounds, and when completed will have three hundred and twenty-eight beds in two patients' blocks. It will be seen that it differs in plan from any of the others. It is, from a hygienic point of view, admirable in arrangement. Some of the administrative buildings lie on an axis north and south. To the right and left, near the northern end, are two others, while right and left of the southern end are the detached patients' buildings. Each

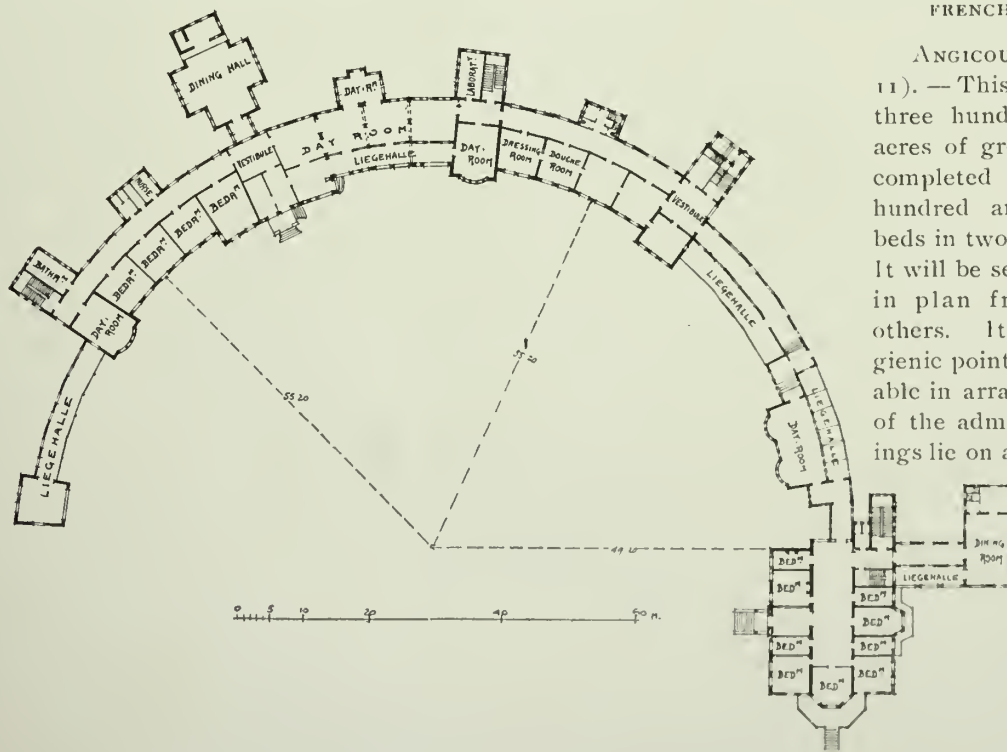


FIG. 8. SANATORIUM, ORANJE-NASSAUS, HOLLAND.

of these has a base west, and wings south-east and south-west. Each block contains one hundred and sixty-four of eight beds, twelve of three and eight of two beds. On the ground floor a *galerie de patient* of the German type surrounds all around the sides of the enclosure.

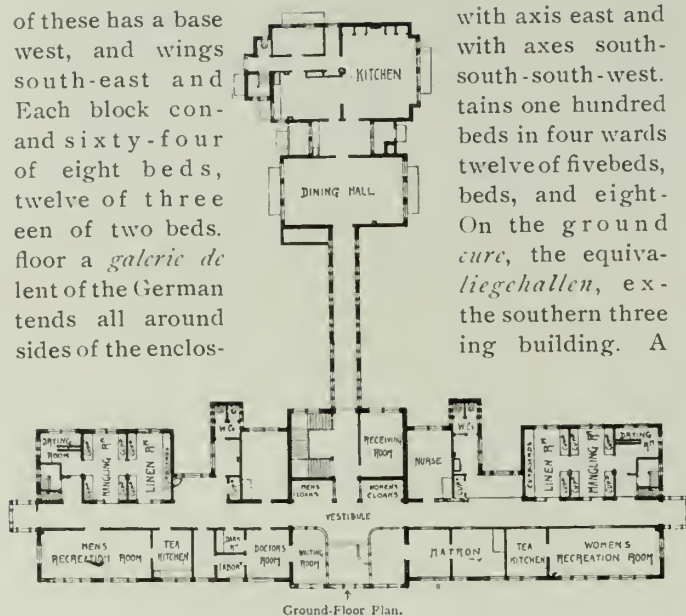


FIG. 9. GROUND FLOOR PLAN.

with axis east and with axes south-south-east and south-south-west. It contains one hundred beds in four wards, twelve of five beds, eight of three beds, and eight of two beds. On the ground floor, the equivalent of the *galerie de patient*, extends along the southern three sides of the building. A

Hospital, for the poor. It is a central block, having its axis east and west, containing administrative offices, twelve beds for special attention, radial pavilions, twenty-two patients' beds. Mr. Hall said that so aware, this is the type. Every

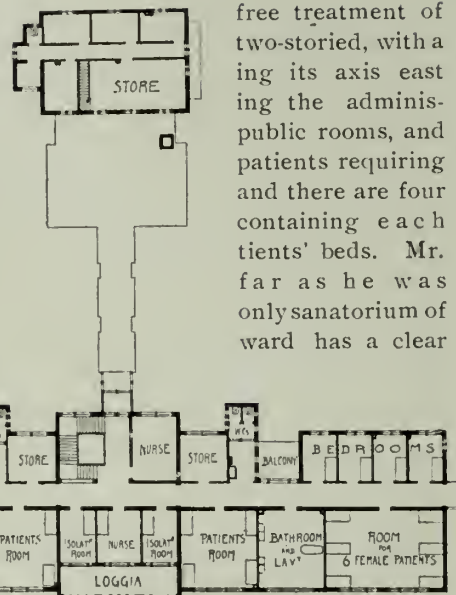


FIG. 10. FIRST FLOOR PLAN.

SANATORIUM, HOOGLAREN, AMSTERDAM.

glass corridor connects the building to the dining hall.

HAUTEVILLE (Ain). — A sanatorium for the city of Lyons. It is on a site having an altitude of three thousand feet, and contains one hundred and ten beds in three blocks of buildings (two stories high, with a basement), disposed on an arc of a circle open to the south-west. The wards are of one, two and three beds each. The baths, laundry, disinfectant, kitchens and dining-rooms are in the basement — a scheme which is considered to be open to grave objection.

MONTIGNY - EN - OSTREVENT (NORD). — Designed by Professor Calmote, of the Pasteur Institute. It is of the cottage type, consisting of a series of pavilions or houses, each for two families, one of whose members is suffering from tuberculosis. Another block is for contagious cases, and there are laboratories, etc.

ENGLISH SANATORIA.

In England there are three sanatoria of one hundred beds each, which Mr. Hall mentioned in chronological order.

"HEATHERSIDE," FRIMLEY, Surrey (Fig. 12). — This belongs to and was built (from designs by Mr. Hall) at the cost of the Brompton Consumption

and undisturbed view of the open country, all being in single file, facing south, south-south-east, or south-south-west, with corridors on the northern side, and windows in walls and partitions for through currents of air.

The wards are forty-eight of one bed, eight of two beds, and twelve of three beds. The sanitary apparatus is all in detached towers. To the north of the patients' building are grouped the administrative buildings and recreation hall, and it has been sought to give all these the maximum of sunlight and air.

NORTHWOOD (Middlesex). — This provides for one hundred and fourteen patients, fifty-seven of each sex, and there are ten beds in most of the wards, but there are twelve single-bed wards. Its plan of the main building has a small base, having east and west axis, for offices, and two wings two stories high, east-south-east and west-south-west with a wide paved terrace on the south. The administration is to the north.

THE KING'S SANATORIUM, MIDHURST. — This contains one hundred single-bed wards in one large building, three stories in height in the center, and two stories in the wings. All the rooms are in single file

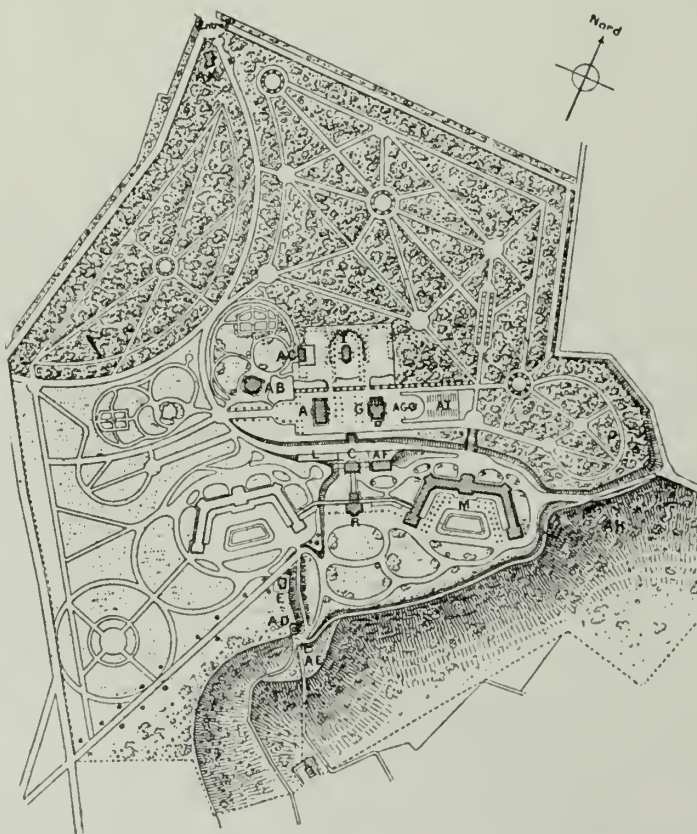
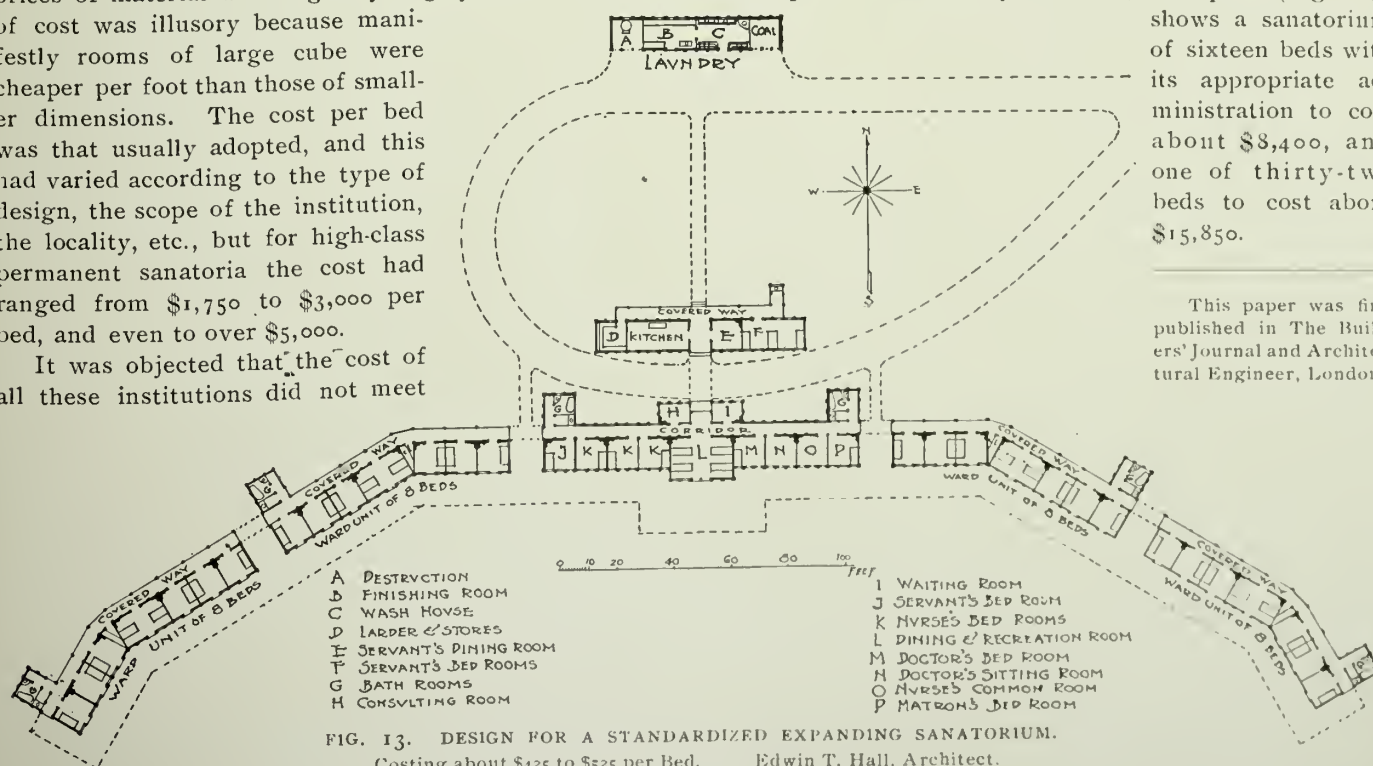


FIG. 11. SANATORIUM, ANGICOURT, FRANCE.

A, Administration; G, Wash House; AG, Reservoir; AI, Drying Ground; AB, Doctor's House; AC, Stable; I, Mortuary; L, Workshop; C, Kitchen; AF, Engine House; R, Dining Hall; M, Patients' Building (164 Beds); E, Staff; AD, Fountain; AE, Water Tank; AK, Porter; AH, Septic Tanks.

It was objected that the cost of all these institutions did not meet

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Strength of Brick and Brick Piers.*

THE results of tests of brick and brick piers, which I have the honor to present, are selected from those which have been made in the testing laboratory at the Watertown, Mass., Arsenal.

In this laboratory various kinds of constructive materials are tested, the results of which are published annually by the Ordnance Department, U. S. Army, in reports entitled "*Tests of Metals and Other Materials for Industrial Purposes*," Congressional documents for public distribution. Twenty-five volumes have thus far been published.

From these reports and from current tests, which will appear in subsequent volumes, certain results have been brought together, results which are thought to be representative of their respective kinds of material, as qualified by the explanatory remarks relating to them.

Bricks are possessed of those physical properties which are common to other materials of construction. That is, they have strength to sustain loads, elastic properties whereby their dimensions are slightly changed during the period of loading, springing back to their original shapes, or nearly so, when the loads are removed, they expand and contract with changes of temperature, and it appears that their volumes are slightly affected when saturated with water, swelling minutely but perceptibly when wet.

Properties inherent in individual bricks are reproduced in piers constructed therefrom, modified, however, by the properties of the mortar in which the bricks are laid, and mortars vary according to their composition and age. In general, the properties of constructive materials are found to present many variable elements, some of which are under control, and some are not.

Passing at once to the subject of individual brick, values for the coefficient of expansion by heat have been observed over a range from .0000020 to .0000074 per unit of length per degree Fahrenheit. An ordinary value would be in the vicinity of 30 to 40 ten-millionths, that is, somewhat less than steel, which has a value of a little above .0000060.

In making these determinations, the bricks were heated in water baths, basing the value of the coefficients upon the contractions displayed in passing from the bath of boiling water to one at about freezing temperature. It was necessary to use the measurements taken on falling temperatures, to eliminate the effect of the swelling of the bricks due to absorption of water.

The bricks usually swelled and were longer on the gauged lengths when in water at 33 degrees Fahrenheit than originally, when dry and in the air at 68 degrees. Moreover, after having been through the hot-water bath and returned to the cold one, their lengths were found still further increased.

When a brick saturated with water is frozen, it expands, due to the action of the water within. The amount of such expansion, in going from 33 degrees Fahrenheit down to, say, 25 degrees, measured on a length of six inches, has been found to range from a few ten-thousandths of an inch to above one-half a hundredth of an

inch. Not infrequently, freezing a brick saturated with water is attended with a permanent increase in its length.

The elastic properties of brick have been observed, measuring the compressibility of the material as loads are applied, and determining the permanent sets when such have been acquired. Light-hard and salmon brick are most compressible — hard-burnt and vitrified brick are least compressible.

The moduli of elasticity, deducting the permanent sets in computing these values, range from less than 1,000,000 to a maximum of 10,000,000 pounds per square inch. Permanent sets, when they occur, are usually of small magnitude. From this it follows that the curves of compressibility are nearly straight lines; that is, in individual cases the amount of compression of a brick is nearly proportional to the load which is placed upon it.

The compression of the brick, in the direction in which the load is applied, is accompanied by an expansion in a lateral direction, which, as well as the direct compression, is a measurable quantity. The usual ratio of lateral expansion to longitudinal compression falls between the limits of 1-5th and 1-10th.

Density of structure is shown by the amount of water which a brick will absorb. Usually the absorption is reported in percentage by weight. A better method seems to be, to judge of the voids by the volume of water absorbed. Water enters a porous brick very promptly, less rapidly in the harder ones, but complete saturation is not accomplished even at the end of a week's immersion. Additional water is absorbed by exposure in a bath of hot water.

The compressive strength of brick extends over a wide range in values. The weight per cubic foot of the material, its density of structure, modulus of elasticity and compressive strength are mutually dependent features, and all are influenced more or less by the conditions of manufacture. The records of tests on compressive strength are numerous and generally available to all. "*Reports of Tests of Metals*," 1894, and following years, contain many such results. Nearly 500 state, territorial and other libraries are designated depositories for Congressional documents, where these volumes may be examined by those who do not have them personally.

The accompanying diagrams have been prepared to illustrate features connected with the properties of brick, brick piers and other materials of construction.

(No. 1.) The rate of absorption of some dry-pressed and mud brick, which were burned side by side in a down-draught kiln, is here shown.

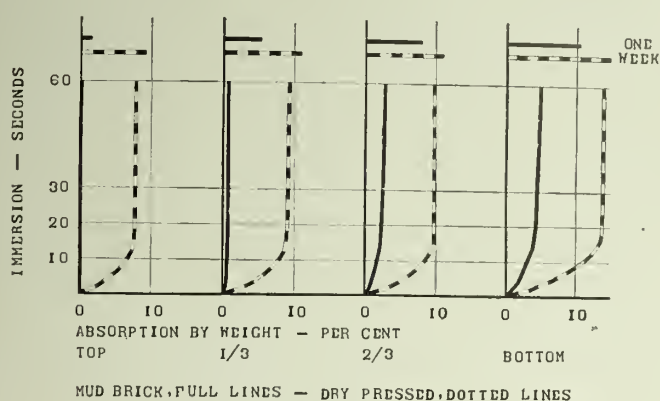
The mud bricks are shown by full lines, the dry-pressed by dotted ones. These samples were weighed at frequent intervals during the early stages of immersion. It appears that a considerable part of the water eventually absorbed entered some of the samples during the first fifteen seconds of immersion. After this time absorption went on slowly. The upper horizontal lines indicate the amounts which were absorbed at the expiration of a week's time. The lesser amounts of water absorbed by the bricks from the top of the kiln over those farther down will be noted.

(No. 2.) On this diagram are shown the stress-strain curves of the samples of the preceding diagram. The greatest degree of rigidity is displayed by those from the

* Paper presented at the Twenty-first Annual Convention of the National Brick Manufacturers' Association, at St. Louis, Mo., February 7, 1907, by James E. Howard.

top of the kiln, becoming more compressible as they are taken from the lower parts. The order in which these curves are plotted is the same as in the preceding dia-

RATE OF ABSORPTION
BRICK FROM DIFFERENT PARTS OF KILN.



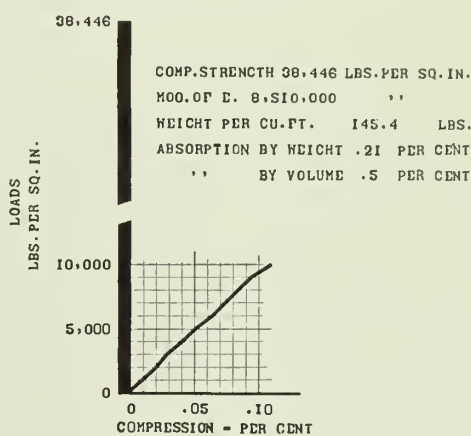
NO. 1.

gram, with reference to their position in the kiln. It will be noticed that the mud bricks from the bottom of the kiln displayed as much compressibility under a load of 4,000 pounds as the corresponding bricks from the top displayed under twice the load.

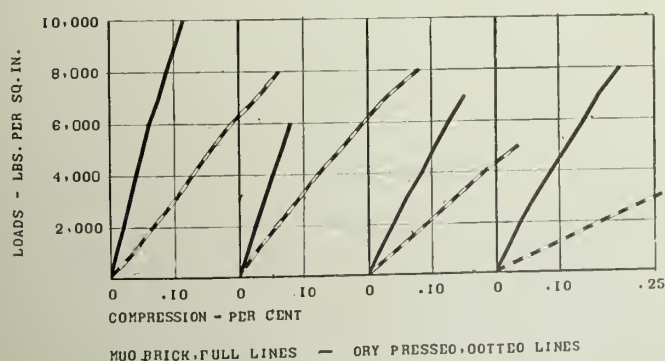
(No. 3.) The variation in compressive strength is equally pronounced, according to position in the kiln, as shown by this diagram. The weights per cubic foot of the material are entered along the lower edge of the diagram. The highest strength corresponds with the greatest weight. This is characteristic, also, of other materials of construction, high resistance and high density of structure being found in the same samples.

(No. 4.) The properties of a remarkable brick are shown on this diagram. So phenomenal was its compressive strength that it is fully deserving of a special diagram of its own. To St. Louis belongs the honor of producing this brick, which far exceeded in strength any

VITRIFIED BRICK - ST. LOUIS, MO.



NO. 4.

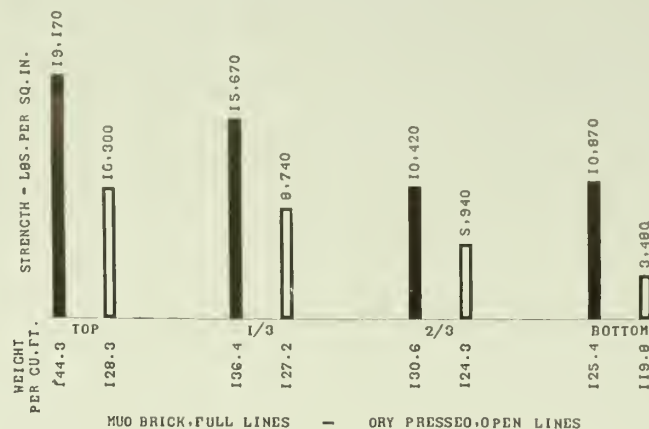
BRICK FROM DIFFERENT PARTS OF KILN
STRESS-STRAIN CURVES

NO. 2.

brick heretofore tested at Watertown Arsenal. This sample was tested on end, and reached a total load of

376,000 pounds on a surface 2.45 inches by 3.99 inches in cross-section dimensions.

(No. 5.) The laboratory records were gone over, and

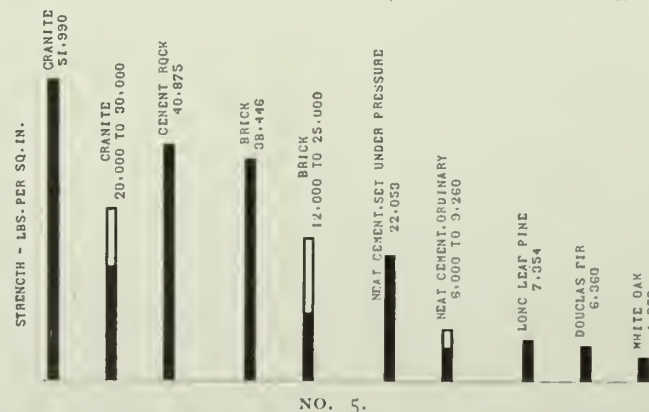
STRENGTH OF BRICK
FROM DIFFERENT PARTS OF KILN.

NO. 3.

from them were selected the results which appear on Diagram No. 5. These tests represent the highest of their respective classes. They are what have been attained, and are presented as standards of excellence. The granite, of 51,990 pounds per square inch compressive strength, came from a quarry in Asheville, N. C. Ordinary granites range from 20,000 to 30,000 pounds per square inch. The cement rock represents the stone from which a natural cement is obtained from the state of New York. The brick, of 38,446 pounds strength, has just been described. Ordinary values for hard-burnt brick range from 12,000 to 25,000 pounds per square inch.

Portland cement, set under pressure, attained the maximum strength yet observed in this material. This sample was exposed to an initial pressure of 14,000 pounds per square inch while setting. The strength given on the diagram was displayed by the cement at the age of fifty-seven days. The strength of

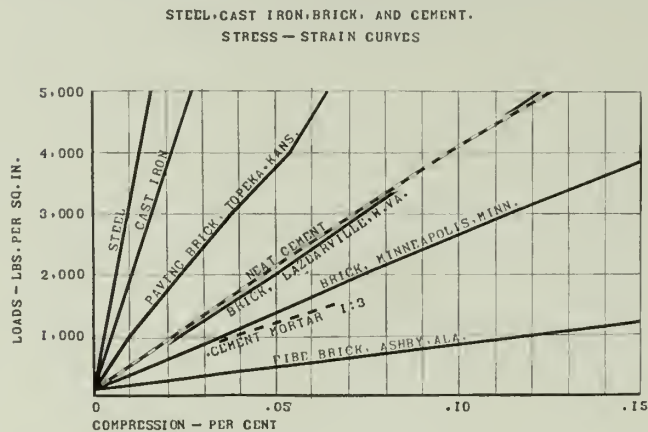
SOME HIGH COMPRESSIVE STRENGTHS IN CONSTRUCTIVE MATERIALS.



NO. 5.

ordinary Portland cement, tested neat, ranges from 6,000 to 9,260 pounds per square inch.

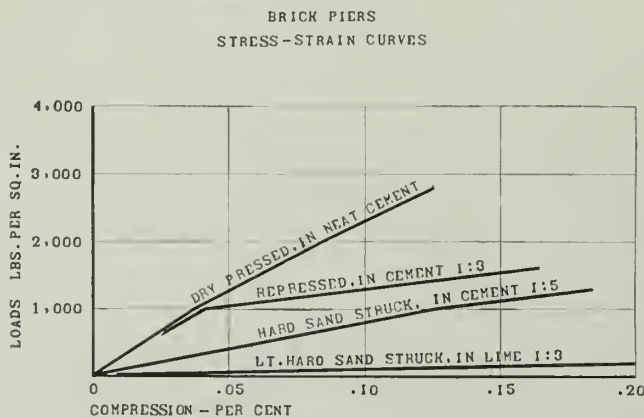
The strength of the white-oak stick seems low, taken in comparison with the strength of the long-leaf pine and the Douglas-fir wood. In small pieces, white oak has



NO. 6.

shown a compressive strength of 9,000 pounds per square inch. The figures here given refer to a post of commercial size.

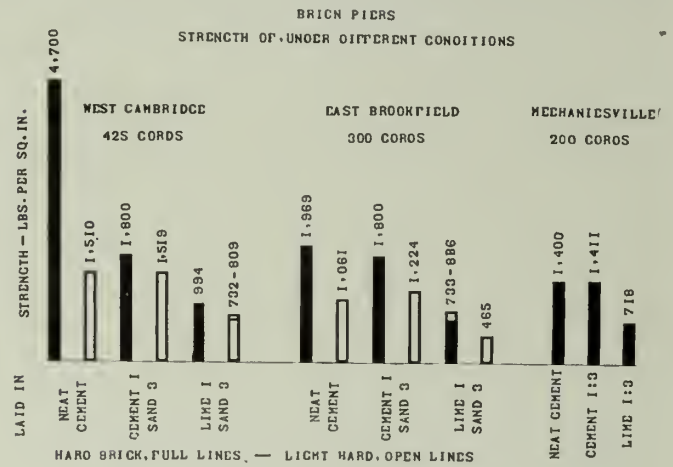
(No. 6) The stress-strain curves of several representative materials are shown on this diagram. Steel and cast-iron are here plotted for reference purposes. A paving-brick from Topeka, Kansas, occupies a position next to the cast-iron and steel. Then follow the curves of neat Portland cement, a brick from Lazearville, West Virginia, then a brick from Minneapolis, Minn., and the curve of a cement mortar of one part Portland cement and three parts sand, and at the lower part of the diagram appears the curve of a fire-brick from Ashby, Alabama. This diagram shows the range in compressibility which may be met with ordinarily. The number of curves might be extended, but other grades of material would occupy places between the curves of the paving-brick and the fire-brick.



NO. 9.

(No. 7) The strength of brick piers will now be referred to. Diagram No. 7 shows the results with piers made of hard, and light-hard sand-struck brick laid

in different kinds of mortar. Brick from three yards are represented, the amount of fuel used being 425 cords, 300 cords and 200 cords, respectively, per million



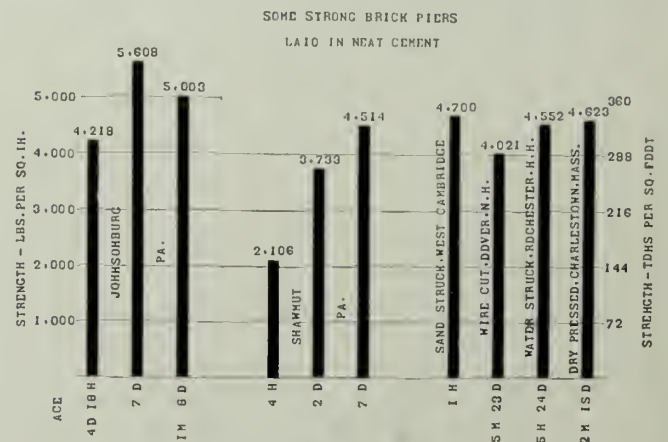
NO. 7.

brick. One grade only was received from the yard where the smallest quantity of fuel was used, which was classified as hard.

The range in strength from the hardest brick, laid in neat cement, to the weakest light-hard brick, laid in lime mortar, is seen to be very great. In respect to the compressibility of the piers under loads, the difference is greater than shown by their ultimate strengths. It is desirable to use neat cement or a strong mortar in laying hard brick, in order to attain maximum strength and rigidity. Rigidity is regarded as an important factor in construction as well as strength.

Lime mortar should not be used, when either of the considerations just mentioned are essential.

Two values are shown for two of the piers. The brick from these yards were panelled on one side, and the higher strength in each of these piers belongs to du-

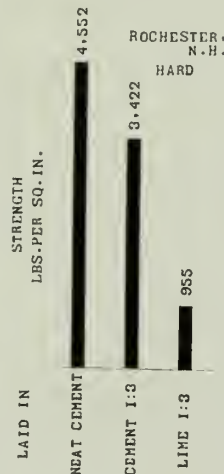


NO. 10.

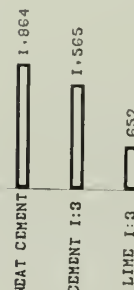
plicates in which the panels were filled with neat cement before laying.

(No. 8) Some piers made of water-struck brick appear

BRICK PIERS - WATER STRUCK BRICK



NO. 8.

EPPING, N. H.
LT. HARD

on Diagram No. 8. One firm furnished the hard, another the light-hard brick. The influence of the mortar on the ultimate strength of the pier is again well shown. It seems a wasteful effort to use a weak mortar in which to lay a pier of hard, strong brick.

(No. 9) The curves of compressibility of some piers are shown in this diagram. An earlier stress-strain diagram (No. 6) showed corresponding results on individual bricks and other materials. On the present diagram the most rigid condition pertained to the pier made of dry-pressed brick, laid in neat cement. A pier of re-pressed mud brick appears next in the order of relative rigidity, then a hard sand-struck brick pier laid in less rich mortar than used for the re-pressed brick, and most compressible of the group is the pier of light-hard brick which was laid in lime mortar. The characteristics of these piers depend chiefly upon the quality of the mortar employed.

From this exhibit it may be seen how unfavorable is the action in a wall, the face of which may be laid with one class of work, while the backing is of another.

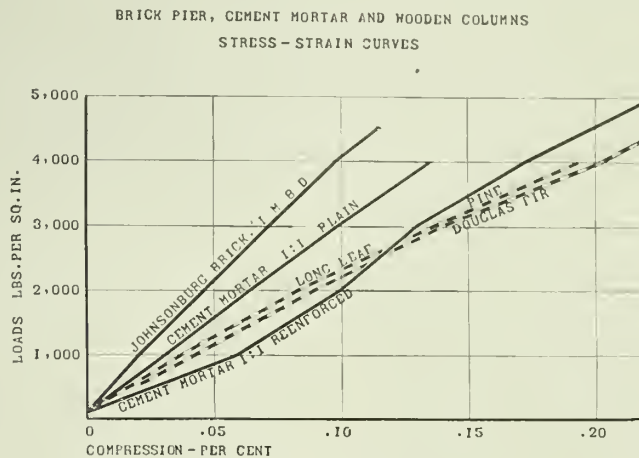
(No. 10) In order to illustrate the strength which may readily be attained in brick pier construction, the results of some strong piers have been brought together on the diagram now presented. The four piers represented on the right of the diagram are taken from earlier tests, the results of which are among the published records of the laboratory. The other six represent piers built and tested just prior to the time of this convention. These later ones were intended to be strong piers, a result which was realized in the tests. They were about

8 feet in height each, nominally 12 inches square; they had hollow cores, and the bricks were laid on edge in neat cement.

The ages of the piers are entered along the lower edge of the diagram. One pier, the youngest of the series, was tested the day it was laid. The test began about one hour after the last brick was in place, and was finished three hours later, or when the pier was four hours old. It developed a compressive strength of 2,100 pounds per square inch. The mortar had not

hardened, and unusual compressibility was of course displayed. The total load on the pier reached 118 tons, a load far in excess of any which could be expected to be placed upon it in constructive work, at so early an age.

Horizontal lines represent pounds per square inch on the left of the diagram, and, on the right side, tons per square foot. One pier reached a strength of 360 tons per square foot, another exceeded this load. The allowable load prescribed by the building laws of some cities is understood



NO. 11.

to range from 15 to 30 tons per square foot, which seems a very low limit in the presence of piers possessing the ultimate strength these displayed.

(No. 11) The stress-strain curves of one brick pier, two mortar columns and two wooden posts are shown on Diagram No. 11. These curves stand for strong examples of their respective kinds. These illustrations and others which have gone before were selected, in many of the cases, to indicate what seems best in constructive materials: examples which could safely be followed where strong and safe construction is needed.

STEEL:

THE constructors of vault doors have been very loth to admit that it is possible to burn a way through a ponderous steel vault door. We notice, however, that in connection with the wrecking of some of the partially destroyed buildings in San Francisco use has been made of the electric arc to cut up the structural members, and the statement appears that it was found cheaper to do this work by electricity, actually burning or melting the steel away, than to use either a hack saw or drill. It is quite possible that electricity may be very extensively used for this purpose at times. Indeed, when the final history of the San Francisco fire is written, it is probable that as many lessons may be learned from the processes of removal of the steel frame buildings as was taught by the fire itself in their partial destruction. We cannot forget that the steel frame is but little more than twenty years old. We do not yet know all its possibilities. The man who in '84 would have dared to predict that there would be erected at the corner of Liberty Street

and Broadway a building for office purposes taller than the Washington Monument and outstripping any other structure, past or present, would have been laughed at as the vaguest dreamer. Those were the days when we thought the height of a building was limited by elevator capacity, that an elevator could run safely only at the rate of three hundred and fifty feet a minute, and as one elevator was needed for at least every twenty-five thousand square feet of office space, therefore, by a perfectly simple arithmetical problem it could be demonstrated that a building of over twelve or fifteen stories would of necessity be occupied in the first floor entirely by elevators. Now, with modern methods, elevators which can travel a thousand feet a minute, or more, and with our knowledge of steel and how to use it, there is no known limit to the height of a building. And if we were to judge by the speculative statements of Mr. H. G. Wells, who writes so convincingly about the future, buildings more than a thousand feet high are less of a day dream than the Singer Building would have been twenty years ago.

A Group of Modern English Houses.

MICHAEL BUNNEY

WHILE efforts are being made on every hand to bring the standard of modern brickwork up to the level of the old as regards traditional methods of handling the material and by improved attention to texture and its value as a factor in design, architects are also availing themselves more and more of other means by which to infuse distinctive qualities into their work. Of these means, perhaps the most far-reaching in its effects is the revival of the use of the small special-made brick.

In a former paper on the subject of modern English brickwork, the causes of the decline in the use of small bricks were dealt with, and no further demonstration of



MISSION HOUSE, WESTMINSTER.
Edwin L. Lutyens, Architect.

the value, from an architectural standpoint, of the size of bricks when correctly gauged to the circumstances of each case is required than that afforded by numberless brick buildings still standing that date their erection before the standardization of brick dimensions became necessary. It will be well, however, briefly to enumerate the advantages that the use of small sized brick does under certain conditions confer upon a building.

In the first place, the small bricks entail a greater number of courses to any given height than is the case when those of the standard size are used, and this in the same measure will increase the number of joints; now this addition to the sum total of visible mortar joints produces a very palpable effect, mitigating to a large degree the predominating color of the wall surface, that



HOUSE AT EALING.
W. A. Pite and R. S. Balfour, Architects.

is to say, the color of the bricks themselves. When the mortar joint also is of a generous dimension, say three-eighths of an inch in thickness, the resultant is a breaking up of the surface both as regards color and texture that is satisfactory from every point of view.

Nothing will bear this out more convincingly than a comparison between the brickwork of the Mission House at Westminster, carried out by Mr. Lutyens, and most of the modern brickwork where standard sized bricks and a thin joint have been employed. The dullness of modern brickwork of the ordinary type is almost entirely the outcome of that uniformity of surface and consequent loss of quality which a thin joint brings about.

In the Mission House mentioned, as well as at some other buildings in London, Mr. Lutyens has used a brick measuring about $6\frac{1}{2} \times 3 \times 1\frac{3}{4}$ inches and imported from Holland. The bricks are made of a particularly plastic clay which is burnt very hard and twists and warps a little in the burning; the surface has a very coarse grain. These qualities would, no doubt, be accounted imperfections by the devotee of accurate bricklaying and a so-called perfect surface, but they are the qualities that make all the difference between a dull and an interesting wall surface and impart a character wholly absent from



THE VICARAGE, EALING.
W. A. Pite and R. S. Balfour, Architects.



HOUSE AT HAPPISBURGH.
Detmar Blow, Architect.

uniform work. The mistaken idea that unless a brick is square and true it is a bad one to lay, dies hard — provided the mortar is good, there is no reason whatever why a thick bed of it should not be used in which to lay a twisted brick properly and, in addition, obtain a wide joint on the surface.

Very often, too, when buildings are not of a large size, the small brick will be found to be much more in scale and an aid to correct proportion when the walls are cut up with openings or other features.

Some architects are showing an inclination to go back to what might be termed "locality" work; that is to say,



SIBERTSWOLD.
Balfour & Turner, Architects.

they have seized upon certain characteristics peculiar to the brickwork of localities in which they happened to be building, as a rule expanding and developing these local hall-marks with good results. As these local varieties are much less numerous and definite in the brick producing districts than where stone is the principal building material, it will suffice to deal with two of them.

East Anglia is essentially a brick country and here, owing to easy access to continental examples, themselves mostly of brick, and the consequent fostering of a taste for continental methods, a brickwork tradition grew up, based on a foundation half English and half Dutch, remaining, nevertheless, purely local.

These Flemish-looking gables with their gusseted parapets and quaint intermixture of brick with flints and other materials find admirable exponents now in Detmar

Blow and E. S. Prior who have both revived this interesting variety of work in their well-known houses at Happisburgh and Kelling.

Down in the South, in the forest counties, there is another variety of brickwork, not, perhaps, quite so local as that of the east coast, but still sufficiently characteristic and confined to a more or less well-defined district. The local feature of this work is the use that is made in it of the vitrified ends of the bricks for pattern work and dressings. These black and shiny "headers" are produced accidentally by the wood fire in the kilns coming



GREAT HOUSE COURT, FROM THE DRIVE.
E. Turner Powell, Architect.

into contact with a clay charged with a proportion of sand sufficient to impart a dull glaze to the surface of the brick.

In a haphazard and incidental fashion these vitrified ends have always appeared in South country work, but recently a more extended use has been made of the possibilities they possess for decorative arrangements and for endowing the wall surface with quality and richness.



ST. ETHELBURGER, EALING.
W. A. Pite and R. S. Balfour, Architects.

In London, Thackeray Turner has carried out many small brick buildings on broad and simple lines, dependent mostly on the excellent selection and handling of the material. He has also made a free use in a somewhat new way of the old English "rubber" brick; leaving the usual and older method of utilizing this soft brick for cut and molded work, he has adopted it as a facing brick rubbed on its exposed side and set in a fine putty joint, thus securing a broad, smooth surface full of good and, even in London, permanent color, to contrast with the rougher and dirtier texture of the common brick.



HOUSE NEAR MANCHESTER.
Edgar Wood, Architect.

In the suburbs of most of the big provincial towns good brick architecture is springing up, the most successful buildings, as a rule, being those in which local materials and tradition are faithfully adhered to. Even the uncouth and ugly Lancashire brick has yielded good results at Edgar Wood's hands in some of his new works in the outskirts of Manchester, for he has been content to keep his brickwork rough and clumsy in its execution



HOUSE AT EDGECASTON, BIRMINGHAM.
Cossins & Peacock, Architects.

instead of trying to get a fine and even surface with a brick that lacks these qualities and in addition is but poor in color.

The failures in brickwork design are brought about most often by the attempt to produce effects, which only the very finest kind of brick can properly achieve, with a material varying far more than even stone in all the essential qualities of color, texture and adaptability.

Editorial Comment and Selected Miscellany

PERCENTAGE OF FIRE LOSS

MR. F. J. T. STEWART, Secretary of the Committee of the National Fire Protection Association which compiled the report on the Baltimore conflagration, and a member of the staff of the Continental Insurance Company of New York, has worked out a very interesting and instructive table showing the percentages of cost for the various parts of a fireproof structure, prepared from data furnished by architects and builders in the principal cities. A first-class building exposed to a conflagration will be heavily damaged in all items of con-



BUILDING FOR THE PENNSYLVANIA RAILROAD, BALTIMORE
Parker & Thomas, Architects.

struction except the foundations and steel. These two items will be approximately twenty per cent of value, and to this may be added about ten per cent for other salvage, chiefly on mason work, so that the maximum probable damage to a first-class steel frame building would not exceed seventy per cent. This is a large element of loss but Mr. Stewart's conclusions show beyond question that even with such large damage the fireproof buildings are really all that will save cities from repeated disastrous conflagrations.

PHILANTHROPISTS AND THE BUILDING LAWS.

THERE is no more disinterested and public-spirited group of men and women than the philanthropists who so ardently give their thought and services in our large cities to the bettering of the condition of the poor. There is also no class which can so easily confuse the issues and impose unnecessary restrictions upon building

operations. It is safe to say, however, that if the charitable societies were to frame our tenement house laws, there would be no more tenement houses built, for the cost would be prohibitive, and our tenement house population would, of necessity, be forced to cities where building laws do not exist. It is by no means a misfortune to a city to have a large tenement house district. The bone and sinew of our large cities are not afforded by the wealthy or the middle classes, but by the artisans, the laborers and the poor who do the hard, necessary work with their own hands, and who are obliged to live in ir-expensive quarters. Consequently any regulation which hinders the economical housing of this class, which imposes unnecessary constructive burdens upon them should be looked upon as ill advised legislation.

LICENSING ARCHITECTS.

SEVERAL states now require an architect to take out a license to practice. So far as we have had occasion to compare notes with architects in the states in which architecture is so regulated, we find a fairly even consensus of opinion that no real good has come by licensing the profession, and we have yet to find a cogent reason why



CRESCENT ATHLETIC CLUB, BROOKLYN.

Frank Freeman, Architect.

All four sides built up of light gray brick, made by Sayre & Fisher Co.



MARKET TOWER, BROOKLYN.
W. B. Tubby & Bro., Architects.

the system should be extended to other states. The theory that it protects the properly qualified architects is hardly substantiated by facts. The best architects do not need the protection, and, apparently, the others get no more protection against scalliwags than is afforded in other states. It is one of those measures which is directed against a fancied condition, and remedies this condition in an imaginary way, and this is really about all that can be said in its favor. We cannot see that the standard of professional practice is materially higher in one state than another, and licensing seems to us merely an added burden imposed upon the practice of architecture.

IMITATION ARCHITECTURE.

LONGFELLOW has a very apt quotation in which he refers to "architecture existing in itself and not in seeming a something it is not." If the poet could view our architecture of to-day as we sometimes see it he might have to recast his characterization, especially in view of the way in which concrete is being used. We have no fault to find with the material; it is flexible, readily adaptable to all sorts of emergencies, and when properly used and properly applied is a valuable aid to the constructor, but we have yet to see any really satisfactory treatment of concrete as concrete from an artistic standpoint. If one doesn't care how badly it looks, how much it catches the dirt, how much it may be streaked or variegated in tone, or how unevenly its surface may craze, there will be little worry coming on this subject, but no

architect can feel quite happy with the appearance of any structure, however utilitarian, which presents the outward aspect of even the best of our concrete work. It exists in seeming what it is not, or else it exists as an unsightly, blotchy, thoroughly undesirable appearing wall surface, with which the only possible thing to be done is to cover it with a charitable coating of paint and forget that it has an individuality of its own. In our large cities limestone and sandstone will discolor, but they are immaculate compared with concrete, except when the latter material deliberately starts out to imitate something else. The Harvard Stadium is an example of concrete work at its best. Attempts were made to finish the surface with hammering, with a wash of cement, with troweling and with no treatment at all, leaving the imprint of the mold boards on every surface. We rather prefer the latter. It is frankly constructive, but it at least does not masquerade as imitation.



ANSONIA APARTMENT, BROADWAY, NEW YORK.

Paul A. Duboy, Architect.

Terra Cotta furnished by New York Architectural Terra Cotta Co.

Beach, California. Also results of brick and clay products in San Francisco in fire and earthquake, with concise descriptions and short technical extracts by the leading architects and engineers. The printing of this publication was prompted by the claims that were made by the cement interests against brick and tile.

It is allowed that this work is put forth by partisans, but even so, we believe that they have spoken the whole truth, and nothing but the truth, and are wholly justified by the facts in presenting the case in the manner in which they have. The Association is made up of men who have business interests to protect, but in doing so they have presented data which will have a value to any unbiased mind. The Architects and Builders of this country will welcome, we believe, anything which will enlighten them upon the conduct of building materials in the San Francisco ca-

lamity. This work does it, and does it well.

The enormous cost of compiling this work has made it necessary for the Association to charge \$1.00 per copy.

AN INTERESTING AND VALUABLE TRADE PUBLICATION.

"BURN'T Clay Products in Fire and Earthquake" is the title of an unusually interesting and valuable work which has been issued by the Brick Construction Association of Los Angeles, Cal. It consists of ninety-six pages and cover, containing eighty-three half-tones, showing the effect of fire and earthquake on concrete, reinforced and plain, the defects of concrete in general, hollow cement block collapses, frame building collapses, and collapse and official report of the Hotel Bixby disaster, Long

IN GENERAL.

Hobart A. Walker and Elliott W. Hazzard have formed a co-partnership for the practice of Architecture. Offices, 437 Fifth Avenue, New York, N. Y.

Charles A. Gunn, Architect, has opened an office in the Union Bank Building, Pittsburgh. Manufacturers' catalogues and samples desired.

The Architectural League of America held its annual Convention at Washington, D. C., April 22, 23 and 24. A report of this Convention will be published in THE BRICKBUILDER for May.



HOUSE AT TACOMA, WASH.

Russell & Babcock, Architects.

Roofed with Ludowici-Celadon Tiles.

The American Enamelled Brick and Tile Company will supply 200,000 of their brick for use in the exterior of a building at Youngstown, Ohio, of which John Stamburgh is the architect.

The Brooklyn Chapter of the American Institute of Architects will hold its Seventh Annual Exhibition at the Pouch Gallery, Clinton Avenue, from May 6 to May 18 inclusive. Exhibits of drawings, photographs, sculpture and objects of industrial art are desired from all interested.



DETAIL BY ROOT & SIEMENS, ARCHITECTS.
Northwestern Terra Cotta Co., Makers.

NEW BOOKS.

THE ARCHITECT'S DIRECTORY AND SPECIFICATION INDEX FOR 1907. New York: William T. Comstock. One 8vo vol., red cloth. Price, \$3.00.

Containing a complete list of the architects in the United States and Canada. Classified by states and towns, indicating those who are members of the American Institute of Architects; also the names of the officers and locations of the different architectural associations in the United States and Canada. Prepared with the greatest care to secure accuracy both in names and locations.

RUMFORD FIREPLACES AND HOW THEY ARE MADE. By G. Curtis Gillespie, M. E. Arch. Containing Benjamin, Count Rumford's Essay on "Proper Fireplace Construction." New York: William T. Comstock. Price, \$2.00.



DETAIL FOR NORMAL SCHOOL GROUP, BOSTON.

Peabody & Stearns, Coolidge & Carlsen and Maginnis, Walsh & Sullivan, Associate Architects.

A plea for a more general consideration of the form and proportion of a very much neglected feature of our homes and buildings; with nearly two hundred illustrations, including the original Rumford drawings, diagrams for fireplace construction, and numerous ancient and modern mantels

and fireplaces, one hundred and iron designs and other details and fixtures, together with preface and explanatory notes.

MODERN PLUMBING ILLUSTRATED. New York: William T. Comstock. One large 8vo vol.; cloth; pp. 392. Price, \$4.00.

This work is an eminently practical work representing the best modern practice in plumbing and water supply. Naturally, the questions of drainage and sewerage occupy first place. On these questions the author has followed the requirements of the City of New York and other important cities, as well as the requirements of the United States, in all matters of drainage and sanitation.

A special feature of the work is the liberal scale drawings, which cover almost every imaginable condition likely to come before the plumber, architect or sanitary engineer.

In treating city work the sewerage occupies first place, but in dealing with country work the author has entered quite fully into the question of water supply. Here, also, the question of sewage disposal has been treated at considerable length, showing the various systems that have proved acceptable under varying conditions.

GLOSSARY OF TERMS IN ENGLISH ARCHITECTURE. By Thomas Dinham Atkinson. New York: William T. Comstock. Price, \$1.50.

This little book is limited to the historical aspect of architecture, and only deals incidentally with words used in art and art criticism and in building. But at the same time many technical terms are to be found, and constructional terms in particular; for construc-



DETAIL FOR A HOSPITAL, PHILADELPHIA
Herman Miller, Architect.
Conkling-Armstrong Terra Cotta Co., Makers.

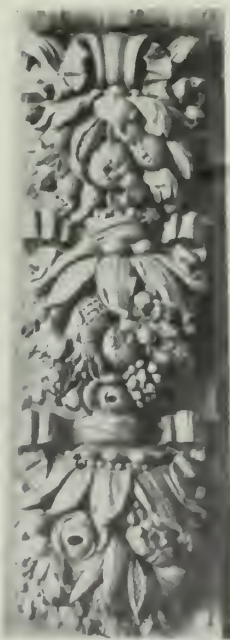


DETAIL BY ROBERT ALLEN COOK,
ARCHITECT.
Atlantic Terra Cotta Co., Makers.

they deal with decorative forms or with the planning of buildings.

BUILDING OPERATIONS FOR MARCH.

REPORTS from fifty-five leading cities of the country officially reported to *The American Contractor* New York, and tabulated, show a gratifying and widely distributed building activity for March. In the cities reported thirty-one show a gain as compared with the corresponding month of 1906, while twenty-one indicate a loss. In the aggregate the loss amounts to 3 per cent.



PILASTER BY EAMES &
YOUNG, ARCHITECTS.
Winkle Terra Cotta Co.,
Makers.

tion lies at the very root of the matter.

Many terms used in Greek and Roman architecture are included because they are necessary to a proper understanding of Renaissance architecture and church building. For this reason the general principle has been to include those terms which have a direct bearing on English architecture, whether

cent. The percentage of gain in other leading cities is shown by the following figures: Allegheny, 96; Birmingham, 112; Buffalo, 45; Cleveland, 51; Detroit, 80; Harrisburg, 9; Hartford, 21; Indianapolis, 149; Minneap-



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
New Jersey Terra Cotta Co., Makers.

olis, 38; Memphis, 25; Mobile, 225; Paterson, 57; Rochester, 31; St. Louis, 53; St. Paul, 30; Scranton, 50; Seattle, 107; Syracuse, 60; Salt Lake City, 316; Topeka, 153; Washington, 23. The following figures show percentages of losses: Cincinnati, 4; Denver, 18; Duluth, 62; Grand Rapids, 9; Kansas City, 18; Louisville, 32; Los Angeles, 41; Milwaukee, 1; Newark, 32; New York, 23; Omaha, 23; Philadelphia, 31; Pittsburg, 5; Spokane, 8; Toledo, 51; Tacoma, 20.

When the Trinity Annex and Realty Building was opened, May 1, a stupendous example of skyscraper construction was brought to a close. From the time the first steel columns were set, September 15 last, to the day when the builders turned over the finished structures to the owners, is only seven months. In that period 9,000 tons of steel from Pittsburg, 1,000,000 bricks from New Jersey and Albany, 1,000,000 square feet of hollow tile from Raritan, 300,000 cubic feet of stone from the quarries of New England, have been assembled and set



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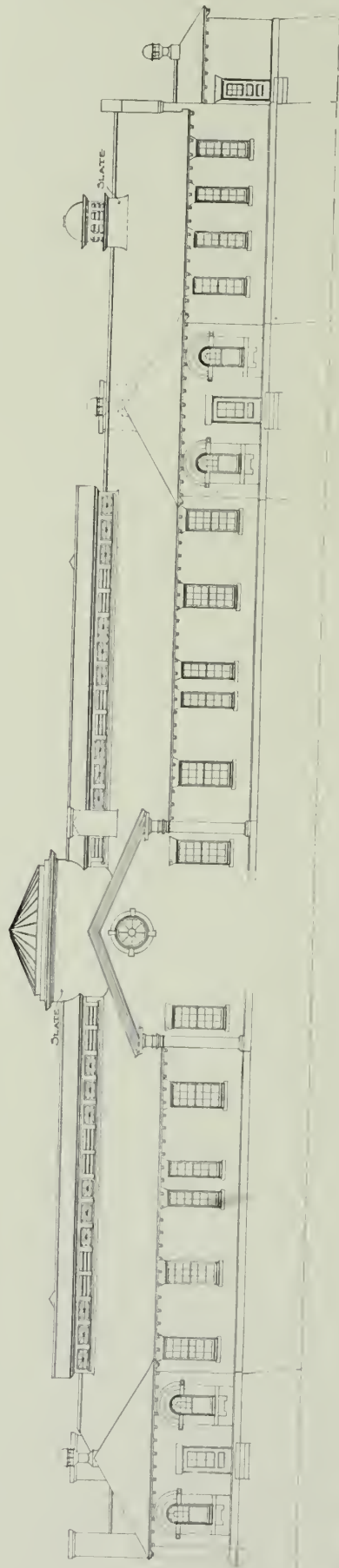
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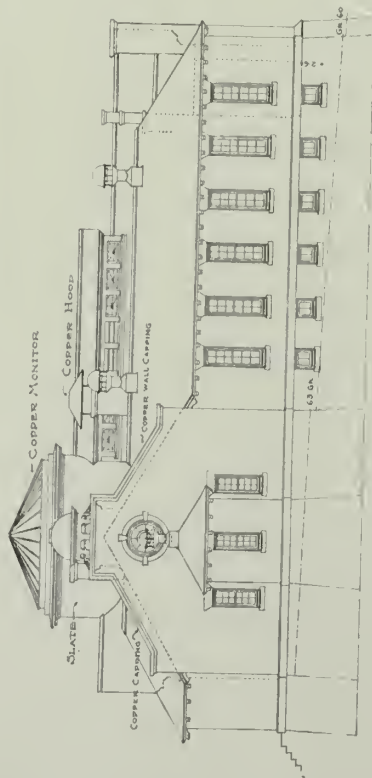
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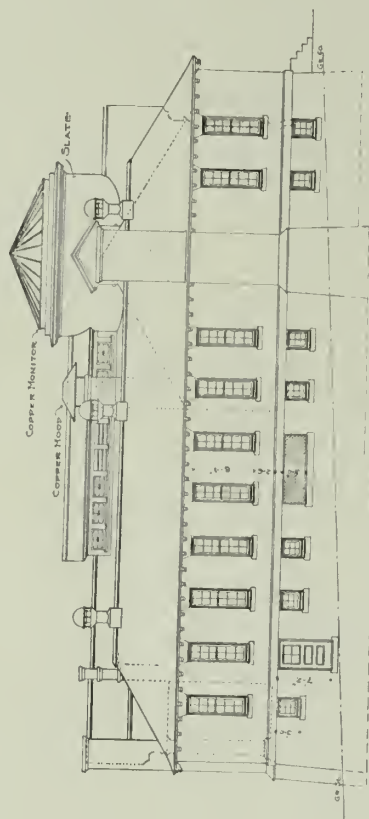
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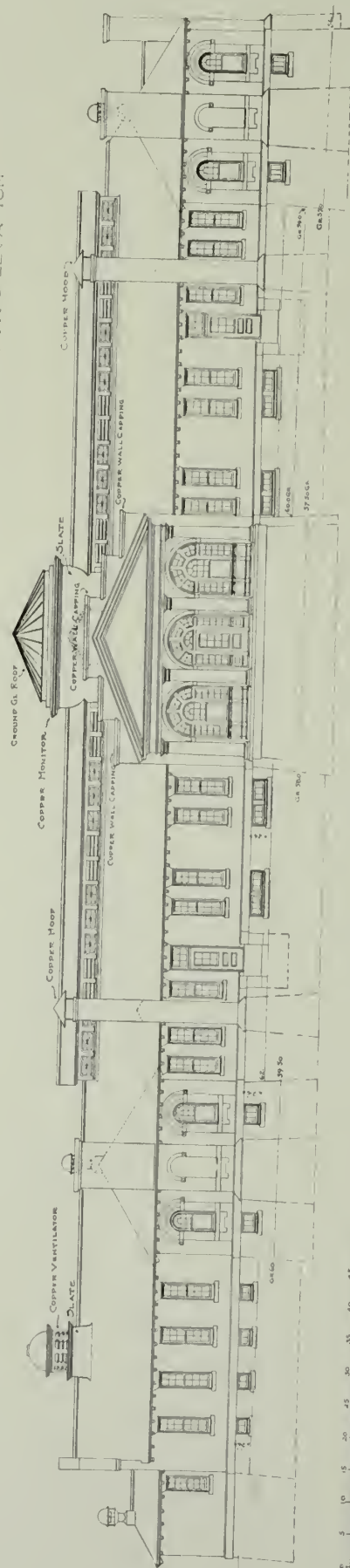
WEST ELEVATION



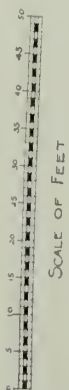
SOUTH ELEVATION



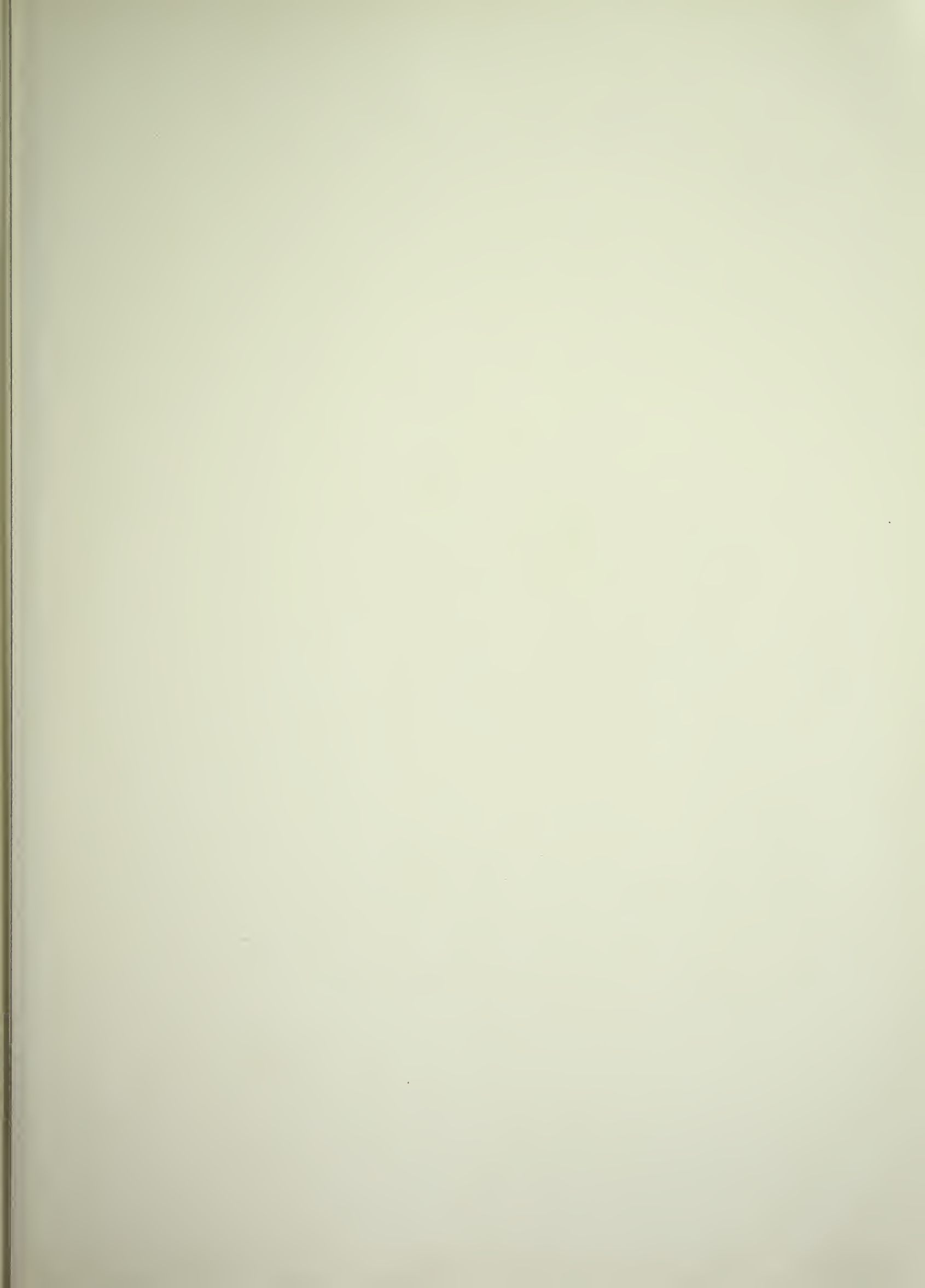
NORTH ELEVATION

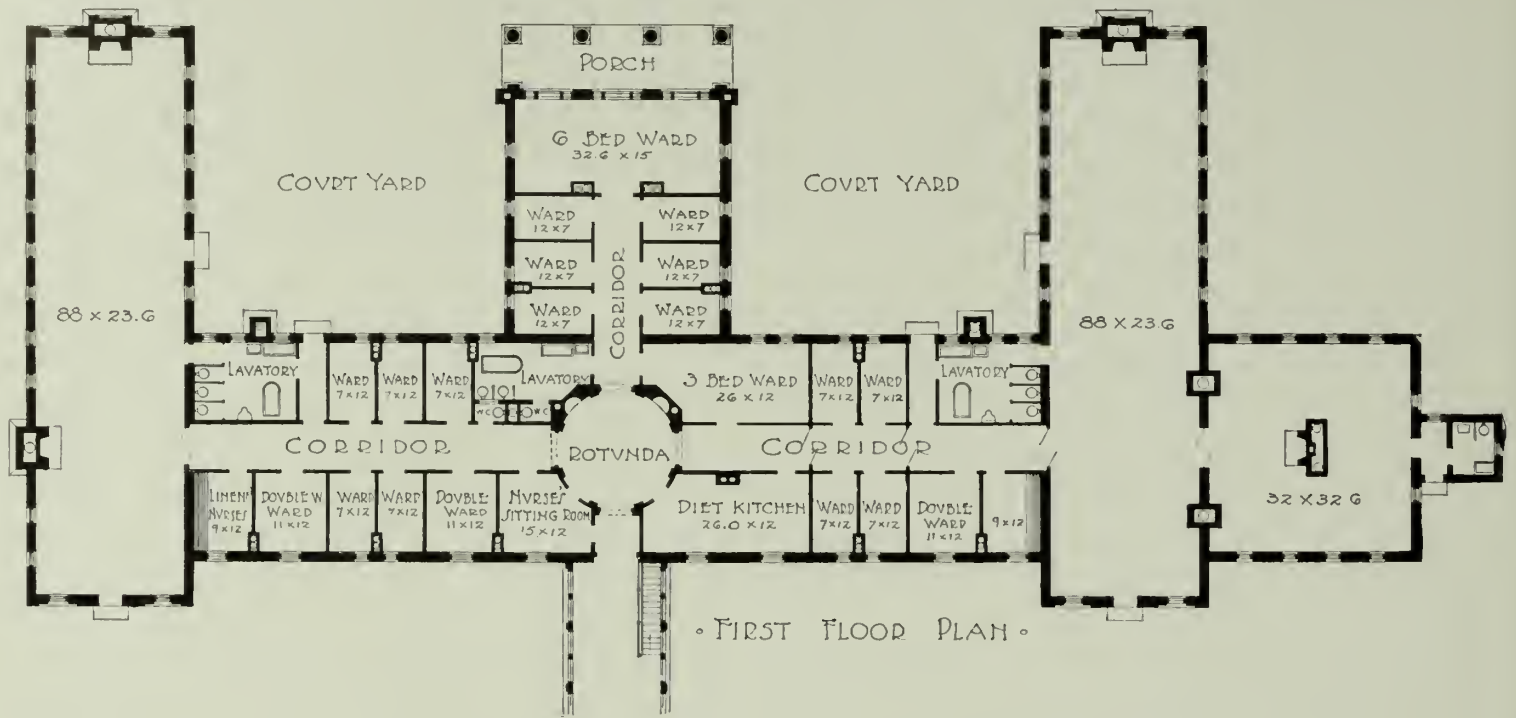


EAST ELEVATION



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JOHN A. FOX, ARCHITECT.

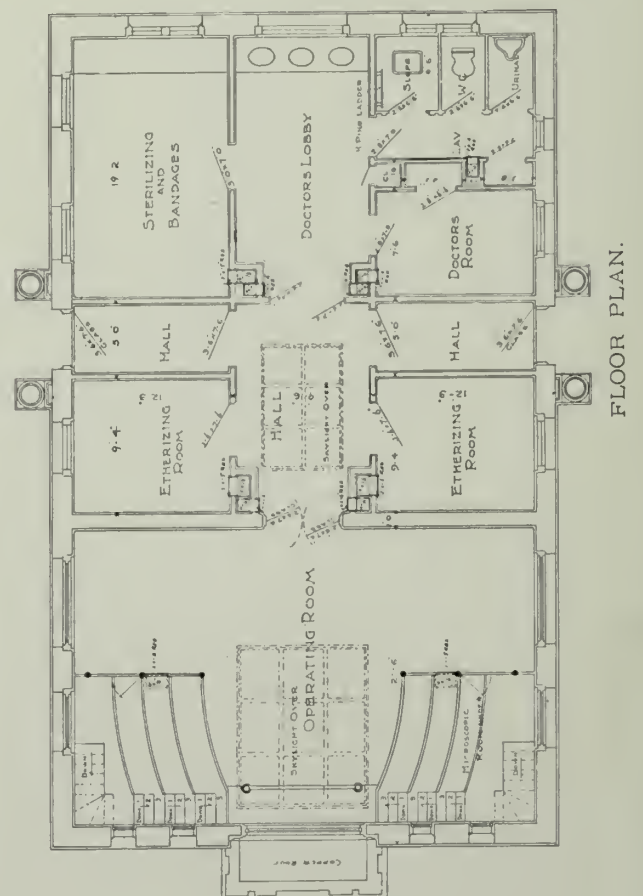




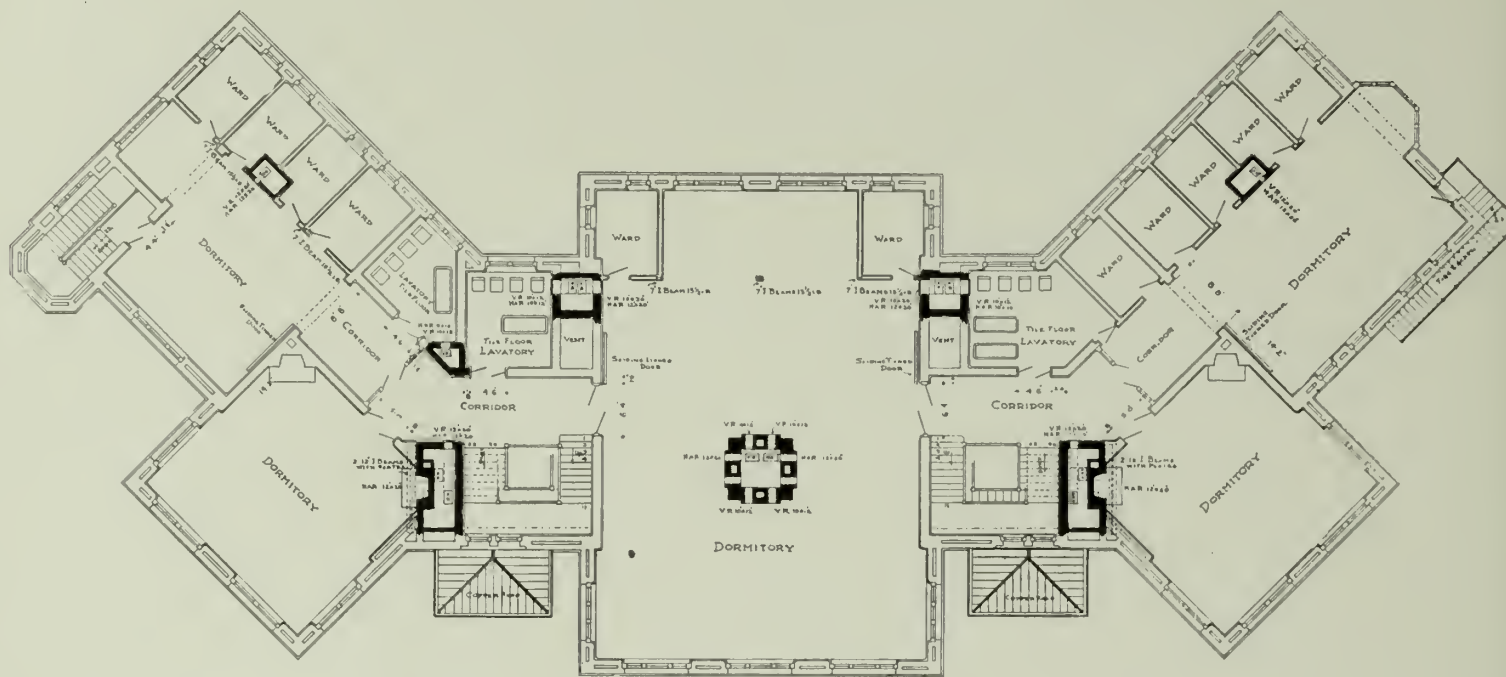
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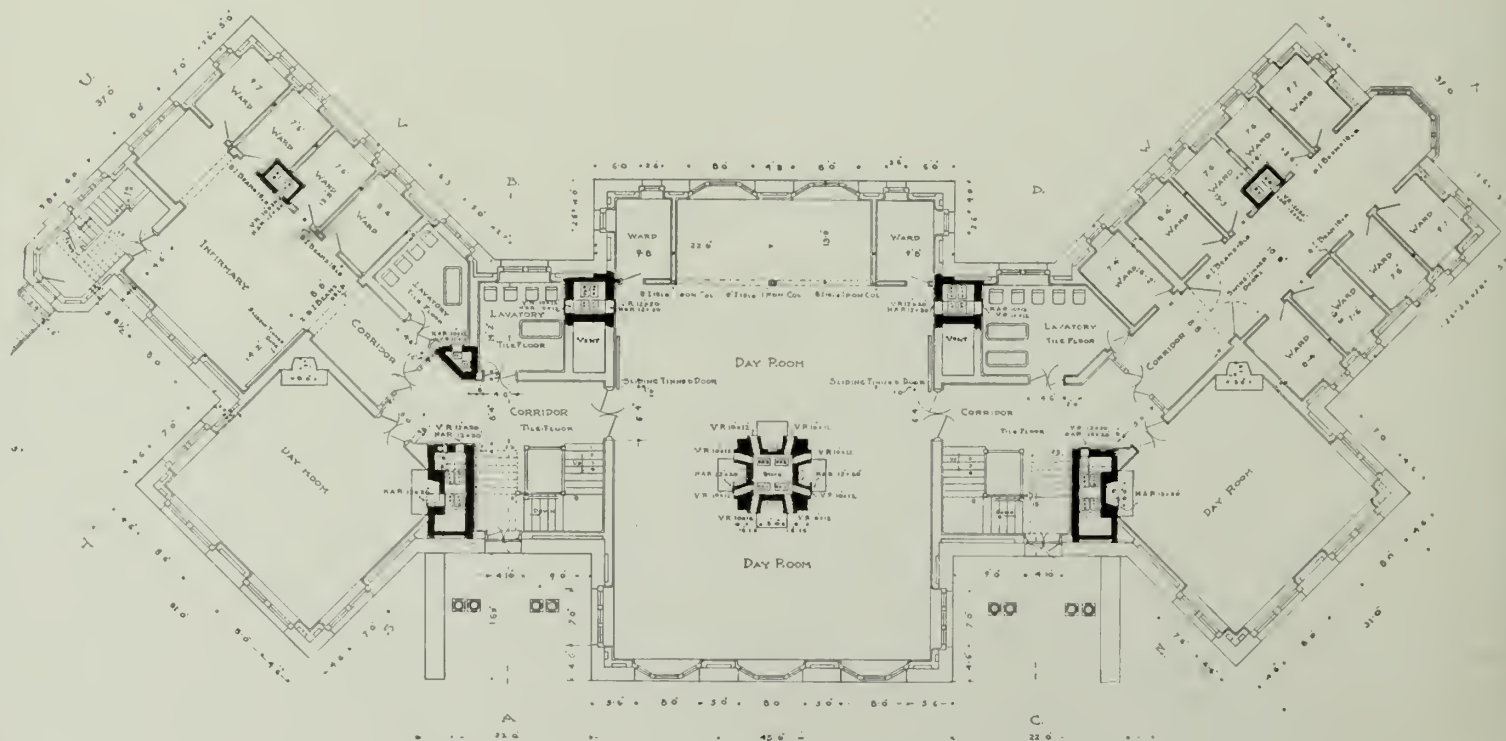
SURGICAL BUILDING, STATE HOSPITAL, TEWKSBURY, MASS.
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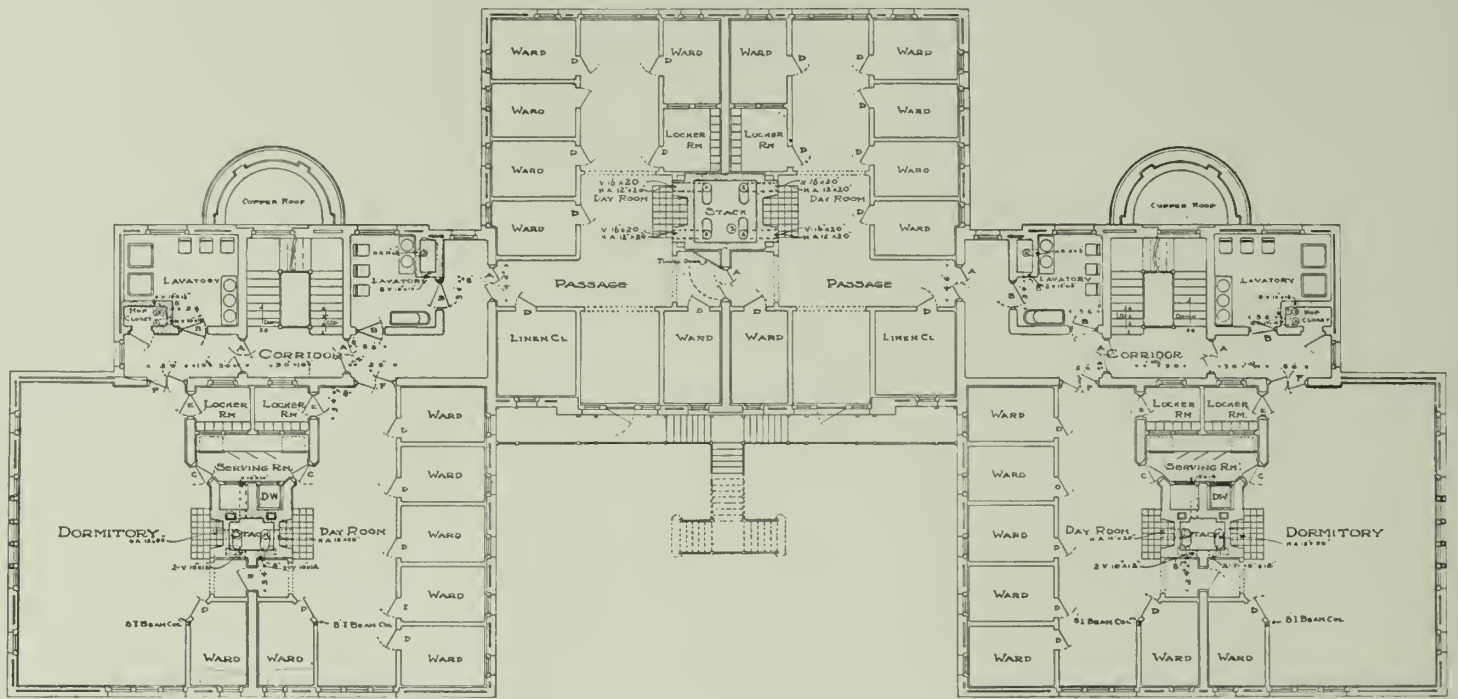




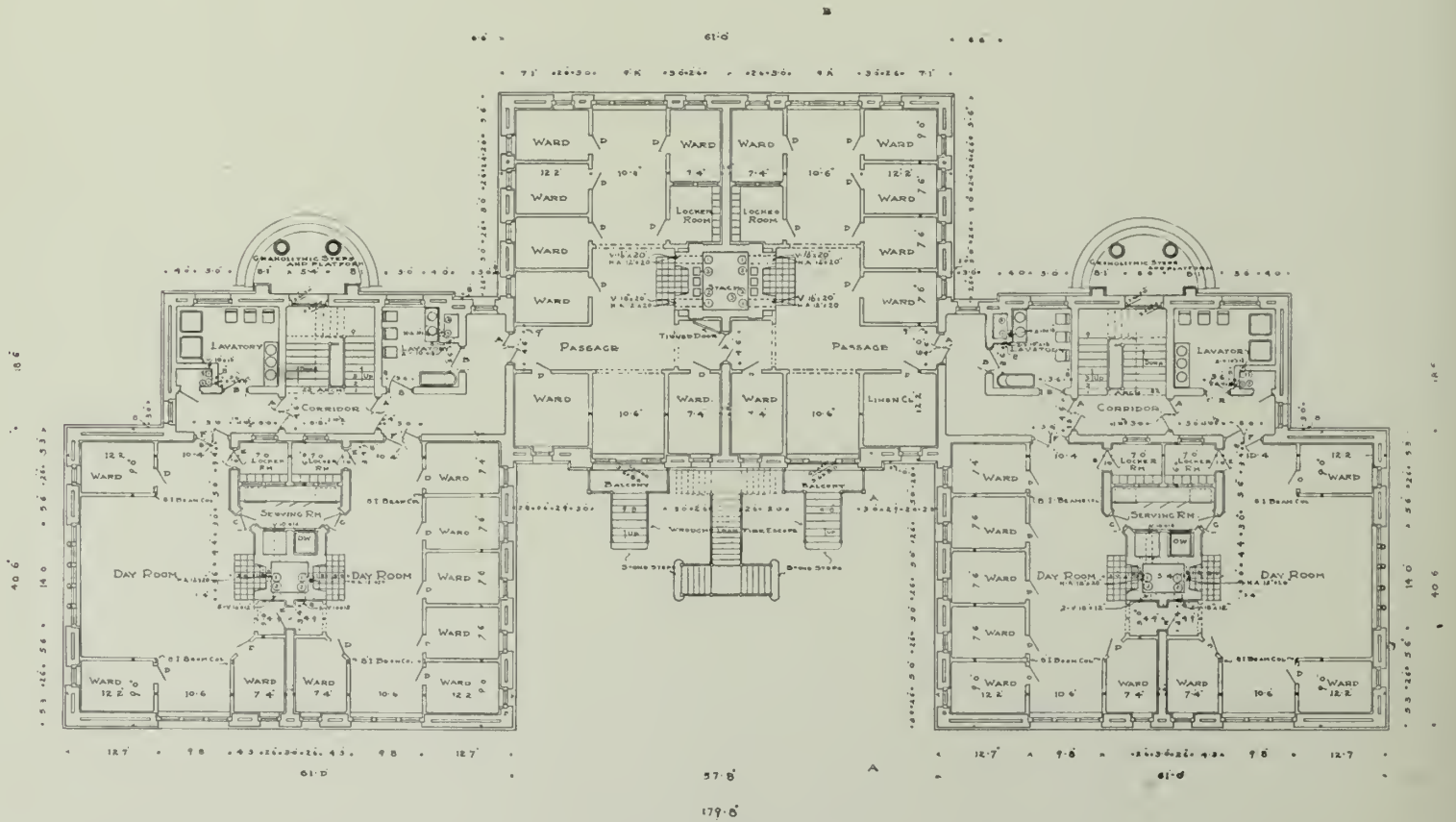
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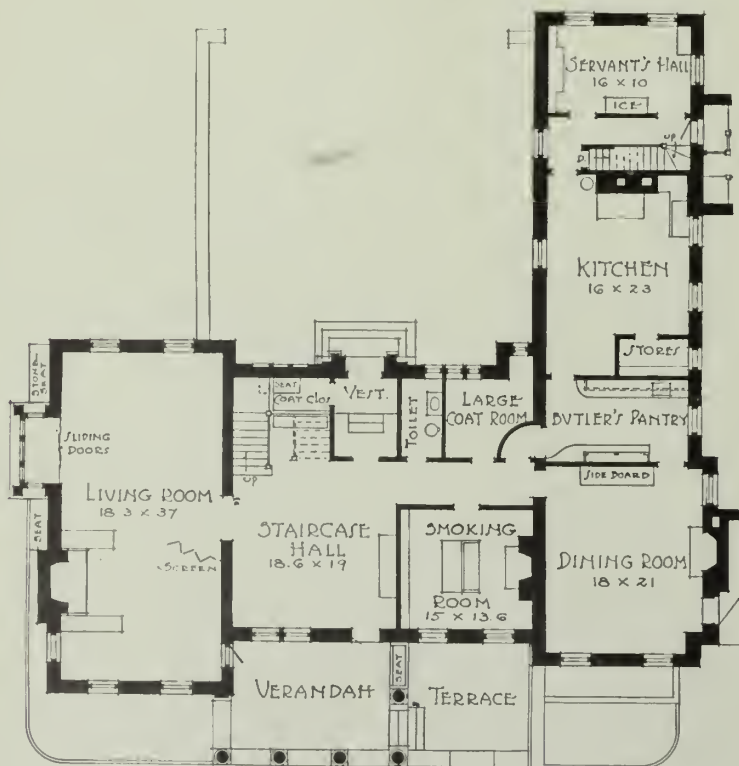
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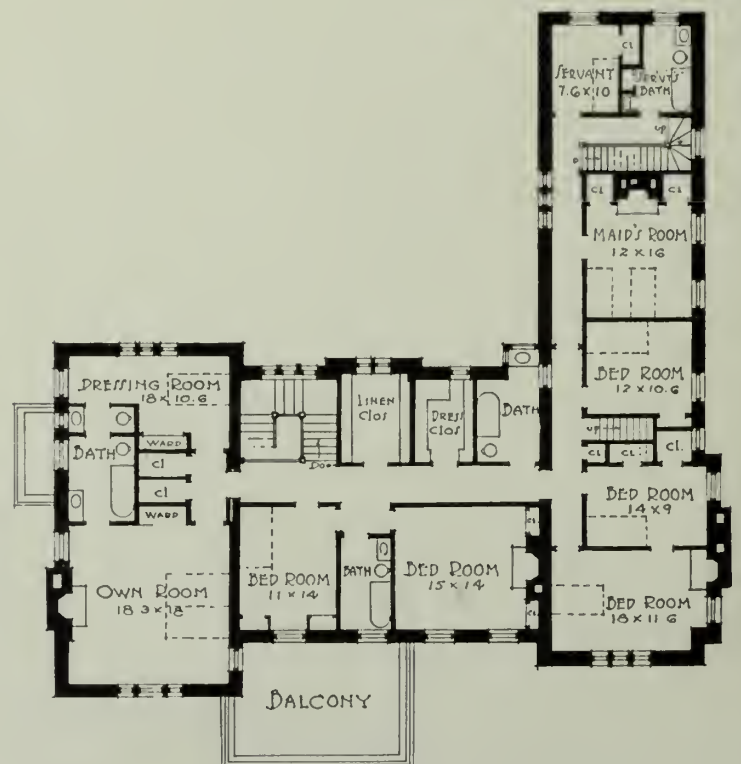
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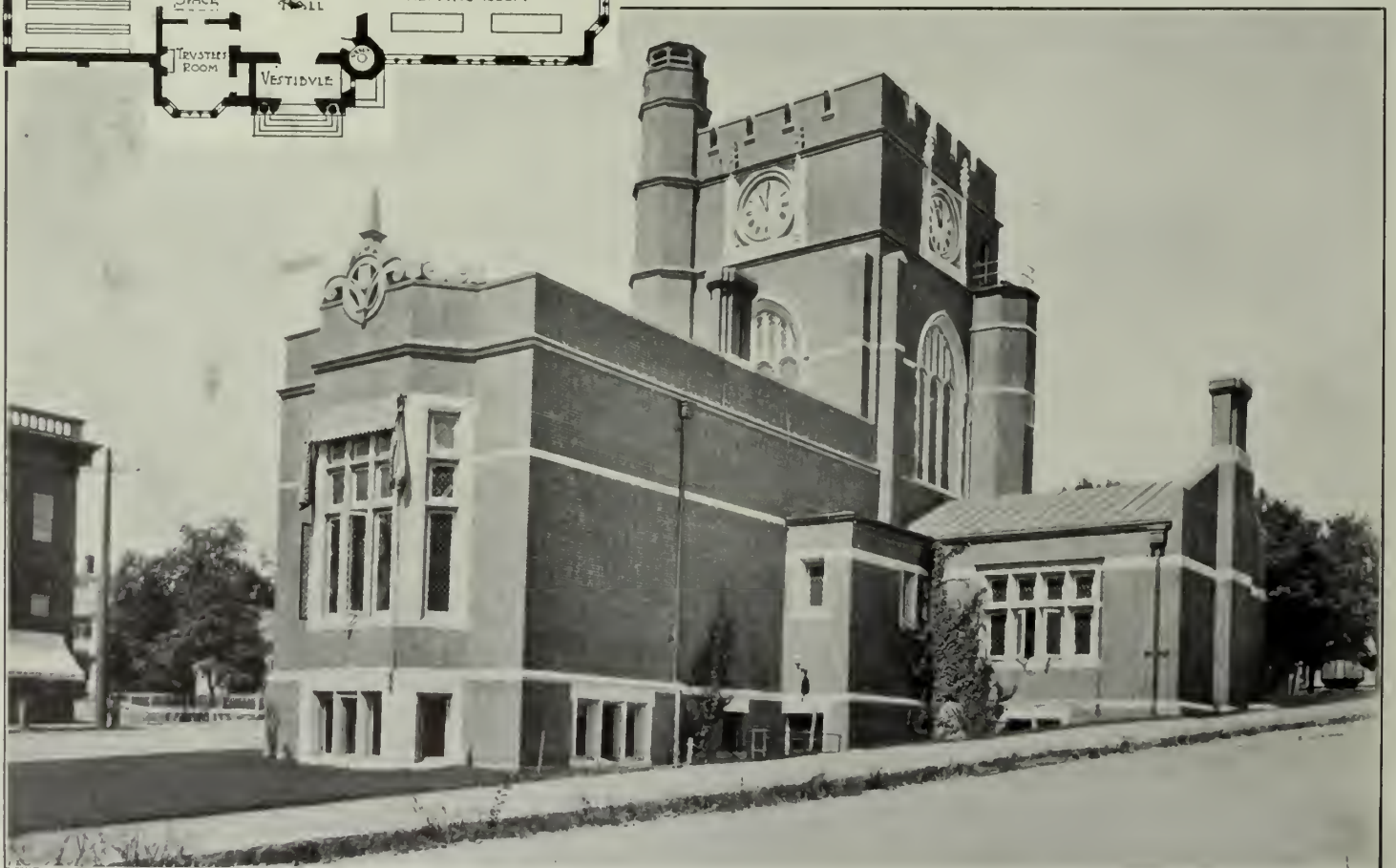
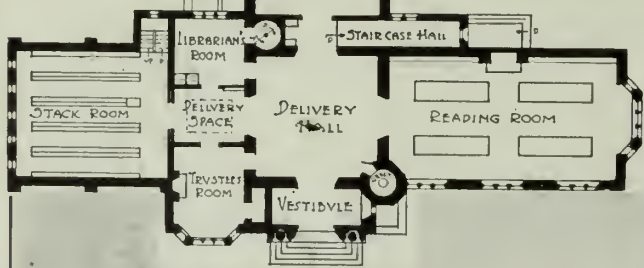


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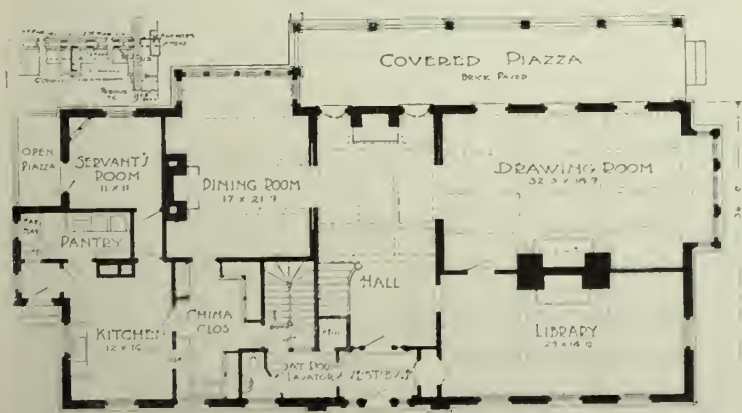


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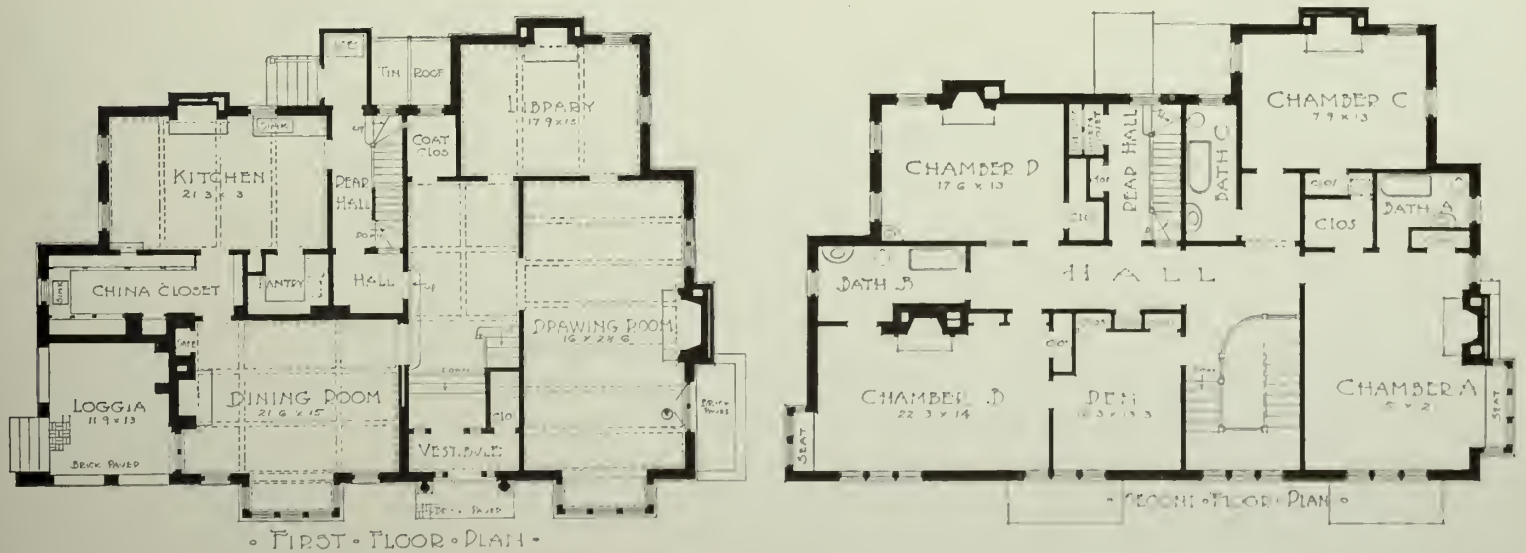
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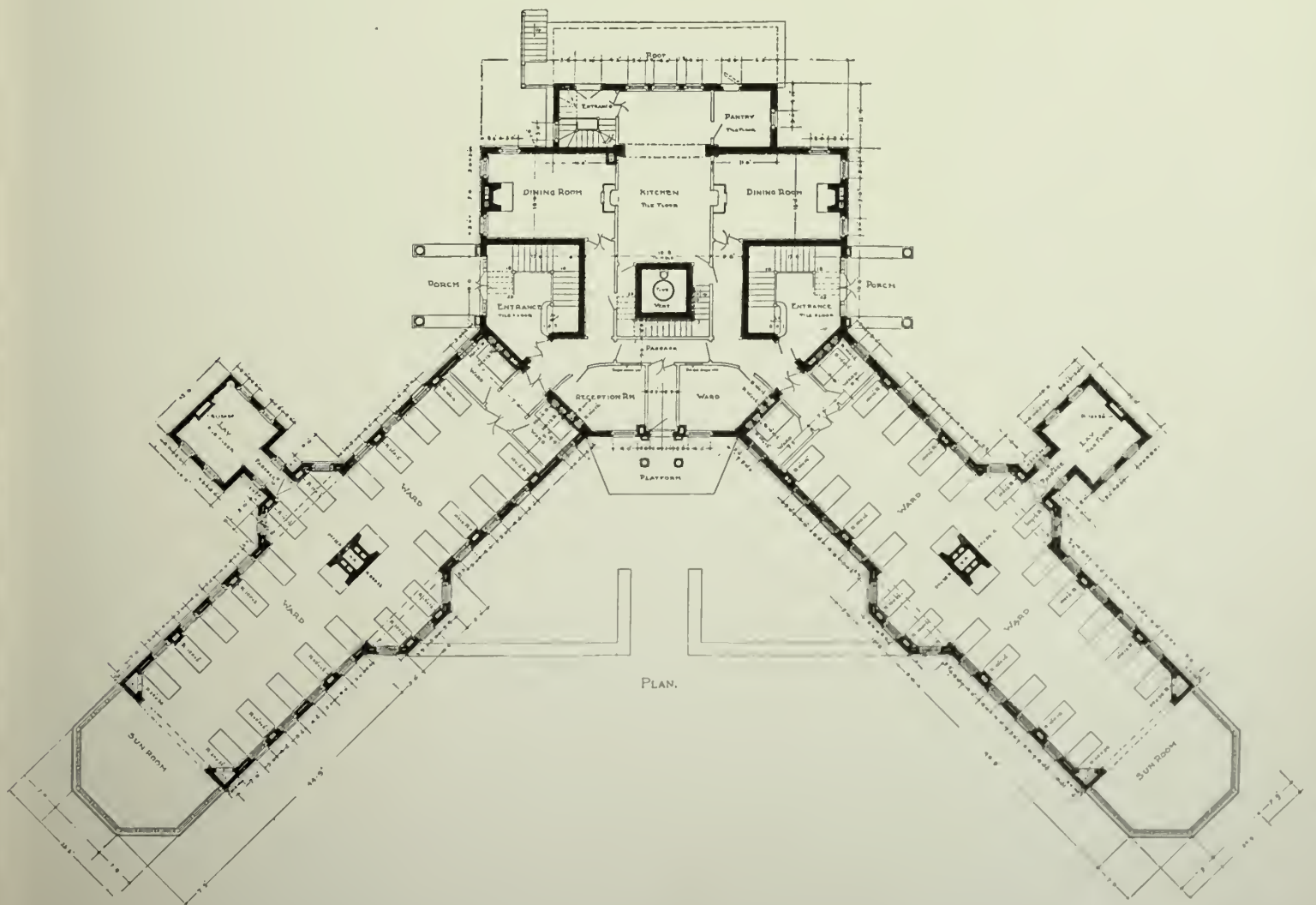


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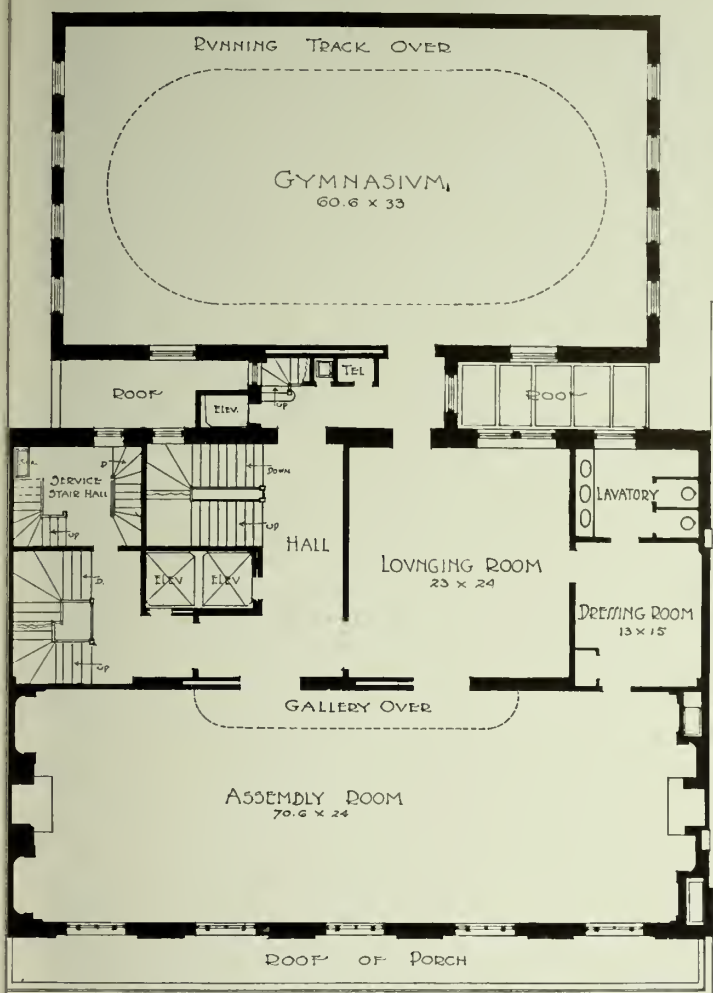
HOSPITAL FOR CONSUMPTIVES,
STATE HOSPITAL, TEWKSBURY, MASS.
JOHN A. FOX, ARCHITECT.





THE HENRY C. NEVINS HOME FOR THE AGED AND INCURABLE, METHUEN, MASS.

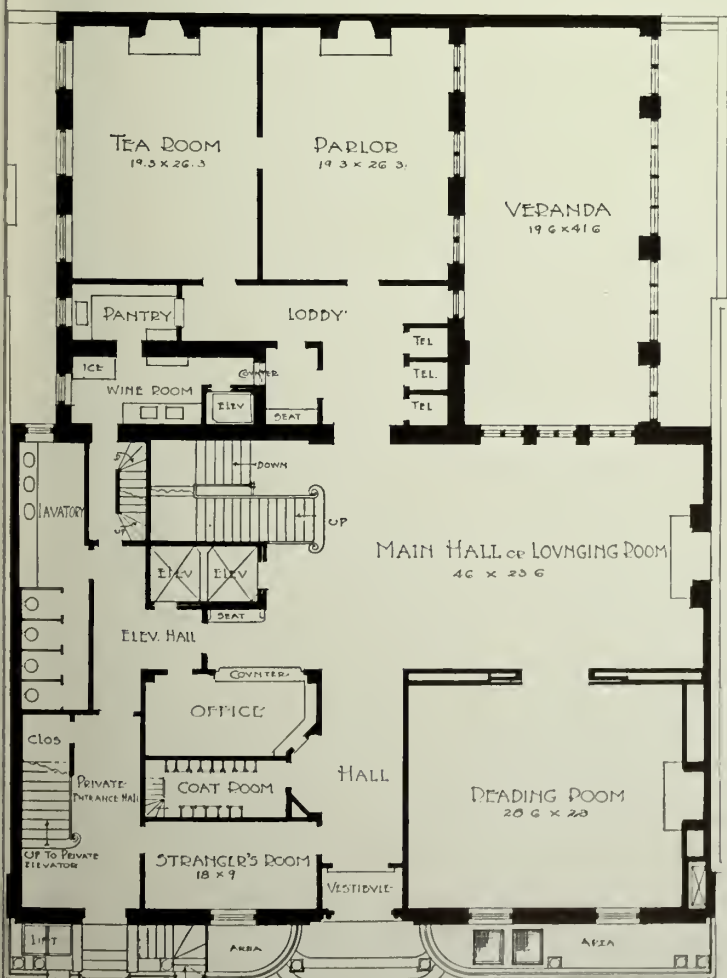
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• FIRST FLOOR PLAN •

FLOOR PLANS.
THE COLONY CLUB,
MADISON AVENUE,
NEW YORK.

MCKIM, MEAD & WHITE,
ARCHITECTS.

THE BRICKBUILDER

VOLUME XVI

MAY 1907

NUMBER 5

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	PAGE		PAGE
Agencies—Clay Products	II	Brick Enameled	III and IV
Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

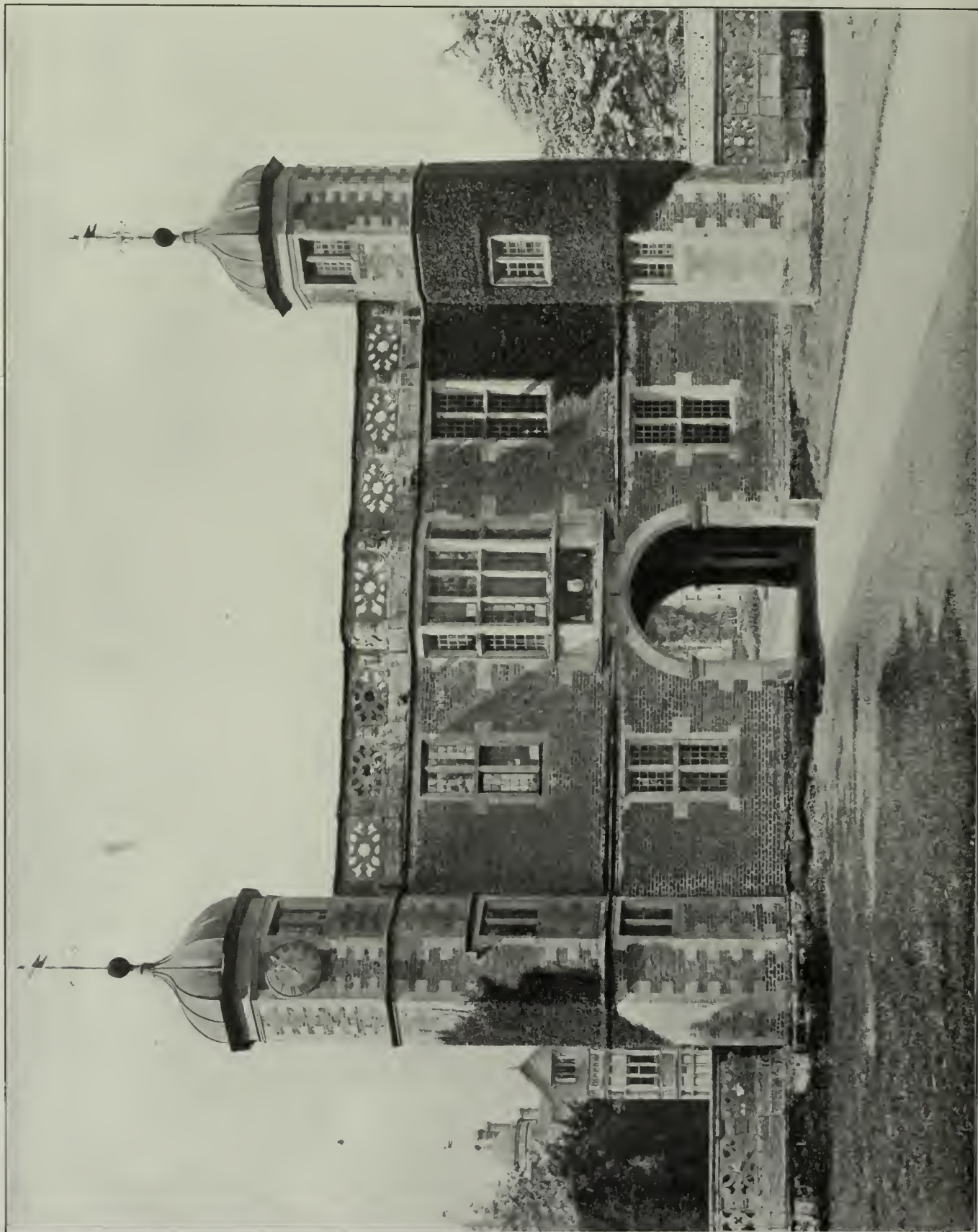
PLATE ILLUSTRATIONS

FROM WORK BY

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LETTERPRESS

	PAGE
THE GATEHOUSE AT CHARLCOTE, WARWICKSHIRE, ENGLAND	Frontispiece
EDITORIALS	73
THE NEW HOTEL TRAYMORE, ATLANTIC CITY	74
CONVENTION OF THE ARCHITECTURAL LEAGUE OF AMERICA. REPORT	77
WORK OF SUPERVISING ARCHITECT TAYLOR	79
THE MONTANA CLUB, HELENA, MONT.	Illustration 84
HORTICULTURAL BUILDING, AGRICULTURAL COLLEGE, AMHERST, MASS.	85
ELECTRICAL LABORATORY, UNION COLLEGE, SCHENECTADY, NEW YORK	85
RAILWAY STATION, PLYMOUTH, MASS.	86
RAILWAY STATION, CLEVELAND, OHIO	86
EDITORIAL COMMENT AND SELECTED MISCELLANY	87



THE GATEHOUSE AT CHARLCOTE, WARWICKSHIRE, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 5

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

MAY 1907

American Architecture.

THE marvelous progress which this country has made in the arts and sciences within the past generation is very aptly emphasized by the point of view which has been taken within the year by some of the distinguished foreigners who have visited our shores and have seen fit to comment upon the appearance of our cities. Within six months we have been inspected and passed upon by two eminent architects. Sir Aston Webb, at the beginning of the year, visited our principal cities and spoke most approvingly of what he found, treating our architecture, not as the promising work of a hopeful younger cousin, but as the serious, vigorous achievement of a race which is inheriting all the traditions which count for the most in European architecture, and is making them very rapidly into a vernacular which expresses American aspirations. Mr. Ernst E. von Ihne was one of the guests at the opening of the Carnegie Institute at Pittsburg, and, as the court architect to the German Emperor, is certainly well qualified to judge of our development. In his published utterances, from which we quote, he has evinced an enthusiasm for the American work and an appreciation of what American architects are striving to accomplish, which speaks more than mere words for the international reputation which our work has so rapidly acquired. He says:

"You are at work meeting conditions. That is the thing that architects have always to do. No nation can achieve a national architecture whose artists say: 'Let us build in the Gothic style,' or 'No, let us build in Romanesque; that is better.' A country has simply to begin and build; it will start with what style it believes best suited to its particular problems, but it will just develop as it appreciates its needs. I have my idea as to what historic style is best suited to be the foundation of your architecture, but you may find another to be the best one. That doesn't matter. The point I make now is that you in America are earnestly striving to meet the particular problems of buildings fitted for dwellings, business houses, and public halls in America,—problems different in many respects from any hitherto attacked by architects,—and you are meeting these problems with a surprising degree of success, considering how brief has been the time during which you have been at it.

"New York is most impressive in the daring and untrammelled spirit in which it is thrusting up its gigantic fabrics into the air. Consider, whoever before undertook to erect what is almost a city under a single roof on such a plot of ground as that on which stands that Flat-

iron Building? And how brilliantly you have dealt with a similar problem in the Times Building.

"You do right, precisely right, to treat these tall buildings frankly as towers. That is exactly what they are. Already you have the campanile of Giotto standing in the most conspicuous point along your thoroughfare, and, I believe, other great towers reproduced in other parts of the city.

"Your problem has been to make the most of every inch of land. The concentration of the people in the city has brought conditions from which architects of former years have been free.

"Until within the last few years architecture has had no chance. The nineteenth century was one of war and of disturbed social and political conditions and of general poverty. All the arts suffered, and especially did those which require large outlay suffer. Not only were no great buildings erected, but men forgot how to build, and when we began again it was in ignorance and forgetfulness. The result was the horrible warnings which exist on every side. If only the tradition of good building had been remembered we should have been spared all that.

"Now that we are prosperous again and minded to build, we shall do well if we go back to the eighteenth century and begin again where architects left off. Why begin at the beginning? Why puzzle again over the problems which earlier centuries have definitely settled? I consider that there are certain things pretty well determined in architecture. The sixteenth century definitely discarded Gothic as a style for domestic or commercial architecture. Conditions of life have altered since the days when Gothic was properly employed, and it is mere slavish imitation to build in it now. I do not speak of ecclesiastical architecture. Religion is essentially unchanging, and its aspirations express themselves in forms permanent and stretching from age to age. But domestic life is not to-day what it was in the middle ages, and commercial life in its modern sense is a new thing in the world.

"My belief is that the world was right in agreeing, as it did, that the classic form was the one which might best be progressively adapted to the needs of modern life. In the eighteenth century it had reached the highest development, for its purpose, of the classical style. My feeling is that we are wise in going back to that point, not to rest in its achievement, but to progress from it, having in mind always the necessity of studying our particular problem and in dealing with it freely and creatively, yet with intelligence informed of the history of past architectural endeavor."

The New Hotel Traymore, Atlantic City.

BY J. FLETCHER STREET.

PERHAPS nowhere along the coast can be found a resort which, in recent years, has more conspicuously figured in the erection of new, handsome and spacious hotels than has Atlantic City.

These new hotels adequately meet the requirements of well-regulated service and accommodations as exemplified in the best inland structures, and possess characteristics both in their arrangements and style which relate strictly to the locality in which they belong.

The most recent of these, the Traymore, occupies a peculiar position of prominence. Being situated at a bend in the boardwalk promenade, it holds the distinct advantage in the uninterrupted view obtained along this thoroughfare in both directions.

As to the style, one must admit that no school of architecture has ever included it in its curriculum, yet one confesses its power of inspiring liberal and practical ideas and that the architects have conceived an appropriate architectural scheme which is both consistent and interesting. Certainly the design has been evolved through the comprehension of the underlying principles of the problem without adherence to tradition or the guidance of precedent.

The building presents an unusual combination of effective lines and proportions. Though somewhat severe in its general aspect, it possesses a certain repose which at once impresses the beholder. However, the work, as it stands, composes but a small unit of the completed structure; immediately at the rear of this portion is the principal mass of the building which, when completed, will comprise the main features of the entire design.

In the selection of architectural terra cotta as the finished wall surface of the structure, it was necessary to so design the concrete parts as to afford curtain wall supports for this material at each floor independently. By

referring to sketch it will be seen how this was accomplished, at the same time allowing proper cover for columns and an excellent finish at beams under floor level. This permitted all the terra cotta to be put in place without any complicated and ingenious system of iron ties and clamps to hold it in its right position. Another structural point which may be mentioned is the manner in which the terra cotta balcony rails at the eighth-floor level are supported. By building a heavy, galvanized iron pipe into the concrete construction at the time of erection, staunch standards were provided. Along the railing, under the uppermost course of the terra cotta, bars of iron were extended and made secure to these posts. The

courses below this point were interlocked and secured to the concrete floor slab by dowels.

Examining the design in detail one's attention is directed first to the base of the building with its ponderous and somewhat plain masses of brick masonry. This is constructed of a red, vitrified shale brick laid up in English cross-bond with molded arches and corners. The stone facings occurring at the openings, and more prominently in the sill and base courses, are of "Kettle River Sandstone," a very pleasing material of a deep salmon shade, which harmonizes admirably with the warm tones of the brickwork and terra cotta. This stone is seen to much greater advantage in the south and side porches of the hotel, where heavy columns of the same material occur in alternate courses with



THE NEW HOTEL TRAYMORE, ATLANTIC CITY, N. J. EXTERIOR WALLS OF ARCHITECTURAL TERRA COTTA.

Price & McLanahan, Architects.

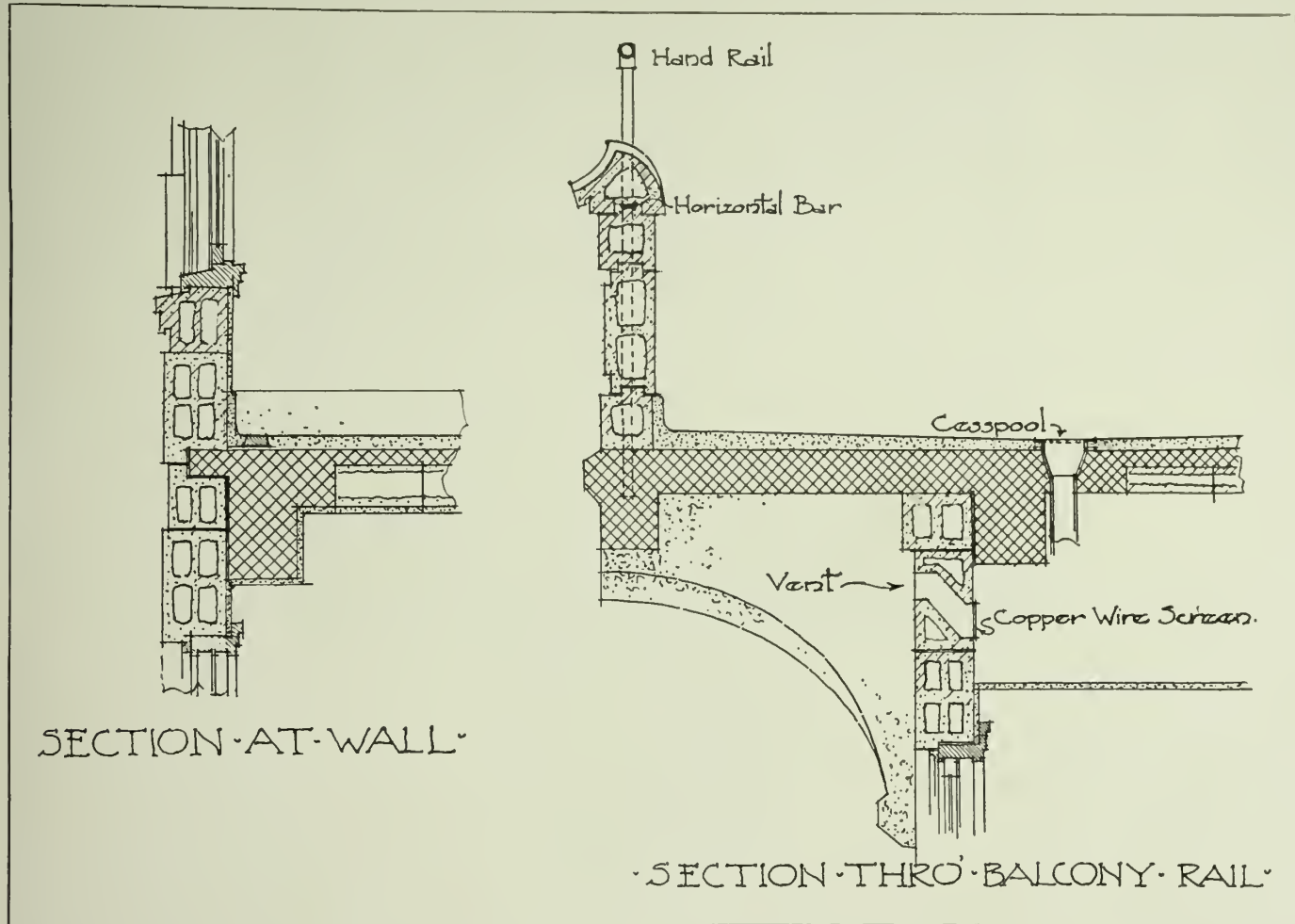
the brick piers. The design of the caps indicates some characteristic detail work. The porches extending around the three exposed sides of the hotel are particularly valuable in affording outdoor lounging space and opportunities for exercise in inclement weather. Above these porches, from the first to the eighth floor, extends an uninterrupted surface of light-colored terra-cotta. In order that every guest may enjoy a view of the sea, the bedrooms at the sides are given widely projecting bays.

The architects have helped the resultant effect of these otherwise severely plain façades by the rustication

of the terra cotta in alternate courses of nine and sixteen inches, which lends an excellent, yet simple, treatment of light and shade.

A feature of much prominence is the extended balcony at the eighth floor level, entirely surrounding the hotel. The adoption of this as the crowning member of

this point is given note by projecting bands of color in matt glazed finish. There can be no doubt that a positive color treatment of this nature is destined to create an epoch in the manufacture of clay products. Already architects are awakening to the importance of the color values gained thereby. Surely there is no other



the walls is undoubtedly more reasonable than the conventional cornice of classical styles with its abundance of intricate detail, which always appears to be painfully out of place, if not out of sight, in structures above the usual height. Naturally, at so great an elevation the balcony rail should be sufficiently high to guarantee the sensation of safety. Accomplishing this in the usual way, the view obtained generally narrows down to a liberal expanse of sky and space. In order to afford the opportunity of observing details immediately below, there has been provided a protective rail of iron above the low rail of terra cotta.

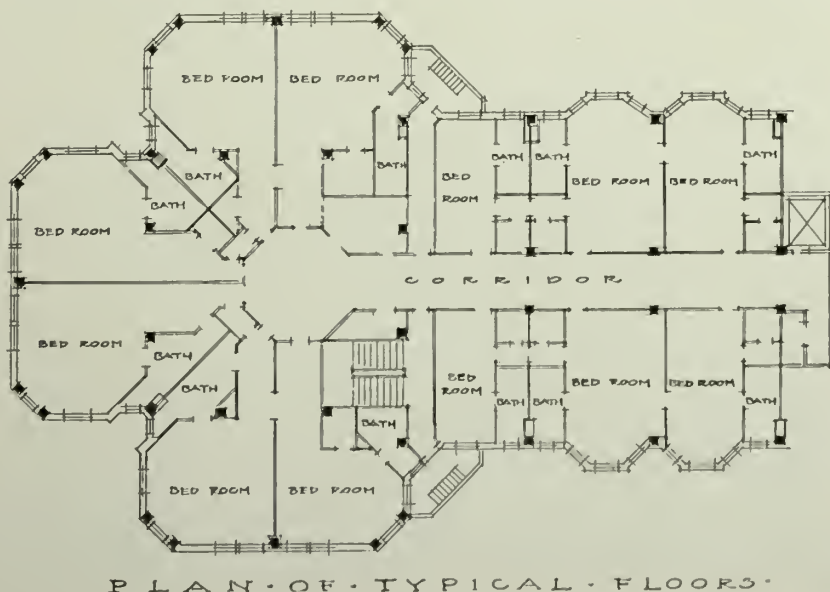
The terra cotta at

material which can compete in the production of like effects.

The color scheme finds a culmination in the low, flat dome of red tile. Against the sides of the octagonal

walls of the dome are returned the vaulted roofs of the balcony. These are happily relieved on their under surfaces by geometric designs of tile with descriptive borders. One must see these soffits illuminated with reflected light at night to realize their importance and the satisfactory results obtained through the use of these materials.

The design of the interior is largely characterized by simplicity and possesses certain



merits not common to seashore hotels. The basement, which has not yet received its treatment, will be reserved principally for amusements. Here will be placed billiard and pool tables, bowling alleys and shuffle boards, or whatever else the exigencies of its purpose shall demand.

The entire exchange floor in this new portion is devoted to the lounging room. This, however, covers but about one-fifth of the area to be finally allotted to this purpose. Notwithstanding the fact that the room is surrounded on three sides by broad porches, excellent lighting is afforded by the abundance of glass area obtained. The floor is of colored ceramic laid in geometric design. The entire scheme of illumination is interesting because of the omission of fixtures, each light being a unit of the decorative features of the plaster.

The bedroom floors partake of the usual hotel arrangements. Each bedroom has its private bath which is ventilated by means of air ducts leading through the entire height of the stories. For the base to the rooms a mat-glazed tile with sanitary cove has been adopted. The corridors between these sleeping rooms have terrazzo borders with base of the same material.

In the design of the Reading Room on the eighth floor, the architects have given a lavish treatment of ornamental plaster. Feeling the importance of grasping the opportunities which are here presented, they have made use of the eight structural columns which run up as supports to the dome by connecting them above their caps



TILE DECORATION IN SOFFITS OF THE ARCHES AT BASE OF DOME.

by a series of elliptical arches which confine an inner and lower dome. The walls at the sides are pierced with circular windows of leaded glass, which in their treatment, depict the evolution of book making in four characteristic phases.

Leading back from this room, there is a low, vaulted corridor flanked on both sides by broad conservatories.

This completed portion of the structure will represent an expenditure averaging twenty-five cents per cubic foot. No expense has been spared to provide all its appointments first-class in character.

CATHEDRAL BUILDING.

THE visitor to New York is familiar with all that has so far taken shape of the Cathedral of St. John the Divine. It has been growing at a snail's pace for nearly twenty years and is yet so little advanced that it is impossible to form any conception of what the ultimate building will be. During practically the same period, the Roman Catholic Westminster Cathedral in London has been designed, carried out, completed and occupied. We like to associate hustle and promptness with American architecture, and we are prone to consider our European cousins as wholly out of the race when it comes to speed, but in the matter of cathedral building we make a pretty poor showing, and that, too, in the wealthiest city of this country, where money has been poured out by the million for enterprises of far less public interest than the Cathedral of St. John.



COLONNADE AT FIRST FLOOR LEVEL.

Annual Convention of the Architectural League of America.

THE eighth annual convention of the Architectural League of America, held in Washington, D. C., April 22, 23 and 24, was an occasion to be remembered by every one who had the good fortune to be present.

While the number of delegates was smaller this year than usual, the area of territory represented was quite considerable, delegates being present from San Francisco, Toronto, Chicago, Detroit, Cleveland, St. Louis, Pittsburgh, Philadelphia, etc.

The programme arranged by the Washington Architectural Club, who acted as hosts, was both interesting and instructive, and reflected great credit on the resources of that organization.

The delegates assembled in the Red Room of the New Willard on Monday morning where they were welcomed by Commissioner Macfarland.

The rest of the morning was devoted to the transaction of general business. Adin B. Lacey of Philadelphia was elected speaker and S. C. Gladwin of Cleveland, secretary.

The report of the Executive Board was the most important subject considered at this session, as it contained a number of recommendations having considerable bearing on the future development of the League.

The recommendations were as follows:

"First, That permanent headquarters be established.

"Second, That a permanent secretary be elected.

"Third, That the Committees on Foreign Traveling Scholarships, the Annual and the University Fellowships be made permanent in order that the work may be continuous.

"In this connection we suggest that at this convention six members be appointed, two to serve one year, two to serve two years and two to serve three years, and that thereafter two should be elected at each convention.

"Fourth, That the Minutes of the meetings of the Executive Board be immediately transmitted to each of the clubs in order that they may be conversant with the work contemplated or performed.

"Fifth, That the membership of the League be changed from Society to Individual.

"Sixth, That interchangeable membership be established, in order that a member residing in one city and being a member of the League may upon his removal to another city become *ipso facto* a member of the League in the latter city."

At noon the delegates were entertained at luncheon by the Washington Architectural Club and the afternoon was spent in visiting Mount Vernon. This was a particularly delightful trip, the fresh delicate tints of the

spring foliage being at their best. The trip down the Potomac, even without Mount Vernon, so steeped in the poetry of by-gone days, as an objective, is well worth the time and trouble, as the river between Washington and Mount Vernon is a wide, noble stream.

The most important subject discussed on the second day was the report of the Committee on Education, by Prof. Newton A. Wells, of the University of Illinois. After reading his report Professor Wells introduced the following resolutions:

"(1) *Resolved*, That the sentiment of this body commends the present manual training movement in our system of education as being favorable to a better understanding on the part of the public of the Arts of Design.

"(2) That we commend that movement in architectural education which looks toward elevating schools of architecture to the rank of graduate schools.

"(3) That we commend the atelier movement as a worthy adjunct in school training.

"(4) That we commend as eligibility to club membership a general educational qualification not lower than graduation from high school, or its equivalent."

After considerable discussion, in which it was evident that the League was unanimous in endorsing the educational requirement for membership, the raising of the standards of education in the Architectural Schools, and in commending the educational work of the Society of Beaux Arts Architects, the resolutions were adopted.

After luncheon the delegates were received by President Roosevelt in the East Room of the White House. The President told the delegates that he took a peculiar interest in the profession which they represented, and that he was heartily in sympathy with the development of Washington along harmonious lines, and would do what he could to aid in making Washington one of the most beautiful cities in the

country. After the reception by the President of the United States the delegates were conducted in automobiles to the Capitol, the Congressional Library, the new Union Station, and other buildings in course of erection.

Later in the afternoon the League attended a reception tendered them by Mr. Chas. M. Foulke, President of the National Society of the Fine Arts, and had an opportunity of seeing Mr. Foulke's beautiful tapestries and listening to his graphic descriptions of the stories they embodied.

Mr. Foulke is said, by those capable of judging, to have one of the most remarkable collections of tapestries in the United States.

In the evening Glenn Brown lectured on the Artistic Development of Washington, in the Red Room of the New Willard Hotel. The lecture was illustrated by stereopticon, and was much appreciated.

The principal business of the third and final session of the Convention was the consideration of the report of



J. P. HYNES, PRESIDENT
ARCHITECTURAL LEAGUE OF
AMERICA.

the special committee appointed to discuss the Standing Committee's reports, and to elect a president for the ensuing year.

The report of the Special Committee was as follows:

"(1) That an individual membership be added to the League, and for this purpose a special committee be appointed by the Chairman of this Convention which shall report to the Executive Board within three months, and the Executive Board shall report to the individual societies during October, 1907. On the majority of the active members consenting to the amendment, the Executive Board shall proceed forthwith to the establishment of the individual membership, subject to the ratification of this at the next convention.

"(2) That the Executive Board be empowered by this Convention to establish permanent headquarters in Washington, and appoint an assistant secretary, provided that such may be done within the revenues of the League.

"(3) That the Executive Board endeavor to have the clubs who are active members forming this League, alter their constitutions to permit of the interchange of memberships; the question of a uniform minimum non-resident fee to be satisfactorily adjusted.

"(4) That Section 32 of Article VIII be struck out and replaced, the amended reading of the section to be as follows :

"The standing committees of the League shall each consist of three members, to be appointed by the Speaker at each Convention, one to serve for one year, one for two years and one for three years; and after the expiration of the one-year term one member shall be appointed by the chairman of each convention to serve three years. The member of the committee holding the senior appointment shall be chairman. The standing committees of the League shall be as follows: Publicity and Promotion, Education, Traveling Scholarships, Architectural Annual, and University Scholarships.

"(5) That the incoming Executive Board be recommended to send copies of the minutes of its meetings to the secretary of each club which is an active member of the League.

"(6) That the League continue to publish the Architectural Annual.

"(7) That the traveling scholarship be held only when the revenues of the League warrant the necessary expenditure.

"(8) That the European Tour Committee be continued."

After considerable discussion as to the advisability of securing a permanent secretary and the practicability of fixing uniform, reasonable, non-residence membership dues for the various clubs constituting the League, the report was adopted.

The invitation of the Detroit Architectural Club to hold the Convention in Detroit in June of next year was accepted. The invitation of the Detroit Club was seconded by the Mayor of Detroit, the Detroit Chapter of the American Institute of Architects and other organizations.

The Convention then proceeded to elect the new president. The balloting resulted unanimously in favor of J. P. Hynes of Toronto.

The following standing committees were then elected:

PUBLICITY AND PROMOTION: Jesse N. Watson of St. Louis, three years. (Senior member.) Alfred S. Alschuler of Chicago, two years. (Senior *next* year.) Alex. M. Adams of Philadelphia, one year. (Junior member.)

EDUCATION: Prof. Newton A. Wells of Urbana, Ill. (Senior member.) H. V. Von Holst of Chicago, two years. Frederick M. Mann of St. Louis (Washington University), one year.

TRAVELING SCHOLARSHIPS: Prof. Percy Ash of George Washington University, Washington, three years. Albert G. Skeel of Cleveland, two years. S. C. Gladwin of Cleveland, one year.

ARCHITECTURAL ANNUAL: Edmund H. Poggi of Philadelphia, three years. Chas. Mason Remy of Washington, two years. N. Max Dunning of Chicago, one year.

UNIVERSITY FELLOWSHIPS: Prof. Emil Lorch of the University of Michigan and the Detroit Club, for three years. August G. Headman of San Francisco, two years. Charles T. Ingham of Pittsburg, one year.

SPECIAL COMMITTEE on Individual Membership: E. Helfensteller, Jr., Wm. B. Ittner, John C. Stephens, all of St. Louis.

SPECIAL COMMITTEE on European Tour: Prof. N. A. Wells of Urbana, Ill.

The convention, after extending a vote of thanks to the speaker and secretary and to the Washington Architectural Club, adjourned.

After the adjournment the delegates were given a reception by the Washington Chapter of the American Institute of Architects at the Octagon. Glenn Brown explained the interesting features of this delightful old building to the visitors.

After leaving the Octagon the delegates were taken in automobiles through the residential section of the city, visiting, among other places, Tudor Place in Georgetown. This historic mansion was designed by Thornton, who was also the architect of the Octagon, and the members of the League had the opportunity of comparing the actual building with Thornton's sketches which adorn the wall of Mr. Brown's office in the Octagon.

The convention was brought to a close with a banquet at the New Willard, one of the most attractive banquets ever held by the League and a fitting close to the Convention. The Red Room looked unusually attractive with the great table which was beautifully decorated with early blossoms, round which the members of the League and their guests were seated. Waddy B. Wood acted as toastmaster. Speeches were made by Commissioner H. L. West, who spoke at some length on the beautification of Washington; by Thomas Nelson Page, who spoke on Thomas Jefferson; by Representative Richard Bartholdt of Missouri, Chairman Committee on Buildings and Grounds; James Knox Taylor, Supervising Architect; Cass Gilbert; Lloyd Warren, President of the Society of Beaux Arts Architects; J. H. Moser, President of the Washington Water Color Society; Glenn Brown, Secretary of the American Institute of Architects; J. P. Hynes, the newly elected President of the League; W. D. Windom, President of the Washington Architectural Club; Franklin W. Smith of Washington; E. J. Russell; N. Max Dunning and Prof. Percy Ash.

Work of Supervising Architect Taylor.

A REVIEW of the work done by James Knox Taylor, Supervising Architect of the United States Treasury Department, discloses in the designing and planning of the vast number of government buildings erected during his incumbency a splendid success in keeping abreast with the spirit of the times. Not only is this fact evidenced in the large or monumental types

izing the types of small buildings designed by Mr. Taylor. Excellent effect is obtained by breaking the outline with side wings and a rear pavilion, and by carrying the parapet level of the pavilion above that of the wings and in turn subordinating the height of all these to that of the front pavilion, which is made the salient feature in design and treated with pleasing refinement.

In working out the scheme of this building, Mr. Taylor has produced an impressive and nicely balanced struc-



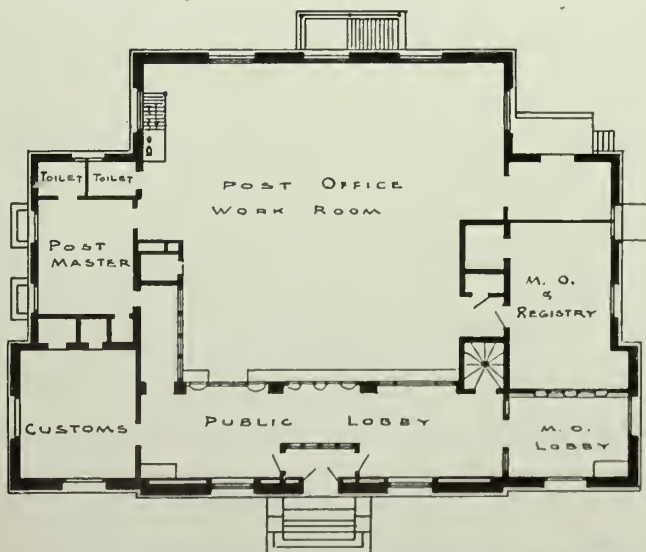
POST OFFICE AND CUSTOM HOUSE, MUSKEGON, MICH.

of structures, but in the smaller buildings also, which show that he has not departed in a single instance into disregard of this spirit which demands the best always in small as well as in large things. It is the purpose of this article — and will be that of others succeeding it — to illustrate a number of these smaller types of buildings which, by reason of their modest size and moderate cost, have come into local prominence only.

The buildings which have been selected to serve the purpose in hand have been erected at a cost not exceeding \$100,000 each.

The plan of the United States Federal Building, erected at Muskegon, Mich., shows a radical departure from the customary unbroken rectangular form character-

ture, designed in the modern Renaissance style of architecture, and well adapted to meet the requirements of both the postal and customs services for which it is intended.



FIRST FLOOR PLAN, POST OFFICE AND CUSTOM HOUSE, MUSKEGON, MICH.

Rising from a widely projecting base of gray granite, the superstructure is faced to the entablature and parapet lines, with light gray bricks laid in Flemish bond. For entablatures, parapets, quoins, keystones, door and window trims and all ornamental members, limestone is employed.

The building is one hundred feet in extreme width by sixty-five in greatest depth and cost, exclusive of steam heating and furniture equipment, \$69,000. It is of fire-proof floor construction, hard wood standing finish in office rooms and lobbies with marble floors in latter.

The United States Government Building at Champaign, Ill., was erected to meet the requirements of the postal service solely. It is ninety-five feet in length by fifty-five feet in width, and cost, exclusive of heating apparatus, furniture equipment and purchase of site, \$60,000. This building is designed in the modern Renaissance style of architecture, with a well-sustained Italian motif, presenting an interesting type of the use of

good type of the "much in little" buildings designed by Mr. Taylor.

The requirements to be met in planning for the needs of two branches of government work,—the postal and customs services—demanded by reason of the limited volume of business in each branch, essentially a one-story and basement structure of comparatively modest proportions and moderate cost. In size the building is



POST OFFICE, CHAMPAIGN, ILL.

clay products in combination, and demonstrating forcibly the perfect adaptability of terra cotta to structural and ornamental purposes. A feature deserving more than mere cursory notice is introduced by breaking the front façade with a shallow pavilion constructed entirely of light-colored terra cotta, which makes a well-defined yet unobtrusive contrast with the adjacent red brick facings, and gives a pleasing prominence to the pavilion. Light terra cotta is also used for quoins, window trims, entablature, balustrade, all ornamental elements, the first-story sill course, and facings below same including the water table.

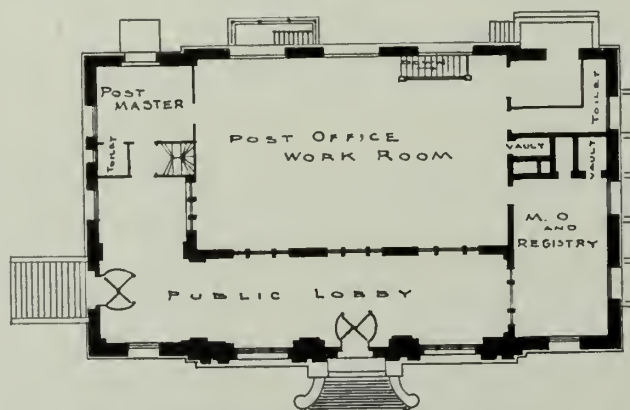
The superstructure rises from a white granite base, and is faced with dark red brick laid in Flemish bond.

The building is of fireproof construction throughout and heated by steam. Hard wood is used for finish in office rooms and the lobby, which has marble floors in addition to the hard wood finish.

The United States Post Office and Custom House erected at Traverse City, Mich., serves as a specially

sixty feet long by fifty feet wide, effectively designed in the modern classic style with a strong Colonial feeling, and is a good example of the use of the simpler forms characteristic of that style. The superstructure is faced with dark red brick laid in Flemish bond rising above a water table and base of white granite and surmounted by

limestone cornice and balustrade, screening a low pitched roof. Limestone is also used for quoins, keystone voussoirs, archivolt and imposts of the arch over the main entrance and for the terminals and keystones of arches over the window openings. In the absence of projecting features, avoidance of an undesirable plainness of unbroken wall surfaces is obtained by recessing the window openings, and a touch of ornateness is secured by the introduction of carved



FIRST FLOOR PLAN, POST OFFICE, CHAMPAIGN, ILL.

voussoirs and keystone over the main entrance and fretwork in the cornice.

The building is fireproof throughout, heated by low pressure steam, and cost, exclusive of furniture equipment, heating apparatus and expenditure for site, forty

thousand dollars. Hard wood is used for standing finish in all offices and lobbies and the latter have marble floors in addition to the wood finish.

In designing the United States Post Office building at Sterling, Ill., Mr. Taylor has used the modern Roman Doric style of architecture and has secured excellent re-

ment, \$45,000. It is of partial fireproof construction,—this form being confined to the first floor,—is heated by low pressure steam and finished in hard wood.

An excellent type of a United States court house, post office and custom house, erected at a cost of less than \$100,000, is presented in the gov-



POST OFFICE AND CUSTOM HOUSE, TRAVERSE CITY, MICH.

sults in his handling of this simple yet graceful style. Plainness of outline is nicely avoided by the employment of pilasters and recessed window openings and by making ornamental features in the treatment of the front and side doorways.

Starting from a base of limestone, the superstructure is faced up to and including the first story window sill course with light terra cotta. Above the sill course and extending to the entablature, the facings are of light red brick laid in Flemish bond with diaper work effectively produced by the introduction of dark red headers.

Light terra cotta is also used for imposts, keystones, pilaster caps and also for the ornamental work of the doorways.

The building is seventy feet in length by fifty in width, and cost, exclusive of heating apparatus and furniture equip-

ment building erected at Elizabeth City, N. C.

In designing this building Mr. Taylor has selected a style of architecture admirably suited to southern latitudes, and has produced a nicely proportioned and imposing structure, thoroughly adapted to the requirements of the judicial, postal and customs branches of the government service. Good effect is obtained by the introduction of shallow pavilions on the ends of the front and rear façades and by the use of harmoniously contrasting constructive materials.

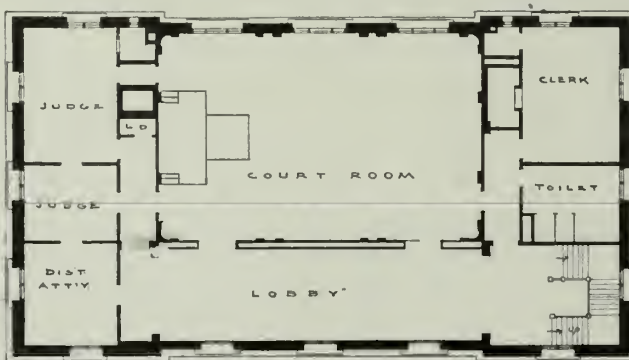
Gray granite is employed for facings up to the first floor line; above that level, and extending to and including the second story window sill course, the facings are of Bedford stone; for the remainder of the superstructure the facings are of light colored brick laid in Flemish bond. Bedford stone is also used for



FIRST FLOOR PLAN, POST OFFICE AND CUSTOM HOUSE, TRAVERSE CITY, MICH.



POST OFFICE, COURT HOUSE AND CUSTOM HOUSE, ELIZABETH CITY, N. C.

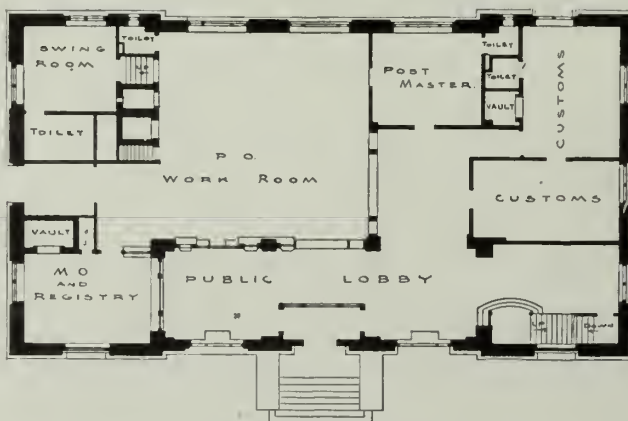


SECOND FLOOR PLAN.

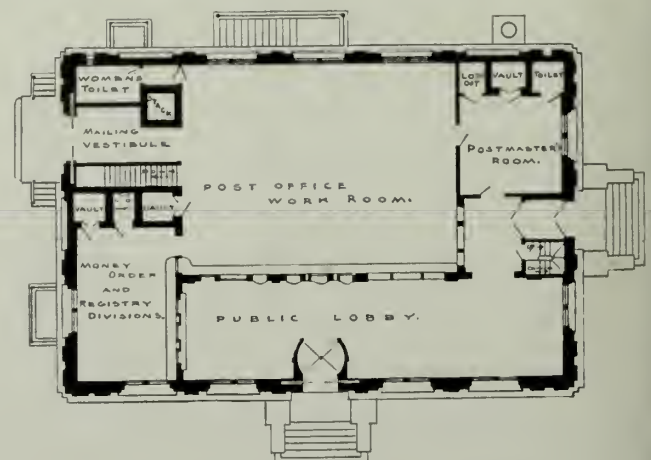
(ELIZABETH CITY.)



THIRD FLOOR PLAN.



FIRST FLOOR PLAN.

POST OFFICE, COURT HOUSE AND CUSTOM HOUSE,
ELIZABETH CITY, N. C.

FIRST FLOOR PLAN, POST OFFICE, STERLING, ILL.



POST OFFICE AT STERLING, ILL.

pediments, keystones, window trimmings and other ornamental elements. Hard wood is used for standing finish in all principal rooms in each story and the lobbies and corridors have marble floors.

The building is ninety-eight feet in length by fifty-five feet in width, of fireproof construction throughout and heated by steam; its cost, exclusive of furniture, heating and lighting equipment, was \$99,000.

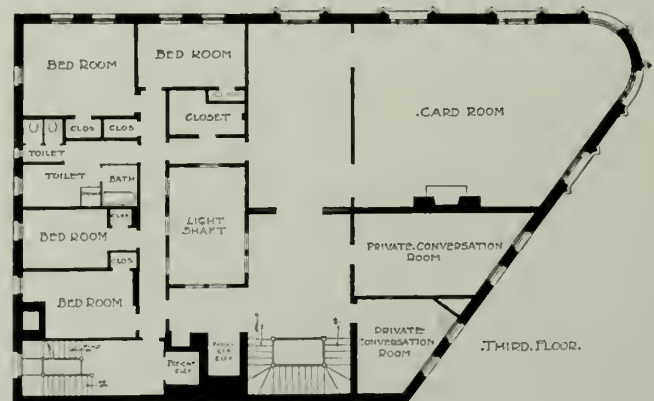
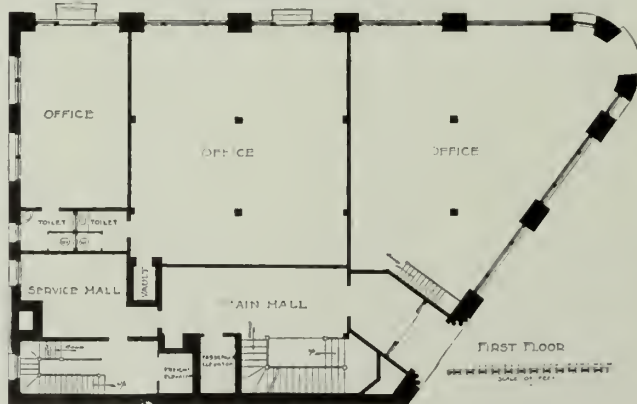
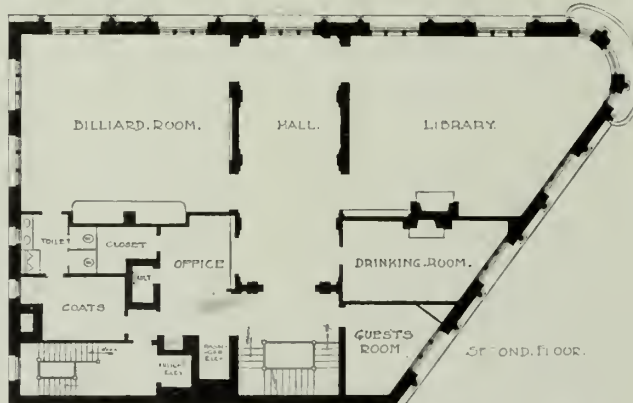
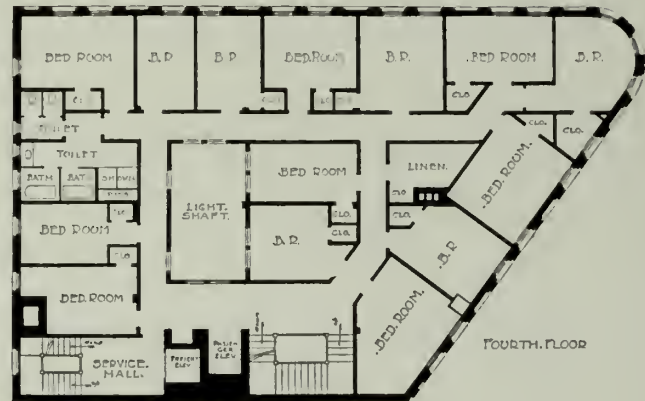
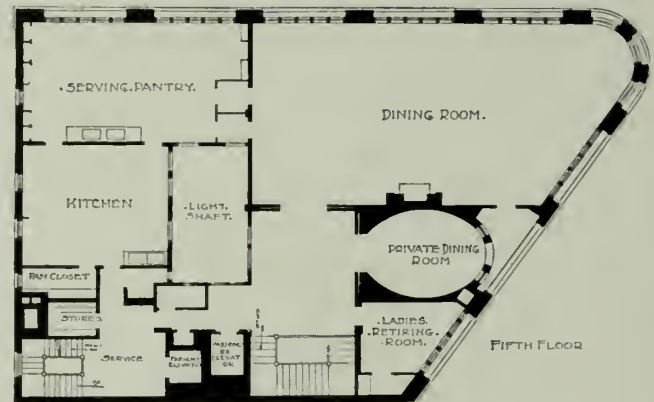
VARIATIONS IN BRICK AND STONE.

OUR attention was called a short time since to the remains of what had once been a house dating from the Colonial period. The chimneys had been built supposedly of very excellent brick and their remains had been lying exposed to the weather throughout the whole winter and were now in such condition that hardly a single piece of burnt clay was intact. The query was raised, why brick should disintegrate, and that brought out the very commonly heard statement that our questioner assumed all bricks were alike and that almost any brick is fit to use in a building if laid up properly. It is never safe to assume that brick is enduring and suitable for building operations unless we know its composition. The most potent factor which must be guarded against is the presence of salts of magnesia. It is only a question of time when brick in which these salts are present in any appreciable quantity will be badly influenced by the weather, and we have seen brick which, when fresh from the kiln, gave every mechanical evidence of being of best quality, so shattered and disintegrated by the combined effect of moisture, frost, and the chemical action of the magnesia, that a knife could be thrust straight into the heart of the brick with very little effort. Fortunately, there is so much good clay in

this country and so many thoroughly reliable brick manufacturers that there is really no excuse for bad brick ever being used, but any brick is not necessarily, therefore, good brick, and care and intelligent discretion must be used in the employment of this material as it should be used in connection with any building medium.

There is a common conception that granite is one of the most enduring stones, but it certainly is not so in our climate, and as a matter of fact most granites would be outlived by thoroughly first quality hard burned brick. A pure syenite, free from iron or mica, constitutes the most enduring of the granites. A granite quarry may have good stone in some portions of the deposit and be utterly worthless in others, and as a general rule it is not safe to use a granite unless the architect knows absolutely its composition and the part of the quarry from which it is taken.

Sandstones, which were formerly so much used in the East, are really the poorest building material in the market. The cementing material in sandstone has a very slight value, and it is probably the poorest material extensively used, as far as resisting the action of frost is concerned, while the presence of iron constitutes an almost fatal defect. It may be said also that very little sandstone is free from iron.



THE MONTANA CLUB, HELENA, MONT.

Cass Gilbert, Architect.



HORTICULTURAL BUILDING, MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.
W. R. B. Willcox, Architect.



ELECTRICAL LABORATORY, UNION COLLEGE, SCHENECTADY, N. Y.
Ludlow & Valentine, Architects.



RAILWAY STATION, PLYMOUTH, MASS.
Shepley, Rutan & Coolidge, Architects.



RAILWAY STATION, EUCLID AVENUE, CLEVELAND.
D. H. Burnham & Co., Architects.

Editorial Comment and Selected Miscellany

THE PATRICK HENRY SCHOOL, ST. LOUIS.

(See plates 72, 73, 74)

THE problem presented in this school building is somewhat different from the usual one, for the reason that the site is long and narrow, surrounded by streets on three sides, the remaining side fronting an alley, which is likely to be built up with warehouse or other tall buildings. This necessitated the adopting of a plan placing the classrooms on the street fronts, where the light can never be interrupted or the air space encroached upon; the corridor occupying the less desirable location along the alley.

The building contains twenty-one classrooms, a kindergarten, principal's office and supply room, the equivalent of twenty-four classrooms.



LAW BUILDING, OHIO STATE UNIVERSITY, COLUMBUS.

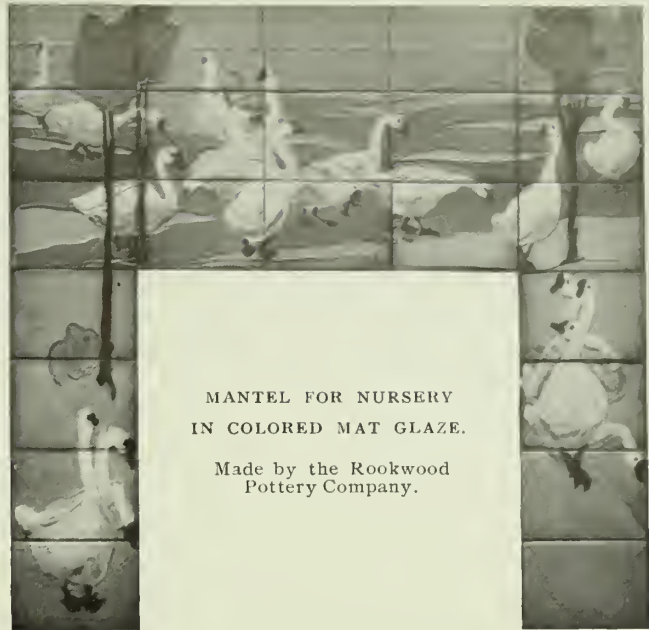
W. Stillman, Architect.

Roofed with 10-inch Conosera Tile made by Ludowici-Celadon Company. Built of speckled buff brick made by Columbus Brick & Terra Cotta Company.

The basement provides large playrooms, rooms for physical culture for boys and girls, with shower baths and lockers. These rooms being arranged with reference to their probable use during the school vacation. The basement also contains the general toilets and rooms for the heating and ventilating system.

Where the average cubical contents of the school buildings recently erected in St. Louis has been about 935,000 cubic feet, this building, on account of the excess corridor space and enlarged basement story, contains about 1,200,000 cubic feet. The contract prices at which the work was let were:

General work	\$161,357.13
Plumbing	9,230.00
Heating and ventilating	20,678.00
	<hr/>
	\$191,265.13



THE 41ST PRECINCT POLICE STATION, MOSHOLU PARKWAY, THE BRONX, NEW YORK.

(See plates 75, 76, 77)

THE house is fifty by eighty feet, built of dark red brick of two shades and textures, laid in patterns, with wide, deep joints, trimmed with gray stone and terra cotta. The great eaves are supported by wooden brackets, painted green; and the roof covering of cobalt blue glazed Spanish tiles.

The lower story of the tower is a vaulted porch under which the patrol wagon stops to discharge its prisoners, who are taken into the Muster Room by this entrance, apart from the public. The clock has three terra cotta faces with gilt figures and pointers, covered by pent roofs of blue tiles.

The interior arrangement is simple. A large Muster Room, with bells and speaking tubes connecting all parts of the building with sergeant's desk, occupies the front part of the first story. From it open the captain's suite



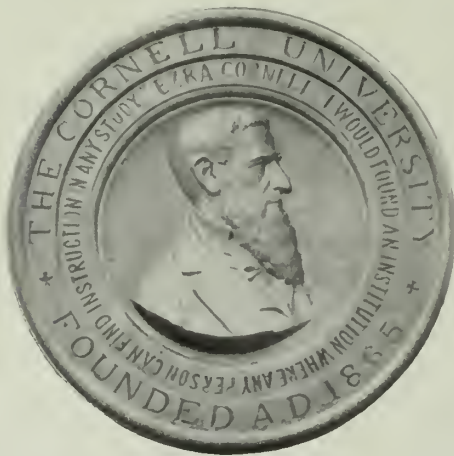
PUBLIC LIBRARY, GOSHEN, IND.

Roofed with American "S" tile, made by Cincinnati Roofing Tile & Terra Cotta Company.

of offices, bedroom and bath, the detectives' office, the men's sitting-room, and the men's and women's prisons, of eight and four steel cells respectively, the latter connected with the matron's room.

The second and third stories contain six section rooms for fourteen patrolmen each, with individual lockers, and seven rooms for sergeants, detectives and roundsmen, two in a room. On these floors the lavatories occupy the tower rooms, the upper story of the tower being used for ventilation.

The stable is a separate building, with stalls for fourteen horses, a wagon room and feed loft, a harness room with individual lockers, a bicycle room and store closet.



MEDALLION OF EZRA CORNELL, STATE AGRICULTURAL COLLEGE, ITHACA, N. Y.
Made by Brick Terra Cotta & Tile Company.

THE FIREPROOFING OF CONCRETE.

Extract from paper read before The Engineers' Club of Philadelphia, by William Copeland Furber, C. E.

THE fireproofing of concrete structures is one that deserves as much study as the fireproofing of iron structures. The advocates of reinforced concrete construction do themselves no credit, and do their material a great deal of harm, by claiming that concrete is a fireproof material. The simplest tests which can be made by a school boy will prove that cement after setting cannot resist fire without detriment, and the point of absolute structural disintegration is determined solely by the length of time it is kept in contact



DETAIL BY INDIANAPOLIS TERRA COTTA COMPANY.

The patrol wagon drives into the rear of the wagon room and stands, without the necessity of turning around, in readiness to go out again at the front. A novel feature is the morgue, attached to the stable, but entered from outdoors, of great use in certain emergencies of crime or accident.



DETAIL FOR MEDICO CHIRURGICAL HOSPITAL, PHILADELPHIA, PA.
Herman Miller, Architect.
Conkling-Armstrong Terra Cotta Co., Makers.

with the fire. A few briquets, the kitchen range and a bucket of water, will prove this in a most practical and satisfying way and remove any lingering doubt one may have on the subject. Chemically, this conclusion can be justified by recalling that in the setting of cement from ten to twenty-five per cent is crystallized into the new mixture and remains there, not in the form of dampness—for the material can be perfectly

dry—but as a chemical compound of the mass, and knowing this, it can also be shown that this combination can be broken up and separated again by heat, which brings the cement back to somewhat the original form it had before being mixed with water. All this being proven or admitted, it is next in order to find a method to protect the concrete from reaching high temperatures, and our experience in fireproofing iron work will help us in this direction. Porous fire-clay blocks are useful as a slow conductor of heat, and they will also withstand high temperatures without changing their chemical composition, and, in addition, their porous nature gives them the ability to resist sudden changes of temperature without fracture.



DETAIL BY SEYMOUR AND PAUL DAVIS, ARCHITECTS.

New York Architectural Terra Cotta Company, Makers.

By protecting the structural parts of the construction with this material, it is possible to construct a building of great fire-resisting capacity at a cost considerably less than structural steel fireproofed with the same material.

The porous terra cotta manufacturers have provided a material which can be easily laid with the centering and which unites with the concrete, forming a monolithic structure with a protecting surface of porous fire-clay terra cotta.

BUILDING OPERATIONS FOR APRIL.

BUILDING statistics from fifty-four leading cities throughout the country officially reported to *The American Contractor*, New York,



MEDALLIONS FOR ST. AMBROSE CHURCH, BROOKLYN. George H. Streeton, Architect.
Atlantic Terra Cotta Company, Makers.

and tabulated, show a gradual increase, as the season progresses, over similar reports for the same month in 1906, showing a widely distributed building activity for April. In the aggregate the gain, as compared with April, 1906, is a trifle over 5 per cent. Twenty-six cities show gains ranging from 6 to 199 per cent, and twenty-eight show a loss varying from 2 to 77 per cent. Greater New York is rapidly recovering her wonted building activity; while falling behind during the past few months, the figures for April show a gain of 17 per cent over April of the previous year. The percentage of gain in other cities is shown by the following figures: Baltimore, 6; Bridgeport, 99; Denver, 7; Harrisburg, 44; Louisville, 35; Milwaukee, 46; Minneapolis, 28; Memphis, 6; Mobile, 42; Newark, 63; Philadelphia, 69; Paterson, 74; Portland, 199; San Antonio, 78; Scranton, 28; Spokane, 16; Syracuse, 52; Tacoma, 48; Worcester, 50. The principal losses fall on the following named cities: Atlanta, 20; Birmingham, 27; Chicago, 56; Evansville, 35; Fall River, 77; Grand Rapids, 22; Indianapolis, 20; Kansas City, 20; Los Angeles, 27; Nashville, 28; New Haven, 25; New Orleans, 26; Pittsburg, 67; St. Louis, 42; Seattle, 31; Wilkesbarre, 34; Winnipeg, 45. Many of the latter can afford this loss and still show a great building activity as compared with several years ago.



DETAIL BY FRANK S. LOWE, ARCHITECT.
Made by South Amboy Terra Cotta Company.

ROTCH TRAVELING SCHOLARSHIP.

THE award of the Rotch Traveling Scholarship has been made this year to

Otto Faelten, who has been studying in the Boston office of Parker & Thomas. The programme for the competition in design called for "A Chief Synagogue for New York City," and was worked out very interestingly by

all the competitors. A judgment was made by a jury consisting of Messrs. Howard Van Doren Shaw, Thomas Hastings and Harold Van Buren Magonigle. The second prize offered by the Boston Society of Architects was awarded to Horace G. Simpson, of the office of Putnam & Cox. The Scholarship has been in operation now for twenty-four years. Mr. Faelten, the present winner, was not born at the time the Scholarship was endowed by the Rotch heirs, and he consequently forms the beginning of the second generation of prize holders. This constitutes, in many respects, the highest architectural prize within the reach of the younger men, and without an exception the twenty-three

men who have held it in the past have made a good record for themselves and have brought credit to their training and to the Scholarship.

COMPETITION FOR A FAIENCE MANTEL.

THE Hartford Faience Company held recently among the Ateliers of the Society of Beaux Arts a competition for a faience



DETAIL BY HENRY BAECHLIN, ARCHITECT.
Made by New Jersey Terra Cotta Company.



BRANCH OF COMMERCIAL TRUST AND SAVINGS BANK,
NEW ORLEANS.

Frank P. Gravely Co., Architect.
Built of white terra cotta, made by Northwestern Terra Cotta Co.

mantel, offering \$200 in cash prizes. Members of Ateliers in the cities of New York, Philadelphia, Washington, St. Louis, Pittsburg, San Francisco, Minneapolis, St. Paul and Kansas City competed. The judges were C. Grant LaFarge, Benjamin W. Morris and J. Munroe Hewlett.

IN GENERAL.

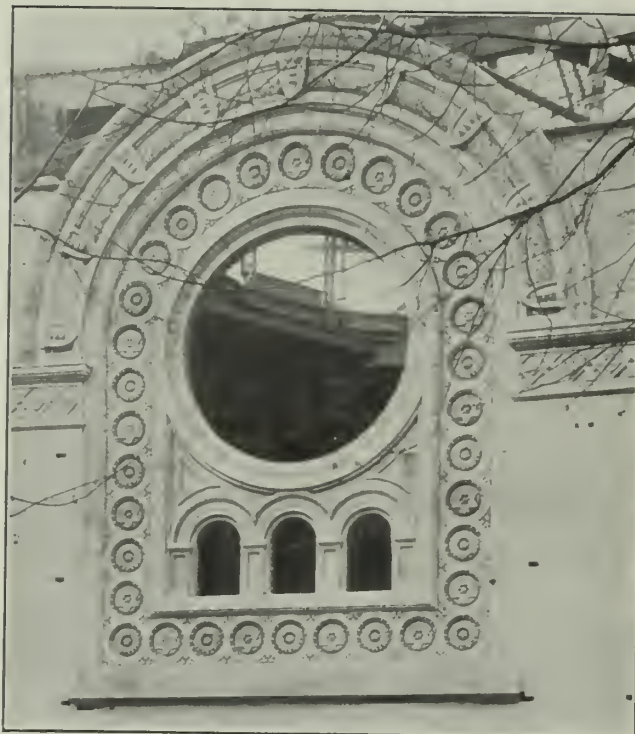
Carrère & Hastings announce the removal of their offices to the Brunswick Building, 225 Fifth Avenue, New York.

The New York Architectural Terra Cotta Company announce the removal of their offices to the Brunswick Building, 225 Fifth Avenue, New York.

The architectural terra cotta used in the Automobile Club of America, Ernest Flagg, architect, was furnished by The Atlantic Terra Cotta Company.

The terra cotta used in the new Hotel Traymore, Atlantic City, illustrated in this issue, was made by the Conkling-Armstrong Terra Cotta Company.

Albert Kahn is the architect for the new building to be erected at Youngstown, Ohio, which will use 200,000 enameled bricks, to be supplied by the American Enameled Brick & Tile Co., and not John Stamburg, as stated in our April number. These bricks will be mottled, similar to those used in the Frick Building, Pittsburg.



TERRA COTTA WINDOW, SYNAGOGUE, WASHINGTON, D. C.
Louis Levi, Architect.
O. W. Ketcham Terra Cotta Company, Makers.

ings appear to be grouped and arranged in a sequence to an extent which has not been followed so extensively since the Columbian Exposition, and full credit ought to be given to these architects for the high character of their work.

JAMESTOWN EXPOSITION.

THE Jamestown Exposition was formally opened this month by President Roosevelt, and the magazines and papers have been filled with very interesting accounts of the ceremonies and of the exposition itself. As is so often the case, however, no mention at all is made in the popular publications of the architects, Parker & Thomas, who have contributed their best efforts to make the exposition an architectural success. Their work really constitutes a departure in exposition building. The structures designed by them have an appearance of solidity and permanence which is quite removed from the essentially transient character of most of the expositions which have preceded this, and the build-



MURRAY BUILDING, GRAND RAPIDS, MICH.
W. G. & F. S. Robinson, Architects.
Built of "Ironclay" Brick.



PUBLIC SCHOOL, NO. 19, YONKERS, N. Y.
C. C. Chapman, Architect.
Built of brick made by Kreischer Brick Manufacturing Company.

HARVARD UNIVERSITY

The Graduate School of Applied Science
and The Lawrence Scientific School

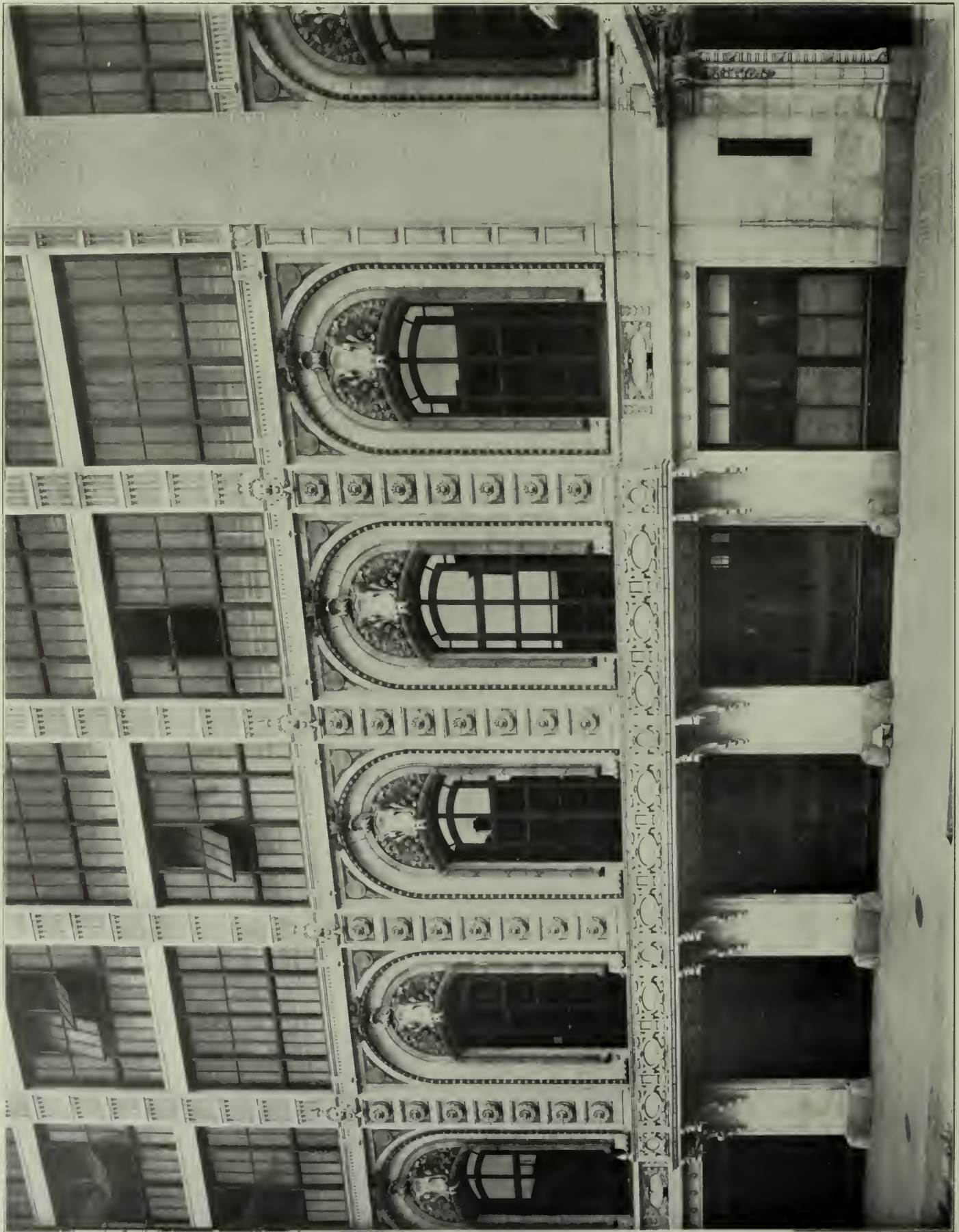
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ERNEST FLAGG, ARCHITECT.



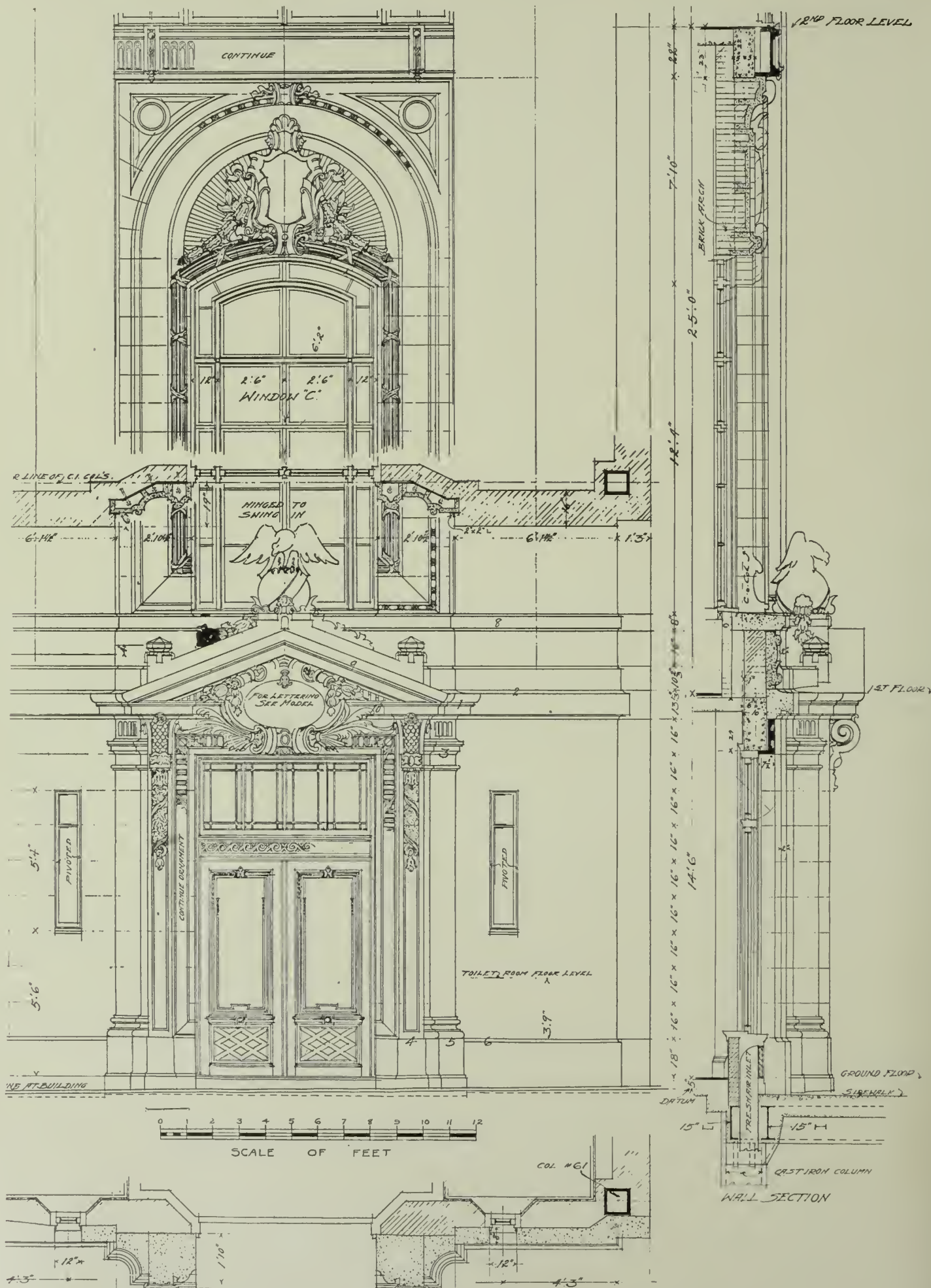
DETAIL OF LOWER STORIES, IN WHICH MUCH COLORED TERRA COTTA IS USED
AUTOMOBILE CLUB OF AMERICA, 247-259 WEST 54TH STREET, NEW YORK.

ERNEST FLAGG, ARCHITECT.





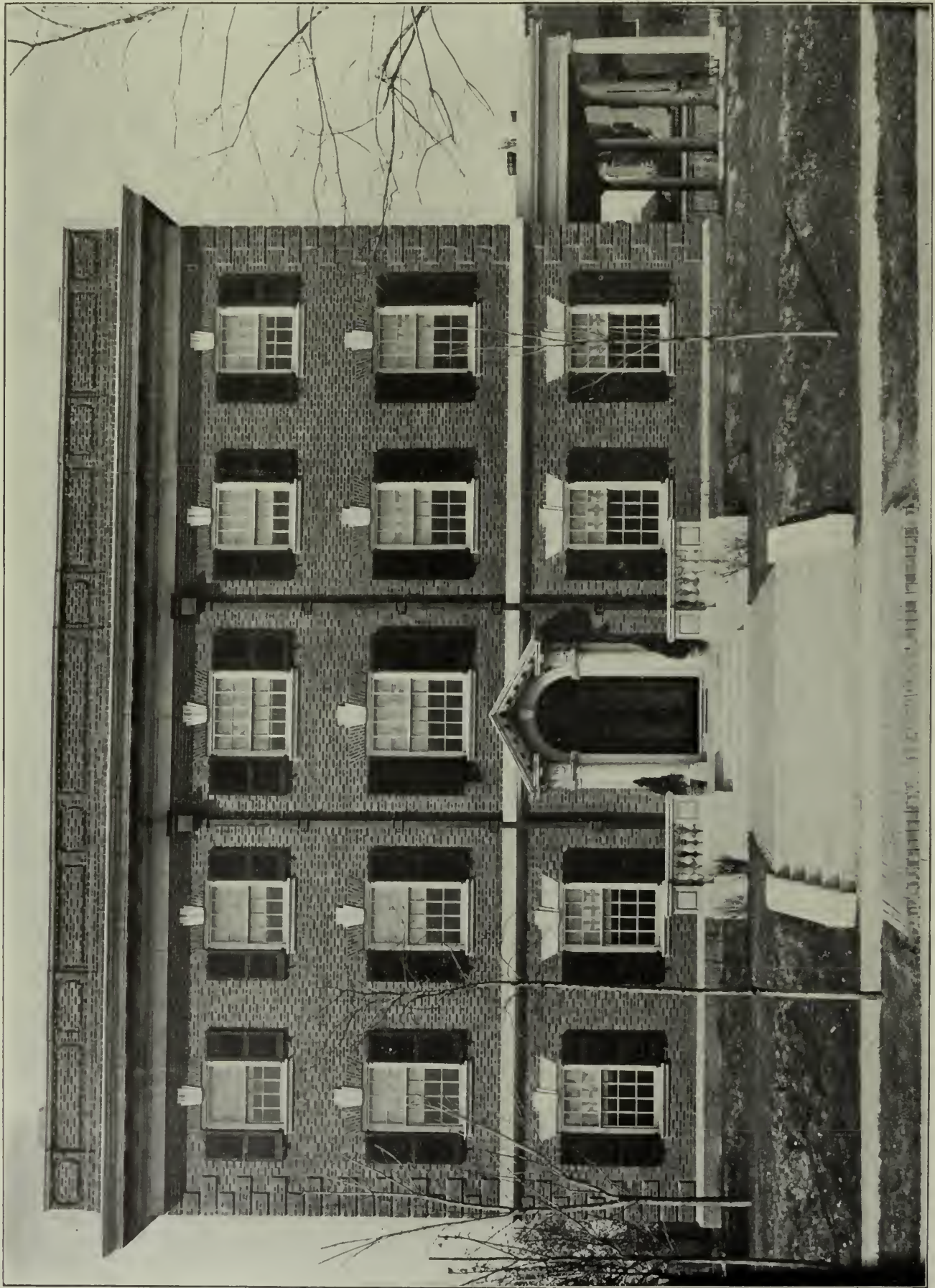




DETAILS OF FRONT.

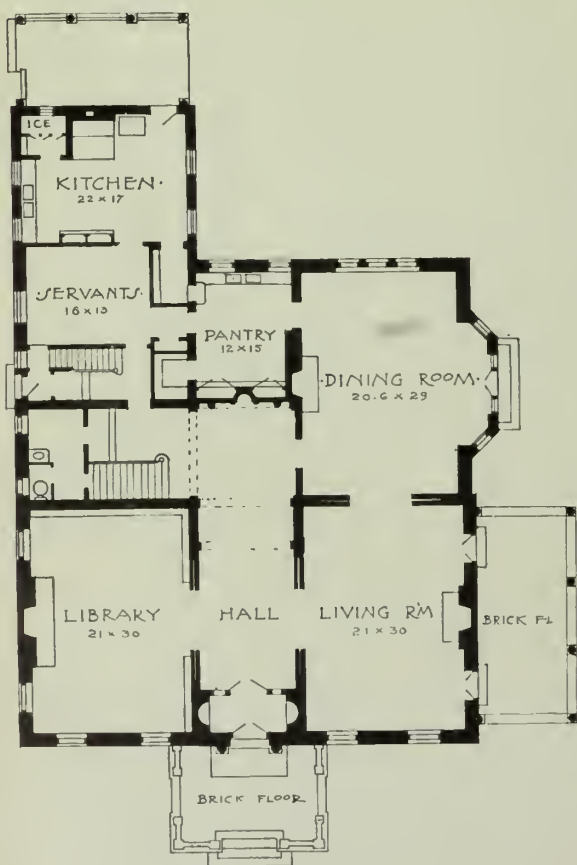
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ERNEST FLAGG, ARCHITECT.

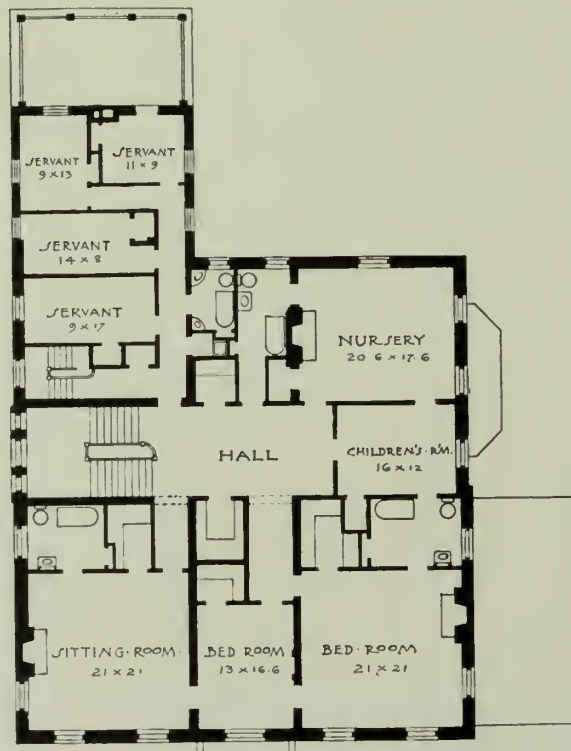


HOUSE, WESTMORELAND PLACE, ST. LOUIS, MO
COPE & STEWARDSON, ARCHITECTS.

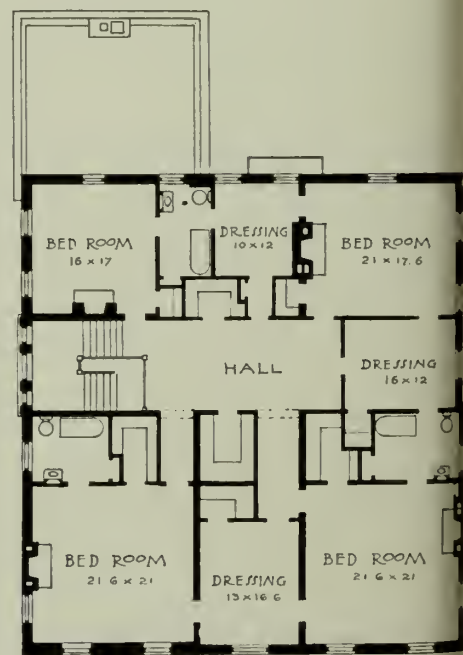




FIRST FLOOR PLAN.



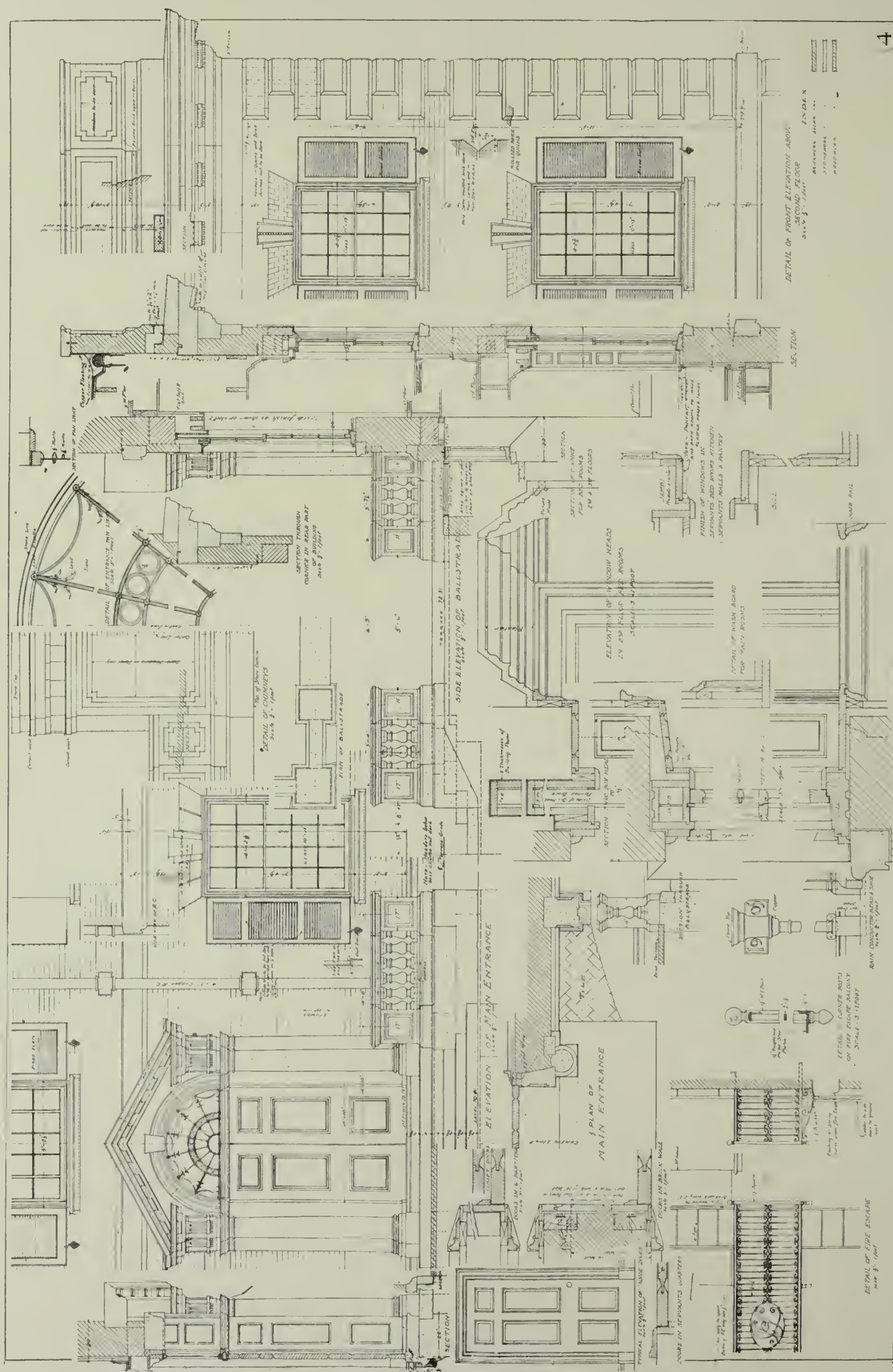
SECOND FLOOR PLAN



THIRD FLOOR PLAN.

HOUSE, WESTMORELAND PLACE, ST. LOUIS, MO.
COPE & STEWARDSON, ARCHITECTS.

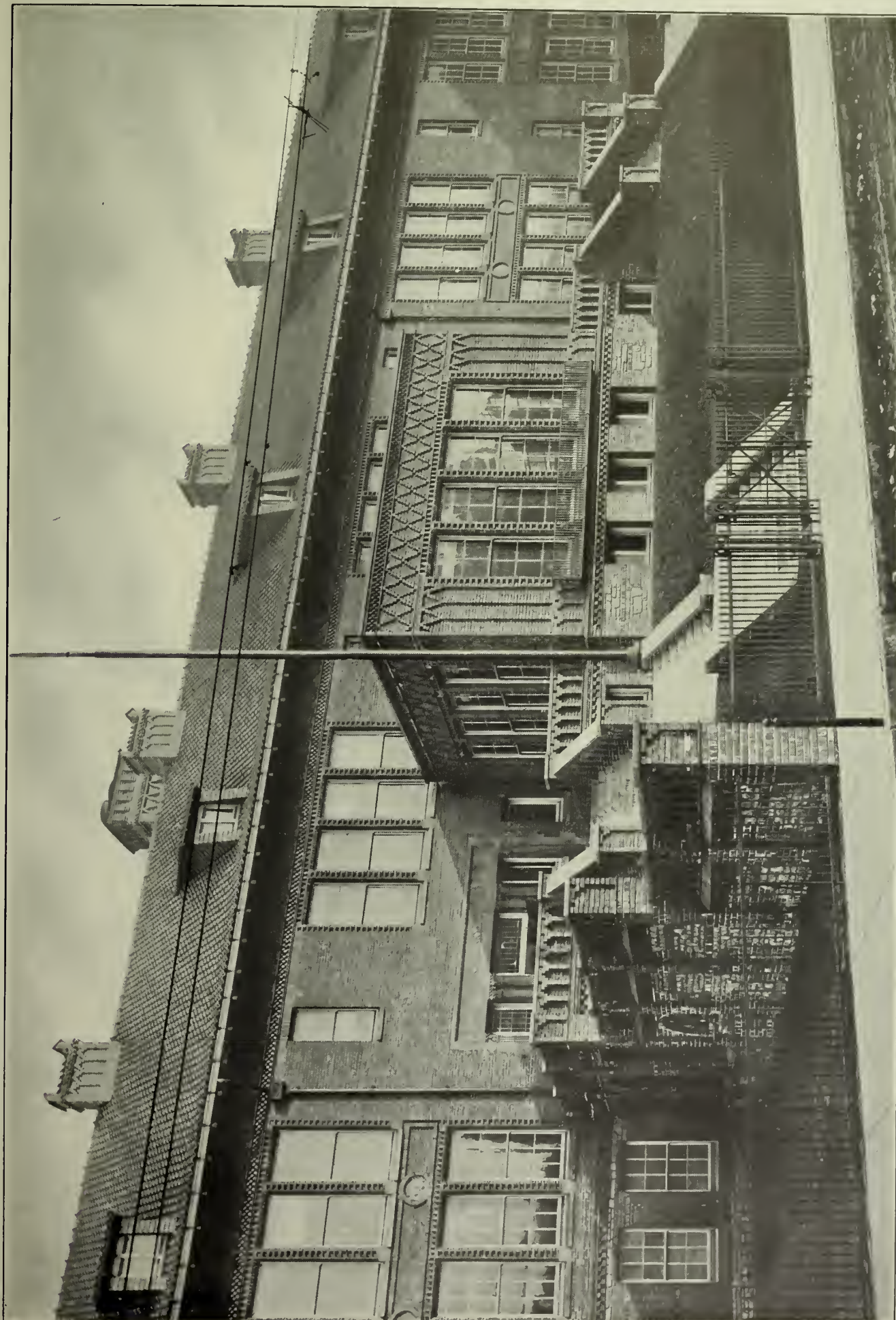




GENERAL DETAILS, HOUSE. WESTMORELAND PLACE. ST. LOUIS, MO.
COPE & STEWARDSON, ARCHITECTS.

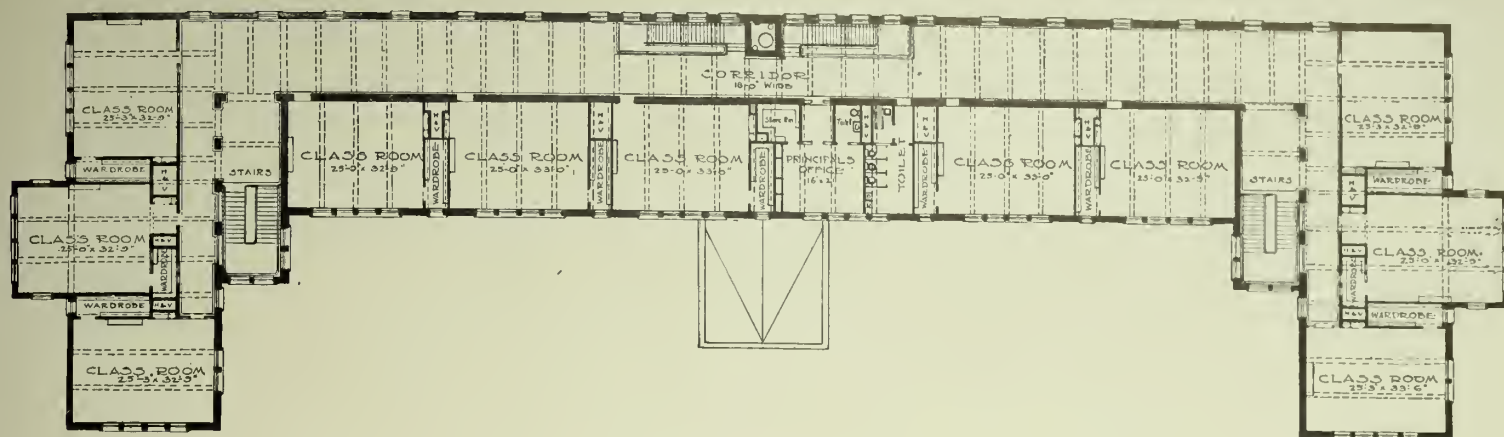


PATRICK HENRY SCHOOL, ST. LOUIS, MO.
WILLIAM B. ITTNER, ARCHITECT.

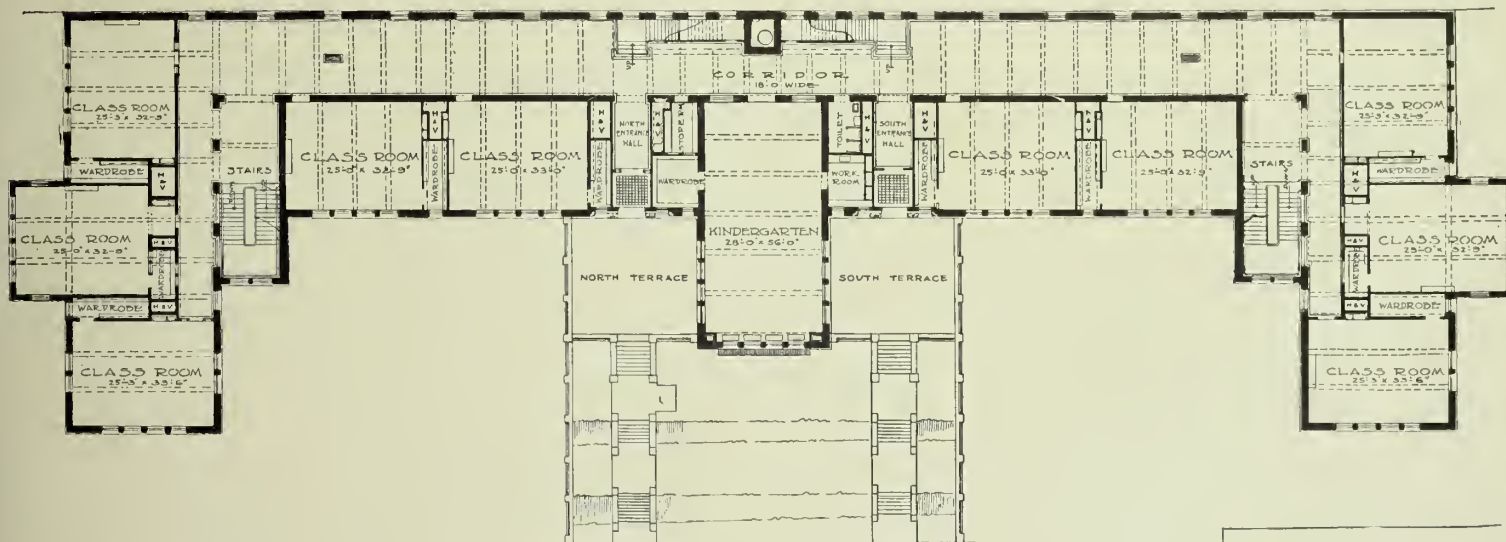


DETAIL OF CENTER OF BUILDING, PATRICK HENRY SCHOOL. ST. LOUIS MO.

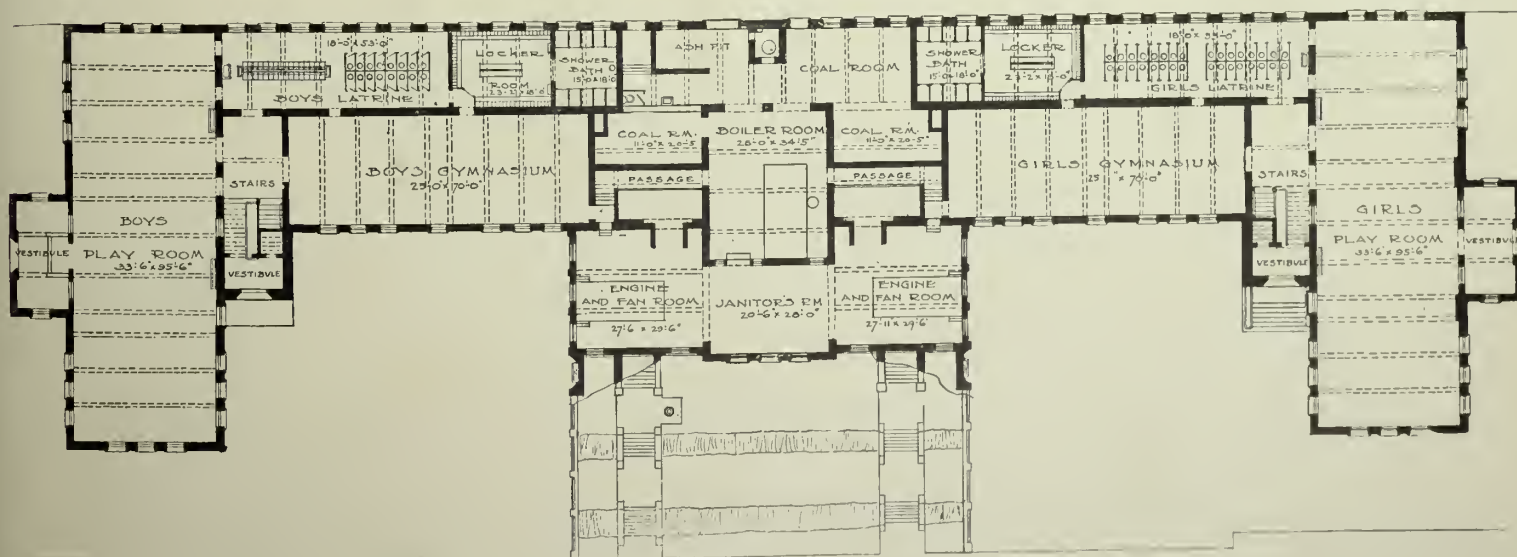
WILLIAM B. ITTNER, ARCHITECT.



SECOND FLOOR PLAN



FIRST FLOOR PLAN.



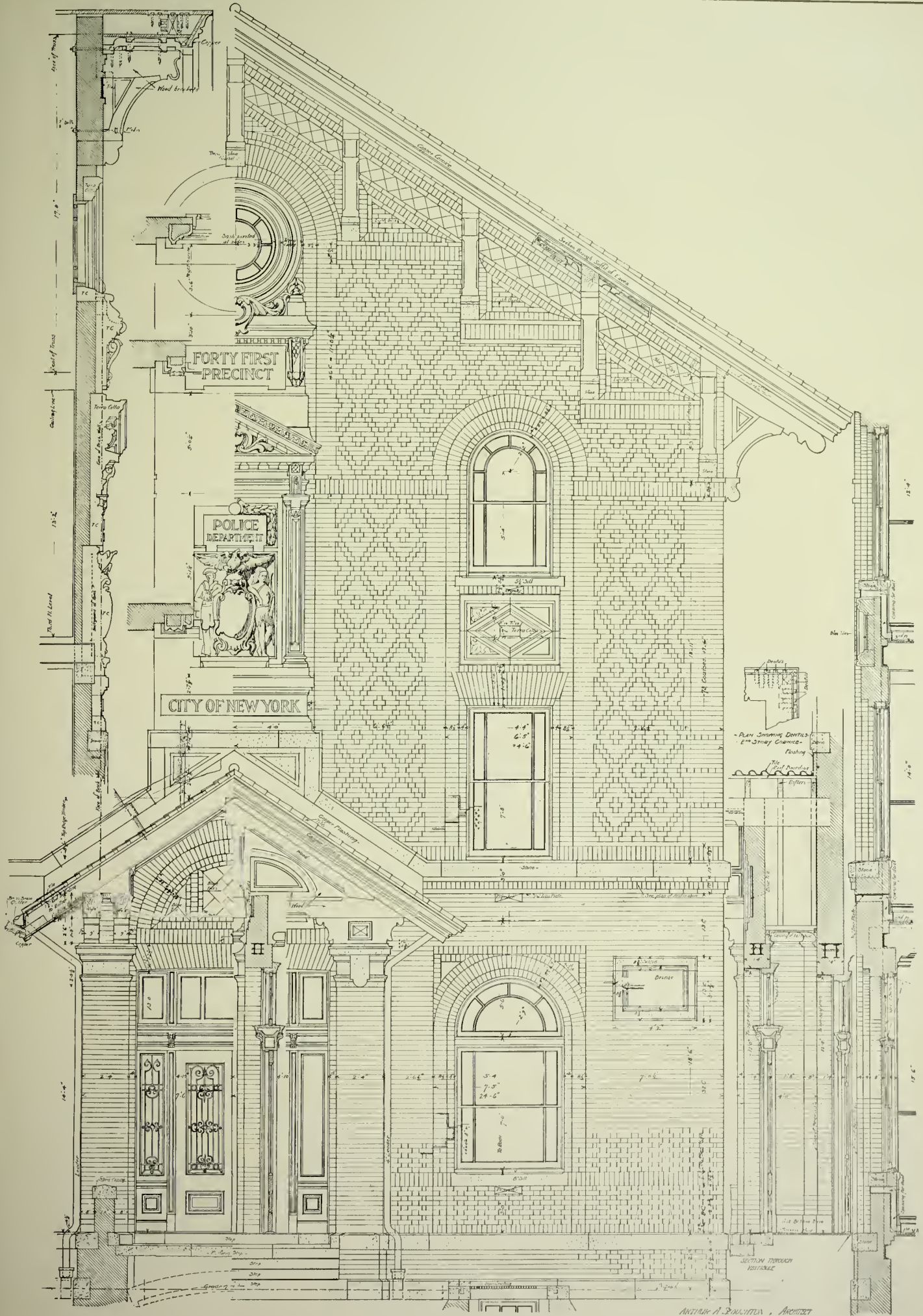
BASEMENT PLAN

PATRICK HENRY SCHOOL, ST. LOUIS, MO.

WILLIAM B. ITTNER, ARCHITECT.

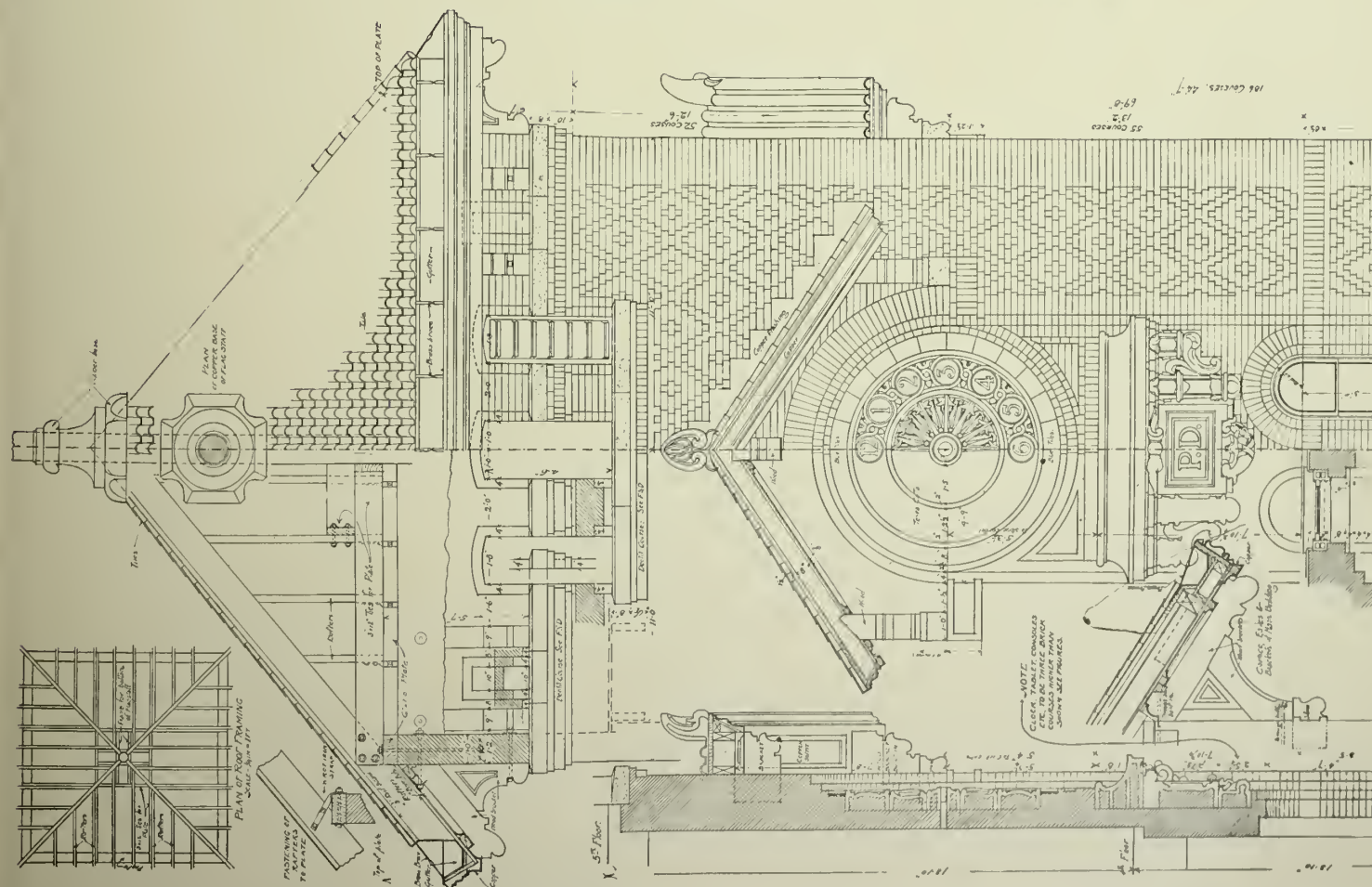


FORTY-FIRST PRECINCT POLICE STATION. BRONX, NEW YORK.
STOUGHTON & STOUGHTON, ARCHITECTS.



DETAIL OF FRONT.
FORTY-FIRST PRECINCT POLICE STATION, NEW YORK.
STOUGHTON & STOUGHTON, ARCHITECTS.





DETAIL OF TOWER.

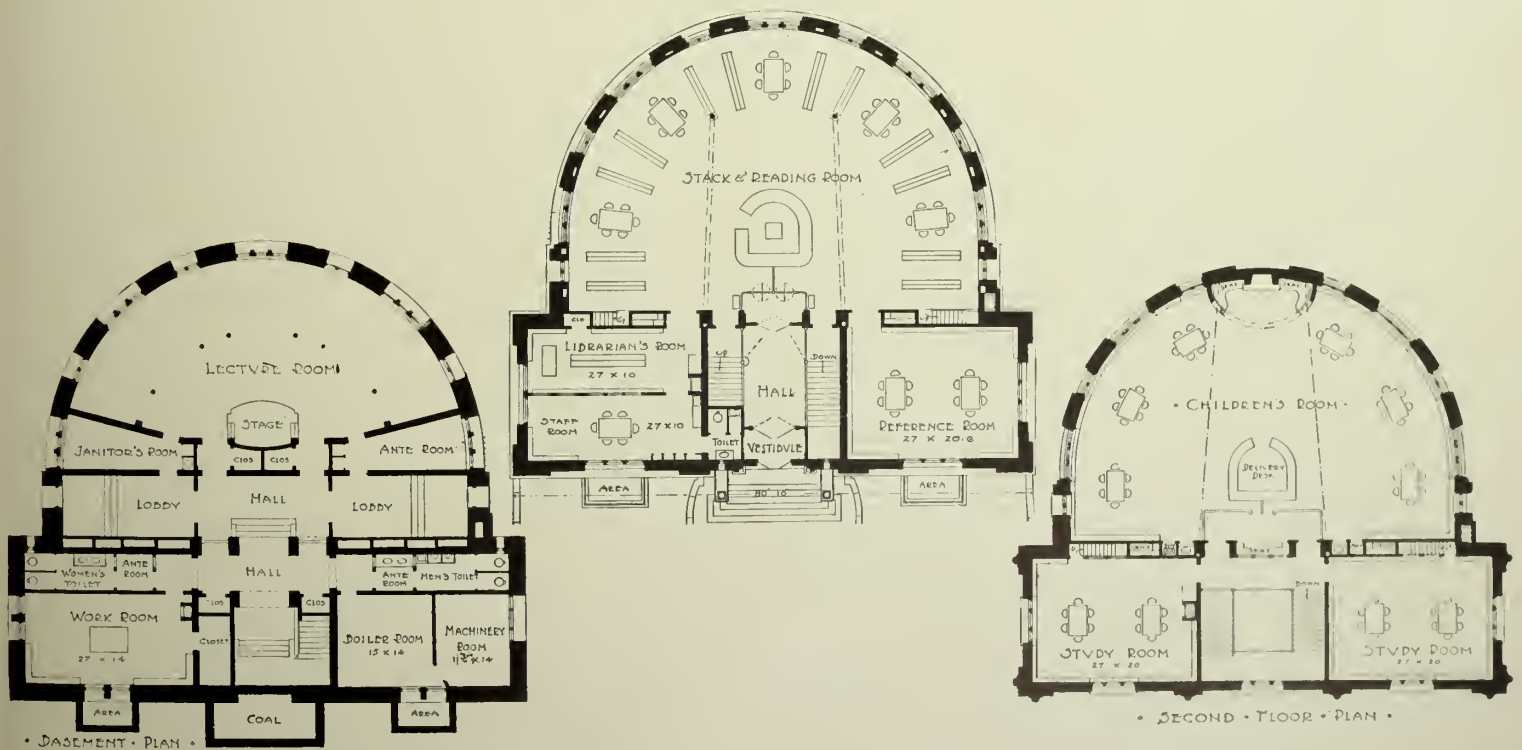


FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

FORTY-FIRST PRECINCT
 POLICE STATION.
 NEW YORK.
 STOUGHTON & STOUGHTON,
 ARCHITECTS.



SIDE ELEVATION AND FLOOR PLANS.
CARNEGIE LIBRARY, PACIFIC BRANCH, BROOKLYN, N. Y.
RAYMOND F. ALMIRALL, ARCHITECT.



STACK AND DELIVERY ROOM.
CARNEGIE LIBRARY, PACIFIC BRANCH, BROOKLYN, N. Y
RAYMOND F. ALMIRALL, ARCHITECT.



HOUSE FOR MRS. E. H. G. SLATER, NEWPORT, R. I.
PEABODY & STEARNS, ARCHITECTS.

THE BRICKBUILDER

VOLUME XVI

JUNE 1907

NUMBER 6

PUBLISHED MONTHLY BY ROGERS & MANSON

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Brick	III	Roofing Tile	IV

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CONTENTS

PLATE ILLUSTRATIONS

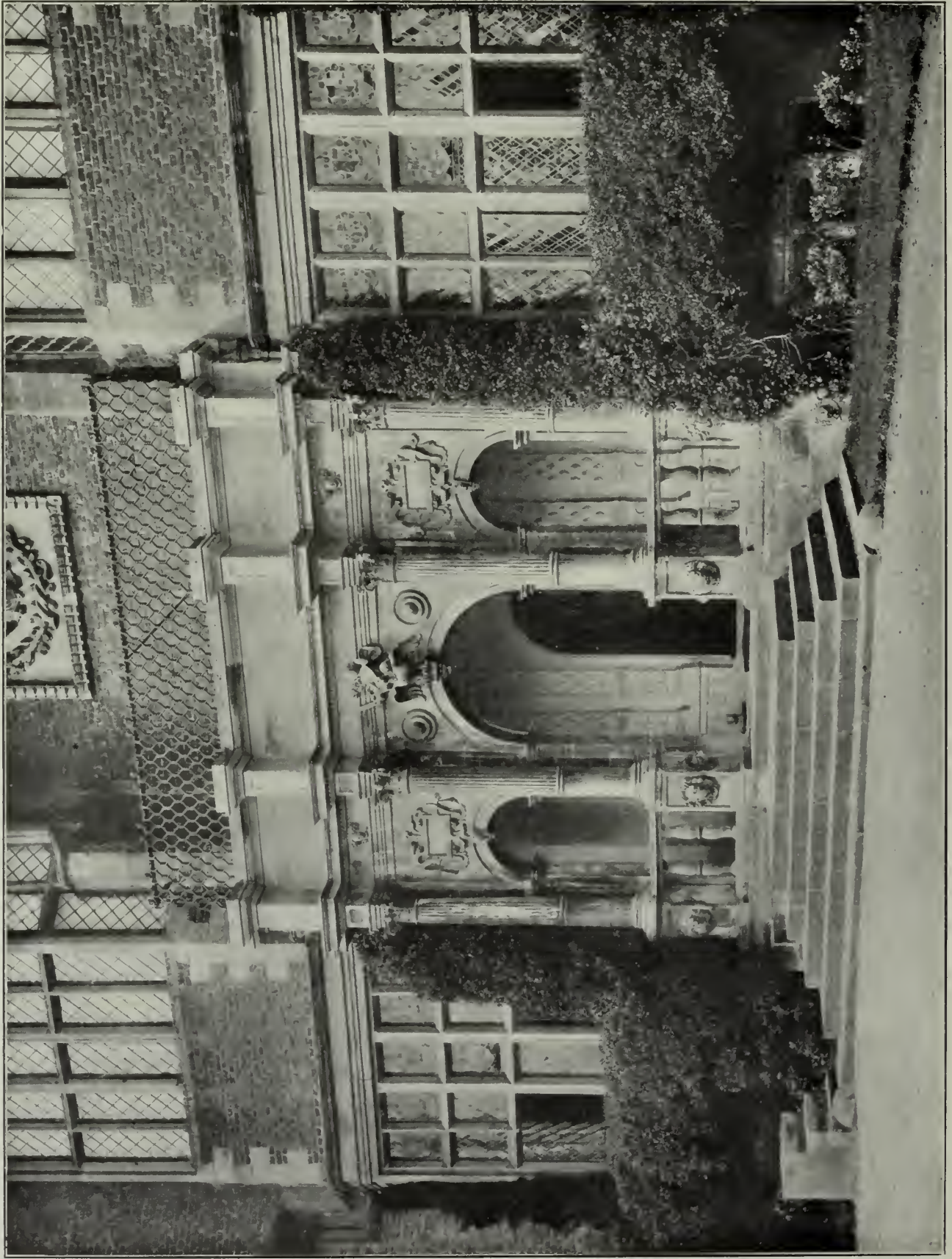
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LETTERPRESS

PAGE

WESTWOOD PARK, THE PORCH, WORCESTERSHIRE, ENGLAND	Frontispiece
FIRE INSURANCE COMPANIES	91
THE ST. LOUIS PUBLIC LIBRARY COMPETITION	91
WILLIAM LE. BARON JENNEY	93
SUGGESTIONS FOR ARCHITECTURAL STUDY IN SOUTHERN FRANCE	94
CERAMIC TILES AND THEIR USE	103
THE USE OF TERRA COTTA BLOCKS FOR WALLS OF HOUSES	106
EDITORIAL COMMENT AND SELECTED MISCELLANY	109



WESTWOOD PARK, THE PORCH, WORCESTERSHIRE, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 6

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

JUNE 1907

FIRE INSURANCE COMPANIES.

THE fire insurance report of the state of New York for 1906 presents some very interesting figures, which show how insurance companies and insurance rates have been affected by the remarkable series of disastrous fires which have visited several of our largest cities during the past few years. The margins on underwriting up to the beginning of 1906 have been for many years extremely small, and the San Francisco disaster wiped out all profit, not only for 1907, but for several years to come. Indeed, some companies have lost in this single fire an amount equal to all the profits of the past generation, and a few companies have been entirely ruined by the losses they were called upon to pay. It would be interesting to speculate upon whether or not the country, as a whole, would to-day be better off if there had never been any risks underwritten. It is, undoubtedly, a fact, that the ease with which insurance can be obtained, the actually low rates charged therefor on a fairly well-constructed building, and the reasonable surety that the loss will be adjusted liberally in case of fire, have led to a degree of carelessness in the construction no less than in the maintenance of buildings, which has resulted in a greatly increased fire damage. The profits in the insurance business are not large. The report just mentioned makes it clear by figures that the masterful manner in which the finances of the companies have been handled has made it possible to pay dividends on the capital stock, whereas otherwise the companies would have been short some millions of dollars. For instance, in the year 1906, the receipts from interest were \$12,233,112, while dividends on capital were only \$7,134,785. It is almost axiomatic that the insured really pay all losses in the long run, and nothing but the marvelous prosperity of our country has enabled it to stand the terrific drain of our outrageous fire losses year by year. The companies now doing business in New York state number something like 160. Since 1859, 35 foreign companies have retired from this country, while 151 New York stock companies, 30 mutuals and 230 other state stock companies have been compelled to go out of business, making 446 corporations, all of which have been driven from the field by the crushing conditions which have for the most part beset fire insurance during all of its history in this country. If even half the fire losses and all the other losses entailed upon these 446 corporations could have been expended in improving our structural or our business conditions, the country would be in a state almost Utopian.

Insurance and insurance losses are a dead tax on the community with almost no redeeming feature.

THE ST. LOUIS PUBLIC LIBRARY COMPETITION.

THE conditions in the programme of the St. Louis Library competition represent, to a considerable extent at least, the competition ideas of the group of men who were invited to compete. The competing firms were: Barnett, Haynes & Barnett; Carrère & Hastings; Eames & Young; Cass Gilbert; William B. Ittner; Theodore C. Link; Mauran, Russell & Garden; Palmer & Hornbostel; Albert R. Ross. *

The St. Louis Library Board, in which was vested the authority to appoint an architect for the proposed new building, is composed of broad-minded men of affairs whose unanimous desire was to procure for the Public Library the most fitting and serviceable building possible within the available means. The question as to whether a competition or the direct appointment of an architect was the surest means to accomplish this end was hardly open for consideration on account of the public nature of the building. In determining the kind of competition the necessity of attracting the best attainable talent was fully recognized, while circumstances seemed also to require that an opportunity to compete be left open to all St. Louis architects. It appeared to the writer, who acted in an advisory capacity in the conduct of the competition, that a double competition would most satisfactorily meet these conditions. By means of a short, open competition a certain number of men might be selected, and to this group the same number of picked men might be added by direct invitation and a final paid competition be held under an amplified programme. Various delays, however, prevented this plan being followed. Nothing seemed to remain but to make the competition a mixed one, though this form seems to the writer to be the most objectionable of all, on account of the financial handicap placed upon one class of competitors; the paid competitor is in a better position to command assistants, and the unpaid, to have equal chances of success, must go correspondingly deeper into his pocket. If competitions are to be purely tests of ability, it would seem fairer, if there is to be a handicap, to place it in favor of the class of the struggling unknown rather than in favor of the supposedly opulent *arrivé*.

The Library Board selected and invited the list of paid competitors, and proposed conditions of competition were discussed with them at considerable length. Opposition to the mixed form of competition at once became evident, but the reasons given for such opposition were curiously divergent; one, at least, left it to be inferred that unprofessional conduct would be charged under the

competition rules of the A. I. A. for entering mixed or open competitions; another said he could not compete with certain brethren whom he professionally disliked, hence he must know who were to be his opponents, and he could not thus enter either a mixed or open competition; mixed and open competitions were opposed by another on "general principles," not, however, because his chances of success were thereby lessened; the fourth more frankly said that he was opposed to all except limited competitions, because in others, on account of the large number usually competing, his chances for success were lessened to such an extent that they were not worth while from a business point of view. The form of competition finally decided upon was one limited to nine invited architects who were each paid the sum of one thousand dollars.

There was a general idea among the competitors that the three, or even two, months usually given to making drawings, render competitions unnecessarily expensive. The view held was that every purpose of the competition is served when the general scheme is determined upon and presented at a small scale. To study each of the designs in competition to a finality is waste in every case but that of the winner. A short period of concentrated effort was considered by some to act as a valuable stimulus to the *esprit du corps* of the office, while a long dragging competition results only in the demoralization of the office staff. One month was considered, on the whole, to be a sufficient time to give to the drawings in the present instance.

In view of the short period decided upon, a preliminary programme was issued about ten days before the final one, and hence, before the actual beginning of work on the drawings. This contained general information regarding the competition and the problem to be solved, also a plan of the proposed site and an announcement of the date when the final programme would be placed in the hands of the competitors and the date when the drawings would be due. The purpose of the preliminary programme was to give a certain time for a general consideration of the problem and for making necessary preparations in the office for the work involved.

The jury was composed of three architects, chosen by the ballots of the competitors, and two appointees of the Library Board. The architects chosen were Messrs. Walter Cook, Frank Miles Day and Philip Sawyer. The Board appointed Mr. E. H. Anderson, State Librarian of New York, as an expert librarian, and Mr. John F. Lee the chairman of the Building Committee. The recognition of the place of the librarian on a jury to judge library plans was not only just, and his services exceedingly valuable, but this one instance will undoubtedly do much to bring about a better understanding of the architect's point of view by the professional librarian. Mr. Anderson expressed himself as impressed and educated by the thoroughness of the architects on the jury in their examination into the detailed arrangements of the plans from the standpoint of serviceability for library administration and for library work. The appointment of the chairman of the Building Committee to membership on the jury was also eminently satisfactory.

The final decision of the competition rested with the Board. It was the opinion of the members who were

lawyers that a public body vested with the authority to select an architect cannot delegate that power to another body such, for instance, as an architectural jury. In cases like the one under consideration, where the vested body is composed of fair-minded and honorable men, the right of final decision reduces itself practically to a mere technicality; the probability of a disagreement with its jury of experts would certainly seem slight. In this competition the programme provided, in case of a disagreement, that the questions at issue should be referred back to the Jury, and (at the suggestion of one of the competitors) if the Board did not finally agree with the Jury, the author of the design placed first by the Jury should be paid in full for services rendered, the sum of five thousand dollars being agreed upon by a majority of the competitors as sufficient. On the question of such compensation there were one or two dissenting votes and the point raised seems worthy of very careful consideration. Granting that there are cases where the final decision must rest with a vested body, should not the moral responsibility of disagreeing with a chosen jury of experts be allowed to exercise its full weight? Particularly in cases where dishonest intentions and influences may be rampant does this possibility for complete discharge of the architect selected by the jury offer an easy channel for the appointment of a predetermined favorite, and thus render competition in such a case nothing but a farce to hide a political game and to stop the mouths of the injured architectural profession and the public generally. Despite the discussion of this point by the invited architects and their anxiety to safeguard the interests of the profession by establishing a proper precedent in the case in hand, where every wish of the profession regarding competitions was most courteously entertained, it will be interesting to record that the report of the Jury was adopted in full, practically without discussion.

The general requirements and the schedule of rooms were made as complete and as explicit as possible, but at the same time, elastic to the fullest degree, in order to give the widest scope to the designer. Following this idea, the only mandatory requirements to the programme were the number, scale (all at 1-16 inch), and presentation of the drawings, and the cubical volume of the design.

The five first designs, as placed by the Jury in their order of merit, were: Cass Gilbert, Wm. B. Ittner, Carrère & Hastings, Albert R. Ross and Eames & Young.

THE INFLUENCE OF PUBLISHED DESIGNS.

THE designs which are worked over the most and which receive the most careful study are not always the most inspiring or of the most value to others than their authors. Indeed, the educational function of the published designs which have appeared in the architectural papers illustrating structures which never saw the light, which sometimes even never hoped to be realized, is a very important one. Sometimes a man's best work is put into ideal sketches and there are minds so constituted that only when they are entirely free from the necessity of considering practical restrictions can they really create. One has only to recall the work of Piranesi in the early Renaissance; or of Otto Rieth, or Blondel

to-day; or, in our own generation, the work of such idealists as Mr. Kirby, to arouse a delightful train of memories of designs which were pure figments of imagination, but which have always exerted a powerful influence upon those who have studied them. Again, in many of the competitions, the designs which were not premiated left a lasting imprint on contemporary art. Carrère & Hastings' design for the Cathedral of St. John the Divine is an instance in point, and we cannot soon forget, also, the delightfully imaginative work with which Mr. Bertram Goodhue has at times embroidered his ideal compositions. And coming yet closer home, we believe that the series of village edifices, the Bank, the Town Hall, the Village Block, etc., which we have published from time to time, have been of real value to many of our readers in stimulating the imagination and awakening a desire for a higher esthetic quality in work of that nature. We cannot forget that we are living in the midst of an exceedingly busy, bustling period, when art is very often a question of catch-as-catch-can, and working drawings simply must be done on time though all the canons of taste be rudely jarred. Consequently it is a delight sometimes, in looking back over the pages of an architectural publication, to come across the ideal compositions of an artist, to see how he has worked over and coaxed up his bit of imagination into a concrete form. Gustave Doré, wildly erratic as he always was, has given us some charming imaginative architecture in a few of his sketches. Of course Alma Tadema is *sui generis*. Few architects can do real architecture as well as he can paint the imaginary and paint it often entirely out of his head. So we encourage the publication of architects' designs which are not to be executed, which are not merely studies, believing that this kind of work shows the real flavor of the creator's taste, and helps to cultivate the imagination and real art of architecture.

WILLIAM LE BARON JENNEY.

WILLIAM LE BARON JENNEY, who died at his home in Los Angeles, Cal., June 15, was born in Fairhaven, Mass., September 25, 1832, and graduated from the Scientific School at Cambridge, Mass., in 1853, and from the École Centrale des Arts et Manufactures at Paris, in 1856. In 1858 he again visited France, and spent a year and a half in study, then returned to enter the Civil War, was appointed captain additional aide-de-camp and assigned to engineer duty at Cairo, Ill., and served in that capacity on the staff of General Grant from Cairo to Corinth, was transferred at General Sherman's request to his command and put in charge of

engineer works at Memphis, was chief engineer 15th Army Corps at Vicksburg, and resigned May, 1866, and in 1868 went to Chicago and began his professional career. His first important works were Grace Episcopal Church, the Portland Block and the Mason Building. In 1883 he was commissioned to design the office building for the Home Life Insurance Company of New York, with instructions that the plans above the second story should have the maximum number of small well-lighted offices, which the committee understood would require small piers, smaller than in the usual masonry construction. Mr. Jenney evolved from his engineering knowledge a system of the use of iron columns, upon which each story was supported independently, which solved all difficulties in regard to expansion and contraction, strength, etc., and occupied minimum floor space, the design of construction resembling, in many respects, iron bridges on end, side by side. This was the first occasion when



WILLIAM LE BARON JENNEY.

Bessemer steel beams were used, and this building of the Home Life Insurance Company has been considered as the initial and parent building of the steel construction method. In recognition of this fact the Bessemer Steamship Company, in February, 1897, named one of the vessels constructed for them after Mr. Jenney, "in appreciation of his distinguished services in connection with the invention and introduction of lofty skeleton construction for buildings." Mr. Jenney also developed in the Home Life Building, to a hitherto unconceived degree, the equipment of a modern office building, such as rapid elevators, fireproof construction and bracing, well-lighted corridors, lights between rooms and corridors, electric plant, office vaults, thorough system of plumbing, and well-appointed

toilets, all of which appointments are now common to all good office buildings, but were first used by Mr. Jenney in that building. His interest and knowledge of work of this type procured him the appointment as architect, with his partner, Mr. Mundie, for the following buildings in Chicago:—The Fair, Siegel-Cooper Building, Association Building, New York Life Building, Trade Building, Fort Dearborn Building, Chicago National Bank and the Union League Club. He was architect for the Horticultural Building at the Chicago Exposition. The last work in which he was actually interested was the Illinois-Vicksburg Memorial, a monument constructed by Illinois on the Vicksburg battlefield. In the spring of 1905 Mr. Jenney retired from active business, and made his permanent residence in Los Angeles. Among the architects and engineers who had early training with Mr. Jenney are the following: D. H. Burnham, William Holabird, Martin Roche, D. E. Ward, A. H. Granger, Howard Shaw, J. M. Ewen, L. E. Ritter.

Suggestions for Architectural Study in Southern France.

BY FREDERICK REED.

"L'AMOUR de la Patrie"—this has always been the true sentiment of the French peasantry. We find it during the Middle Ages when men of pure instincts possessed ideas of justice far superior to the practices of the time. We see it to-day in the sturdy middle class that till the soil. Three-fourths of the French population are rural. The people own their homes, and therefore constitute the backbone of the nation. These peasants feel a genuine love for their country, and especially for their own province. They are justly proud of their monuments and institutions, and well informed about their architecture. Our admiration increases when we see for ourselves how diligent and industrious the Frenchmen are in spite of their devotion to sentiment. Responsibility matters little, while politeness and hospitality are natural instincts. Their love for peace and tranquility under a strong government has made of them

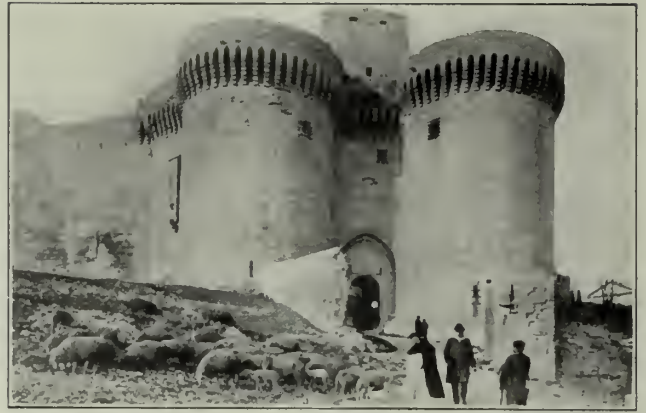


REMNANT OF A FEUDAL AND ECCLESIASTICAL PAST AT MONT-MAJOR.

the foundation upon which has always rested the salvation of their country.

In the south of France the manners and customs are characteristic of the people, who are wholly unlike their northern countrymen; and it is this individuality which affords us such rich variety for architectural study. It is, however, impossible to enter into all the peculiarities of each province. This article merely aims to outline the wealth of architecture in the various provinces of southern France and show the reader where and how to investigate with as little trouble and expense as possible. We will consider the departments of Auvergne, Burgundia, Aquitania and Provence.

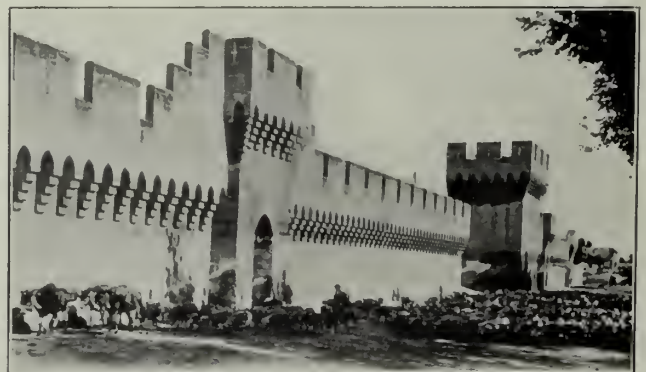
Auvergne is a volcanic region bordering Paris on the south. It is a home for monumental buildings of warm colors toning from reddish and grayish browns to cream. Notre-Dame du Port at Clermont-Ferrand and the cathedrals at Brioude, Issoire, Nevers and LePuy are Romanesque structures worthy of mention in this regard. Noticeable, also, is the large scale of colored mosaic work where huge blocks of freestone take the place of modern tesserae. There is a strong tendency to make the roofs of tinted tile, and the tone values mentioned



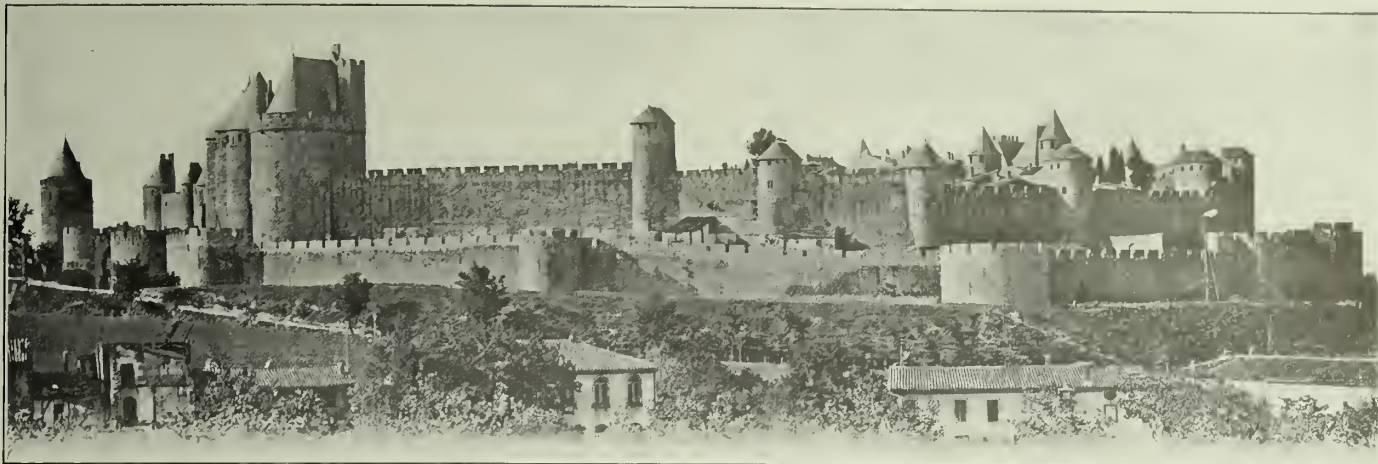
ENTRANCE TO ANCIENT FORT AT AVIGNON.

above are rendered all the more brilliant with the additional use of ceramic glaze. Many towns like Benissons-Dieu and Moulins enrich the external walls of their buildings by using all the colors possible in the brick. At Montferrand are found charming bits of Renaissance, while interesting houses in the same style are scattered throughout the province, like Hôtels Lallement and Cujas at Bourges and Palais de Justice at Nevers. This mountainous region furnishes splendid examples of mediæval fortifications in the ruined castles of Buron, Bourbon l'Archambault, Tournvel, Polignac near LePuy, and countless others. Porte du Croux at Nevers is an interesting relic of the fourteenth century fortifications. An architectural wonder is the church of St. Michel-d'Aiguilhe at LePuy. The façade is a masterpiece of Romanesque architecture, admired all the more when we think of the engineering skill necessary to place this building on the top of a conical rock some two hundred and eighty feet high. La Chaise-Dieu also possesses a unique mountain structure in the celebrated Benedictine abbey, which ranks among the greatest mediæval monasteries, and contains some magnificent Flemish tapestries and beautiful stalls. The cathedral at Moulins has some very interesting chapels around the choir, while the abbey at Souvigny is unsurpassingly beautiful in traceries, tombs and screen work. For a splendid study of domestic Gothic we have the house of Jacques Cœur at Bourges.

To enjoy thoroughly the province of Auvergne one should tour part of it on foot. Bourges, Nevers, Moulins, Clermont, Issoire, Brioude and LePuy are within tramp-



THE RAMPARTS AT AVIGNON.

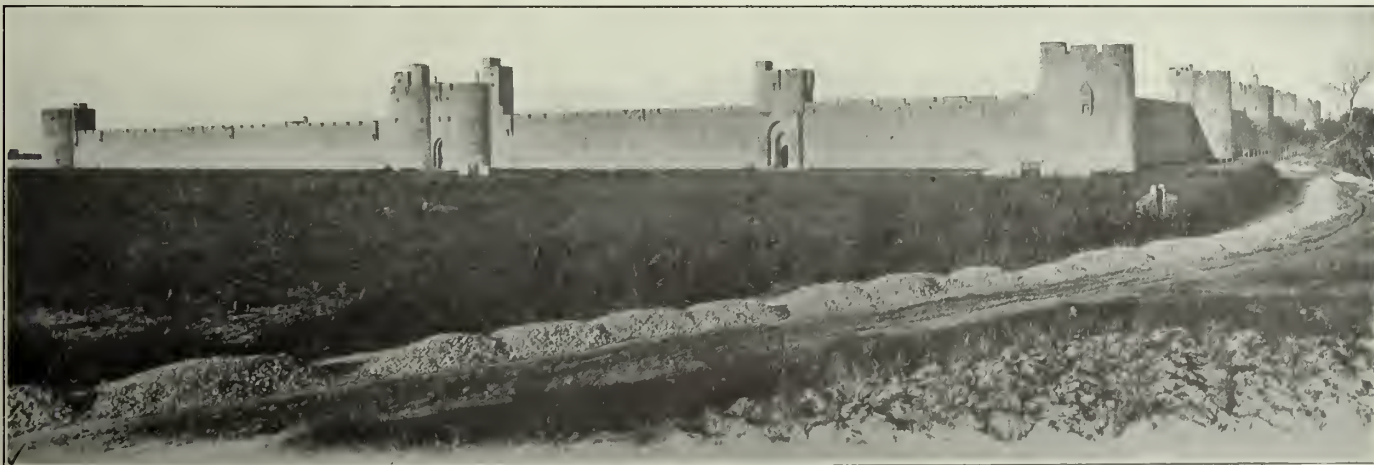


THE CITÉ OF CARCASSONNE.

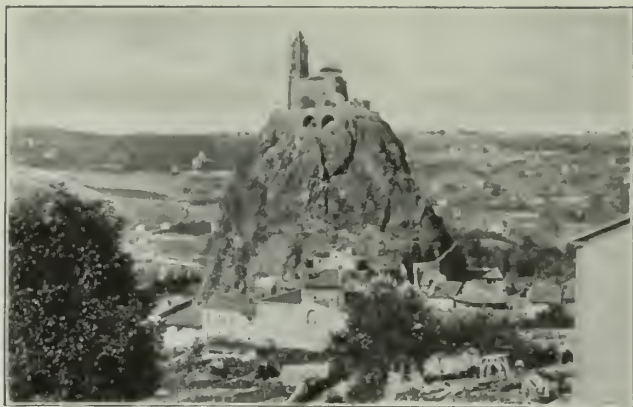
ing distance of each other, while many little towns which come between furnish the attractive and picturesque views so seldom seen. The costumes and manners of the people lend much charm to their quaint homes, roofed in red tile, gigantic slabs, or thatch. One can enjoy the provincial inns, for the beds are clean and the cuisine always reliable. It is advisable to carry such toilet articles as soap, comb and brush. Meals and lodging amount to the same here as throughout southern France. A room usually costs from thirty to fifty cents, while the breakfast, which consists of coffee, chocolate, or tea with bread, is twenty cents. The other meals are each from fifty to seventy cents. Hotel bills should be paid early, for if left until train time there may be many extras which you are forced to pay in your haste to depart. Naturally this always spoils what otherwise might prove to be an ideal day. If starting in the early morning, have the account made out the night before. It is generally best to patronize hotels frequented by "Voyageurs de Commerce," or commercial travelers. Unless hampered with baggage, inquire as to location of hotel, for it may be within a few minutes' walk from the station.

The province of Burgundia, which occupies most of the territory lying east of the Rhone, has no distinct type of architecture. Southern France, Normandy and Germany each exerted considerable influence in the architec-

tural development of this province. Many of her more important monuments, like Cluny, have passed away, still we find this department one of the most instructive. In the mountain churches of the Hautes Alpes we find a simple and effective style that well repays the time spent in studying it. The sixth century crypt of St. Laurent at Grenoble is especially notable with its fifteen columns of Parian marble. Near by is St. Bernard, furnishing the purest example of Romanesque sculpture and architecture in this district. One should notice especially the arcaded belfries, similar to the bell towers of Italy. The church at Donat has a square tower of admirable proportions, while St. Martin d'Ainay has two towers which show how decorative these arcaded structures can be. Charlière, the old Benedictine abbey, has a charming eleventh century church porch; St. Lazarre at Avillon has two remarkably rich portals; St. Mammes at Langres illustrates the harmonious use of the circular and the pointed arch. The cathedral at Besançon has two apses, and Embrun has a fine Romanesque tower. The Église de Brou at Bourg is one of the most celebrated Gothic edifices in France. It is rich in tombs, stalls and glass, furnishing us with a wonderful collection of fifteenth and sixteenth century art. The cathedral at Autun is the best example of transitional architecture in France, while Notre-Dame at Dijon is typical of the Burgundian-Gothic style. This province contains many examples of domes-



THE RAMPARTS AT AIGUES MORTES



CHURCH OF ST. MICHEL AT LE PUY.

tic architecture. Dijon possesses some handsome mansions as well as the most important Neo-classic building in France in the Hotel Vogüé. At Besançon the Hôtel de Ville and Palais de Justice of sixteenth century have pleasing façades with a skillful arrangement of fenestration. Lyons abounds in interesting buildings like the Manécanterie with its inlaid work of the eleventh century, the Hôtel de Ville, and Bourse du Change. At Valence are the Maison des Têtes richly sculptured and the Maison Dupré Latour. Within walking distance of Valence is the old fortress chateau of Crussol. Grenoble has a very graceful design in the Musée, and near by is the Grande Chartreuse, a Carthusian monastery of the eleventh century. The museums of Burgundia merit considerable study. Lyons has a collection of antiquities equalled only by its Mediæval and Renaissance Art.



A ROMAN AMPHITHEATER AT NÎMES.

Next in importance is the Musée at Dijon with the magnificent tombs of Philippe le Hardie and Jean sans Peur. Besançon and Valence have very important collections of Roman art, sculpture and painting, while Grenoble has one of the best provincial museums in France.

The season for traveling in Burgundia depends upon the itinerary. The Alpine districts need the summer, while the other parts are better in spring or fall. Churches are open the whole day except from noon until 2 P. M., while the Musées are free to the public on Sundays and often on Thursdays from ten in the morning until four in the afternoon. In order to sketch, photograph or make measured drawings, one should be equipped with a passport and other showy documents. A letter from some university, with the seal and plenty

of ribbon, is very effective. The passport is necessary also for registered mail and often prevents delay and inconvenience. One should have a camera, for, while there are many beautiful and artistic post cards, yet they do not always satisfy our individual tastes. To go without a camera means many regrets for the future. Take plenty of films and be very careful who develops them. A developing machine gives more satisfaction and enables one to have perfect freedom as to time and results.

The pride of Aquitania lies in the unique collection of Romanesque churches. The eastern trade via Périgueux established a masonic influence that gave to this province a domical style, which led later to the adoption of the pointed arch. The interiors are mostly in one vast span with walls, massive and pierced with chapels. Poitiers is the home of churches, possessing eight charm-



ROMAN THEATER AT ORANGE.

ing edifices, five of which form a unique series of Romanesque types. Notre-Dame-la-Grande, one of the five mentioned above, is the richest and best example, rivaling the Cathedral of Angoulême in the elaboration of detail. Similar to the Cathedral at Angoulême and Notre Dame at Poitiers is St. Front at Périgueux, the best preserved example of the domical style and the "only perfect Greek cross church with cupolas." Other Romanesque-Byzantine churches worthy of mention are at Souillac, Toulouse, Moissac and Cahors.

St. Caprais at Agen furnishes the transition from the barrel vaulting and domed roofs to the Gothic vaulting. St. André at Bordeaux is one of the finest Gothic buildings in southern France. The cathedral at Auch is characteristic of the southern Gothic and possesses the most celebrated Gothic stalls in Europe, while the



ROMAN ROAD LEADING TO LES BAUX.



AMPHITHEATER AT NÎMES.

us an unusual Gothic treatment for the harbor.

Aquitania abounds in famous castles and chateaux. At the castle of Oiron may be seen some splendid enameled plaques and fine marble mausoleums. The chateau at La Rochefoucauld has a magnificent staircase and arcaded galleries, while the castle of Pau and the chateau at Nérac, Cadillac and countless other picturesque castles lend an air of nobility to this province. Besides the castles and chateaux the Hôtels de Ville are monuments of considerable importance, and merit our attention. A few of the most prominent may be found at Angoulême, Poitiers, La Rochelle and St. Antonin.

One should notice especially the practical features of building in the southern part of Aquitania. Having no local stone they used brick, from which are built the large and imposing edifices in and around the region of Toulouse. Among the best examples are the Pont de Bordeaux, one of the most remarkable bridges in the world, the church at Albi, built entirely of brick, S. Sernin, one of the finest Romanesque churches in existence, and the convent of the Jacobins at Toulouse, famous as the most beautiful use of the brick style of mediæval building.

To appreciate fully what influence the Romans exerted over Aquitania we must not neglect the museums, which are found in every town. Curious and interesting capitals are found in the Musées at Toulouse and Bordeaux, showing the remarkable elegance of the carving and of

the subjects selected. Limoges has a choice collection of ceramics, mainly of porcelain and faience. At Bayonne the sacristy contains some well-preserved sculptures of the thirteenth century, while Périgueux, Poitiers and Angoulême are filled with beautiful fragments of Roman art.

In Aquitania it is more necessary to know French than in any of the other provinces. In many of the places English is not spoken, which is not the case in other parts more frequented by travelers. And it does not take long to discover that it takes some little knowledge to ask a question intelligently and a great deal more to understand the answer. One should master as much French as possible, for the more he knows the less he will suffer from the extortions of porters, cabmen and clerks. An excellent way to prepare one's self is to use the phonographic course of one of the correspondence

schools. Take with you a pocket dictionary for daily use. Enter into conversation with your fellow travelers, that is, if you ride third class, which is strongly recommended. You may have to put up with some inconveniences, but it is very profitable financially, besides being an excellent means of knowing the people and learning the language. Carry an Indicateur des Chemins de Fer, published weekly, and whenever possible purchase circular tickets, which saves from twenty to forty per cent. Tickets are usually purchased before entering the waiting-room. Never fail to have plenty of loose cash on hand, and watch



MONTE CARLO. ALONG THE RIVIERA.

your change, especially what you receive after buying tickets. When stopping at towns for the day only, you can check hand luggage at station for two cents. There are no refreshment rooms except at principal stations, so it is often advisable



CATHEDRAL AT NEVERS.



TOMB AT ST. REMY.

in all business transactions as to expense, thereby preventing many an embarrassing situation with cabmen and hotel proprietors.

Under the head of Provence it will be convenient to treat the two departments of Provence and Languedoc together. This division is the oldest, and lies to the south, bordering the Mediterranean. As early as 154 B. C. the Greeian colony at Marseilles invited the assistance of the Romans. As a result all Gaul became a Roman colony, civilization spread throughout Provence, the classic element dominated the Rhone valley, and the glories of the Roman architecture speak to us through their monumental ruins. The one almost perfect Roman temple in the world, and undoubtedly the finest specimen of the pseudo-peripteral, is found in the "Maison Carrée" at Nîmes. Its beauty of proportion and elegance of detail rank it among the finest monuments of classic architecture. Nîmes furnishes, also, the Temple of Diana, exceptionally beautiful in its details; Tour Magne, an imposing octagonal ruin; and Pont du Gard, forceful in the simplicity of its bold design. At Orange the durability and grandeur of Roman skill have been tested in the Theater and Triumphal Arch. The Theater shows the extent and complications of the arrangement necessary for that time. The Mausolee at St. Remy, with remarkable bas-reliefs of classic victories over barbarian hordes, and the Arc de Triomphe close by are two most important monuments of the ancient glanum of the Romans. Arles, like Nîmes, has her amphitheater well preserved, and the

to take food with you. The buffets have satisfactory lunches already prepared in boxes or baskets, which one can purchase for a nominal sum. When traveling by diligences get position as soon as possible as most places are booked ahead. Have a clear understanding

ancient cemetery, Les Aliscamps, contains many Roman tombs. The bridge at Chamas has at each end a triumphal arch of considerable charm and interest. And so we might go on indefinitely, for cities like Fréjus, Antibes, Carpentras, Vaison and Cavaillon all possess their arches, tombs, temples, theaters, towers and aqueducts. In short, one cannot find Roman art more skillfully executed or better preserved than in the south of France.

In Provence and Languedoc we find the most elaborate of all Romanesque work. This part of France suffering least from the barbarian invasions and enriching her art by Roman absorption, developed a Romanesque style that surpassed all others in dignity and refinement. We find all churches have a charming individuality, making this region especially fascinating as well as instructive. The purity of the classic detail and refinement of style have given the Roman features an increased value. The little chapel of St. Croix at Mont Majour is the oldest example and shows the influence of the Byzantine architecture.

The style starts with the purity at Avignon, continues through the transitional period from debased Roman to the genuine native form at Arles and beautiful details at Aix, Paredes and Taraseon, and culminates in the unsurpassed decoration of St. Gilles.

Barbarian invasions forced upon the people the feudal system. Church and state proving inadequate, the French peasantry were compelled to seek the protection of the wealthy landowners. Striking proof of the power given to feudal lords are the ruins of Polignac near LePuy, castle



TRIUMPHAL ARCH AT ORANGE.

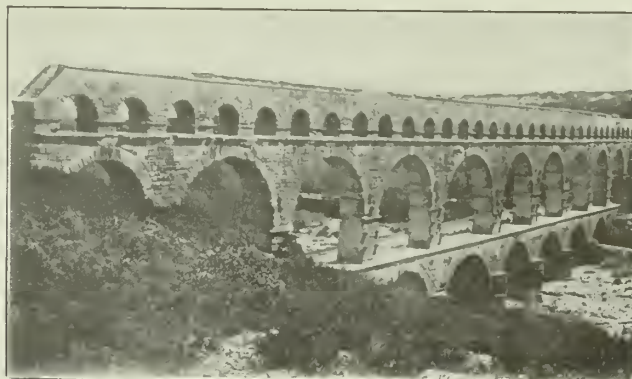
of King René at Taraseon, Mont Majour near Arles, and Les Baux. At Narbonne and Béziers are Episcopal palaces strongly fortified. The churches also furnish many examples of battlemented walls, strong towers, and small windows. In the cathedral at Agde, eleventh century,



HOTEL DE VOGUE AT DIJON.



THE ANCIENT ROMAN BURYING GROUND AT ARLES.



ROMAN AQUEDUCT AT PONT DU GARD.

are the most ancient machicoulis known, presenting an aspect of wonderful strength and utility. The thirteenth century built some magnificent churches strongly fortified with frowning ramparts and tourelles capped with machicoulis. The most important of this century are the cathedrals at Lodève, Montpellier, St. Just of Narbonne, Notre-Dame of Rodez, and St. Nazaire of Béziers. St. Cecile at Albi, thirteenth century, is the greatest fortified church of feudalistic times. Its win-

seldom seen at such a large scale. Some critics go so far as to claim that the uniformity of its twenty towers and ten gates gives it rank above Carcassonne and Avignon. As for the truth of the last statement we will let the student judge for himself, as Carcassonne is one of the most fascinating places in all Europe. This town or "Cité" existed during the Roman period. Ruled and fortified in turn by Romans, Visigoths, Moors, and Viollet-le-Duc, it has



DETAIL OF MONUMENT OF GIRONDONS AT BORDEAUX.



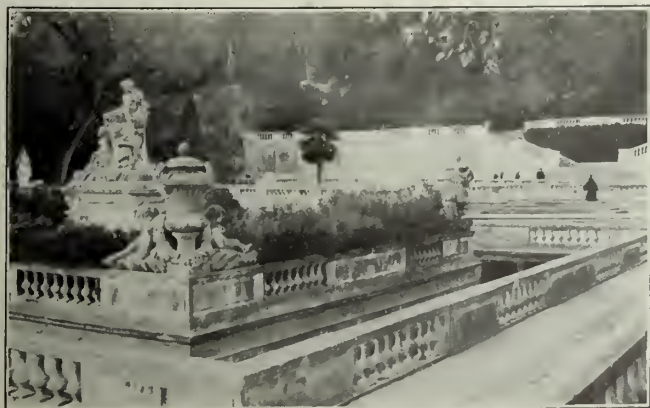
THE MAISON CARRÉE AT NÎMES.

dows are mere elongated slits. It is impossible to show the steps from the use of wood to the crenelated stone galleries, but a little study in this direction will materially assist in classifying all military architecture as to its time in history.

The Crusades have left to us one of the charms of Provence and Languedoc, — Aigues Mortes, — a uniform picturesqueness of embattled walls and towers of strength

always remained the most formidable fortification in European history. Unlike Aigues Mortes, there are only two entrances to the citadel, while fifty round towers dominate the enceinte of more than sixteen hundred yards. Surely one cannot afford to leave France with that pathetic wail of the broken-hearted Frenchman, "*Je n'ai jamais vu Carcassonne.*"

The Gothic and Renaissance styles have a few ex-



GARDEN OF THE FOUNTAIN AT NÎMES.



ST. NAZIRE AT CARCASSONNE.



A STATION AT MONACO.



A TYPICAL TOWN IN PROVINCE OF AUVERGNE.

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The traveler, especially if he be an architectural student, or one at least interested in architecture, should make it a point to visit all cloisters and museums in Provence and Languedoc, for in them he

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To enjoy the art of any locality one should know the people themselves and their general surroundings. It is advisable to take as many rambles as possible. For example: make your headquarters at Arles, a city famed for its street of tombs and visions of fair women. Take an early start, walk through the vineland noticing the perfected state of their irrigating facilities; then, as the morning opens up, visit that beautiful remnant of a feudal and ecclesiastical past, Mont-Major. Another morning take the train to St. Remy, and after viewing those monuments, which are among the most important of the Roman ruins, start for Les Baux. It is some distance, but the walk along those old Roman roads up over the mountains will more than repay the effort. Then enter on foot that city of desolation and decay and you will appreciate the picturesqueness of its external aspect and the wealth of those great feudal proprietors. Another charming walk is along the Riviera. All these and more, too, can be enjoyed by the cyclists. A cycle permit should be obtained from the customs agent. Join

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the "Touring Club de France" and purchase their booklet, "Annuaire," containing complete list of hotels, repairers, etc. They also publish itineraries which are very helpful.

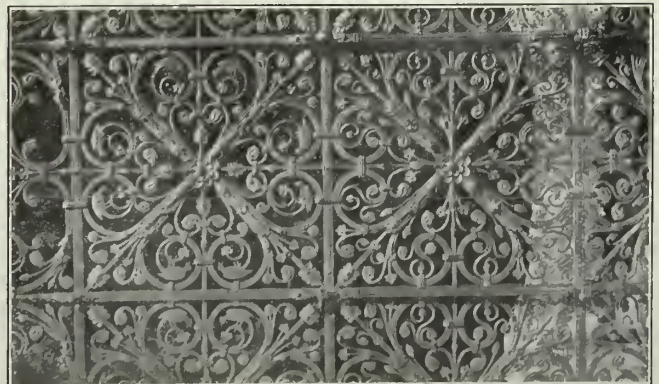
The hotels in Provence all set a good table, and by patronizing one of the more reasonable, you escape the English-speaking people and are forced to learn the native language. If one travels third class and does not live at first-class hotels, he can cover all expenses, including tips, on three dollars a day. It is best to have your money in express checks or use a letter of credit. The Crédit Lyonnais has banks in nearly every city and town throughout France and is very reliable. Take plenty of sketching material and have sufficient clothing when you leave Paris to last until you return again. And above all things, provide mosquito netting.

No country in the world has produced so many thoroughly developed styles of architecture as southern France. It is the richest field open to the modern student. Eastern architecture is seen through the Greek influence in Provence and Aquitania, and also in the plan and construction of the Byzantine churches. Outside of Rome one cannot find such a rich variety of Roman architecture. The Latin architecture of Italy furnishes

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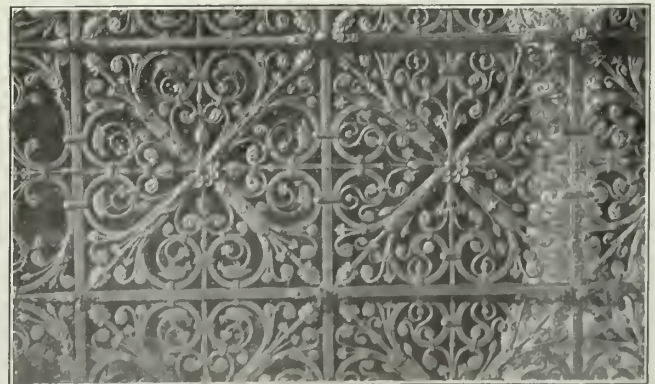
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The following itineraries are given as a help in arranging trips through southern France.

From Spain to Paris via Barcelona. Eighteen days.

Perpignan	1 Day	Avignon	2 Days
Narbonne	1 " "	Orange	1 " "
Carcassonne	2 " "	Nîmes	2 " "
Aigues Mortes	1 " "	LePuy	1 " "
St. Gilles	1 " "	Clermont Ferrand	1 " "
Arles	3 " "	Nevers	1 " "
Tarascon	1 " "	Bourges	1 " "
St. Remy	1 " "	Paris	
Les Baux	1 " "		

From Spain to Paris via Bordeaux. One month.

Bayonne	1 1/2 Day	Les Baux	1 1/2 Day
Bordeaux	1 1/2 " "	Nîmes	2 " "
Angoulême	1 1/2 " "	Avignon	2 " "
Limoges	1 1/2 " "	Orange	1 1/2 " "
Périgueux	1 " "	Marseilles	1 " "
Agen	1 1/2 " "	Aix	1 1/2 " "
Toulouse	1 1/2 " "	Grenoble	1 1/2 " "
Albi	1 1/2 " "	Lyon	1 1/2 " "
Carcassonne	1 1/2 " "	St. Etienne	1 1/2 " "
Narbonne	1 1/2 " "	LePuy	1 1/2 " "
Béziers	1 1/2 " "	Clermont Ferrand	1 " "
Agde	1 1/2 " "	Moulins	1 " "
Aigues Mortes	1 1/2 " "	Nevers	1 " "
St. Gilles	1 1/2 " "	Dijon	1 " "
Arles	3 " "	Auxerre	1 1/2 " "
Tarascon	1 1/2 " "	Paris	
St. Remy	1 1/2 " "		

From Paris to Italy. Fifteen Days.

Dijon	1 Day	Aix	1 1/2 Day
Bourges	1 1/2 " "	Marseilles	1 1/2 " "
Lyon	1 " "	Toulon	1 1/2 " "
Grenoble	1 " "	Hyères	1 1/2 " "
Valence	1 1/2 " "	Fréjus	1 1/2 " "
Orange	1 1/2 " "	Nice	1 1/2 " "
Avignon	1 " "	Monaco	1 " "
Nîmes	1 1/2 " "	Genoa	
Arles	3 " "		

Paris and return. Twenty-two days.

Paris		Arles	4 Days
Orléans	1 Day	Marseilles	1 " "
Tours	1 1/2 " "	Avignon	1 " "
Poitiers	1 1/2 " "	Orange	1 1/2 " "
Limoges	1 1/2 " "	LePuy	1 " "
Périgueux	1 " "	Clermont Ferrand	1 " "
Bordeaux	2 " "	Nevers	1 1/2 " "
Toulouse	1 1/2 " "	Bourges	1 " "
Carcassonne	1 1/2 " "	Paris	
Nîmes	2 " "		

Paris and return. Two months.

Paris		Nîmes	2 1/2 Days
Orléans	1 1/2 Days	Tarascon	1 " "
Tours and Env.	5 " "	Arles and Env.	6 1/2 " "
Samur	1 " "		

Angiers	2 " "	Marseilles	2 " "
Nantes	1 " "	Aix	1 " "
Poitiers	2 1/2 " "	Avignon	3 " "
Angoulême	1 " "	Orange	1 " "
Périgueux	1 " "	Valence	1 1/2 " "
Bordeaux	2 1/2 " "	Grenoble	3 " "
Agen	1 1/2 " "	Vienne	1 1/2 " "
Auch	1 1/2 " "	Lyon	1 1/2 " "
Toulouse	2 " "	St. Etienne	1 1/2 " "
Albi	1 " "	LePuy	1 1/2 " "
Carcassonne	2 " "	Clermont Ferrand	1 " "
Perpignan	1 " "	Bourges	1 " "
Narbonne	1 " "	Nevers	1 " "
Béziers	1 1/2 " "	Autun	1 1/2 " "
Agde	1 1/2 " "	Dijon	1 1/2 " "
Lodève	1 " "	Avallon	1 1/2 " "
Montpellier	1 " "	Auxerre	1 1/2 " "
Aigues Mortes	1 " "	Paris	

REFERENCE BOOKS.

<i>Badeker.</i>	Handbook on Southern France, Southeastern France and Southwestern France.
<i>Barker.</i>	" Wanderings by Southern Waters."
<i>Brossard.</i>	" Géographie Pittoresque et Monumentale."
<i>Bumpus.</i>	" Holidays Among the Glories of France."
<i>Choisy.</i>	" Histoire de l'Architecture."
<i>Cox.</i>	" The Crusades."
<i>Cook.</i>	" Old Provence."
<i>Daly.</i>	" Motifs Historiques D'Architecture."
<i>Dardel.</i>	" Monographie Du Palais du Commerce du Lyon."
<i>Desjardins.</i>	" Monographie de l'Hôtel de Ville de Lyon."
<i>Duclaux.</i>	" The Fields of France."
<i>Fergusson.</i>	" Ancient and Medieval Architecture."
<i>Fletcher.</i>	" History of Architecture."
<i>Gibson.</i>	" Among French Inns."
<i>Gould.</i>	" In Troubadour Land," and " Deserts of Southern France."
<i>Gras.</i>	" Les Rouges du Midi."
<i>Guizot.</i>	" History of France."
<i>Hale.</i>	" Nice and Her Neighbors."
<i>Hallam.</i>	" The Middle Ages."
<i>Hare.</i>	Handbooks on Southeastern France and Southwestern France.
<i>Hannewell.</i>	" Historical Monuments of France."
<i>James.</i>	" A Little Tour of France."
<i>Joanne.</i>	" Les Pyrenees."
<i>Johnson.</i>	" Along French Byways."
<i>Larned.</i>	" Churches and Castles of Medieval France."
<i>Lentherie.</i>	" La Grèce et l'Orient en Provence."
<i>Louvier.</i>	" La Prefecture du Rhone."
<i>Lynch.</i>	" French Life in Town and Country."
<i>MacGibbon.</i>	" The Architecture of Provence and the Riviera."
<i>Miltoun.</i>	" Cathedrals of Southern France."
<i>Murray.</i>	Handbook on France.
<i>Perret.</i>	" Le Pays Basque."
<i>Petit.</i>	" Architectural Studies in France."
<i>Reguenet.</i>	" Petits Edifices Historiques." 2 Vols.
<i>Revoil.</i>	" Architecture Romane du Midi de la France." 3 Vols.
<i>Rose.</i>	" Cathedrals and Cloisters of South of France."
<i>Rouyer et Darcel.</i>	" L'Art Architecture en France."
<i>Scarritt.</i>	" Three Men in a Motor Car."
<i>Sauvageat.</i>	" Palais, Hôtels et Maisons de France."
<i>Sterne.</i>	" Sentimental Journey."
<i>Stevenson.</i>	" Inland Voyages " and " Travels with a Donkey."
<i>Sturgis.</i>	" Dictionary of Architecture and Building."
<i>Taine.</i>	" Traveling in Southern France."
<i>Vincent.</i>	" In the Shadow of the Pyrenees."
<i>Viollet-le-Duc.</i>	" Entretiens sur l'Architecture," " Dictionnaire raisonne de l'Architecture," and " La Cité de Carcassonne."
<i>Wood.</i>	" In the Valley of the Rhone."
<i>Wright.</i>	" France Illustrated."

Ceramic Tiles and their Use.

BY C. HOWARD WALKER.

THE use of tile for floors and walls is at present in a stage of initial development in American building.

Tentative attempts have been made here and there to produce so-called novel results, and a very considerable amount of work, imitative of old and acknowledged achievements of the past, is apparent, but there is not yet a thorough perception of the possibilities of tiles that lies inherent in their individual character. The factors of imperishability, of permanency and of cleanliness, of depth of tone and of color, are recognized, but the abundant methods of individual expression have been often neglected.

Tiles are ceramic and can run the entire gamut of clay products, glazed or unglazed, from the mere baked earth to the finest of porcelain. They are backgrounds for relief ornament, and for painting, and as such may become great little works of art. But they must be considered as correlative, as coöperative, producing effects by multiplication of units, not by the superlative beauty of any one unit. Naturally an occasional tile of exquisite glaze or iridescent lustre, of exceptional modelling or of fine drawing, can be made the center of a surrounding area, which serves merely to enhance the splendor of this focus, but in most cases the object desired is general effect, not specific isolation, and for success in obtaining general effect there is necessary a very definite knowledge of the means for its production and of the material employed. Generally speaking, unglazed tiles are used either as surfaces of plain color, with perhaps an occasional accent of one or more other colors, or they become a rather coarse mosaic. Such surfaces are negative foils or backgrounds, unaggressive and admirable when service is desired, but otherwise have merely the beauty of agreeable tone and color, and create a contrast for objects associated with them. For this reason unglazed tiles are admirable for floors and for walls, dadoes, etc. When of one color throughout, texture is of great importance, and can be obtained by variety in the shapes of the tiles, and by the use of combinations of geometric forms, squares, triangles, hexagons and octagons, etc.

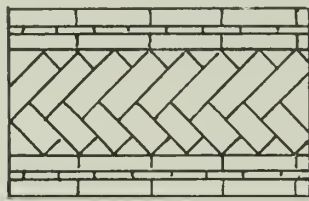
The existent stock of vitreous and semi-vitreous tile obtainable (apart from special patterns made to order or exceptionally high-priced examples) is of shapes bounded by straight lines, which are usually cut to angles of forty-five and sixty degrees. These are the tiles made by the dust pressed process, and have their lines and surfaces clean cut, straight and true. Of the semi-vitreous tile there are sixty-two different units in each, of seven colors: buff, salmon, light gray, dark gray, red, chocolate and black, making four hundred and thirty-four different units. The shapes are squares of seven full sizes and of their halves on the diagonal. Fourteen different shapes of rectangular oblongs, three octagons and their halves, quarters and eighths; three hexagons and their halves, on both long and short axes; three elongated hexagons and their halves; one pentagon and three equilateral triangles and their halves.

Of the vitreous tile (or porcelain tile) there are twenty-eight units in eight colors: white, silver gray, celadon, green, blue green, light blue, dark blue and pink, making one hundred and seventy-six different

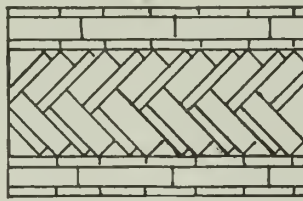
units consisting of five squares and their halves on the diagonal; five rectangular oblongs, one octagon, two hexagons and their halves on both long and short axes; three equilateral triangles and their halves.

It is evident that there is no lack of possibilities of combination of these tiles in geometric straight line patterns, and a great variety of designs has already been used, but in many cases with unsatisfactory effects. Tile surfaces for either walls or floors need to be of one general color or tone, as any combinations in different colors of units as large as the tile units are spotty in effect. The only exceptions are to be found in the Moorish tile patterns, which are of porcelain tile, and which are in most cases star patterns in color, surrounded by ribbon tile of white. But these patterns require strong polychromatic treatment in the other details of the room, otherwise they are too pronounced. Fields of tile, therefore, are usually dependent for their effect upon the texture produced by the pattern as shown by the joints, and the introduction of contrasts should occur only at occasional intervals in some small detail, the intervals between these contrasts being entirely dependent upon the scale of the room. In borders, however, contrasts are desirable. A border to a floor is usually darker than the field, as a dark field with a light border gives the impression that the floor has sunk in the center; while a dark border and light field corrects any such effect of depression. But the contrasts in borders should not be merely spotty differences of value, but should be so planned that either a general tone is maintained or the direction of the border indicated. The texture of the joints in a border is of value in its effect, but such texture should contrast strongly with the texture of the field, borders in one color, with pattern indicated by joints, only being applicable to fields of much simpler pattern. A complicated field requires tone or color contrast in the border. Tile patterns, like stained glass windows, are of a variety of mosaic; *i. e.*, they are mosaic of large units instead of small tesserae. If the leaded windows of the cathedrals and the tile dadoes of the Moorish palaces be studied, they will be found to have a common factor in their treatment; *i. e.*, that of surrounding centers of interest by small borders of a lighter tone than the focus unit. These small, delicate borders make a pattern in themselves, and often interlock and knot into centers.

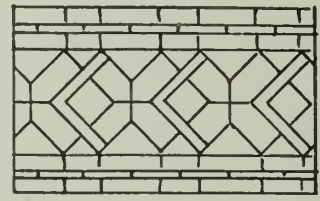
The attempt to recreate this principle in modern tile patterns has been overlooked. Plain surfaces of tile depend entirely upon their size for quality of texture, and nothing is more usual than to find the entire character of a wall coarsened and made commonplace by the tile being too large and out of scale with the room and surface on which it is placed. And as apparent scale decreases with the number of sides of a polygon, the danger of coarse texture in a wall surface is greater in the use of square tile than with any other. For the same reason, alternation of color in a geometric pattern is to be avoided, as it at least doubles the scale, and with such large units as tiles does not produce a tone but a series of spots. A spotty wall surface is to be especially avoided with tile, so that if contrasting color is used, it should be either in very small units or in units so isolated that they are overwhelmed by the general background. Unglazed tile can of course have modelled surfaces, which



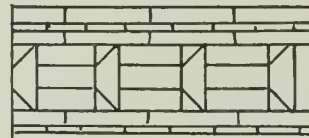
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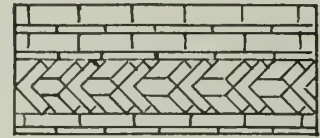
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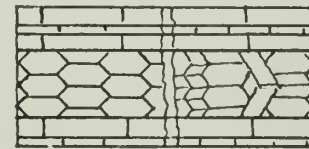
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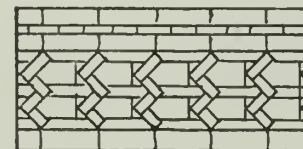
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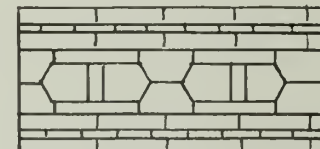
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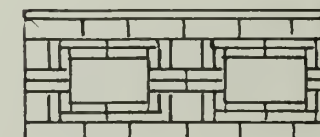
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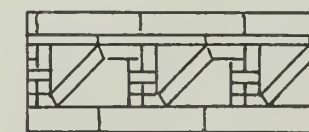
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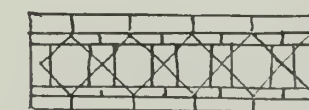
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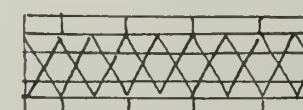
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merely deepen the tone by shadows, and the introduction of such units as occasional foci often adds interest to the whole surface, but even in this case, comparatively inconspicuous as are their modelled tile, it is not well to alternate them with plain tile, on account of coarseness of scale.

Tiles are veneers, not structural factors, and unlike mosaics, should be treated as such. The line of demarcation between glazed tile and structural faience should be very definite. Considering tile as a mosaic of large factors, effects can be obtained by variation in the color and width of the joints between the tile. It has been so long the habit to consider that tiles must fit accurately together, that any breadth of joint is considered poor workmanship, and while this is true, if the variation in joints is accidental, it is by no means the case when the intention is evident, and as the joints form a mesh over the surface, and cover only a small portion of the general area, they admit of all sorts of differences of width, producing a pattern of their own without materially affecting the scale.

In all tile design there should be one strongly dominant background color and tone, and the remaining colors and tones should not differ greatly from the background. Excepting under some circumstances small spots and fine lines only are necessary in semi-vitreous tiles. If white is used as a background to the field, neutral tones and one color only should be used, black occurring only in small spots and fine lines. If grays are used for backgrounds, red or chocolate, or white, should be in small quantities. Salmon is only agreeable when used with white; buff should not be used in large proportions with red, as the result is an effect of orange. Buff and white are, however, successful. In vitreous tiles the colors are more intense, and consequently more difficult, to arrange. Plain surfaces in all the colors excepting pink are attractive, both in walls and floors. Pink is a tint, a diluted rose red, and is mawkish, excepting in fine lines and small spots in large surfaces of white and silver gray. All intense colors combine well with white. In tile work, more than in other decorative work, it is advisable to adopt a definite scheme of color, either neutral or of cool tones or of warm tones, and avoid an introduction of complementary colors, as the subdivisions are large, prevent the complementaries from neutralizing each other, and the effect of their use is that of conflict and opposition and not of harmony. In borders, stronger contrasts may be used than in fields, but the contrasting colors should be separated by borders of lighter tone value than either of the colors. Parallel line borders of narrow tiles, each color separated from the next by a fine white or light line, are very effective. Wall patterns should be either all-over patterns with plain base and a top border, or divided into vertical panels by borders. Horizontal panels and zones are seldom successful in tiles. The same or similar fields and borders may be used upon walls as upon floors, either in absolute harmony with, or in contrast to the floor. But patterns based on circles are seldom adapted to wall surfaces, as they disturb the vertical appearance of the wall when seen in perspective. It is manifest, also, that the designs upon a floor can be much larger in scale of plan than upon the walls, for the wall surface of tile is a veneer which would seem unstable if made of too large pieces, while the floor surface, resting upon support, never seems unstable.

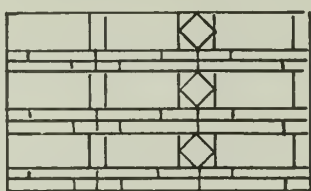
In the accompanying illustrations, Plates 1 and 2 are designs for borders and fields. While these designs are by no means original in their general character, being simple geometric repeats, they are made from the tiles already existent in stock, and they have one intention in common, that is, the patterns are decorative from the lines of the joints even if no contrasts occur in the color or tone of the tiles. Also there is more variety in the widths of the long tile and in the scale of adjacent pieces than is usually to be found in tile patterns. Of the borders, Nos. 1 to 9 are variants of the herring-bone pattern, 10 to 12 of the elongated hexagon, 13 to 15 of the zigzag, 16 to 24 of chain patterns, etc. Each and all of these can be increased in apparent scale by the use of two tones and colors, but the introduction of three tones or colors would in most cases confuse the pattern. It is not unusual to find borders which are excessive in width and over-detailed in comparison to the fields they enclose. Any border is merely a separation, a frame, and requires strength rather than elaboration. In all tile work special care is necessary to avoid too large a scale of unit and of repeat in the pattern.

Plate No. 2 contains fields or all-over patterns which may be used on walls or floors. Nos. 1 to 3, 6, 17, 18, 21 and 23 produce striped fields with a strong effect of direction. Nos. 10 and 17, this latter based on pentagons, are complicated and somewhat confused in character, but would serve in small areas as foils for simpler adjacent patterns. None of these fields have as various contrasts as the borders, as variation in fields is not a virtue. No more complicated patterns in fields need ever be used, and there are an infinite number of simpler patterns which may be adopted. Contrasts of tone or color in fields should be either in small isolated spots at considerable distance apart or very equally distributed over the field in units of similar areas. For example, Nos. 2 and 9 are better fitted for contrasts of color or tone than are the others.

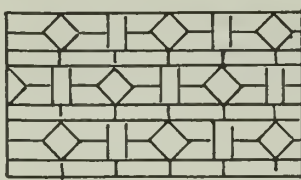
Tile work, apart from the shape and patterns of the tile, is very apt to be faulty in design from too violent contrasts between the borders and the fields. Contrasts which would not be considered between stiles and rails and panels in woodwork are constantly recurring in tiled walls. And borders strong enough to hold sheets of marble are placed around fields which are already incorporated with the wall and are capable of sustaining themselves. Broad borders with strong contrasts appear to be too heavy. Very narrow borders appear to be too thin. The natural conclusion seems to be that it is unwise to use violent contrasts of any kind.

Tiles may be used successfully upon arched or vaulted ceilings but upon flat ceilings give an effect of insecurity. The ceiling units and patterns should be even smaller than those upon the walls. The sequence of scale in tile design being as follows: Largest units and patterns upon floors, smallest upon ceilings, the walls to have smaller patterns than floors and larger than ceilings.

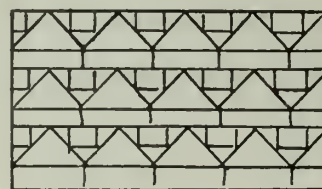
On vaulted surfaces the borders will naturally follow the intersecting lines of the vaults, but will be much narrower than floor or wall borders. Heavy centers in ceiling panels are to be avoided in tile, though such centers may be used around pendent light fixtures, etc. Decoration of angles and panels is more applicable to ceiling panels than to wall or floor panels.



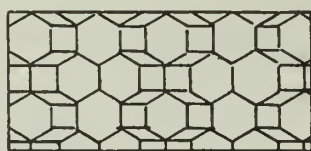
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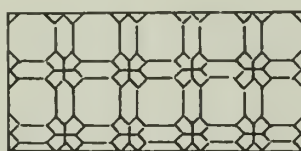
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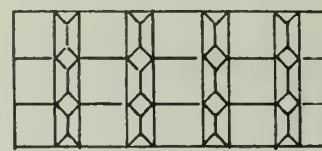
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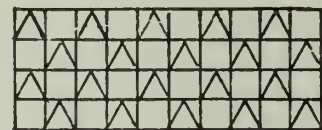
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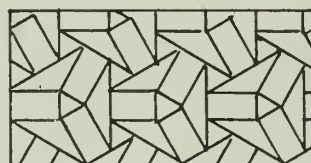
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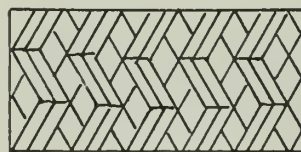
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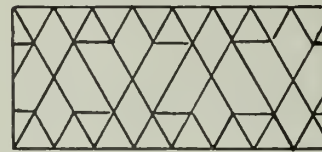
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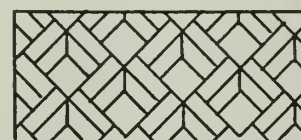
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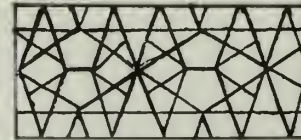
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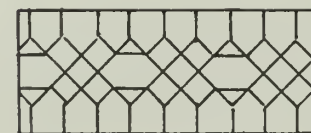
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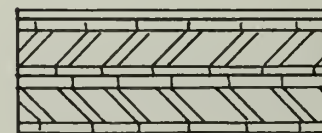
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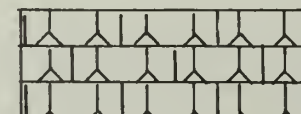
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The Use of Terra Cotta Blocks for Walls of Houses.

EDITOR OF THE BRICKBUILDER:

Dear Sir, — The presentation in THE BRICKBUILDER for March of a method of building plastered house walls of "porous" terra cotta forms, when a sketch detail of the method was shown and editorial comment substituted for the description accompanying the detail, was not such as to do justice to the material. If you will kindly publish the description as originally submitted it will, although as "sketchy" as the detail, surely give those interested a better chance to judge of the merits of the construction.

Given a house wall that is strong enough, looks well enough, and successfully stands off fire and storm, the designer will not feel called upon to grout it like a supporting pier. He wants a slow conductor and poor absorber of heat, and if he could build such walls of some glassy stuff puffed up like pumice and leave them strong enough, he would know that they would be a hundred times better to live with than if of a like thickness of cast iron.

To make walls more cellular, while retaining good bond, to thicken them without adding weight, is to gain strength because we add base and warmth as we divide the material.

The detail and description were prepared to show that a material, meeting at small cost the requirements of better house walls, is at hand in many localities.

My original description as submitted to you is as follows:

In designing houses one occasionally has the good fortune to be not restricted as to finish, to be left free to choose between wall materials of moderate cost. Being so favored, after settling questions of strength to his satisfaction he will naturally select incombustible materials of good heat insulating qualities, if they may be had within the means at his command.

The rapid increase in prices of structural lumber is adding greatly to the quest for cheap and good walls of masonry. This is in part accountable for the uncountable variety of concrete building blocks flooding the markets here and there.

But very few of these come within hailing distance of the requirements of a good wall, while, if decently made, they cannot in many localities compete in cost with hollow terra cotta forms. Of these both hard and porous goods have their advocates for various purposes.

In our town excellent fireproofing of the latter sort is made, the peculiar qualities of which so appealed to me, as suited for outer walls of houses, that I made selections from the floor and partition forms in use, and have for some time built with wall sections about as shown by sketch. The manufacturer was good enough to modify two of his

regular forms so as to make the vertical webs relatively thicker, but no special forms were required, hollow bricks being used about windows, for beam-filling, or running to any desired level not reached by the eight-inch courses.

As applied, the outer plastering and "roughcast" have not failed in what was expected of them, nor do they show any etching by the elements.

When in the late '80s or early '90s tests of hollow tile floor spans showed some of the advantages coming from padding the clay mixture with a considerable percentage of sawdust, etc., to be burnt out in the kilns, it is not likely that the superiority of these "porous" goods as heat-savers was taken into account. But the cellular structure of these goods, due to the process of manufacture, doubtless brings them nearer to wood in heat-saving properties than any other available material in masonry.

In addition to this cellular quality of the materials, it will be seen that the wall is so designed as to divide into four walls, separated by three spaces, except as the bonding webs of alternate tiles extend through. These occupy about one-eighth of the wall space — the studs of the "balloon frame" fill a larger part, while heat need travel less than one-half as far to pass through the wood wall.

Again, wall materials absorb heat roughly in proportion to their weight. This tile wall weighs about one-half as much as a brick wall of like thickness or as some of the better concrete block walls.

The horizontal arrangement of the spaces not only appeals to a builder as giving good bond, but it prevents the peculiar circulation of air currents in the vertical flues formed by setting the tiles on end, a movement often potent in loss of heat by convectivity. While horizontal setting relieves some of the tile material of the function

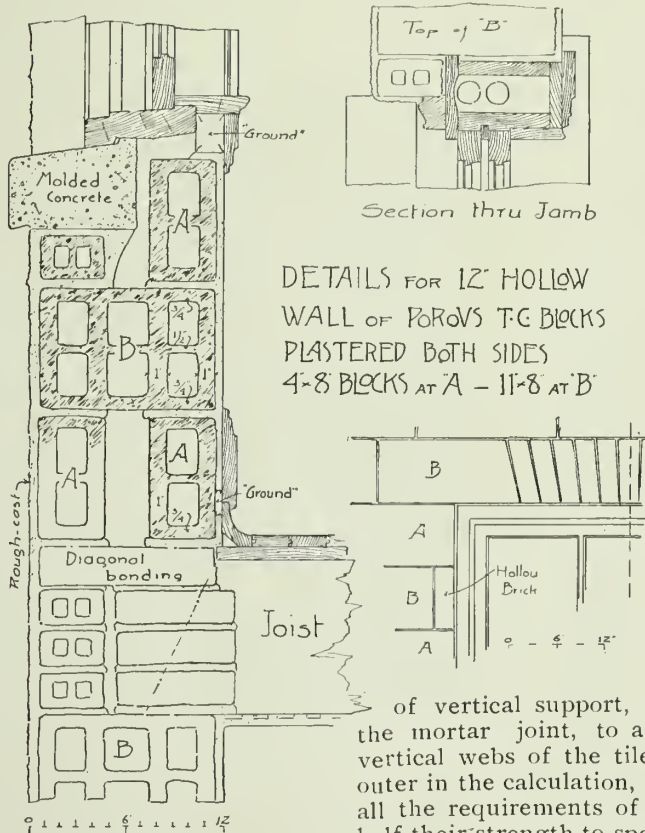
of vertical support, it increases the weakest part, the mortar joint, to a larger area than that of the vertical webs of the tiles. Of these, if we neglect the outer in the calculation, we find the inner three meeting all the requirements of building codes with more than half their strength to spare.

Only workmen used to setting floor fireproofing are employed on these walls, they are so much more certain than brick-layers to fill end joints. Not that this seriously affects strength, but it is desirable to have the spaces well separated in the interest of economy of fuel.

The designer may get several kinds of comfort from these plastered walls. He is less tempted to folly in ornament and "features" than with other materials; he may be as free with measurements and proportions as with walls of common bricks, and he can see his way in cost.

A house now on my boards, with some forty-five hundred square feet of outer wall, will cost about thirty cents per foot for the tiling in the wall with the outer plastering and "roughcast." Equally plain "balloon frame" with "clapboard" siding and painting would cost some twenty cents per square foot ready for inside plastering. Insurance, repainting, etc., remain to be reckoned with, even if the designer have sufficient strength of character to cut out the frivolities to which the wood construction and finish are so apt to lead.

Going more into detail, it will be noted that all special



forms have been avoided, only the large floor block B, 8 in. by 11 in. by 18 in., and the partition block A, 8 in. by 4 in. by 18 in., being used, hollow bricks doing the rest. Openings wider than three feet six inches are usually spanned with the help of iron, which will of course be needed where unusual floor loads come over openings.

When gas or electric lights are needed on these walls it is better to separate the bonding course and place pipe and conduit as sketched than to channel the wall after laying.

Coming to questions of strength, after giving the wall good thickness and exceptionally good bond, we find that a floor with joists as shown will have at least twenty-four square inches to the running foot of the bearing material, the joists having bearing surfaces much to be preferred to that furnished by the vertical construction. With rooms no more than twenty feet in width, two floors with the weight of the inner half of the wall will not load the material of the inner tile more than eighty pounds to the square inch—the roof weight going naturally to the outer side of the wall.

Experiences with outer plastering on this material may be of value. Porous terra cotta in these parts is commonly held to be guilty of much "saltpetering" or efflorescing when plastered, — a charge possibly traceable to extensive use of a certain clay deposit much given to efflorescing whether made into porous goods or bricks, — possibly to a belief that the burning of sawdust in the clay leaves more soluble matter in the porous goods than in bricks from the same clays. Without disputing this theory it may be said that a long experience has failed to find plastering on damp walls of any kind that escaped efflorescing when the walls dried; while plastering on porous terra cotta walls, partitions or ceilings that were dry at the time has always been free from the trouble. In such cases the sprinkling of walls by the plasterer to secure his "suction" does not count.

Every one suffers annoyance, and owners at times great distress, from the efflorescing of new walls *in the direction in which they dry out*. When this deposit is on face brick, say, it soon disappears, unless walls are allowed to be continually wet from want of proper copings, cornices, drips, etc.—that is another story. If, however, exterior cement plastering is to finish the walls, do not look with too much complacency for final uniformity of color if the plastering is done on wet walls.

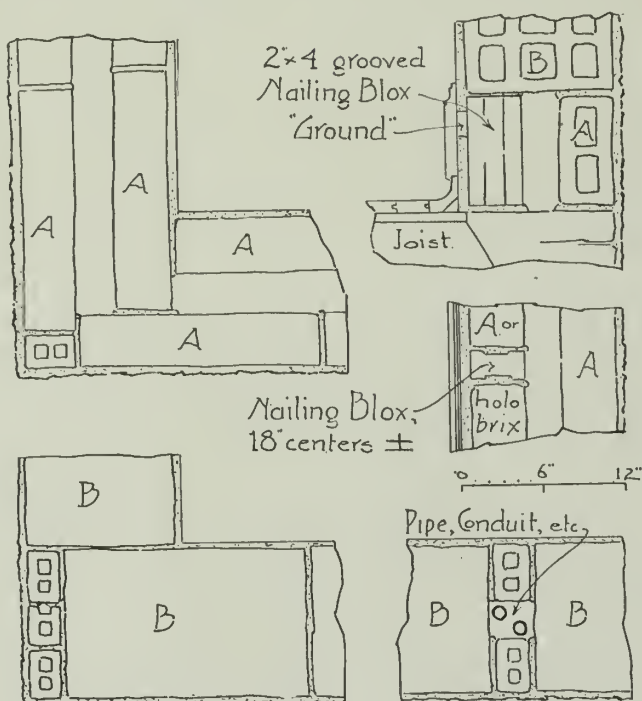
The porous blocks of a house built some five years since, the walls being of about the sections shown, were much wet by rains before and during construction. The season being far spent, outer plastering had to be done shortly, so that much of the water of construction re-

mained in the wall and, as a matter of course, evaporated through the cement coating, carrying with it the inevitable substances in solution to lodge at the surface. The cement of the plaster was a marl variety of medium dark color with a knack of retaining, when dry, more or less of the olive tint so common to mortars of Portland cement. Parts of the exterior were plastered on metal lathing with wood support, and here the work dried evenly with the olive gray color, seemingly as permanent as the color of a quarry stone; but where plastered on the damp terra cotta blocks the peculiar color of the cement was changed unevenly to lighter grays, which, in turn, are permanent, not being removed by the atmosphere as is the common efflorescence of masonry walls.

It so happened that on the south wall noticeably finer gravel had been used for parts of the "roughcast," bringing manifest regret to the owner, learning which, the contractor, the wall being by this time thoroughly dry, dashed on another coat of the proper texture. This last dried in all respects like the work on the metal laths, nor is any fault to be found with the adhesion or weathering of this second coat of "roughcast."

In fact, both the work on the damp walls and that last mentioned appear to-day to be actually sound, showing no trace of yielding to the elements. But these walls where not protected by broad cornices have, in all cases, good copings, belt courses and sills, all made to drip free from the wall surfaces.

Certain outlying terrace walls, however, were built with less care of "wire-cut"



ANGLE PLANS. NAILING BLOCKS, ETC.

bricks, plastered sides and top, the intended copings being omitted. These have come to grief. Whether terra cotta blocks with no better treatment would have stood better is left to conjecture.

Some of the liquid coatings now on the market of the thick asphaltic sort, to be applied on the outside of the blocks, would be added insurance against wind and wet—if one could be certain that such a film between block and plaster would not prevent the best adhesion of the two. As it is, a good coat of neat cement and fine gravel, applied "slap-dash," appears to make a much better outer skin than can be made with the trowel.

In accounting for the low cost of these walls, it is to be remembered that but half as much clay is burned and hauled to the building as for a brick wall of like volume; that in laying one block B and two blocks A, the mason accomplishes as much as with thirty-five to forty bricks, using perhaps one-fourth the mortar, and that no special forms have to be prepared or laid. Appropriate forms of denser clay goods may in some places be found cheaper, but hardly as warm.

FREDERIC G. CORSER.

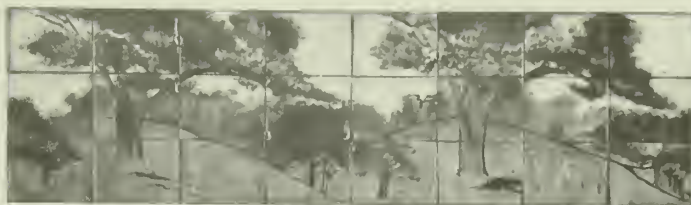
Minneapolis, Minn.

Editorial Comment and Selected Miscellany

THE ANNUAL REPORT OF THE SCHOOL- HOUSE DEPARTMENT, CITY OF BOSTON.

THE Fifth Annual Report of the Board of Schoolhouse Commissioners for the City of Boston furnishes some pretty serious food for reflection. The commissioners call attention to the severe limitations placed upon the powers of the Board by the lack of permanent provision for new buildings. While nearly all of our large cities are providing every year, regularly and liberally, for new school buildings necessary to meet the growing demands of the population and to replace the buildings which are out of date, in Boston the funds for new buildings are available only as special loans are authorized by the legislature. There never has been a time when the Board could look ahead twelve months and know what funds would be at its disposal, and at present there is no provision for the future. The work of the Board is actually seriously hampered, as it is impossible for them to plan their work in advance. This is a condition greatly to be regretted, and the contrasts between the excellent accommodations offered by the newer buildings and the insufficiency of school accommodations in the more crowded districts is very disappointing to those who appreciate the necessity for extending the public school system.

The report gives a number of very admirable general deductions as to the various types of plan which have been adopted for the different schools, comparing these types with what have been followed in New York, Chicago and St. Louis. The school committee, which has the direction of the teaching work in the schools, as distinct from the school commission, has obliterated a somewhat imaginary line between primary and grammar children, and this action will affect the work of the Board, especially as it tends in the direction of putting a larger number of children into the elementary schools of low grade and reducing the number of grades



PANEL, TREE DESIGN, REPEATING. IN COLORED MAT GLAZE.
Made by The Rookwood Pottery Co.

that are in the central district schools where the children have the additional advantages of equipment for manual training and cooking, and of an assembly hall. It is expected that the growth in the future will be along the lines of a large number of medium size schools of from ten to twenty rooms rather than in the direction of from thirty rooms to over. This is a sharp contrast to the attempts which have been made in New York to relieve congestion and reduce ground expenses by carrying schoolhouses up several stories. Most of the Boston schoolhouses are three stories and under in height.

All buildings erected by the Board are now required to be of fireproof construction throughout. The cost is limited by allowing from 30,000 to 35,000 cubic feet per classroom for the lower elementary schools, and allowing a sliding scale of cubic feet per classroom for the higher elementary schools, the cost per cubic foot averaging about twenty-two cents. For high schools the allowance runs from 66,000 to 82,000 cubic feet per class of forty, and the cost averages about twenty-four cents per cubic foot. The Board notes that soft foundations requiring tiling, waterproofing, reinforced concrete, or any other unusual expense below grade will add in the neighborhood of two cents per cubic foot to the building.

The appendix of the report contains a very admirable description of the typical school buildings in New York, Chicago and St. Louis which is fully illustrated. There is also a very interesting report on technical and industrial education in England, and the whole report is fully illustrated with plans and photographs of work executed during the past year.



DETAIL BY ATLANTIC TERRA
COTTA CO.

THE FRESCOES OF THE CONGRESSIONAL LIBRARY.

THE mural decorations of the Congressional Library, Washington, constitute one of the most interesting examples of interior work which this country possesses, and it is therefore a source of great disappointment to find that some of these beautiful paintings seem to be slowly disappearing. Anyone who has visited the Library of late years must have noticed the ceiling work in the north corridor of the ground floor. These decorations were painted by Edward Simmons and are among the most interesting in the building. Some of the small ceiling pieces have faded out so they can hardly be determined, and the tones of all the paintings are more or less



DETAIL BY WIDMANN, WALSH & BOISSELER,
ARCHITECTS.
Winkle Terra Cotta Co., Makers.



BRANCH OF COMMERCIAL TRUST AND SAVINGS BANK, NEW ORLEANS.

Frank P. Gravely Co., Architects.

Built of White Terra Cotta. Made by Northwestern Terra Cotta Co.

discolored and unpleasant. The corresponding paintings in the south corridor also have suffered quite perceptibly as well as the ceiling paintings in the rotunda of the print room in the second floor. There is no means of knowing just what should cause this deterioration. The paintings are all, we believe, upon canvas, mounted with white lead upon the plaster work, and it would seem as if anything in the nature of the plastering itself would hardly be able to attack, through the white lead mounting, the canvas and the paint itself. It will be an artistic calamity for the country if these magnificent paintings are to be ruined. We are very apt to think of oil paintings as being permanent to the last degree, but as a matter of fact it is to be remembered that the process of mixing colors with oil to form a pigment dates only from the time of the Renaissance, and it is by no means certain how long oil paintings will last on the walls. On the whole, it is rather doubtful if two generations hence many of our mural decorations will be in place, if we may judge by what is happening in Washington. Thus far there has been no form of mural decorations devised which possesses anything like the permanence of glass mosaic or encaustic tile. The mosaics of St. Mark's and of St. Sophia have stood now for upwards of fourteen hundred years with apparently not a particle of loss in intensity or in tone. The glazed terra cottas from Babylon and the Euphrates Valley have lasted even longer, some of them dating back nearly three thousand years.

"THE MARCH OF THE SKYSCRAPER."

SO crowded with tall buildings has the lower end of Manhattan Island become that the uptown district is beginning to be dotted with great steel and stone office

structures. This tendency to turn the Murray Hill and Tenderloin sections into a district of offices is called, by some real estate men, "the march of the skyscrapers."

Until a very short time ago a business concern that needed a suite of general offices rarely thought of going north of City Hall Park in search of the proper place. It is different now. The Metropolitan Life Insurance Company has one of the largest office buildings in the world in Twenty-Third Street; at Fifth Avenue and Twenty-Sixth Street the Brunswick Building has been opened to tenants, and there are many other office structures recently finished, or about to be.

Latest, and perhaps the most distinctive, is the Monolith, in Twenty-Fourth Street. As its name indicates, it is built of concrete. It is only about thirty yards from the corner where, it is said, more people pass in a day than anywhere else in the world, the corner where Broadway and Sixth Avenue and Thirty-Fourth Street come together. The Waldorf-Astoria Hotel is in the same block, and the principal shops and theaters are almost within a stone's throw.

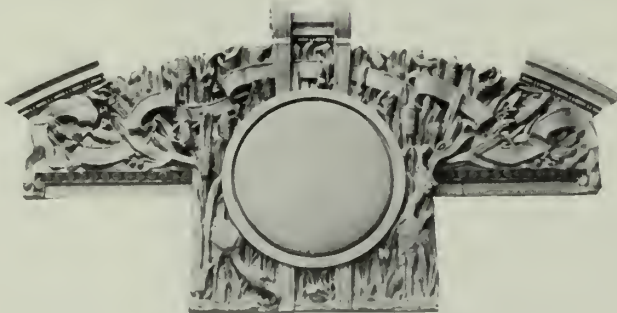
The way in which the floors and partitions of this concrete building are constructed of hollow terra cotta blocks insures absolute safety from fire. The Monolith is an illustration of the theory upon which nearly all engineers are now agreed — that concrete is a structural material which, like steel, has to have supplementary protection in the way of fire-proofing. This fact was established by the San Francisco fire.

AN UNBURNABLE CITY.

"SOME day we shall see an unburnable city," said a prominent fire insurance underwriter of New York, commenting upon the low rate upon lofty office buildings.

This authority mentioned a building in the Wall Street district which carries the lowest rate possible under the schedules of the New York Fire Insurance Exchange. It is the Caledonian, in Pine Street, and its net rate is only five cents per hundred dollars. The building has a cast iron frame, the members of which are protected by porous terra cotta and brick. It is twelve stories high.

A ten-story building in Broad Street, not far from the New York Stock Exchange, has to pay twice as much, or a net rate of ten cents per hundred dollars, though it is two stories lower than the Caledonian. Its metal frame is not



DETAIL BY SOUTH AMBOY TERRA COTTA CO.



DETAIL BY C. B. J. SNYDER, ARCHITECT.
New York Architectural Terra Cotta Co.,
Makers.



DETAIL BY ATLANTIC TERRA COTTA CO.

protected by either terra cotta or brick, and that causes the difference in the rate. An official of the Fire Insurance Exchange says:

"I should estimate that fireproof protection, that is terra cotta or brick, means a difference of fully twenty-five per cent in the net rate of insurance on steel and iron buildings. Five cents is the lowest rate allowed in New York. More and more modern buildings put up nowa-

days approach that minimum. Unquestionably this city is becoming safer from fire every day through the erection of buildings of protected iron and steel."

Another example of a very low rate due to modern fireproofing methods is the Trinity Building, No. 111 Broadway. Its great height, twenty-one stories, which would ordinarily mean very costly insurance, is counterbalanced by the character of construction, and the rate is only twelve cents per hundred dollars. Architects and engineers are considering as never before the isolation of each floor from the others, the limiting of areas, the utmost possible elimination of well holes, and the enclosing of stairways.

NEW BOOK.

SANITATION IN THE MODERN HOME. A suggestive guide



DETAIL BY CONKLING-ARMSTRONG TERRA COTTA CO.

to the architect and house owner in designing and building a residence providing a healthful, comfortable and convenient home. Edited by John K. Allen, Member American Society Inspectors of Plumbing and Sanitary Engineers, Associate Member American Society Heating and Ventilating Engineers, Editor of "Domestic Engineering."

Chicago: Domestic Engineering.
Price, \$2.00.

IN GENERAL.

Lyman A. Ford, Lewis Stewart and Leslie Allen Oliver announce that they have formed a co-partnership for the practice of architecture under the firm name of Ford, Stewart & Oliver, with offices at 37 West 31st Street, New York.

G. A. Wright, George A. Rushforth and B. J. S. Cahill, architects, San Francisco, have removed their offices to 571 California Street.

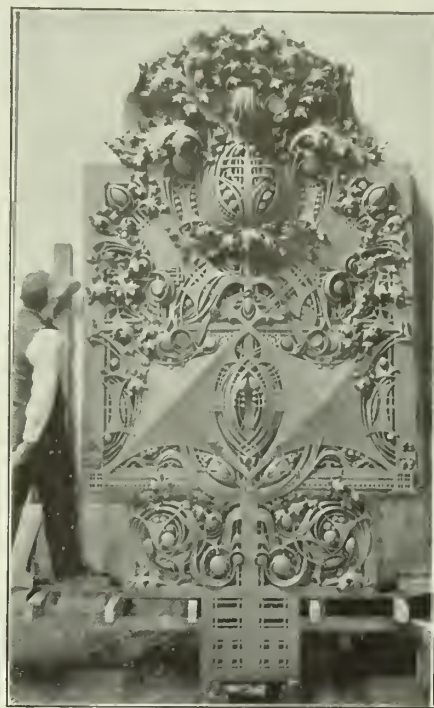
Kable & Kable, architects and engineers, have opened an office in the Buchanan Building, Portland, Oregon. Manufacturers' catalogues and samples desired.

George Albrée Freeman and Francis George Hasselman, architects, announce the removal of their offices from 566 Fifth Avenue to the new Castles Building, 39-41 West 38th Street, New York.

The students of the School of Architecture of Columbia University have presented to the University a portrait of Prof. A. D. F. Hamlin, the work of J. Redding Kelly.

The Architectural Bowling League, composed of draughtsmen from nine of the leading architectural firms of New York, held their first annual dinner on June 4, at the Hotel St. Denis. The first prize, won in the contests of the past season, was awarded to the team representing the office of Carrère & Hastings.

At this dinner a suggestion was made that the

DETAIL BY AMERICAN TERRA COTTA CO.
Louis Sullivan, Architect.

DETAIL BY ATLANTIC TERRA COTTA CO.

draughtsmen of New York organize a club for social and professional purposes. The suggestion was received with great favor. A Draughtsman's Club in New York is something which has long been needed, and it is sure to be a great success in all respects from the very beginning.

The terra cotta used in the Nottingham Apartments, Snelling & Potter, architects, illustrated in this issue, was furnished by the Atlantic Terra Cotta Company.

The Hartford Faience Company, New York office 1123 Broadway, have issued a very attractive little pamphlet, which deals with Embellishments for Concrete Buildings. The embellishments suggested are faience tiles, and among them replicas of the work by the Della Robbias.



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
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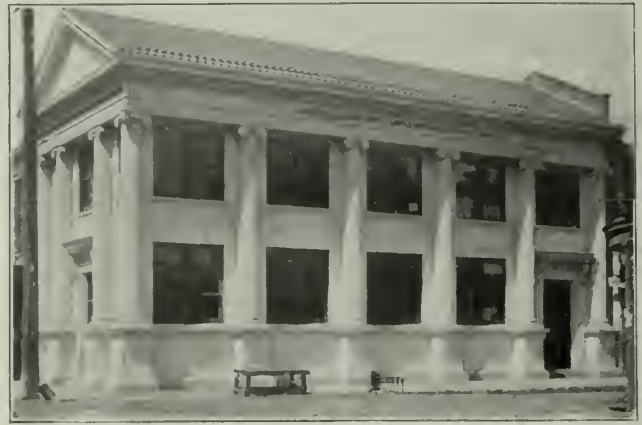
Carter, Black & Ayers, of New York, will supply front brick for the following new buildings: forty-story Singer Building, New York, Ernest Flagg architect; new building for the Pathological Department and Male Dormitory, new Bellevue Hospital, New York, McKim, Mead & White, architects; Training School for Women Nurses at new Bellevue Hospital, Parish & Schroeder, architects. "Harvard" brick will be used in the exteriors of these buildings, while very many light bricks will be used in the interiors.

Textor & Aftel, architects, have opened an office in the Spitzer Building, Toledo, Ohio, and will be glad to receive manufacturers' catalogues.

The architectural terra cotta for the following new buildings will be supplied by the South Amboy Terra Cotta Company: The MacMellen Building, 64 Fifth



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BRANCH OF COMMERCIAL GERMANIA TRUST AND SAVINGS
BANK, NEW ORLEANS.

Rathbone E. DeBuys, Architect. Roofed with Ludowici-Celadon Tile.

Avenue, New York, C. H. Cladwell, architect; Bank Building, Elizabeth, N. J., Oakley & Son, architects; Parish House, New York City, Hoppin, Koen & Huntington, architects; a residence at Lenox, Mass., by the same architects; an office building for the Fruit Auction Company of New York City, Frank Cornell, architect.

HEADQUARTERS OF THE ARCHITECTURAL LEAGUE OF AMERICA.

AT the Executive Board meeting of the Architectural League of America, held in Toronto on June 19, the permanent headquarters of the League were established at 729 Fifteenth Street, N. W., Washington, D. C., and H. S. McAllister, the ex-Secretary of the Washington Architectural Club and now Vice-President of the same, was appointed permanent Secretary of the League. The Executive wishes to announce that all communications with the League may henceforth be directed to Mr. McAllister at the above address.

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For Full Information address Dr. J. H. Penniman, Dean, College Hall, University of Pennsylvania, Philadelphia.

A Limited Number of the illustrated "Review" of the School of Architecture, for 1907, can be supplied to those who will enclose 24 cents in stamps with their applications. Address for the "Review," Professor Warren P. Laird, College Hall, as above.

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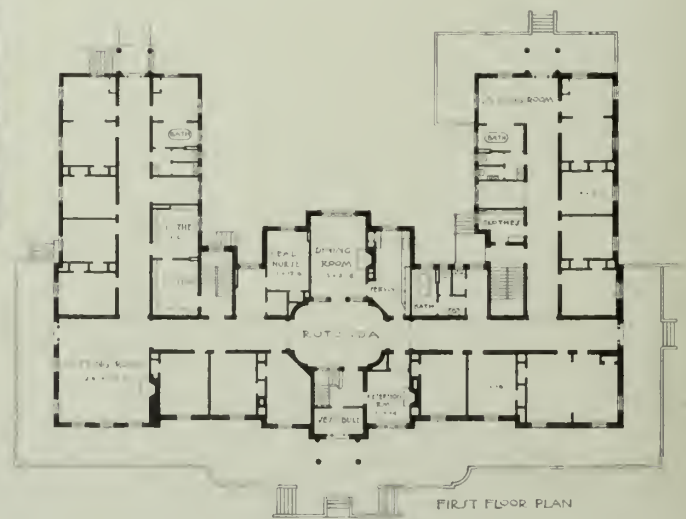
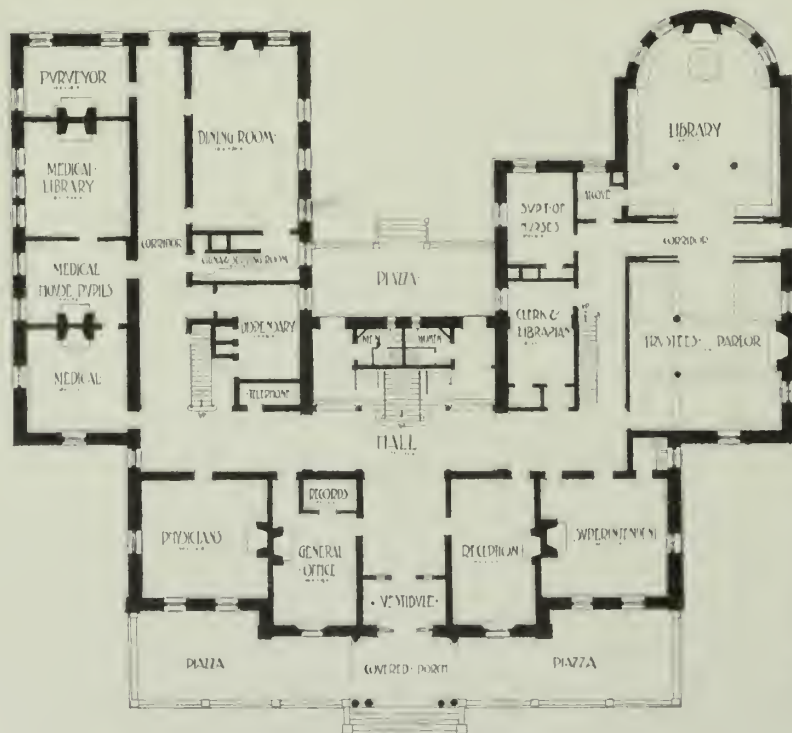
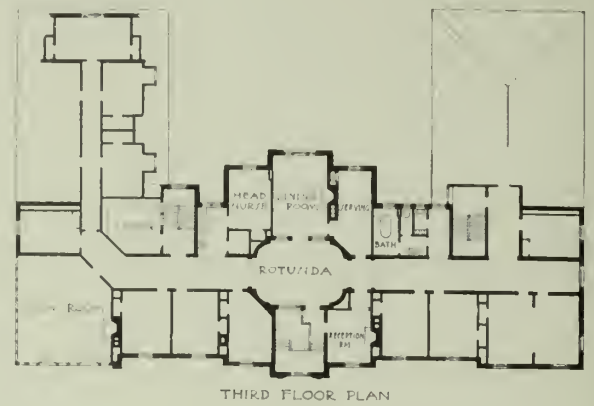


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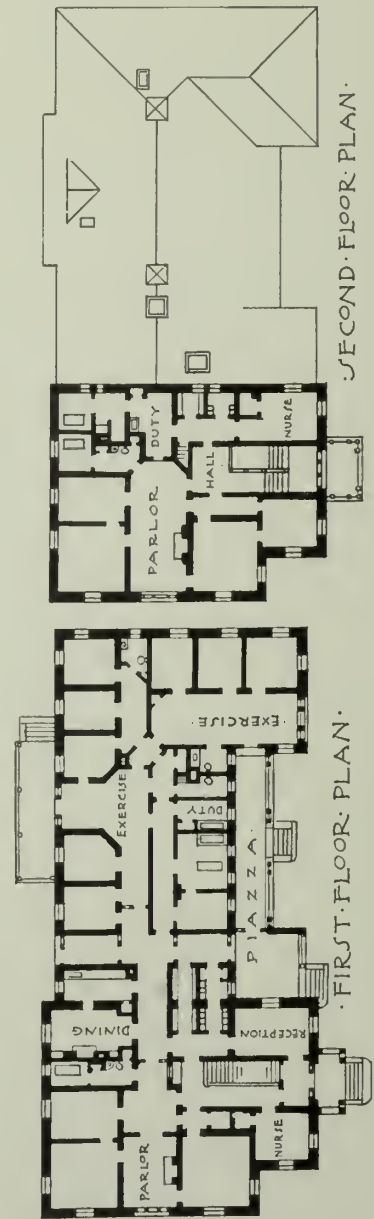




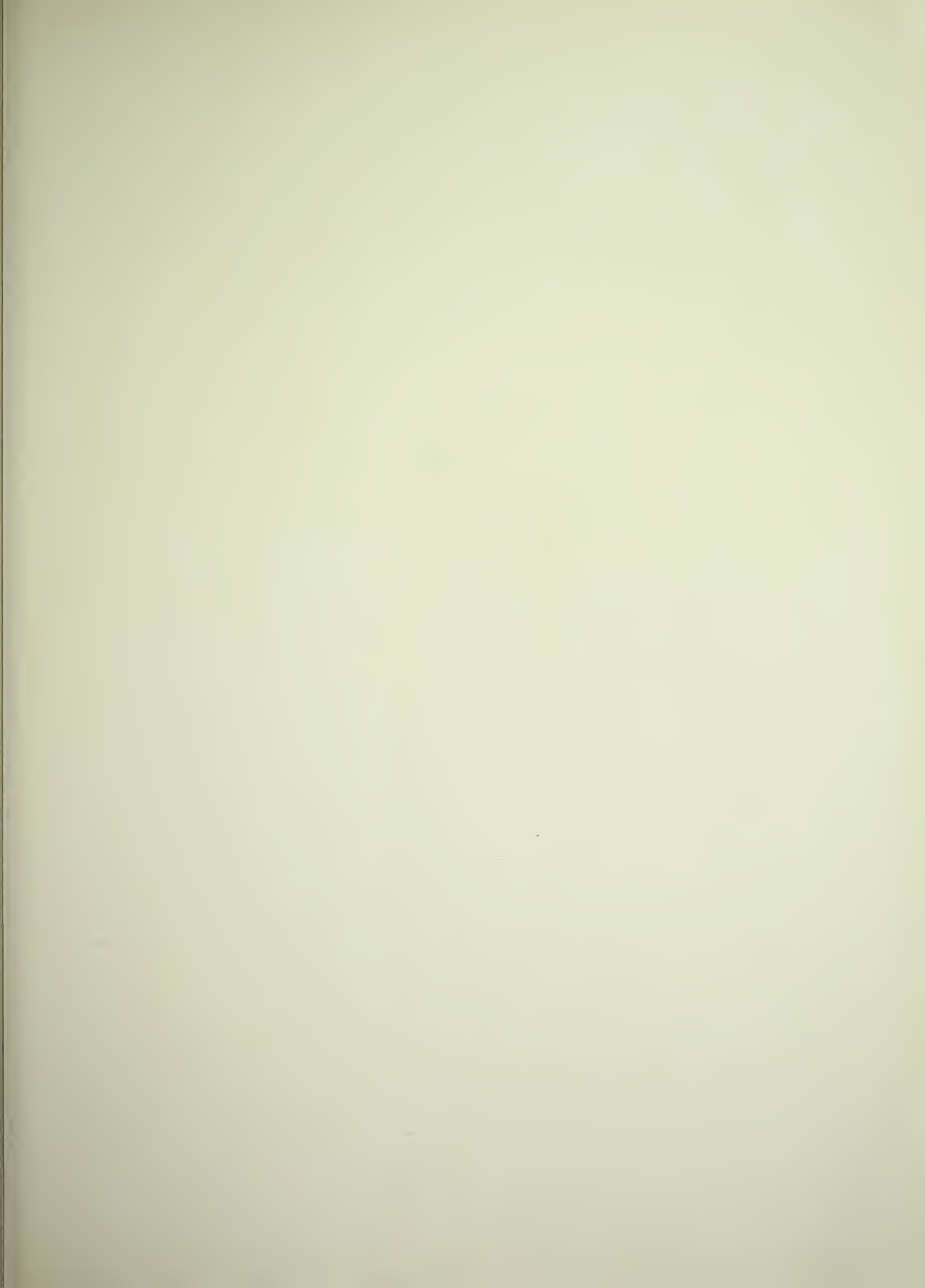
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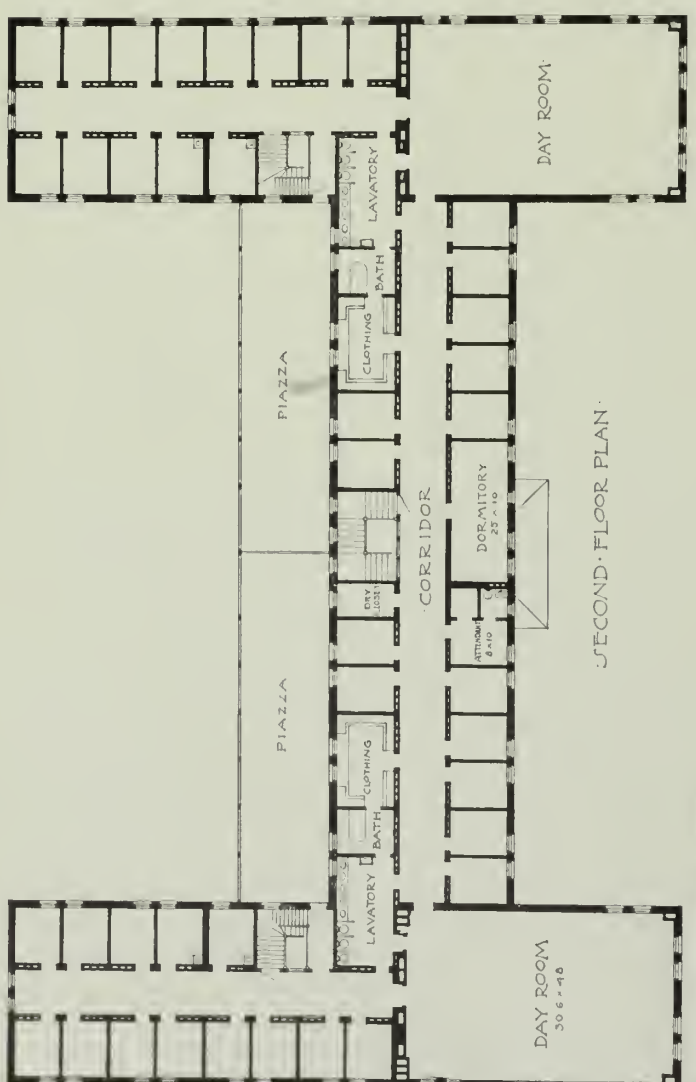


BASEMENT PLAN

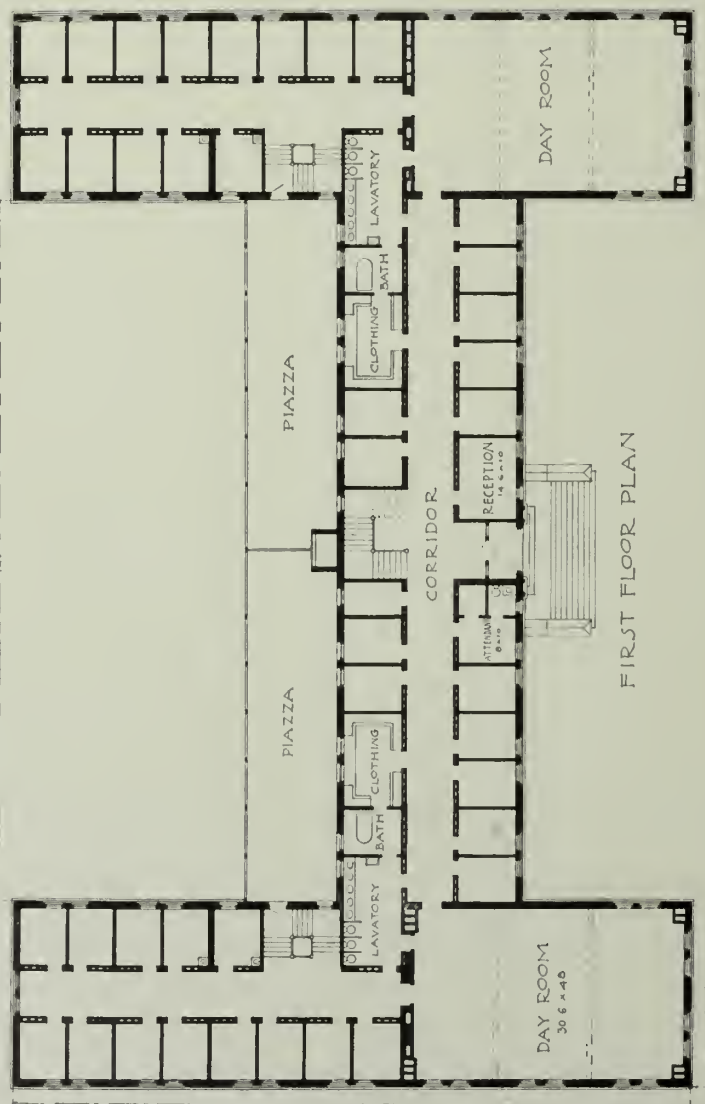


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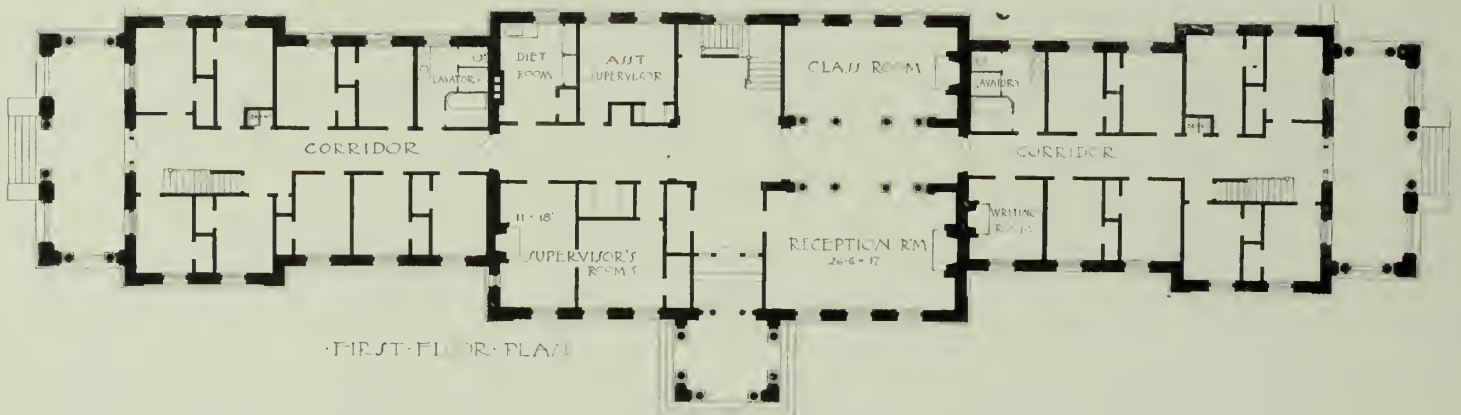
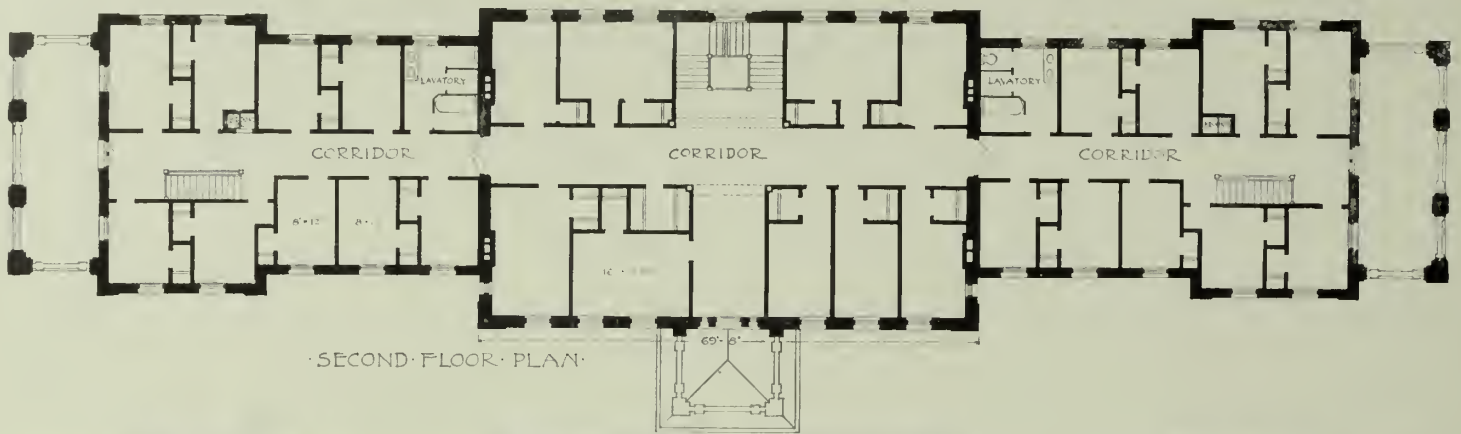
SECOND FLOOR PLAN



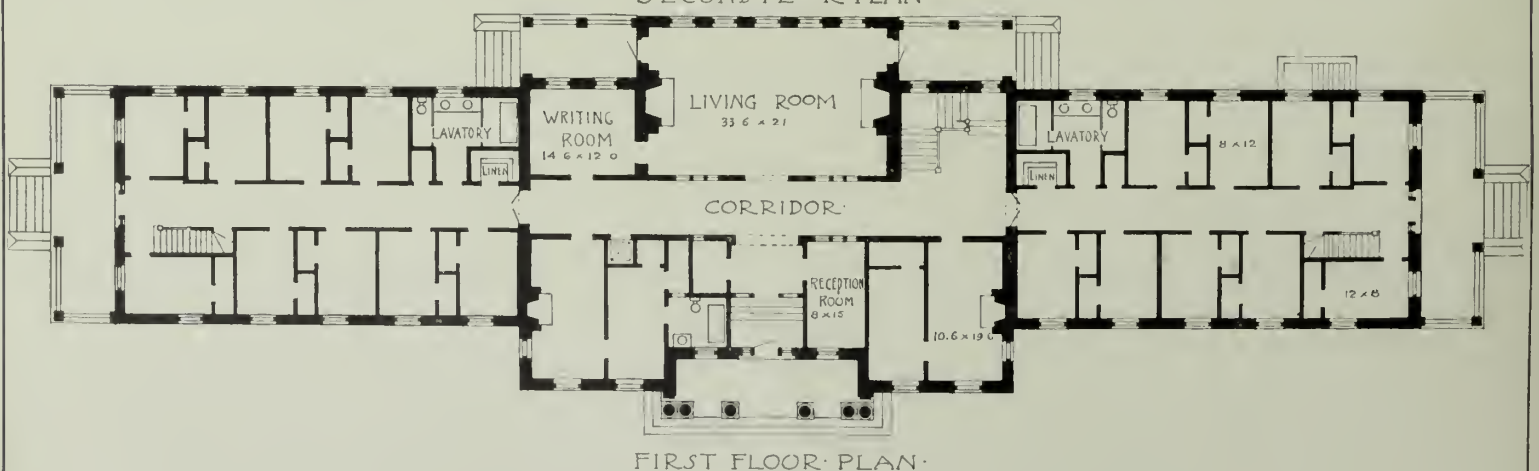
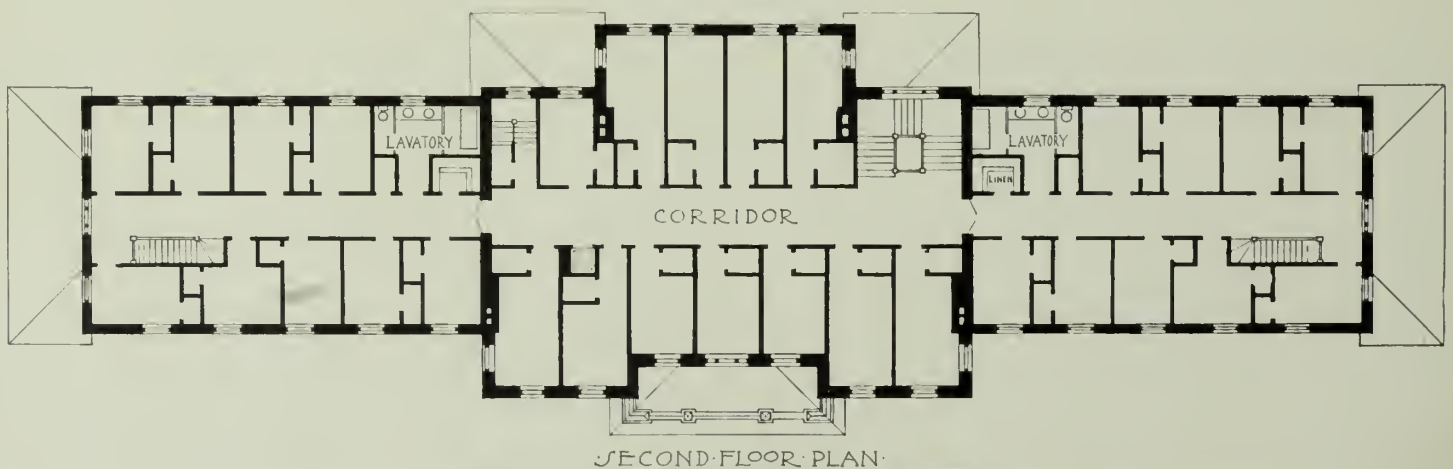
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BUILDING FOR DISTURBED MALES. INSANE HOSPITAL, MEDFIELD, MASS.
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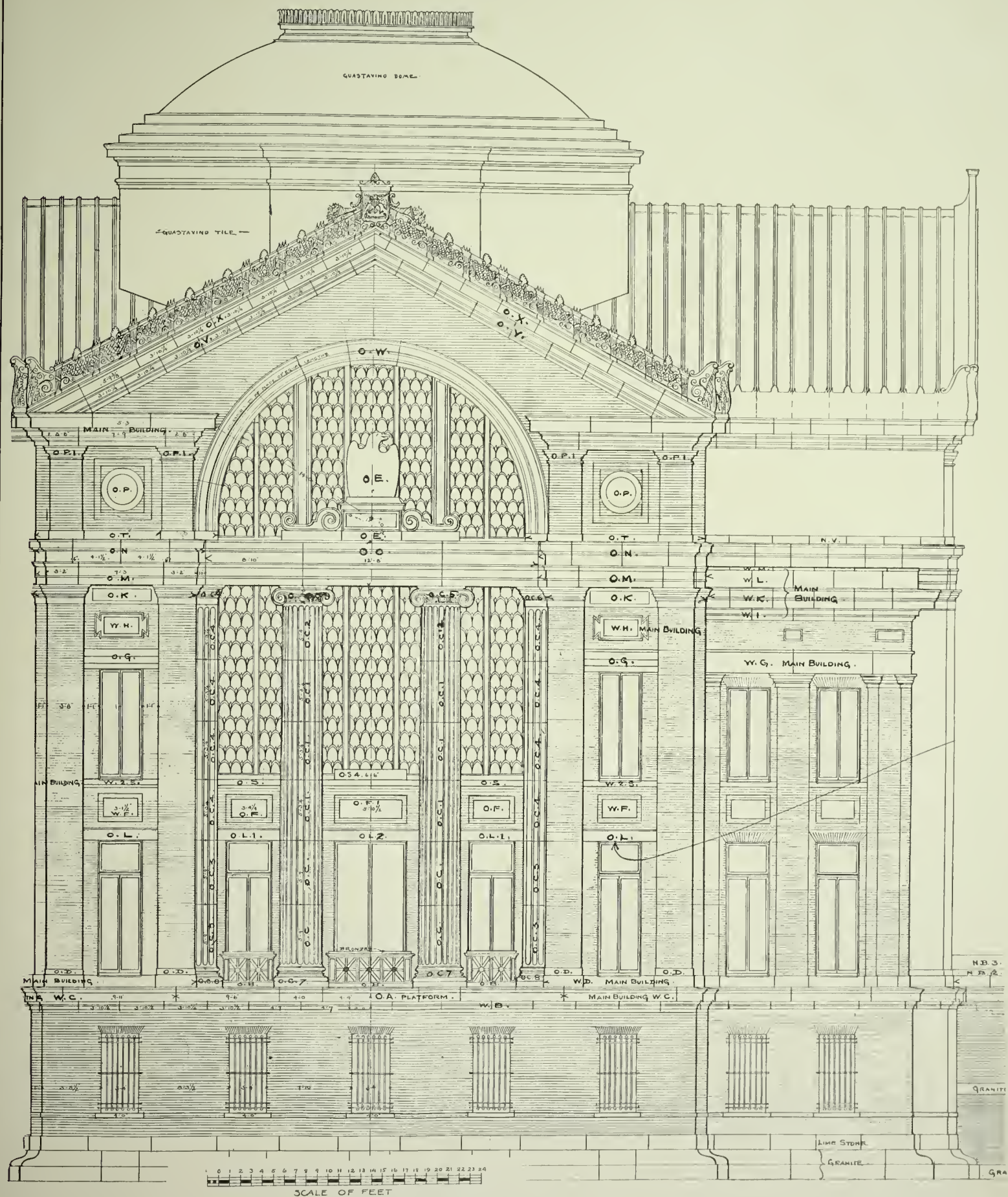


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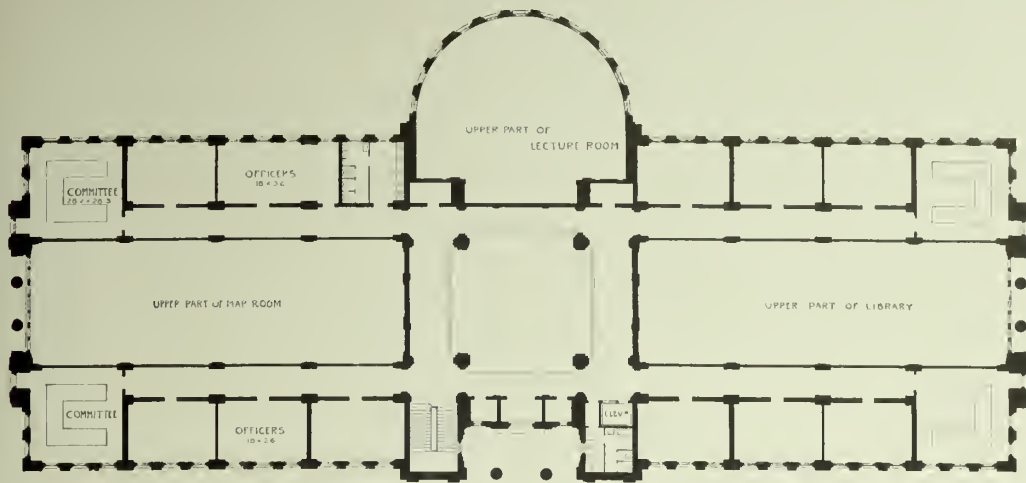
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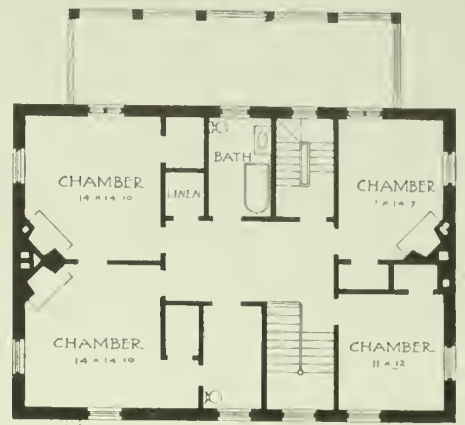


EAST END ELEVATION

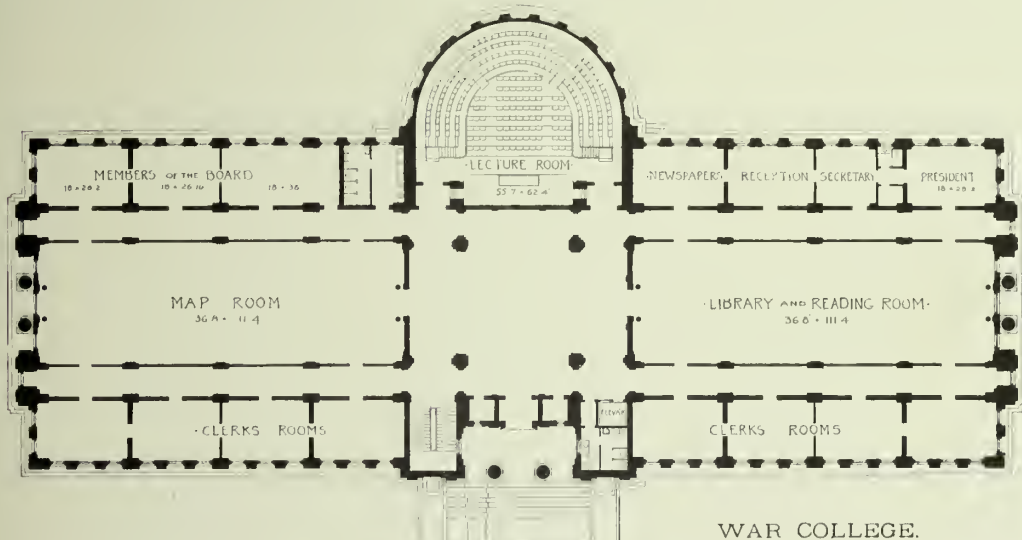
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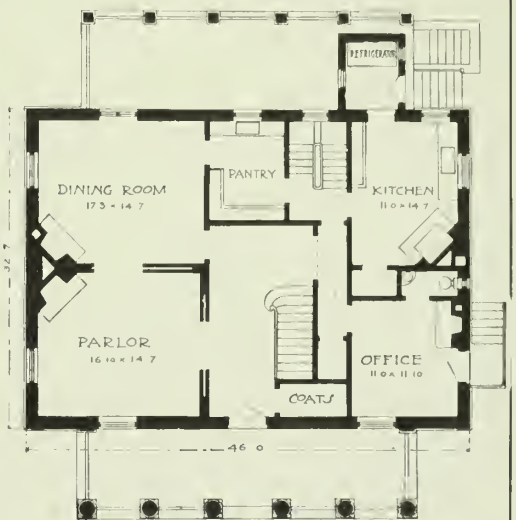
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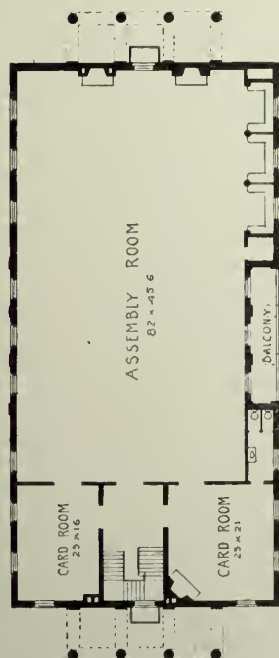
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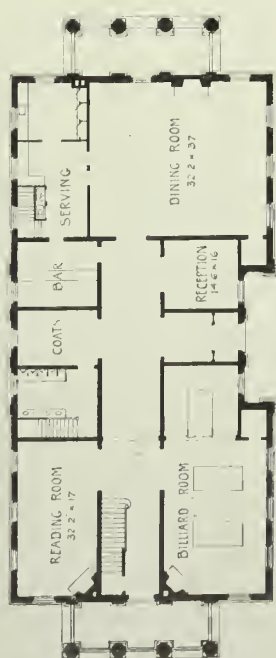
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FIRST FLOOR PLAN,
OFFICERS' HOUSES



SECOND FLOOR PLAN.



FIRST FLOOR PLAN.



BASEMENT PLAN,
CLUB HOUSE.



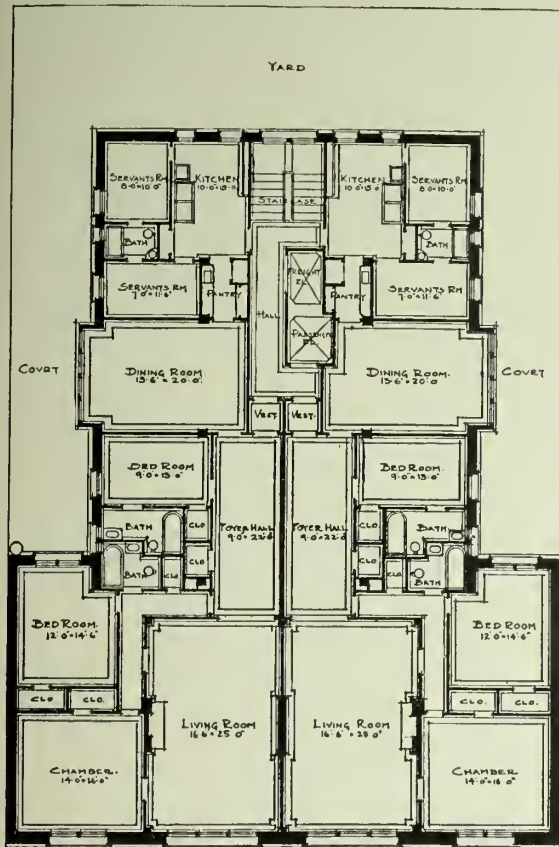
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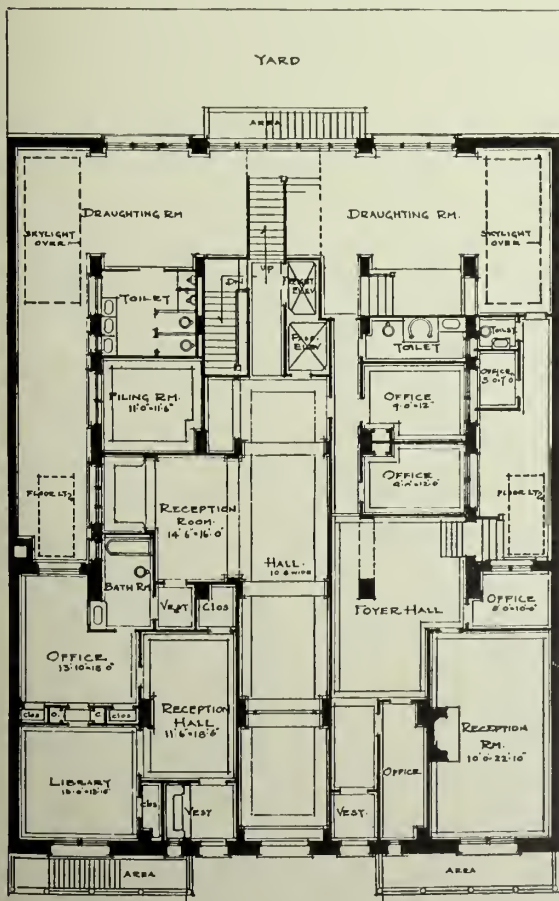
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TYPICAL FLOOR PLAN.



FIRST FLOOR PLAN.

(THE ARCHITECTS OF THE BUILDING HAVE THEIR OFFICES ON THE FIRST FLOOR.)



THE NOTTINGHAM APARTMENTS, EAST 30TH STREET, NEW YORK CITY.
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THE BRICKBUILDER

VOLUME XVI

JULY 1907

NUMBER 7

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	PAGE		PAGE
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“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

FIELD & MEDARY; R. C. HEATH; J. LOVELL LITTLE, JR.; SUNDERLAND BROS.;
HORACE TRUMBAUER; WHITFIELD & KING.

LETTERPRESS

	PAGE
ENTRANCE FRONT, BLICKLING HALL, NORFOLK, ENGLAND	Frontispiece
A FINAL REPORT ON THE SAN FRANCISCO FIRE.	113
ENGLISH BRICKWORK DETAILS.	115
ARRANGEMENT OF PHOTOGRAPHS, AND MAGAZINE PLATES.	121
CERAMIC TILES AND THEIR USE	124
EDITORIAL COMMENT AND SELECTED MISCELLANY	130



ENTRANCE FRONT, BLICKLING HALL, NORFOLK, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 7

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

JULY 1907

A Final Report on the San Francisco Fire.

FINAL reports on the San Francisco disaster seem to be something like Patti's farewells, but the latest which has come out is so important in its conclusions, and emanates from such recognized authorities, that it is deserving of more than passing notice. It takes the form of combined reports just submitted to the United States Geological Survey by Professor Frank Soule, Dean of the College of Civil Engineering in the University of California; Captain John Stephen Sewell, Engineer Corps, U. S. A.; and Richard L. Humphrey, expert in charge of the Structural Materials Division of the Technologic Branch of the Geological Survey, and Secretary of the National Advisory Board on Fuels and Structural Materials.

These experts studied the condition of the buildings in San Francisco following the earthquake of April 18, 1906, and the fire which ensued. Their conclusions, from which we quote fully, do not count as news, for they are in many respects exactly what would have been anticipated; and, indeed, one striking fact about the lessons of the San Francisco fire is that they could nearly all have been safely predicted before the earthquake and fire took place. In other words, constructors and architects have for years known perfectly well how to thoroughly fireproof a building. There was no lack of good knowledge or good intent, it was chiefly a question of striking an average between the desired returns on investment and the bare necessity which compelled certain recognition of fireproofing expedients. Captain Sewell claims that commercial standards of fireproofing are dangerously inadequate, and that the Boston and the San Francisco fires, as well as many others fires and fire tests, have proven conclusively that commercial methods of fireproofing are inadequate to stand any real tests. None of these experts for a moment say that it is impossible to give absolute protection; they each recognize that that protection seldom is given, notwithstanding that architects, engineers and constructors know perfectly well what to do.

"The damage inflicted upon San Francisco from the direct and immediate effect of the earthquake was relatively small, being estimated at from three to ten per cent only of the total loss; but the subsequent and indirect effect was to paralyze the water supply and its distributing system, start a great conflagration, render impossible its extinguishment with the means at hand, cause the death of at least 500 human beings, burn approximately

\$500,000,000 worth of property, render houseless, homeless and miserable 200,000 people, and inflict remoter damages to business, commerce and labor, only to be estimated in the future. When we can see plainly, as we may, looking backward, that nearly all of this destruction and suffering might have been prevented by wise foresight and provision, we feel that we must send a warning to all the cities of the world. Any city that disregards this warning will be guilty of a great crime."

In the face of such facts, and no one questions them, there must be a pretty strong motive behind such deliberate disregard of the plain, straightforward lessons which every great fire in the last twenty-five years has taught us. It is a question of dollars and cents purely and simply, complicated, however, with the fact that insurance companies are so willing to underwrite almost any kind of risks. If an investor is told that for a certain outlay his building can be made absolutely fireproof, even against a conflagration, but that in order to secure such results his finished columns must be very large, his windows must be glazed with double wire glass, and most of them have protected shutters; that his building must be protected throughout with ample sprinklers and hose systems; that all his vertical openings must be stopped at each story or placed in continuous vertical wells, cut off from the rest of the building by fireproof enclosures, and that all these special precautions, which give him absolute security, will make his building less likely to rent than his neighbor's, who disregards all these special precautions, and will give him a return on his capital of only about two and three-quarter per cent, where his neighbor, who builds according to so-called "commercial" methods of fireproofing, will make four to four and one-half per cent, while paying really but little more insurance than is assessed upon the better building, under such circumstances it is small wonder that we have conflagration after conflagration, and that our so-called fireproof buildings seldom stand tests. It is really a question whether we can afford to use the extreme precaution. We must strike a mean between what is the very best, considered from the fireproofing standpoint, and the construction which will give the maximum accommodation to the tenant, the greatest facility for business, with the barest minimum of fire protection, and then take our chances on a conflagration. In fact, it is to be doubted whether it is really worth while to construct our buildings for such disasters as the San Francisco or the Baltimore fire. Rather should we limit our fireproofing to protection against the local disasters which affect only a few buildings at a time, and against

which the ordinary "commercial methods" have again and again proven to be sufficient. We cannot build our commercial buildings like dungeons nor fill our first floor space with huge encased columns, as Professor Soule would recommend, and the striking lesson of the San Francisco and the Baltimore fires seems to us to be, not that so many of our fireproof buildings go down in a conflagration, but that under modern conditions of business and traffic we cannot afford to construct a building to stand any more than a local fire. Of course these were not the conclusions reached by the commission making the report which we are considering. They were looking at it with the abstract idea of absolute resistance and they conceived some definite requirements, as follows:

"(a) Roofs, roof appurtenances and skylights should be given ample protection against fires from without. (b) A great excess of fire hose and apparatus beyond ordinary needs should be available. (c) A strong bond for fireproofing tiling, etc., both for girder and column protection, is essential. (d) Protection for front windows, as well as for side and rear ones, is of vital importance. (e) Good protection for steel frames and steel roof trusses in attics or the exposed or unusual places should be provided. (f) Liberal use should be made of fire retardent in windows and door transoms. (g) Wise and liberal use of concrete and reinforced concrete for girder and column fireproofing has proved its saving quality. (h) Interior fire protection and prevention by wells, pumps, sprinklers and water tanks vastly lessen fire-risk."

The report also takes up the very delicate question of the relative merits of terra cotta and concrete.

"The results at Baltimore and San Francisco did not, by any means, indicate that either hollow tile or concrete is altogether a failure or altogether a success. Both fires indicated very clearly that commercial methods of applying both materials are inadequate; both also indicated very clearly that successful results can be attained with both materials.

Captain Sewell says: "A conflagration never yields comparative results, but from such results as are available, I think there is no question that the best fire-resisting material available at the present time is the right kind of burned clay. By the right kind of burned clay is meant a good, tough, refractory clay, almost as refractory as fire clay, made into proper shapes and properly burned. Some commercial hollow tile work is made of good material, but, as a rule, that is the only good thing that can be said about it. As for concrete, there can be no question that good clinker concrete, made of well-burned clinkers, Portland cement and sand is a very efficient fire-resisting material. It is better than anything else except the better types of burned clay products, but the form in which cinder concrete is commercially applied is, on the whole, no better than the flimsy hollow tile work with which it competes; in fact, it is not certain that it may not be worse.

"If a hollow tile floor, for instance, loses its lower webs, the damage is very apparent, yet in the majority of cases, the floor remains true and capable of carrying considerable loads. Very often a cinder concrete floor which is even more seriously damaged remains true, for the reason that the fire which damaged it also removed its superimposed load before the damage was fully

accomplished. This property of concrete, of maintaining a good face in spite of very real and very serious damage, is likely to lead the layman into very dangerous conclusions. Consequently, this property of concrete construction may lead to equally dangerous practice. Inasmuch as concrete is inevitably damaged, to a greater or less extent, by the application of a high temperature, it would seem that, in all cases where reinforced concrete floor construction is used, a furred ceiling below it should be absolutely required."

Lest it should be thought that San Francisco was specially faulty in its construction, Mr. Humphrey makes some pertinent recommendations:

"The lessons taught by the great calamities such as have befallen San Francisco, Baltimore and other cities are not regarded. It is quite probable that the new San Francisco will, to a large extent, be a duplicate of the former city in previous defects of construction. The defects of construction which are so strongly condemned by reason of their failure are no worse than those generally practiced throughout the United States. The same defects are common, and it is evident that the same results would follow an earthquake of equal intensity in another part of the country."

He, at the same time, however, recognizes what the local conditions led to. "The causes of the failures in San Francisco may be summarized as follows: First, dishonest design and construction, especially as regards municipal, county and state institutions. Second, an effort on the part of those qualified to design, and advise on building construction to meet the owners' demands and erect structures for the least possible cost, which tends to a departure from the principals of correct design; the result is a structure that will carry ordinary loads, but that fails when subjected to unusual conditions."

We cannot, however, refrain from repeating that all our conflagrations have shown the inability of a building which was constructed in what is classed as the approved commercial manner to withstand a severe conflagration unless the building were so heavily protected that it became unsuitable for its commercial purpose. There is another point, too, which is emphasized in every fire. If all our buildings were fireproofed, even only enough to resist a relatively slight local fire, a big conflagration would be almost an impossibility. The danger and the menace to our fireproof constructions arise from the cheaper work which constitutes the bulk of the buildings in nearly all the down-town portions of our large cities. We surely cannot afford to build our isolated fireproof structures to bear all the constructive sins of the second and third class work which surrounds them, and we are not likely to have a fireproof city until second and third class buildings are not allowed, and something more nearly approaching a general fire-resisting construction is adopted everywhere. "The importance and value of real protection will be appreciated when it is stated that a third-class building with a complete fire prevention plant in the nature of fire doors, wire glass partitions, sprinklers, etc., is insured for less than a first-class building not so equipped." In other words, fireproof construction, so-called, has been shown again and again to be efficient, provided isolated examples are not called upon to bear the burden of the constructive sins of a whole city.

English Brickwork Detail.

BRICKWORK detail is a refinement which appeals particularly to the cultured eye of the architect, and it is surprising that not more of it is seen on the average house of to-day, especially as such embellishment can be carried out at comparatively small cost; for example, in the suburban villa it would be far preferable if some design in brickwork, corbelled out, were adopted in place of the usual stone capitals, with their coarse carvings, on either side of the entrance porch. It requires, however, considerable fecundity of invention to design fresh brickwork detail, and that, perhaps, is one of the reasons

why it is not more extensively introduced. The numerous examples of Northern Italy particularly show the possibilities of most beautiful treatment; the Netherlands, too, are equally suggestive. There is first the variation of surface obtainable by the use of bricks of differing color, forming a wall of diversified effect, instead of one of mechanical sameness; there is also surface pattern, or diaper, as exemplified in many of the old buildings at Cambridge — on John's College and Jesus College especially. Then there are cornices and strings, herring-bone patterns, copings with bricks laid diagonally, and a multitude of other treatments possible with brickwork. A good deal of such work is to be seen on old English buildings, and the accompanying illustrations are suggestive of the possibilities.



GATE PIER.

Inigo Jones, Architect.

In tracing the early history of brickwork in England, it will be found that the use of it was almost exclusively confined to the eastern, midland and southern counties. It was to the eastern counties — Norfolk and Suffolk — that the Flemings came, bringing with them men skilled in the use of brick; indeed, Reginald Blomfield points out, in his history of the Renaissance in England, the facts that it was in Norfolk and Suffolk that brickwork was first used again since the Roman occupation; that these were the counties which received the earliest Flemish settlements; and that the dates of these settlements and of the reintroduction of brickwork almost coincide make it probable that we owe the revived use of brickwork to the Flemish immigrants, and that, at first, the bricks themselves were imported from the Netherlands. The earliest in-

stance of the use of brickwork in England since the Roman occupation is said to be Little Wenham Hall, in Suffolk, supposed to have been built about 1260. Therafter its use became more, and more extended, and by the middle of the sixteenth century, brickwork was fairly established in England. Throughout the reign of Henry VIII brickwork was freely employed, not only for plain building, but for ornamental work. Molded panels, tracery and cusping were executed in brickwork and terra cotta; but from the middle of the sixteenth to the middle of the seventeenth century its use for ornamental purposes appears to have been practically abandoned. It does not seem to have occurred to English builders to employ it for molded strings, pilasters, cornices and other details till the middle of the seventeenth century. About that time rubbed brickwork with very fine joints came into vogue. Wren introduced this phase in the early part of the reign of Charles II, and he appears to have been much disposed towards such work.

Associated with the modern revival are such names as Norman Shaw and Philip Webb, Nesfield and Butterfield. It was those men who rejuvenated English domestic architecture and broke down the ideas about brick being an inferior material, so that to-day we see it used extensively for all classes of buildings. The late J. F. Bentley was a great builder in brick, and there is, perhaps, no architect of modern times who has displayed a greater ability in the design of brickwork detail, as witness Westminster Cathedral (the bricks throughout this great building are thinner than the usual type, being two inches instead of three inches): the herring-bone pattern would seem to have been a favorite of his, it having been largely adopted on Westminster Cathedral.

Another piece of good modern brickwork detail is that shown on the school at Birmingham by Buckland & Haywood-Farmer. The wall, it will be noted, is crowned by a very ingeniously-de-



CHIMNEYS, HAMPTON COURT.



CORNICE AND WALL OF CREMATORIUM.

Ernest George & Yeates, Architects.



LOGGIA AND BALCONY.
R. Weir Schultz, Architect.

signed coping in special-made brick, and the whole design is eloquent of the same freshness of treatment, the lead down pipes, with their modeled heads, completing a scheme of much interest.

Ernest George has been a great designer in brick. For inspiration he has drawn on Continental work. A recent example of his is the crematorium in North London. The wall surface is treated with a series of recessed panels with small arches turned over them at the top in brick and tile, above which is a cornice very cleverly designed and most refined in effect.

Many other architects who have a happy facility in their use of brickwork might be cited; for instance, Mr. Lutyens and H. Percy Adams, works by both of whom have been given in former issues of *THE BRICKBUILDER*. Mr. Schultz, too, is a fertile designer in brick (two photographs of detail of a house at Swaffham, in Suffolk, are here given as illustrations of his work), while Ernest Newton and others of the same school will be remembered in the same connection, though they do not especially concern themselves with brickwork detailing, relying chiefly for their effect on the main design and walling, as in Georgian work.

Perhaps the most striking uses of brickwork are to be found in the chimneys that adorn many of the old mansions, and many of the new ones, too. They are the least appreciated and the most characteristic features of modern houses; in fact, they may be taken as a very good gauge of the whole design, for if the chimneys are well proportioned one may be fairly certain that the rest of the work is of equal merit, and by contra, a badly



CARVED BRICK GABLE.

designed chimney is the mark of an inefficient architect. The public has no idea that such is the case, regarding chimney stacks as things that have to be, just as drains have to be, but calling for no particular notice. The reason for this is not far to seek. The majority of chimneys are feeble efforts architecturally, and more often than not in towns the owner of the property quickly crowns them with gaunt "tallboys," or zinc pots to induce more draught in the flue; these hideous zinc pots being often extended into pipes and carried, four or five abreast, right up the face of adjoining property in order to secure a sufficient draught. It may be that the architect was to blame in the first instance for not having done his work properly, making his chimneys too stunted, because there appears to be just as much uncertainty in regard to this matter as there is in regard to acoustics; on the other hand, the builder or the building owner frequently has a mania for these pots, and introduces them on every occasion, as the easiest and cheapest means of improving a defect, quite irrespective of their unsightliness. The skyline of a building is a most difficult matter for the architect's consideration, and chimneys are a great feature in the case; they may either make or mar a design.

The chimney is, of course, a late development in house design. In England chimney stacks did not come into common use before the reign of Henry the Eighth. First there was the open fire in the center of the "hall," the smoke from which found its way up into the roof, and escaped through louvres. Then came the flue in the wall—one very large flue accommodating half the household around the fire at its base. Examples of such flues are to be seen in scores of mansions and castles. It was found, however, that such a single great opening



PORTION OF WEST FRONT, WESTMINSTER CATHEDRAL.
J. F. Bentley, Architect.



GARDEN WALL.
R. Weir Schultz, Architect.

had many disadvantages, by reason of insufficient draught up and too much draught down; hence, smaller flues were introduced, either carried up directly into a single chimney stack or gathered into a group. At Eton College a great number of single chimney stacks are to be seen; they occur just where the flue happened to be, no attempt being made to bring them from the edge when they came at the front of the elevation. From the accompanying illustrations it will be seen that these chimneys are very beautiful examples of brickwork design. The many ways in which they are treated is particularly noticeable. Sometimes the brick is honey-combed, sometimes a diagonal pattern is formed over the face, or a series of spirals, lozenges and other figures. There has been some question raised as to how the work was executed, whether it was molded in the plastic state or worked when finished. A suggestion has been made that the chimney was built up completely in clay, then molded into the desired pattern, and the mass afterwards cut up into bricks and burnt. To the writer it seems, however, that no such process was followed, but rather that the bricks were built up in the usual way and then cut into shape with some sort of chisel or axe. But in whatever way the work was done, it is particularly beautiful. These chimneys at Eton date about 1600 (though they have been restored in parts). They are built of bricks about two inches thick and are corbelled out at the top, with projecting points around. Most of them are octagonal on plan.

At Hampton Court some of the finest specimens of brick chimneys in the kingdom are to be found. They are most varied in treatment, not only spirals and other simple patterns being worked on them, but intricate interlacing diamond shapes, and all manner of detail. They are carried out in red brickwork. Counting in the modern way, the cost of such chimneys, worked as they were worked, would be very great, but money was of no

account in the building of Hampton Court Palace, and it seems likely that the workman who fashioned the chimneys had a perfectly free hand for his invention.

Other old examples shown among the accompanying illustrations are those at Seddlescombe and Cranbrook, in Kent. Both are of ordinary red brickwork with wide mortar joints—the former a sturdy type, showing what effective use can be made by alternate recessing and corbelling, and the latter a stack of three flues grouped together in a very effective manner. As another type, but of later date (Wren period), is the big chimney at Chelsea Hospital, with its refined stone molding at the top. All the main chimneys of Chelsea Hospital are treated in this style, and there is a feeling of strength and solidity about them in keeping with the rest of the building; they are in proportion to the whole, not meager offshoots that distract the eye and disturb the skyline.

Coming to modern times, there is here shown the chimney by Nesfield on the lodge at Kew Gardens. Nesfield was one of that band of zealous workers who

came after the Gothic Revival had exhausted itself of extravagances, and among the most interesting specimens of his work are the lodges which he built at Regent's Park and Kew Gardens. It will be seen that this chimney at Kew is most carefully proportioned, and the treatment of it in a series of panels divided by molded brick ribs is very well chosen, while the Royal Arms inset on the face give that added charm which heraldry, well placed, always has. Special note should also be taken of the cap of this chimney.

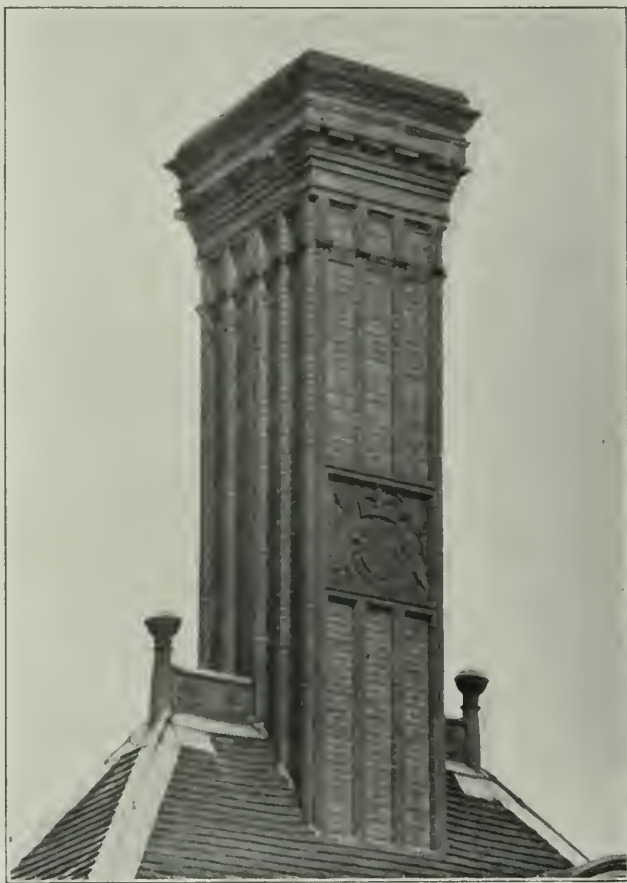
As representative of Norman Shaw's work, there is given a view of one of the chimneys on New Scotland Yard. It is thoroughly characteristic of him, with its stone bands and the panel at the base, and it has a predominant feeling of strength, the corners being brought out as slight pilasters carrying the cornice.



CHIMNEYS, ETON COLLEGE.



UPPER PART OF SCHOOL AT BIRMINGHAM.
Buckland & Haywood-Farmer, Architects.



CHIMNEY BY W. EDEN NESFIELD, ARCHITECT.



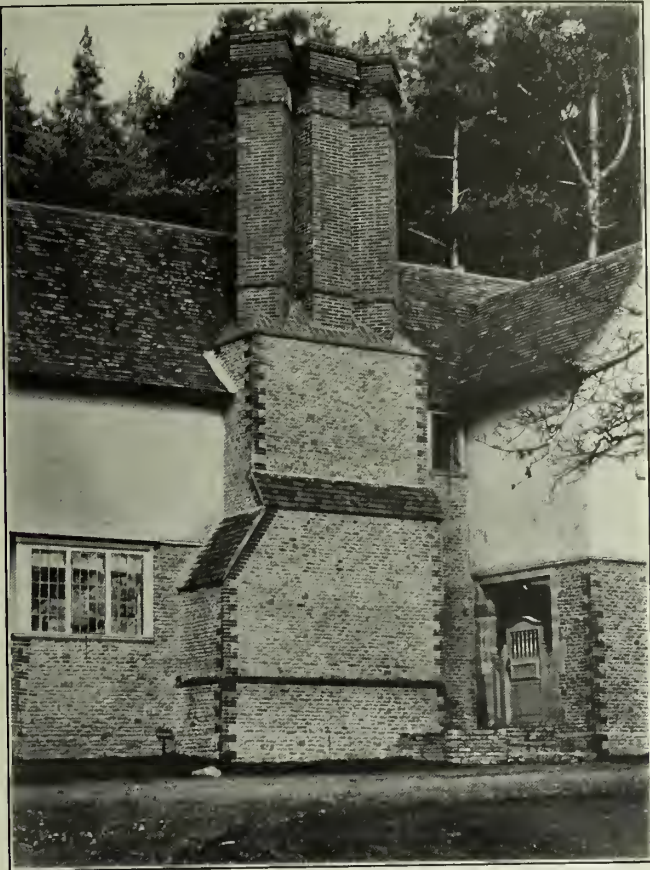
CHIMNEY ON CHELSEA HOSPITAL.



CHIMNEY ON NEW SCOTLAND YARD, LONDON.
Norman Shaw, Architect.



TOP OF CHIMNEY SHAFT, ELECTRICITY PLANT, LONDON.
C. Stanley Peach, Architect.



CHIMNEYS BY E. L. LUTVENS, ARCHITECT.



OLD CHIMNEY AT CRANBROOK, KENT.



CHIMNEYS, HAMPTON COURT.

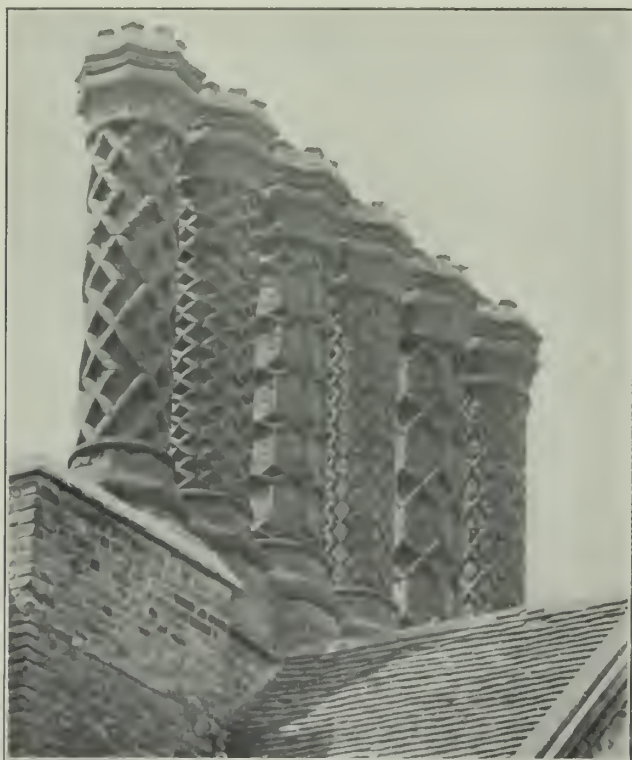


CHIMNEYS, ETON COLLEGE.



OLD CHIMNEY AT SEDDLESCOMBE, KENT.

Of the remaining examples shown, that of E. L. Lutyens speaks for itself as a clever design (Mr. Lutyens being especially well known as a most brilliant architect in brick), while Stanley Peach's chimney at North London calls for notice as an attempt by an architect of ability to give some architectural quality to the stack of an electricity generating station; the work being carried out in common brick, with terra cotta blocks and strings in blue brick.



CHIMNEYS (SIXTEENTH CENTURY), HAMPTON COURT PALACE.

Thus it will be seen that there are many possibilities for architectural treatment of the brick chimney, not only on buildings of the domestic class, but also on busi-

ness and trade buildings. The architect recognizes this, and it is to be wished that with an improving taste the public, too, will learn to appreciate the qualities of good brickwork detail.

MR. JOHN BELCHER, A.R.A.

THIS year's recipient of the Royal Gold Medal, instituted by Queen Victoria for the promotion of architecture, is Mr. John Belcher, A.R.A., who is second to none in his profession in appreciating the value of the collaboration of the painter and the sculptor with the architect's work. Sent as a boy to France to study and sketch, with special regard to the Renaissance School, Mr. Belcher none the less evinced an early tendency towards a phase of Gothic architecture. He soon, however, returned to the principles inculcated by his father, with whom he worked first as a pupil and then as a partner. In the words of the President of the R.I.B.A., in presenting Mr. Belcher with the Gold Medal last month, it is peculiarly fitting that one who has so greatly distinguished himself in English Renaissance in these later days should have erected his greatest works in the city where the earliest masterpieces of that style are found. Mr. Belcher was elected an Associate of the Royal Academy in 1900. As President of the R.I.B.A. last year he took the chair at the meetings of the International Congress of Architects held in July. He has made some valuable contributions to the literature of his profession, his most recent work being "Essentials in Architecture."

WIND PRESSURE.

MR. STANTON and Mr. Bairstow have made some experiments at the National Physical Laboratory which bring out a new and practically very valuable fact, — namely, that pressure is not the same on large surfaces as on small experimental models. If, for example, a given wind velocity is brought to bear on a square foot of surface it will be 18 per cent less per square foot than if it were directed on 100 square feet of surface. It was demonstrated, too, that this relation is constant for flat forms, however complicated. A builder or engineer who knows that a structure may be exposed to a wind of eighty miles per hour and that the pressure per square foot as determined by model in, say, 1 pounds, should allow for his larger construction 20 per cent extra. The reason for this seems to be the more thoroughly reduced pressure on the lee side of a larger area. — *London Telegraph*.

ITALIAN TERRA COTTA.

CLAY during a long period was not only used for the purpose of solid construction in Italy, but also molded into forms so exquisite as to take its place as a material of high value and dignity in art. So rich is Lombardy in early works of terra cotta as to be fitly called by Hope the "great country of brick." Among the most ancient remains of the kind are the crypts of the church of Lenno, on the lake of Como. There sundry relics are still extant of colossal statues in terra cotta of a close-grained and tough consistency, all of which are considered to belong to the constructions of Christianity. The use of terra cotta followed the fortunes of successive schools of art in Italy. Both in sacred and secular architecture it enables us to trace the development of taste. — *Exchange*.

Arrangement of Photographs and Magazine Plates.

THE following methods of filing loose magazine plates, photographs, scraps of illustrated and loose sheets of various articles or information are adopted in several of the Philadelphia offices and elsewhere. The vertical filing system advocated by Mr. Albert Kelsey consists of deep drawers of height equal to the sheets to be filed. These sheets are filed parallel to the face of the drawer in folders which are held in place with the guide cards by a rod running through the center of the depth of the drawer.

Mr. Kelsey's system is described by him as follows:

"The filing of photographs, magazine plates and such architectural clippings as are usually kept in bulky scrap-books, compactly together in one group, where they may be classified in a great variety of ways and indexed and cross-indexed so as to be easily found (no matter how varied the classification), is solved by the use of the Vertical Filing System,—the system so generally now in use for the filing of commercial papers in all large business concerns.

"It is true you must have cabinets with unusually wide drawers, and these are not made by all the manufacturers of modern office furniture, though there are some companies that carry them in stock, as well as the folders and guide cards with which they are equipped.

"Unfortunately, the unusual weight of the different units making up a loose leaf architectural library makes it necessary to have a somewhat stronger equipment for this purpose than that used merely for the filing of ordinary commercial papers.

"The guide cards, numbered in multiples of ten to separate this number of folders (and which, by the way, has been found by business men to be the easiest system of sub-division), must be made of heavier cardboard, and must have a tongue through which the rod at the bottom of the drawer passes, reinforced by a broad, flat ring or eyelet, since the entire strain of the flopping backwards and forwards of the loose folders when the drawers are opened and shut comes at this point.

"Another point different from the mere filing of letters is in the thickness of the matter to be filed, which fills the folders very rapidly, and if the folders are allowed to become overcrowded the system loses much of its flexibility, and the interior of the drawers then loses its neat and businesslike appearance. Therefore care should be taken in advance to separate the different classifications by a sufficiently large number of empty folders, to allow for the expansion without crowding.

"If architectural plates only are under consideration, twenty to thirty to the folder, according to the weight of the paper, is as many as should be used. On the other hand, if thin, unmounted photographs, or thick mounted photographs and miscellaneous pages from a scrapbook, are to be mixed in with magazine plates, then fifteen or twenty to the folder would be about the proper basis of calculation; but if, on the other hand, only mounted photographs, each on cards heavy enough to stand by themselves, are to be filed alone in one drawer, then the folders may be done away with entirely, and ten photo-

graphs, each consecutively numbered at the top like the ten folders between all guide cards in the other drawers, makes the simplest arrangement, though twice as many may be filed, provided they are numbered in half numbers, so that the last ones in each group will come out consecutively with the numbering of the first ones in the next group.

"The reason for giving a number to each photograph rather than one number for all of the ten, or all of the twenty, according to the group in which they go, is to make it possible to find an individual photograph by consulting the card index without having to look through every photograph in the group.

"It is done also in order that when those photographs which are in use are gathered up from the drafting tables they may be put back where they belong without it being necessary to consider the title of each subject, which would then make it necessary to consult the card index and thereby consume an unnecessary amount of time. When each one has its number, any office boy, by knowing merely how to count, can put every one back in its place without having to exercise a not always precise architectural judgment. On the other hand, it is only when a new subject is filed for the first time that it has to be given a name, and this is done once and for all by the architect himself.

"Clippings may be placed loose in large red envelopes, or may be mounted on cards, which is the safer way, but in either case the filing process is as described above. If red envelopes are used the guide cards should then be blue or gray, or some entirely different color, so that their unbroken sequence, at regular intervals the length of each drawer, shall be instantly apparent.

"The question of classifying is entirely a personal matter. It differs with the nature of a man's practice as much as with the taste of the architect.

"If, for instance, a man has a specialty, — schools or any other type of building, — he will naturally inaugurate his system by allotting groups of folders to large, small city, country, private and public schools. He may be a student also of some firm's work, — a firm that seldom has schools to do. He will then arrange a series of folders, say from ninety to one hundred, for the work of Ogee Gargoyle, subdividing it for public buildings, cottages, interiors, gardens, etc. Now let us suppose a school building by Mr. Gargoyle should appear among the plates in a current magazine which he particularly admires for its Gargoylesque detail rather than for its solution of the school's function. What does he do? Naturally he files it under Ogee Gargoyle, under public buildings, and by way of locating it individually, he makes a note of it in the card index under schools as well as on another card under its architect's name. Or, again, he may keep a large card the size of one of the plates in the first folder containing schoolhouses, on which he will record the whereabouts of other schoolhouse illustrations, or any data he may some day want to incorporate in one of his own schoolhouse designs.

"This system has been in operation in my office now for four years and has given great satisfaction. It is dust proof, elastic, compact and orderly, any boy can attend to it. I believe it to be the best method of filing a loose leaf architectural library. I use it, moreover, for

filing advertising pamphlets and for special numbers of the architectural magazines, which I consider too valuable to be torn apart; also, in another cabinet of the same kind, my office correspondence is kept. In this one go all letters, record sheets, superintendents' reports, etc., and before long all of my specifications are to be made of a smaller size, in flexible imitation leather binders, to fit these drawers.

"A last word on filing plates. We all have favorite subjects which we especially like to refer to, and most of us have a way of secreting such illustrations for future reference and for our own personal use. These accumulate in a desk drawer, on a particular shelf or in a special portfolio, or at least, it is our intention that they should. In reality, they accumulate for a month or so in one of these places, then in another, and so on until the first, second or third 'hidings' are forgotten, and the plates thus set aside for special frequent reference, if ever wanted, are given up for lost. Now all this may be obviated by using the vertical filing system, by keeping the first ten, or the first twenty, folders in front of one particular drawer especially for 'The Boss's Favorites.' I might ramble along at much greater length in an attempt to prove that the vertical filing system is the only system, but will close by assuring the reader that he can prove it for himself if he will adopt it and enforce this rule, *viz.*, that every plate, photograph, card or clipping not actually in use must be filed as soon as taken from the magazine or the package it comes in. An inquiry might be made as to the proper time to file new magazine plates, to which I reply, it is a matter for the individual to decide and is covered largely by the foregoing rule. Yes, you will say, but how about the illustrated articles you have not had time to read, and how about the half-page illustrations mixed in with the text? My reply is to keep the magazines intact for six months, and each publication in separate piles, on your library shelves, and then dismember them, make your selection and file simultaneously. By that time you will have found valuable text accompanying many an illustration which you will want to keep, and which should be clamped to the full-page plates it refers to with small paper fasteners, and all be filed under a single number. Thus anything flat, thick or thin, singly or in groups, may be stored away where it can readily be found when wanted."

In Wilson Eyre's office the magazines and other material for future classification are stacked for six months, at the end of which time Mr. Eyre personally sorts them, cutting out desirable material, which is classified under the following heading:

Country Houses, English, large and small.		
City Houses, English, large and small.		
Country Houses, American, large and small.		
City Houses, American, large and small.		
Public Buildings.	Dormers.	Iron Work.
Libraries.	Entrances	Details.
Churches.	Windows.	Own Work.
Interiors.	Stairways.	

These scraps are kept temporarily in large envelopes and later reassorted and the best taken out and put into well bound scrapbooks. The tendency of this method is to gradually eliminate, the first sorting throwing out

all worthless material, the second creating a series of bound volumes containing only the best material which can go on the library shelves—and form part of the bound volume library.

In the office of Frank Miles Day & Brother much the same method is pursued, excepting that a card index is provided for each subject, and photographs of foreign work are all mounted on the same size card and filed away. These are generally indexed by the card system as to subject and name of building.

In Messrs. Day's office the scrapbooks are still maintained, but in addition to these are cases of shallow drawers, which hold large envelopes the size of the architectural plates, in which the different subjects are filed away. These envelopes have some advantage over the scrapbook, inasmuch as the individual scraps can be reassorted at any time, and in studying at the drafting table, two or three or more sheets of scraps are not in the way, as is often the case with a bulky scrapbook. On the other hand, there is danger of loss of plates, or of putting back plates in wrong places by the carelessness of draughtsmen.

For "own work," the scrapbook is advantageous, as it is always ready for the inspection of a client.

In the office of Cope & Stewardson the scrapbook system has been abandoned for the envelope system with card index. Even with this, the material accumulates faster than it seems possible to dispose of it.

It is necessary for the designer to personally select the good and cull the bad, and this is left until he is not otherwise busy. It is perhaps best to put material aside for a month after it is received, then to sort it, again to put it aside for a few weeks and resort, saving only the best. There is so much worthless material extant that it will be found advisable to throw away duplicates and the larger part of the remainder. The discarded material may be turned over to the draughtsmen, for them to form nucleus of personal individual libraries.

The magazine plate is taking the place of the photograph, and these plates are not only very much cheaper, costing not one-twentieth of the silver print, but they are on good paper which does not curl, and the material can be packed away in a much more compact form.

The tendency of the envelope and vertical file systems is to create a working library of loose plates, easily replaced, substituted, added to, or deducted from, which is largely for the use of the draughting table, and in which the loss of individual units, or general wear and tear can be readily made good. This library does not get to become a part of the bound volume library, and is the natural outcome of the ease and economy of collecting examples which results from the use of reproductions by processes, rather than of photographs and valuable lithographs, engravings and mezzotints, which have intrinsic value in themselves apart from what they represent, and, which naturally create the bound volume library.

It is a good idea for an architect who has much material published to keep a book, and in it note the magazine and time in which each piece of his work was published. Then when he wants to send a copy of any particular subject to a client, he can write for additional copies of the magazine, or if these are exhausted, have photographs made from the original negatives.

In the office of Heins & LaFarge, New York, the photographs, which number some thousands, are mounted on muslin, and are in cloth covered pasteboard box drawers with locker fronts and lifting tops. These drawers are placed in pigeon holes, each of which holds four drawers, one over the other. On the front of each is a metal frame holding a removable card on which is indexed the contents of the drawer. The photographs have numbers on the back corresponding to the number of the drawer. The classification is chronological and also by style and subject. The obvious possibility of loss of individual photographs seems to be overcome by the large size and individual character of the mounts.

This system is quite as adaptable to plates as to photographs, and presents but one objection to a mass of various material, *i. e.*, there is not as good an opportunity for the insertion of guide cards as in the vertical system, and the card on the face of each drawer is obviously too small to contain all the information and subdivisions of the material within the drawer.

In the office of Smith, Wetherell & Gage, Des Moines, Iowa, there is used a variation of the vertical filing system, in that two drawers (or separate sets of drawers) are used, one for classes of buildings, the other for styles, the groups in each being separated by heavy board guide cards. In one drawer is the classification for types, *i. e.*, Art Museums, Banks, Clubhouse, Depots, Elevators, Residences, etc. In the other, classification is for

style, and any building in a distinct style is placed in this drawer. Each plate is marked with a rubber stamp, giving owner, date, class, architect, style and number. Indexing is by card catalogue with cross reference to class and style, and the cards give careful description of the plates.

The card index can be prepared so as to give the entire classification of any particular plate if so desired, so that it can be minutely described, giving the "style" or "class," as the case may be, name of architect, etc., and also stating if good, or indifferent, good detail, good for windows, cornice, proportions, entrance, etc.

The date and number blank of the stamp is rarely used, as it involves unnecessary labor in labeling the plates.

This system can be easily adjusted to any architect's individual taste in the classification of the plates, and the use of the rubber stamp enables one to so label the plates as to easily replace them in the proper compartment. At the same time one can easily find plates representing a certain class of building desired. The system seems to be merely a simplified form of the vertical filing system advocated by Mr. Kelsey.

There is a system used in libraries for photographs which could be adapted to architects' use. It is that of a closed cabinet of sufficient depth to receive plates on edge, on the back of which are hinged clips to receive mounts vertically which can then be opened like the pages of a book. Such a system, however, should not be used for scraps, unless they are pasted on mounts.



MEDIAEVAL CASTLE AT SERMIONE, LAKE GARDA, ITALY.

Ceramic Tiles and their Use.

BY C. HOWARD WALKER.

A VERY excellent method of obtaining variety, both in floors and in walls, is that of dividing surfaces into panels with borders and treating the enclosed fields with different allover patterns, and while this method has been repeatedly adopted with marbles and with glazed tile it has seldom been adopted with unglazed tile of one or two tones or colors. Floors of tile, like mosaics, should be formed of separated areas in order to avoid long cracks or opening of joints across the field, and, in fact, to give opportunity for adjustment of the surface at the boundaries of the areas, and the method of segregating certain definite portions, large or small, by individual minor borders is one well worth consideration. The mosaic floors of tesserae of Rome, of the Byzantine period and of the Renaissance were divided by marble strips or borders into areas every ten or fifteen feet. Another development of the same idea is to be found in the Cosmati work in Rome and elsewhere, in which these secondary borders around portions of the field become of very considerable importance and have each its own design. The marble mosaic floors in San Marco in Venice are an admirable example of subdivision which could be adapted to tile, as are also the floors of St. Lorenzo and of St. Maria in Cosmedin in Rome. In many cases the pattern of these floors, and similar patterns which occur upon the walls, are based upon circles as well as upon polygons. It is naturally difficult to obtain tiles with curved outlines, but if the unnecessary attention to closeness of joints is waived, short and narrow oblong tiles can be placed upon large circles and create approximately circular forms, which will, however, be necessarily of large scale. The areas around which these borders are carried may vary in the designs of their fields, but as the borders are the important feature of the general design the patterns of the fields should be very simple. There is little to be gained by strong contrasts of color in tile patterns, the units being so large in scale that they do not blend in effect, and remain spotty even at a very considerable distance. The exception to this general statement is to be found in the borders made up of parallel lines of narrow long tiles, in which case, as the effect is that of lines and not of spots, strong contrasts are admissible and often advisable. The joints actually indicate the pattern and should be definite, forming a network of lines over the field or border. This may be obtained either by increased size of the joint, or by setting the tiles in dark cement, or by both. The effect is much superior to that produced by contrasts of adjacent tiles of different colors. In carrying straight tiles around curved forms and in making patterns in which the sides of adjacent tiles do not exactly coincide, the spaces left may be arranged to increase the effect of the pattern and be filled with cement. An infinite number of decorative designs can be made from geometric tiles in this way; in fact, almost any archaic or simple design in any style may be adapted to tile, when it is recognized that it is not the surfaces of the tiles which are their principle feature but the patterns in which they are laid, as indicated by the joint. In floors the introduction of terra cotta or of faience, with the tiles as borders or as centers,

gives further opportunity for interesting treatment, and corresponds with the borders of marble and the centers of porphyry associated with the marble floor mosaics of the Christian basilicas in Rome. Modelled tiles are as ineffective if uncontrasted with large surfaces of plain tile as is any ornament which has no adjacent contrasts, and such tiles are best used, if at all, as occasional foci. Exterior tile patterns, placed at some distance from the point of view, require stronger contrasts and larger joints, and can successfully be treated in relief and in different planes. This is so obvious that further consideration of it is unnecessary.

From the mere natural geometric shapes of tiles, in squares, triangles and other regular polygons, the patterns tend toward geometric ornament if the tiles are fitted together, but there is a large field for experiment by using the tile units as elements of a mosaic and forming designs with them, the interstices of which will be filled with small rectangular or triangular tile. Very little of this type of work has been done, and its possibilities are infinite. The tile shapes would consist of a series of long rectangles of various widths from which to build up borders and stems, a few sections of circular rings with which to build up larger curves and to turn corners, and a simple series of leaf shapes, cordate, lanceolate and oblate. An infinite variety of patterns derived from natural forms can be assembled from very few factors, and to the persistent recurrence of geometric tile patterns would be added a wealth of contrasting designs. It is probable that these designs would be better fitted to exterior work than to interiors, as they would be, by the size of the units, at a disadvantage compared to marble or glass mosaic near the eye, and correspondingly effective at a distance. The experiment has been tried in Sweden and in Germany, but only with partial success, as the patterns were displayed in strong contrasts of color and tone with the ground, while as a matter of fact, the difference in size of the pieces and in the texture of the joints is nearly sufficiently adequate to define the design, and but slight contrasts of color or tone are necessary. Modelled forms are not advisable in this work, but a series of tile with concave surfaces would be extremely effective. It is a matter for regret that there are next to no concave tiles to be obtained, though there are a number of convex ones used. A convex tile exerts an apparent strain on the tile surface, and seems too heavy and thick for the surrounding tiles, but the concave tile affords delightful opportunities for delicate light and shade. There was to be found, at one time, a number of tiles with the impression of delicate ferns and foliage either expressed or raised upon their surface. These are ineffective in mass, require close examination, and though occasionally charming as unique pieces, are incapable of association with more rigorous forms. If stamped patterns are to occur on unglazed tiles their purpose is merely to reduce the scale of general texture, and the more nearly they approach the scheme of simple geometric repeat the more successful is the result. In no case should the joint of tile work be accentuated by the modelling on the tiles, whether by a depression or a dike, for in placing the tiles together the effect is doubled, and the tiles become isolated units, no longer factors of a general surface. If, therefore, depressions or dikes are made upon a tile they

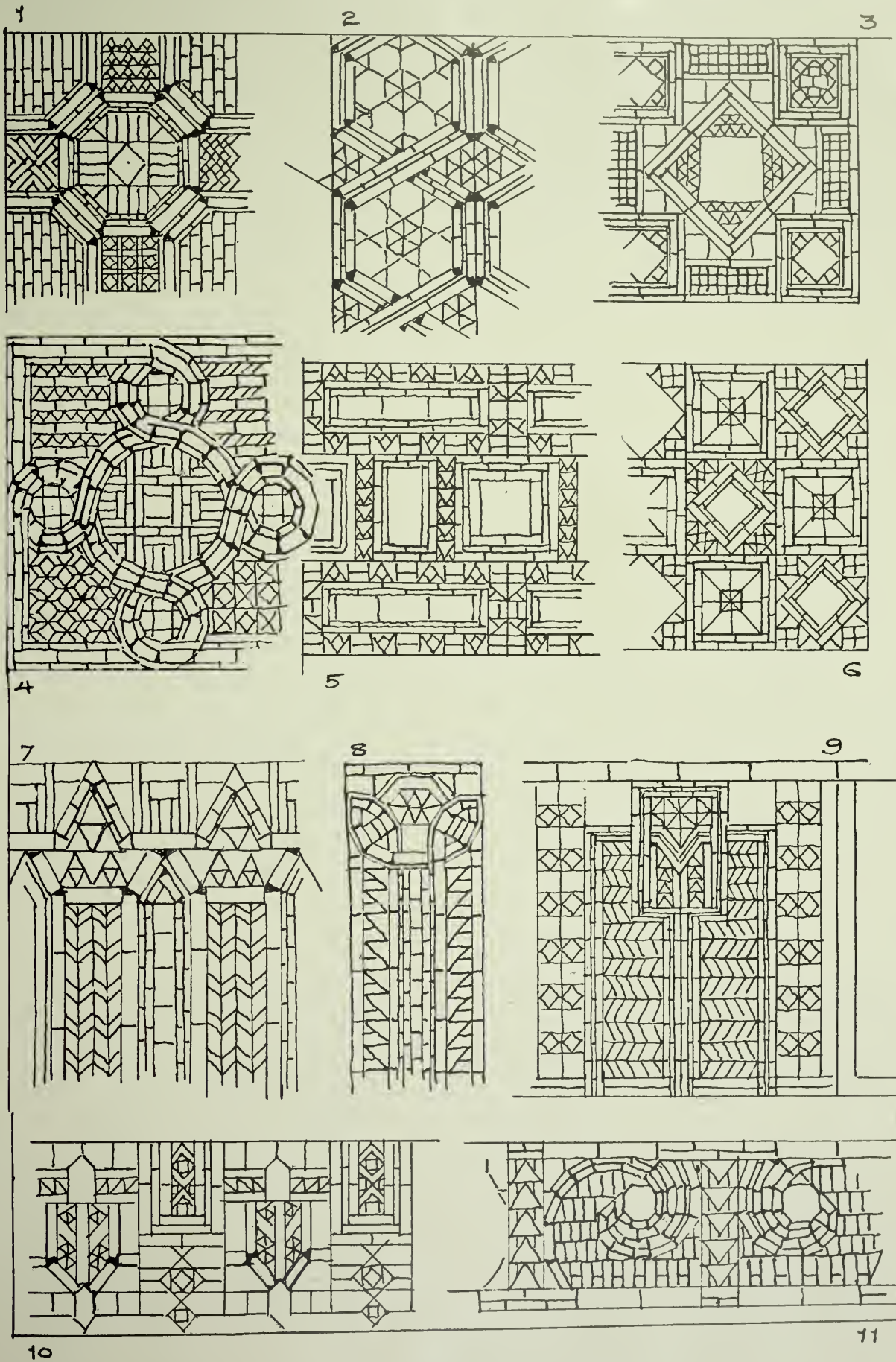
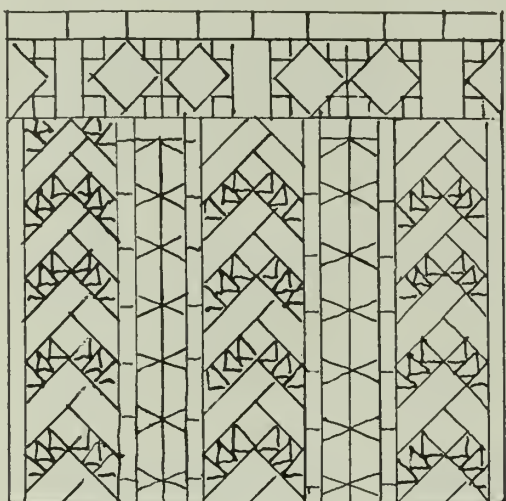
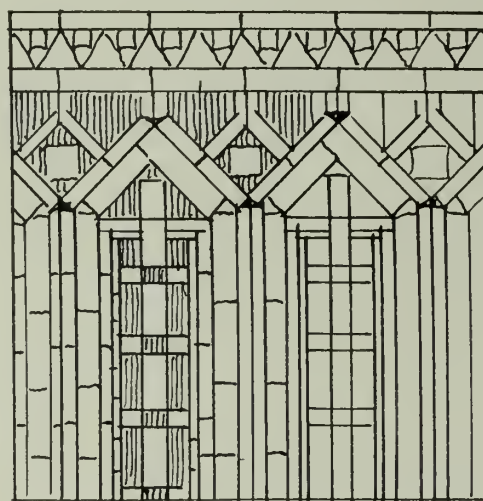


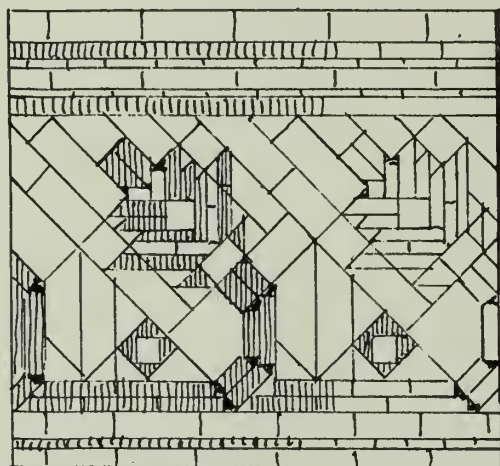
PLATE III. FLOORS AND WALLS.



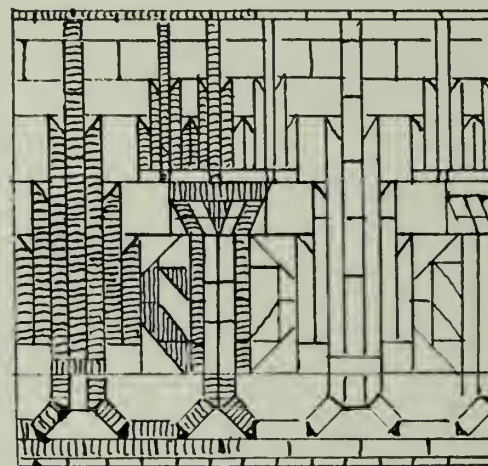
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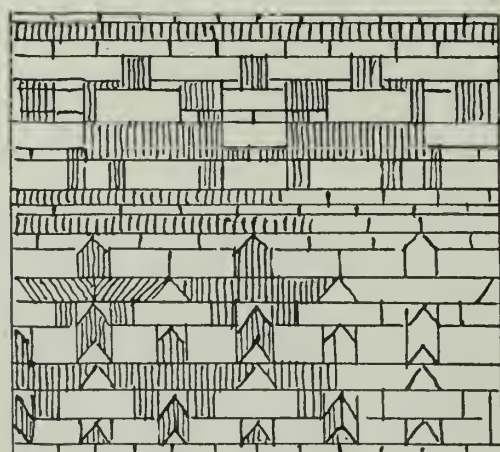
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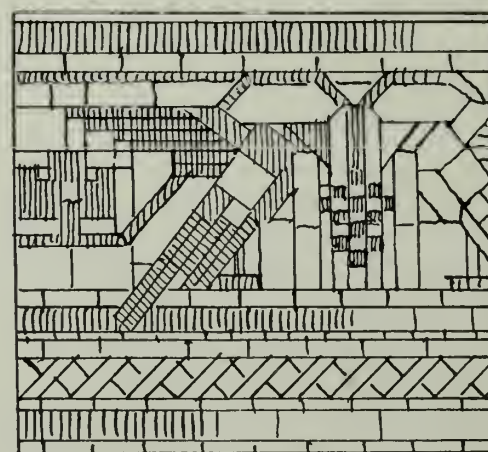
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6

PLATE IV.

should run across the joints, and thereby serve as motives which unite the tiles and do not separate them. This is in accordance with the desire to treat tiles as correlated factors of a surface. The few fundamental facts in regard to unglazed tiles, before glazes and color and paintings are considered, are these:

First, that with the exception of individual unique specimens, tiles are units for the purpose of veneering, of covering a surface with a comparatively thin covering, and they should frankly acknowledge that purpose, and should therefore submerge the identity of the unit in the general effect of the whole; should unite the units by a general plan of combination, by surface design, if such exists, that passes from one tile to the next by avoidance of any modelling or projection that appears too heavy for the thickness of the tile covering, and especially by a careful consideration of the scale of the subdivision of the surface, whether by joint pattern or by surface pattern in relation to the character and position of the wall, realizing that in interiors, tile wall surfaces have a coarser texture than any other used.

In considering glazed tiles without painted pattern, all the remarks relating to unglazed apply equally well, and the elements of quality of glaze, reflecting power of surface, and of color require additional comment. Broadly speaking, glazed tiles can be divided into those with dead glazes and with lustrous glazes. In the former case brilliancy of color is sacrificed for general effect of surface; in the latter, general effect for brilliancy of color. A lustrous glaze has the same effect upon the color of the tile that varnishing has upon the colors of a picture; it gives depth to the dark tones and brilliancy to the middle and light tones, and to all color, but it has also the disadvantage of any polished surface, *i. e.*, it reflects everything else in the room and thereby loses solidity and at times disturbs the contemplation of any object placed near it. Large surfaces of lustrous tiles make an instantaneous impression. All sorts of accidental high lights become evident on them and they have a peculiar capacity for reflecting high lights to an indefinite extent. For this reason it is well to use lustrous tiles either in small quantities, as in mantel facings, or as foci, or as expressing an extent of superlative cleanliness, or on rooms which are comparatively without furniture. Lustrous tiles in bathrooms, toilet and kitchens are excellent. Assuming that for most wall surfaces tiles with dead glaze are the most desirable, the color quality of the glaze is greatly influenced by the body of the tile, the lighter colored body better adapted to light and bright tile, while a deep red body gives depth and richness. The tiles should have each a uniform glaze, any attempt at variation of glaze in a single tile being an affectation which is apt to result disastrously for the general effect. Variation of wall color surface can and should be gained by the use of tiles of varying tones and colors. In this respect it is interesting to note the development of tile designs in Spain. The Mohammedan tile surfaces in the Alhambra are tile Mosaics built up of tiles of different shapes and colors separated from

each other by small borders of white ribbon tiles. Many of the designs are based on the so-called Solomon's star pattern, but in every case each tile has its integral color. The separating ribbon tiles are always white, and the star patterns are built up with a center cut to a six or eight pointed star, and the development is produced by the use of long tiles with end miters and double miters. There are naturally, in addition to this, the usual regular polygons, triangles, hexagons, octagons and, in a few rare cases, pentagons. The patterns are identical with the marquetry patterns in the doors and the bronze patterns in the Mosque doors in Constantinople and elsewhere. With these simple factors are built up over forty designs, which are amongst the most effective wall surface designs in existence. The colors are few—a dull Indian yellow, a green of various degrees of depth, a dull half-toned blue and a deep purplish maroon at times becoming black. The tiles are small, not over four inches in their largest dimension, and often one-half an inch in the smallest, and are fitted carefully. After the fall of Granada, in 1492, these patterns were stamped by the Spanish tile makers on square tiles, the colors being painted into the forms, but as these colors ran over the intervening ribbon forms, despite the fact that the edges of these were raised, the clean-cut effect of the Moorish mosaic wall surface became bleared, and later, under Pedro the Cruel, another type of square embossed tile, introducing Gothic detail, and with circular forms, took the place of the earlier tile. These became the famous Spanish Azulejos with which the walls of the Casa de Pilatos at Seville are covered. With all their splendor, with the addition of lustrous metallic glazes and iridescence, these tiles lack the refinement of the Moorish mosaic tile. The factors of the Moorish combinations by no means exhausted the possibilities of mosaic tile designs.

The Moorish tiles were, in most cases, devoid of parts of circles and of ellipses; they had few curved forms and no shapes based on leaf forms. There is still, therefore, the possibility of a series of most effective tile mosaics, for both interior and exterior work, designed from combinations of tiles of various shapes.

Plates III and IV indicate a few of the numberless possibilities of tile design, using only the factors already existent of straight line geometric units.

Plate III, Nos. 1 to 6, are floor designs of areas divided by borders. Any of the borders already shown in Plate I and the fields in Plate II can be used in designs of this character. No. 4 shows curved borders made of small straight tile. No. 5 has large pieces of faience substituted for tile patterns in the panels. Nos. 7 to 9 are dado patterns. Nos. 10 and 11 are base or frieze patterns. Plate IV is of wall or frieze patterns, showing the indication of large pattern by the use of tile of two tones or of two colors. Contrasts should not be violent in designs of this type. If circles and parts of circles, ovals and leaf-shaped tiles are added, these patterns become still more interesting by the consequent introduction and contrasts of curved and straight lines.



OFFICE BUILDING, PEARL AND BROAD STREETS, NEW YORK.
Kirby, Petit & Green, Architects.



RECTORY, 209 MADISON AVENUE, NEW YORK.
Edward P. Casey, Architect.



MARKET STREET FRONT

VIEW FROM TERMINAL PLATFORM

MARKET STREET TERMINAL STATION, PHILADELPHIA RAPID TRANSIT CO.



DETAIL OF MAIN ENTRANCE, MARKET STREET TERMINAL STATION, PHILADELPHIA RAPID TRANSIT CO.

R. C. Heath, Architect

Editorial Comment and Selected Miscellany

THE FALLACY OF THE AVERAGE.

WE had occasion some time since to look through the reports of a number of tests which had been made to determine the tensile strength of cement. From these tests certain empirical formulas were worked out adopting as constants the average resistance. Out of six experiments made with neat cement two of the briquettes broke away below the average, in one case falling to one hundred pounds below the average. On tests of one to three mortar half of the experiments gave resistances below the average, one case being twenty-two per cent less than the average. This arouses a natural query. Suppose out of six actual concrete beams, proportioned on the assumption of the constants determined by these experiments, that there had been as much variation from the average as was shown by the tests; could that construction fairly have been called safe? Those who remember the days before Professor Lanza's epoch-making experiments with full-sized, hard pine beams, will recall how our notions of the strength of wood were based upon experiments with pieces of selected timber one inch square, one inch deep and one foot long, which were carefully broken in two by an applied load at the center, and from the observed results of such academic experiments



AN ENAMEL FINISH TERRA COTTA "SKYSCRAPER" BEING GIVEN ITS ANNUAL BATH. THERE ARE ABOUT 200,000 SQUARE FEET OF EXTERIOR SURFACE WHICH IS WASHED EVERY SPRING AT A COST OF \$1,000.

THE RAILWAY EXCHANGE BUILDING, CHICAGO.

D. H. Burnham & Co., Architects.

Terra Cotta by Northwestern Terra Cotta Co.



UNITED STATES EXPRESS BUILDING, TRINITY PLACE, NEW YORK.

Clinton & Russell, Architects.

Exterior of White Terra Cotta, made by New York Architectural Terra Cotta Co.

we proportioned our wooden floors. It is small wonder that in the light of Professor Lanza's minimums we now find steel almost as cheap as wood at its minimum strength. The fact is, that to take the average of a number of experiments and assume that as a safe guide in actual construction is extremely risky, unless we can be sure that the material when finally constructed in the building will in every case be up to at least the average grade, a condition which rarely obtains; consequently prudence would seem to dictate that it is not safe to take the average strength, but rather in determining constants for building construction, they should be derived from a fair minimum.

UTOPIA.

WHO will say that imagination has departed from the speculative builder? A most interesting scheme is now being worked out in one of our large cities. It is proposed, in all seriousness, to construct an island in an arm of the sea partly enclosed by the city, to be trav-

ersed by a bridge connecting each way to the main land, the whole island to be roofed over, streets and houses and all, heated in winter time, partially shaded in summer, so that there will be no more snow and ice and no more scorching sunbeams, but a delicious sub-tropical hothouse at-

mosphere will be maintained all through the year, the island being of small extent, covered with the most exclusive apartments, a single street occupying the center of the length, with a church at one end, a small theater at the other, and with the houses having one front towards the principal street and another front looking out over the water. And this utopian ideal was conceived by a hard-headed builder with the assistance of an enterprising newspaper reporter!

SUBWAY CONSTRUCTION.

WE are in an era of subway construction. A great deal has been done well in New York, some of it has been done fairly well elsewhere and a great deal more of it has been done in various cities without any regard to architectural effect or with any consideration for anything except strength and free access for the public in and out. A vast system of subways is proposed for Chicago, other cities will undoubtedly follow, and it is the logical and natural means of rapid communication for all of our large cities. There is no reason, however, why a structure entirely underground should not be built as thoroughly and in as orderly a manner, and with as much regard for appearance, as a structure entirely exposed in the open air. Such has not been the case in the past in this country, and we have yet a great deal to learn from France and Germany in this particular. Our subway stations below ground ought to be no less serious in their treatment than our upper

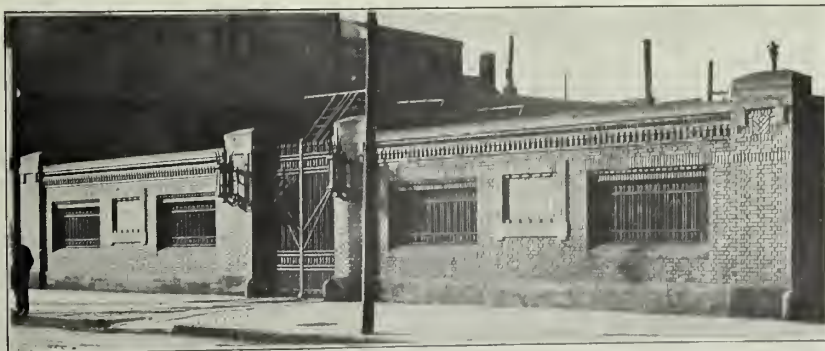


EXECUTED IN POLYCHROME GLAZED TERRA COTTA BY ATLANTIC TERRA COTTA CO.
Herts & Tallant, Architects.

stations which has been the rule rather than the exception in the past.

WIND STRAINS.

THERE has been at various times a great deal of discussion among engineers as to the rôle which is played by the forces of the wind acting against a framed structure. The problem is quite indeterminate, as far as regards actual experiments. There were some valuable data collected at the time of the very short-lived tornado in St. Louis a few years ago which wrecked a surprisingly small number of buildings, and which established velocities from which were deduced certain pressures per pound supposed to be exerted by the wind. And yet in this very tornado it was observed that the effect of the wind was not to blow the glass in, but to break it by forcing outward. If this is the case, why is it fair to assume a great wind pressure against the outside of a building? Again, in lesser degree, a great deal has been written about the wind pressure on the Flatiron Building in New York, and that structure was, in fact, designed for a wind stress of something like thirty pounds per square foot, if we are correctly informed, and yet it is doubtful if there is a single plate-glass window in the building that would for a moment stand a load of thirty pounds over every foot of its area. It is to be hoped that experiments may be made ere long on a large scale which may either definitely settle the actual amount of stress resulting from certain wind velocities, or will, as we



THE WILLIAM H. HUNT FENCE AND GATEWAY, HIRAM (SETTLEMENT) HOUSE, CLEVELAND.
Charles S. Schneider, Architect.



DETAIL BY SOUTH AMBOY
TERRA COTTA CO.

think, more likely set at rest forever the apprehension that the wind would possibly blow at the same time over any great area of a building with a uniform pressure; or, in other words, prove that the necessity for providing against wind strains in a modern building is so extremely slight that it can be disregarded in first-class constructions.

CHICAGO'S NEW COURT HOUSE TO HAVE ONE FLOOR OF VAULTS.

ONE of the twelve floors in the new Cook County Court House, Holabird & Roche, Architects, will be devoted entirely to vaults which are to hold the valuable documents and records. These vaults will all be enclosed with

tiles of double the ordinary thickness. The windows at this story are provided with metal frames and wire glass. Every column in the building is covered with two inches of porous hollow terra cotta, bound by copper wire. All pipes are set outside the column protection, and are themselves protected against fire by another covering of three-inch hollow tile. The partitions and floors are made of this same fireproofing material.

BUILDINGS FOR THE PHILADELPHIA RAPID TRANSIT COMPANY.

(SEE PLATE FORMS.)

THE sub-stations are really small power houses at which the alternating current generated at the main station is converted to direct current, from which it is distributed. The Terminal Station is the western terminus of the Market Street Elevated Passenger Railway Company. The building is a combination station and will be used not only by the Philadelphia Rapid Transit Company, but by the Philadelphia and Westchester Traction Company, and the Philadelphia and



DETAIL BY RUHE & LANGE, ARCHITECTS.
Ketcham Terra Cotta Works, Makers.

Western Railway Company as well. Tiles have been used in the exterior walls of these buildings in combination with the brick, which are laid with red stretchers and black headers.

BUILDING OPERATIONS FOR JUNE.

OFFICIAL building reports from some fifty of the leading cities of the country, received by the *American Contractor*, New York, and tabulated, show in the aggregate value of building permits granted in June, 1907, as compared with those for the corresponding month of last year, very nearly equal, the losses slightly predominating. Some cities show astonishing gains and others equally remarkable losses. This is largely due to the issuance of large single permits during June, 1906. For the most part, the construction business



DETAIL BY HOLABIRD &
ROCHE, ARCHITECTS.
American Terra Cotta Co.,
Makers.

of the country is moving forward in an orderly, conservative and highly satisfactory manner, the total reported loss being a very small fraction of one per cent. When the immense amount of building done last year is taken into account, this must be regarded as indicating that our present large operations are quite normal and may well be expected to continue, since the freely predicted reaction has not materialized. The following figures show the percentage of gains in leading cities: Birmingham, 68; Bridgeport, 76; Chicago, 9;



A SMALL BUSINESS BLOCK, CHICAGO.
Louis Sullivan, Architect.

Chattanooga, 214; Denver, 7; Detroit, 58; Evansville, 57; Harrisburg, 41; Indianapolis, 124; Louisville, 17; Minneapolis, 45; Nashville, 37; Omaha, 18; Pittsburg, 11; Spokane, 442; Salt Lake City, 667; Topeka, 167; Tacoma, 104; Washington,



DETAIL BY EAMES & YOUNG, ARCHITECTS
Winkle Terra Cotta Co., Makers.

13. Losses are indicated by the following figures: Buffalo, 34; Cleveland, 16; Dallas, 33; Duluth, 39; Grand Rapids, 36; Hartford, 9; Kansas City, 46; Los Angeles, 36; Milwaukee, 47; Mobile, 73; New Haven, 39; Newark, 10; Greater New York, 9; Philadelphia, 11; St. Louis, 33; St. Paul, 29; Syracuse, 34; Toledo, 9. A gain of 9 per cent in Chicago and a loss of only 9 per cent in New York shows the great regularity of building operations.

IN GENERAL.

Albert Kelsey and Paul P. Cret have been adjudged winners in the competition for the new buildings of the International Bureau of American Republics, to be erected in Washington. Three cash prizes were also awarded. The first, \$3,000, was won by Edward Pearce Casey and Arthur Dillon, associated, of New York; second prize, \$2,000, John Russell Pope, New York; third prize, \$1,000, Peter de Gelke, Jr., and William T. L. Anderson, associated, New York.

The Pittsburgh Architectural Club will hold its fourth annual exhibition in the Art Galleries of the Carnegie Institute during the month of November, 1907.

At the opening of the session of 1907-1908 there will be offered in the College of Technology, Tulane University of Louisiana, New Orleans, a course in architecture, extending, like other regular courses, through four years, and leading to a collegiate degree.

John J. Earley entertained the Washington Architectural Club at a "smoker" in his new studio on the evening of July 10.

George W. Hellmuth and Louis C. Spiering, architects, have formed a co-partnership under the firm name of Hellmuth & Spiering; offices 502 Equitable Building, St. Louis, Mo.

Charles G. Badgley, architect, has removed his office from Fairmount, W. Va., to Seattle, Wash.



HOUSE AT JACKSONVILLE, FLA.

H. H. Waterman, Architect.

Roofed with Red Vitrified Spanish Mission Tile. Cincinnati Roofing Tile Terra Cotta Co., Makers.

two large buildings for the Brooklyn Rapid Transit Company; in six new packing houses being erected for Armour & Co. and Swift & Co.; for the exteriors of two buildings at Pittsburg; in the Geographical Laboratory at Washington; in the Cadets' Quarters at Annapolis; two private garages at Greenwich, Conn.; the new court house at Portland, Me.; the new Hippodrome at Cleveland, Ohio; exterior of an office building at Youngstown, Ohio; exterior of an office building at Detroit, Mich.; an office building at Woonsocket, R. I.; First National Bank building, Bridgeport, Conn.; and St. Raphael Hospital at New Haven, Conn.



DETAIL BY HERMAN MILLER, ARCHITECT.

Conkling-Armstrong Terra Cotta Co., Makers.

LIBRARIANS AND ARCHITECTS.

SO habitual has it become for librarians, in discussing library buildings and plans, to make wholesale criticisms of architects, and to assume towards them an attitude of superior wisdom, that it is said, on the authority of one of the leading architectural firms of this city, that architects are coming to feel a grievance against the library profession, and are somewhat loath to enter competitions for library buildings. Commenting on this situation, a librarian, who has perhaps had as much to do with architects and building plans as any in this country, recently expressed to the writer the opinion that the attitude thus assumed by librarians was based chiefly on ignorance and narrowness, and was likely to do both the library and architectural profession a real injury. What ground there is for this feeling on the part of librarians, he said, is found in the defects of a few conspicuous buildings,



M. E. CHURCH, MONTCLAIR, N. J.
Van Vleck & Goldsmith, Architects.
Roofed with Ludowici-Celadon Tile.



DETAIL BY BARNETT, HAYNES & BARNETT, ARCHITECTS.
St. Louis Terra Cotta Co., Makers.

built at a time when the full demands to be made by the public upon the buildings were realized neither by librarians nor architects. Of late years, he said, architects have been studying with great care and minuteness the economic and practical demands of library buildings, and, as a whole, are now far in advance, even in these matters, of the average librarian. From an experience gained on many building committees, by some of which buildings costing millions have been planned, he has come to the conclusion that the librarian, even in his own field of library economy, has much to learn from the professional architect. — *N. Y. Evening Post*.

YSLETA CHURCH BURNS.

THE oldest church edifice in the United States was destroyed by fire the other day. The ruins of adobe and stone are to be removed, under the direction of the Catholic Church authorities, and a thorough search made for hidden treasure, which, according to legends that have been handed down for generations, lies buried beneath the floor of the building. The records go to prove that Ysleta, Tex., is older than St. Augustine, Fla. In the records of the great cathedral of Madrid, Spain, is found

the report of Marcus de Niza, a French monk, who says that he left the City of Mexico and made his way north, finally crossing the stream that is now known as the Rio Grande. He says that he followed the road that he left for his mule to take. Part of this manuscript is written with the blood of a deer for ink, and his own forefinger nail for a pen. He says that in 1537, across the Rio Grande, he found the village known as Ysleta, occupied by the Pueblo Indians, whose traditions all point to their having been of the ancient Aztec race, or to a people of even more remote origin. Franciscan mission-



SPANDREL OVER ENTRANCE, OPERA
HOUSE, DU BOIS, PA.

Frank Orner, Architect. Carter, Black &
Ayers, New York, Makers.

aries arrived at Ysleta four or five years later, and the mission church which was destroyed by fire a few days ago was erected. It was completed about 1550. In many respects it was the most unique mission building in the Southwest. Owing to the fact that it was remotely situated it was seldom visited by tourists, and little has ever been written about it. It was a very large structure, and was built with the idea of serving as a fortress in case of attack by Indians, as well as for worshiping purposes. The walls were four feet and six inches thick. It was the boast of the worshipers that the candles which burned at its altar had shed their light continuously for more than 350 years. It was one of these candles that caused the destruction of the church. — *Boston Transcript*.



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SUBSTATION, MARKET AND ALLISON STREETS, PHILADELPHIA RAPID TRANSIT CO.
R. C. HEATH, ARCHITECT.





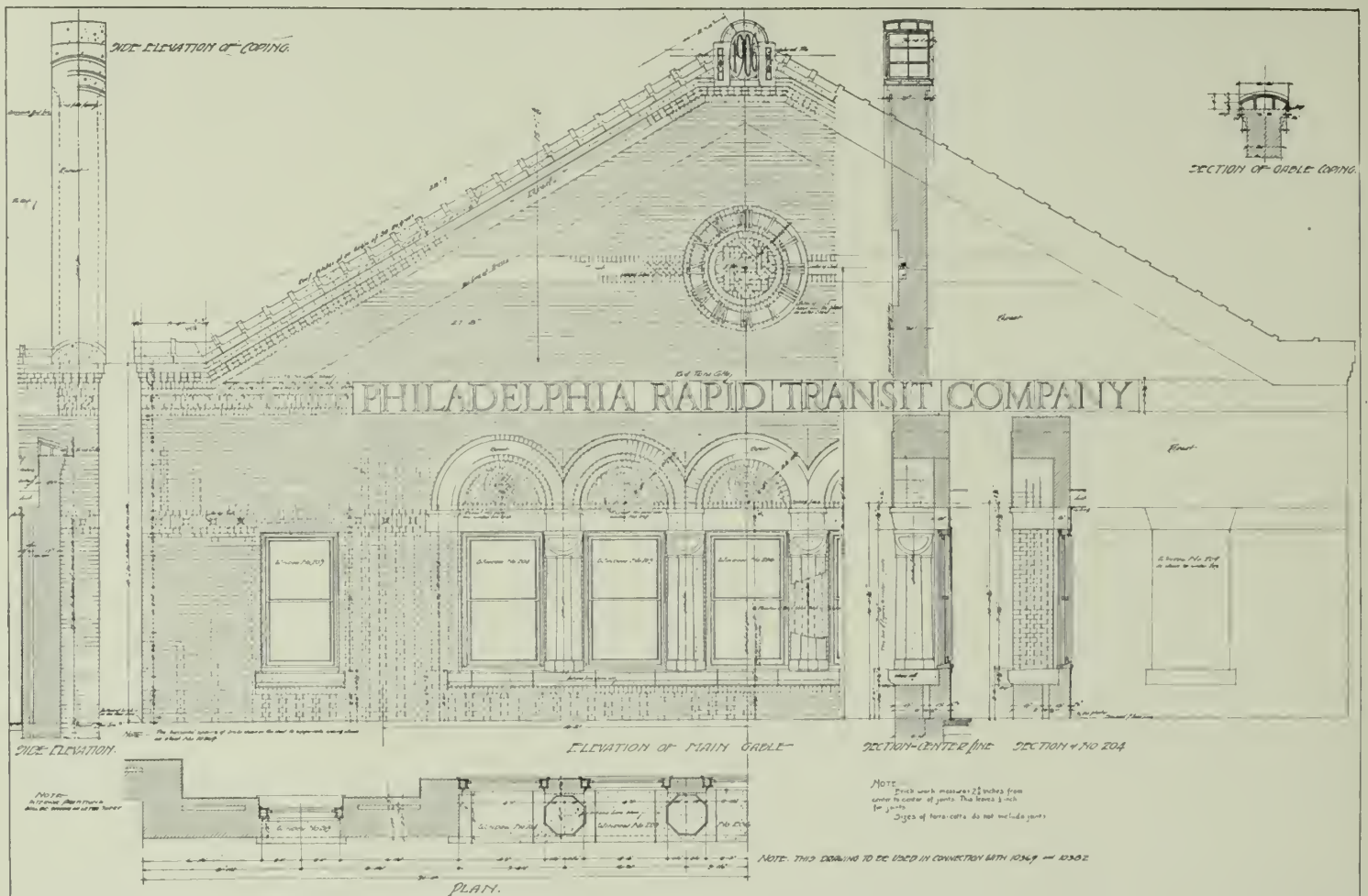
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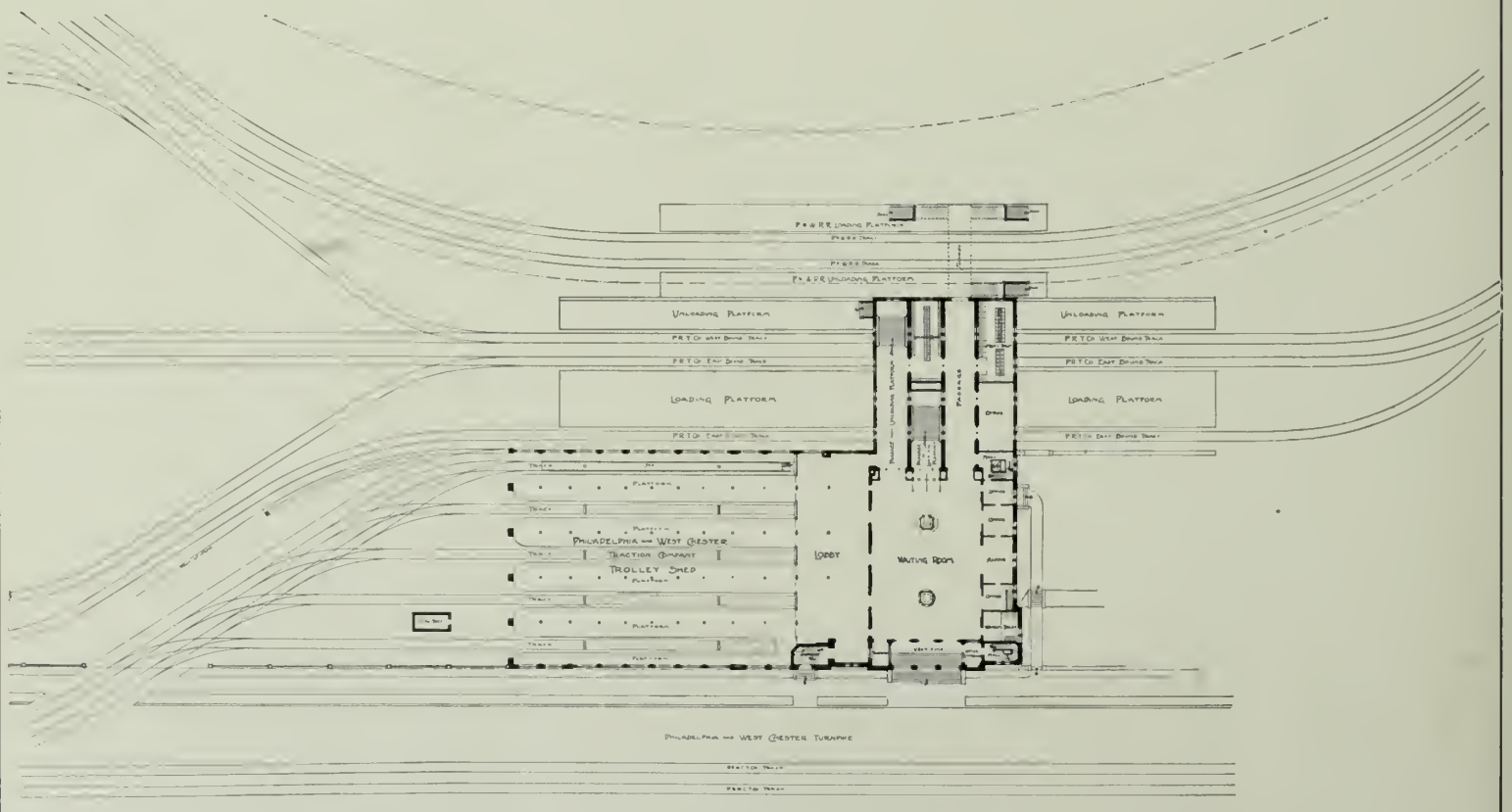
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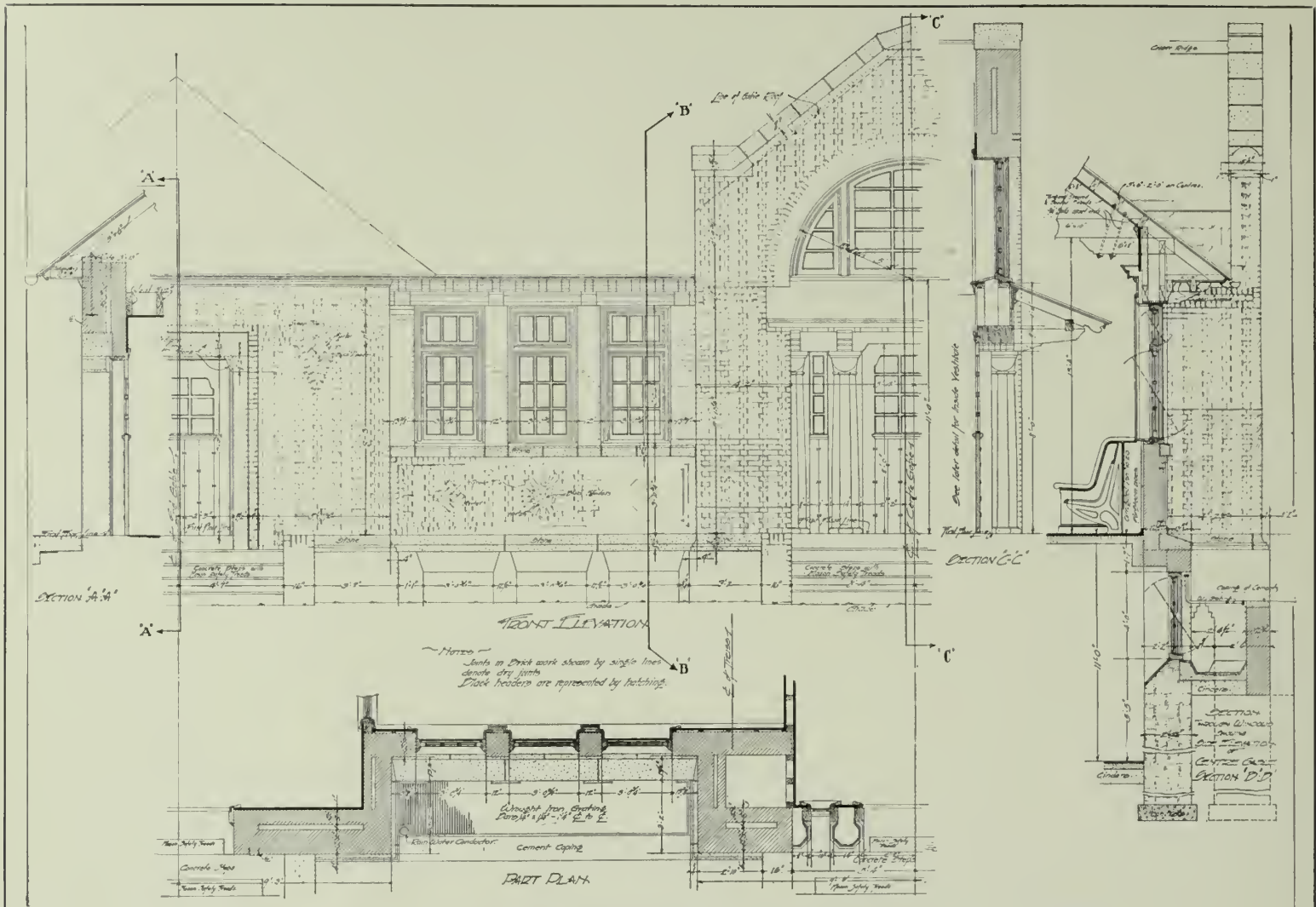


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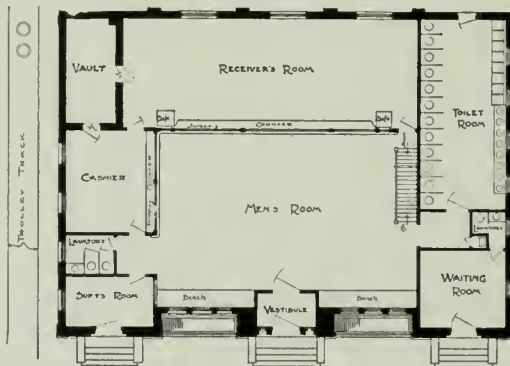


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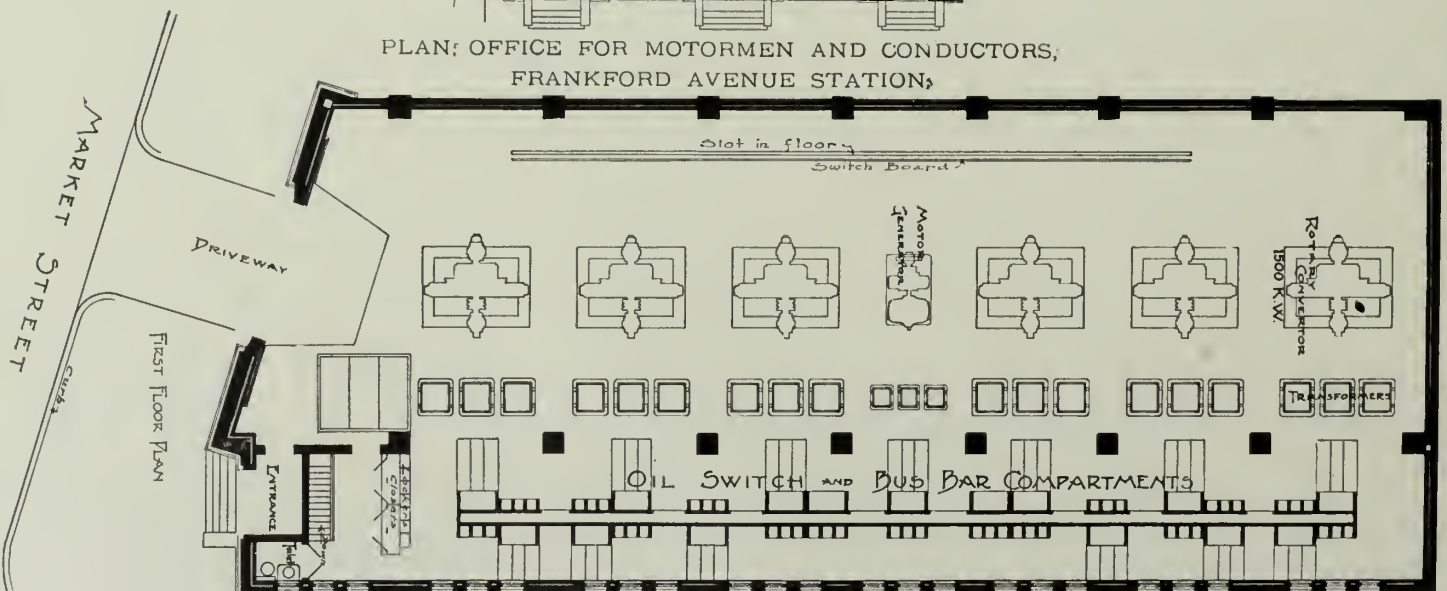




DETAILS OF FRONT ELEVATION, OFFICE FOR MOTORMEN AND CONDUCTORS.



PLAN: OFFICE FOR MOTORMEN AND CONDUCTORS,
FRANKFORD AVENUE STATION.



SUBSTATION, MARKET AND ALLISON STREETS, PHILADELPHIA RAPID TRANSIT CO.

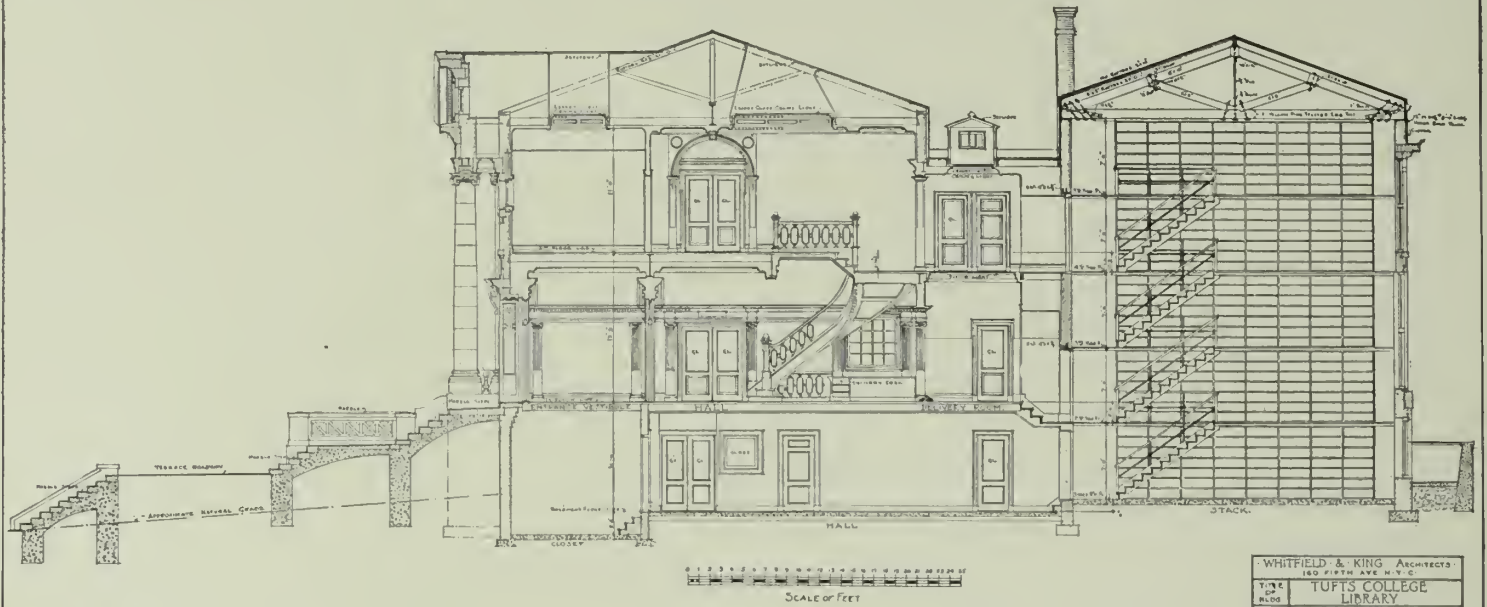
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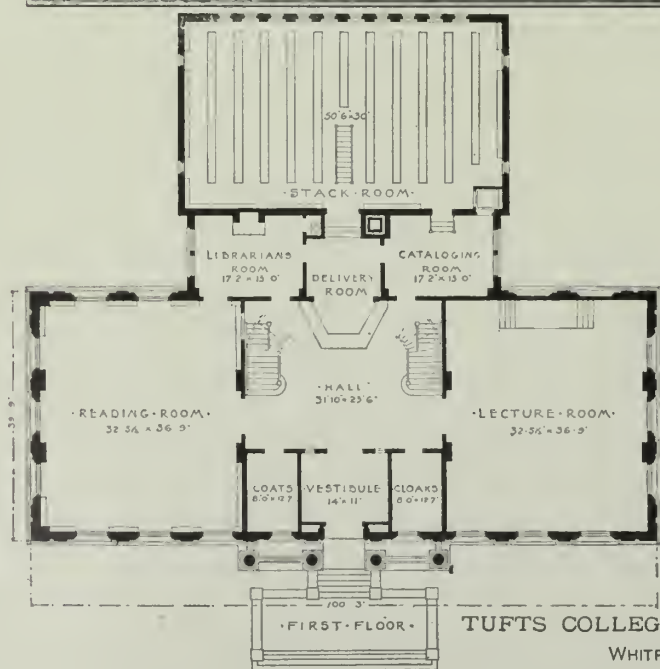
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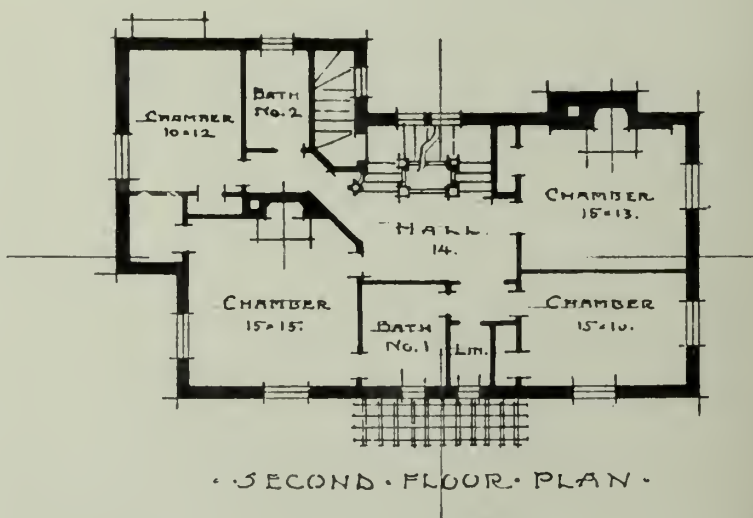
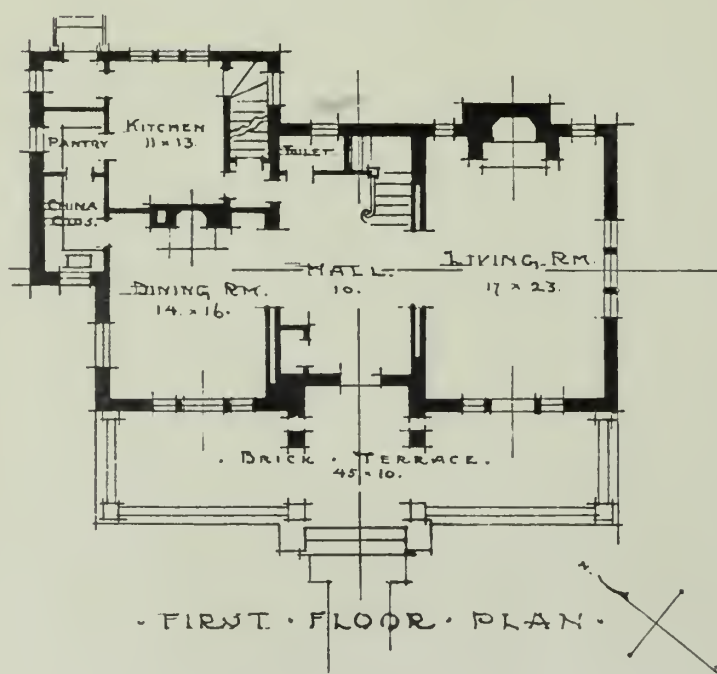
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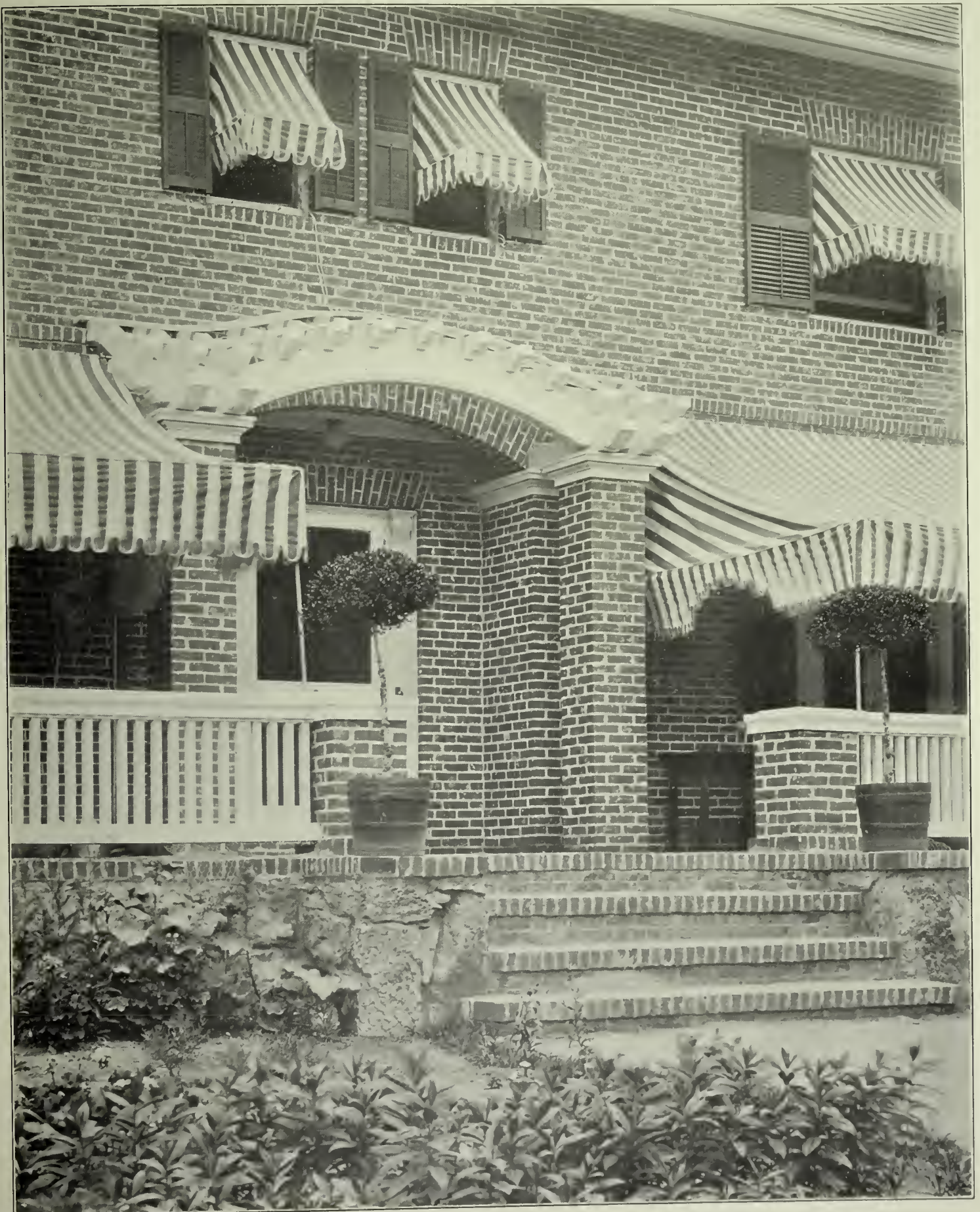


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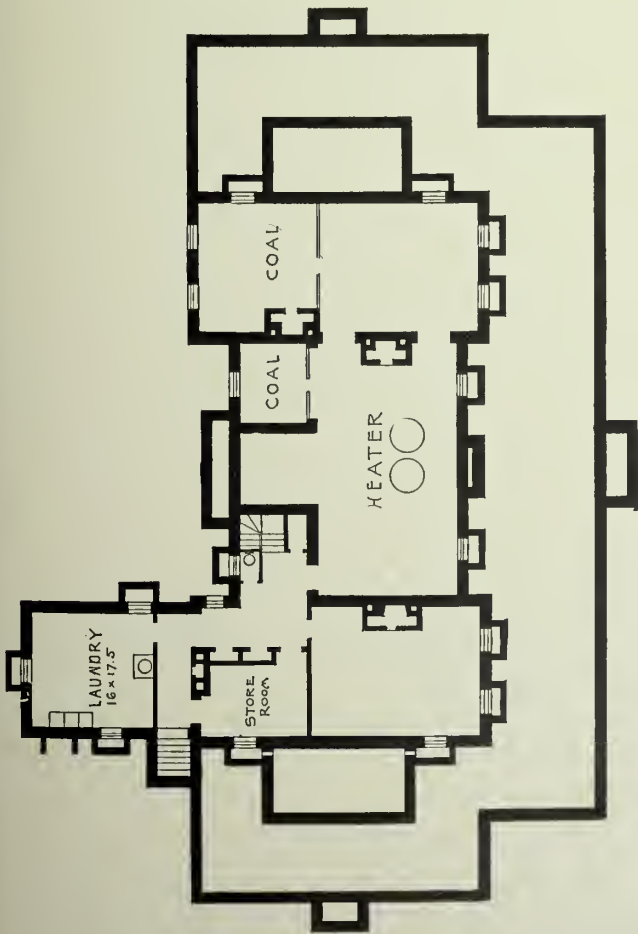
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J. LOVELL LITTLE, JR., ARCHITECT.



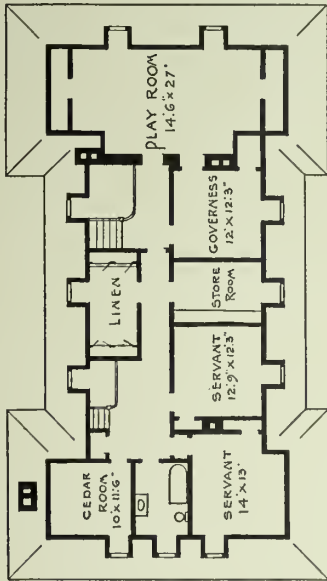
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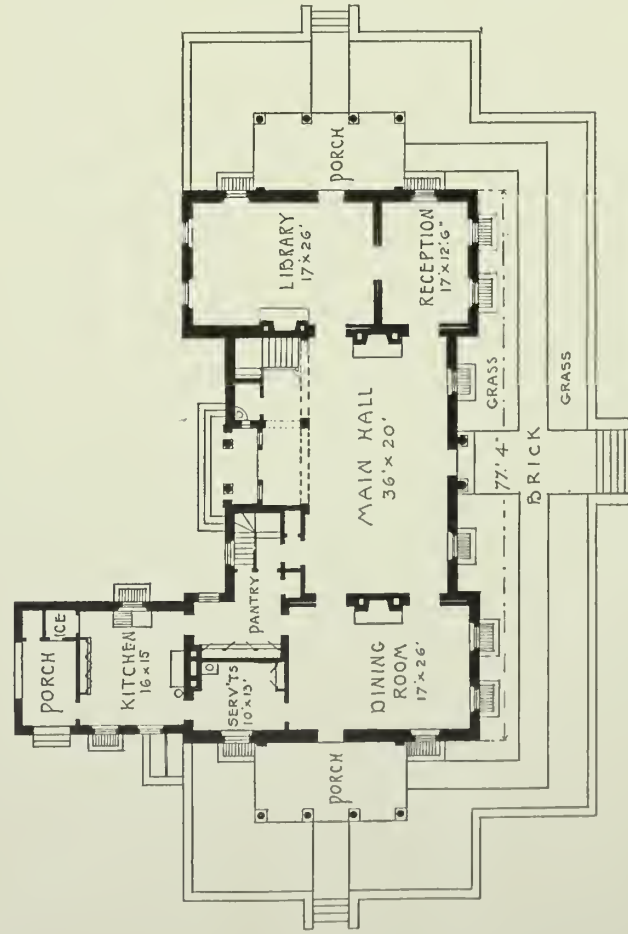
HOUSE AT CHESTNUT HILL, PA.
HORACE TRUMBAUER, ARCHITECT.



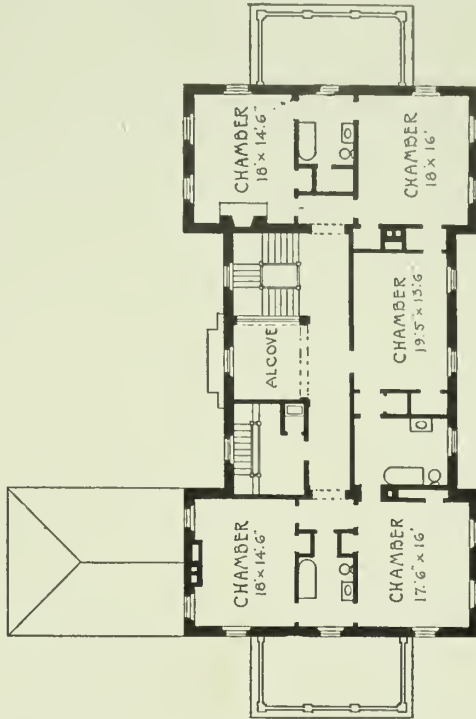
• BASEMENT •



• THIRD FLOOR •



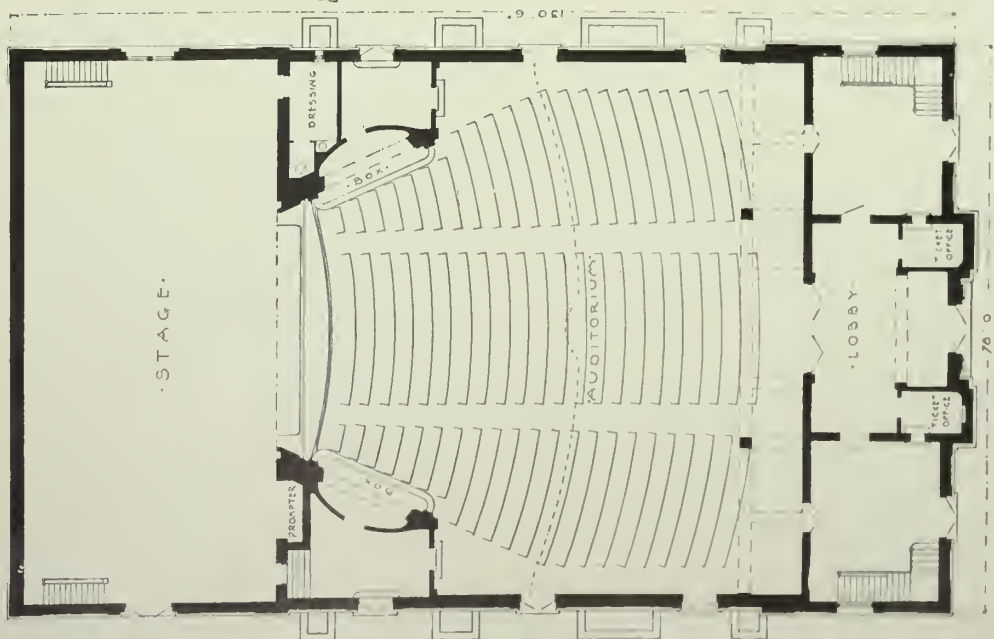
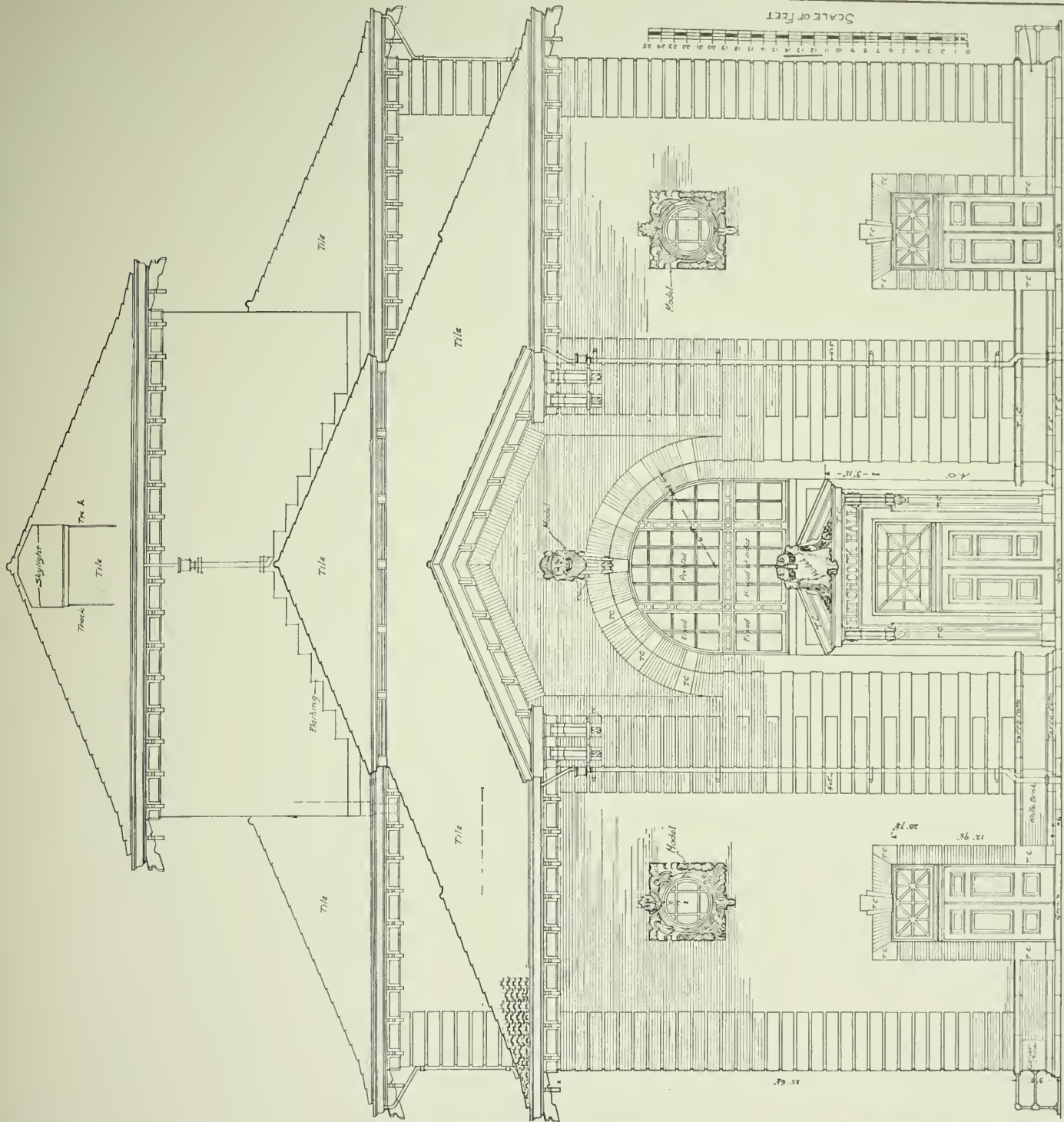
• FIRST FLOOR •



• SECOND FLOOR •

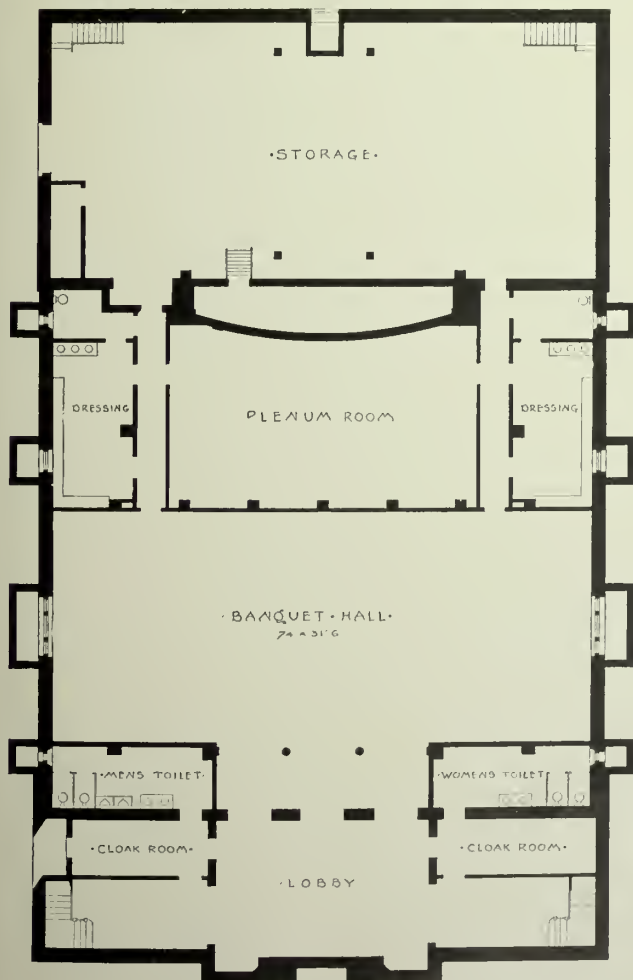
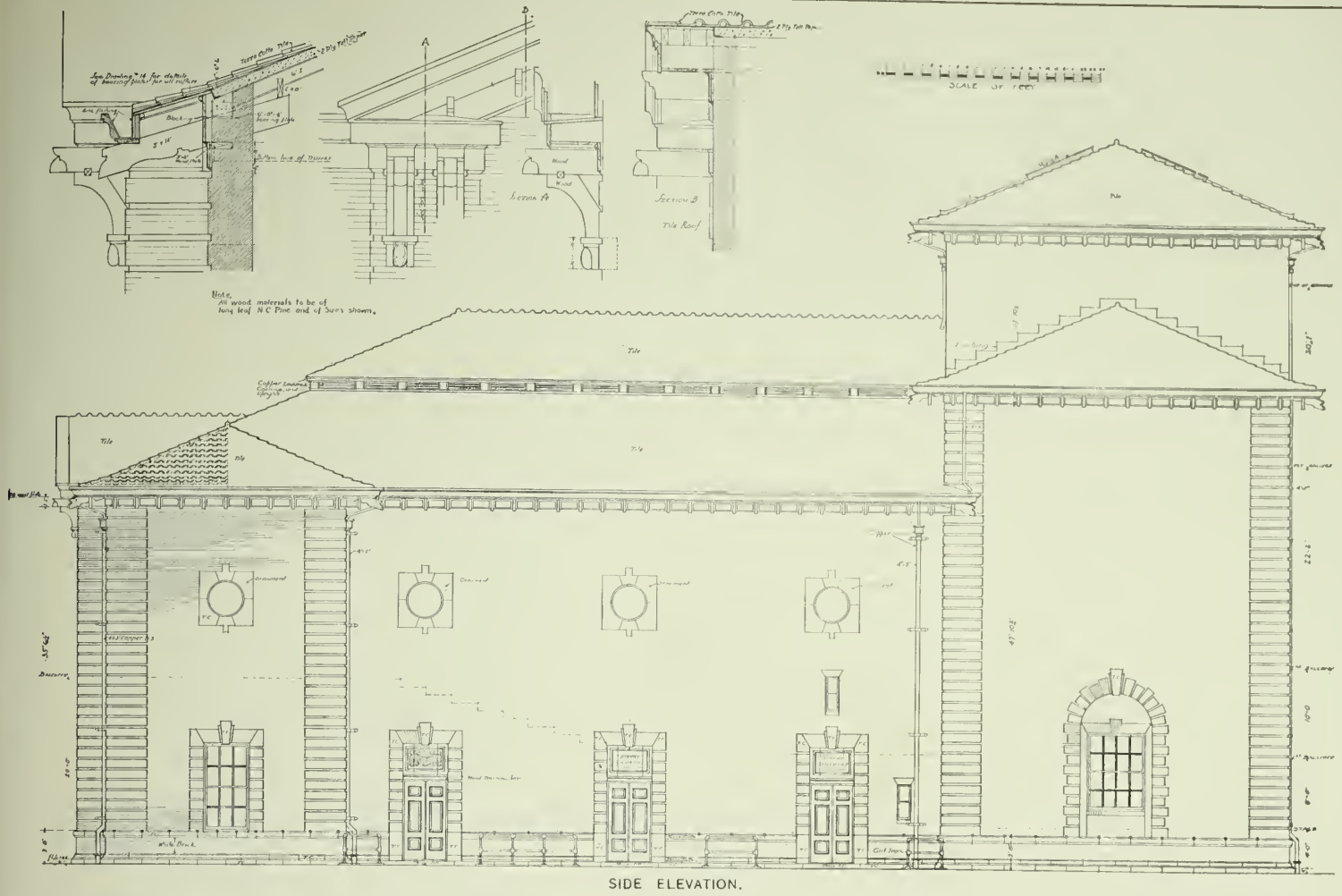
PLANS, HOUSE AT CHESTNUT HILL, PA.

HORACE TRUMBauer, ARCHITECT.

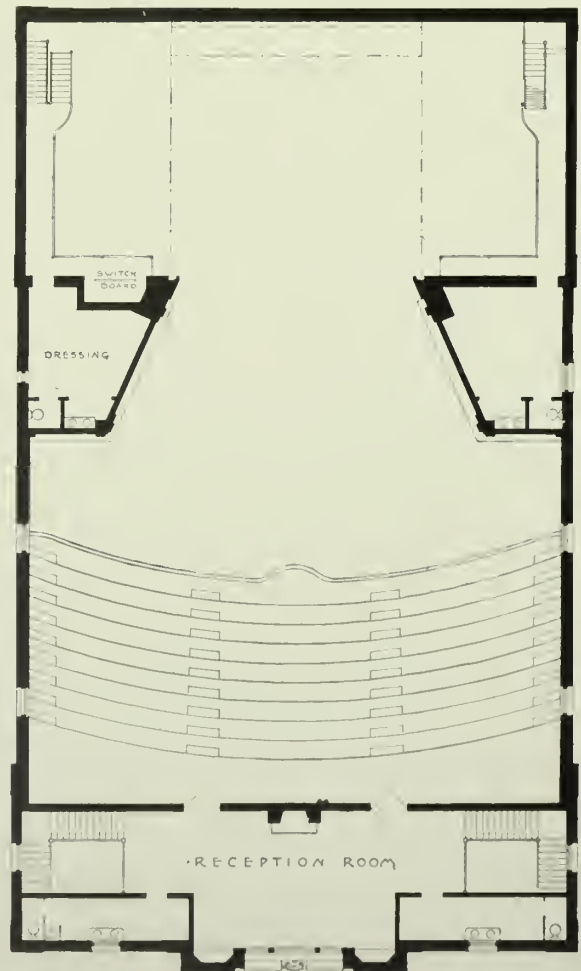


ASSEMBLY HALL, GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.

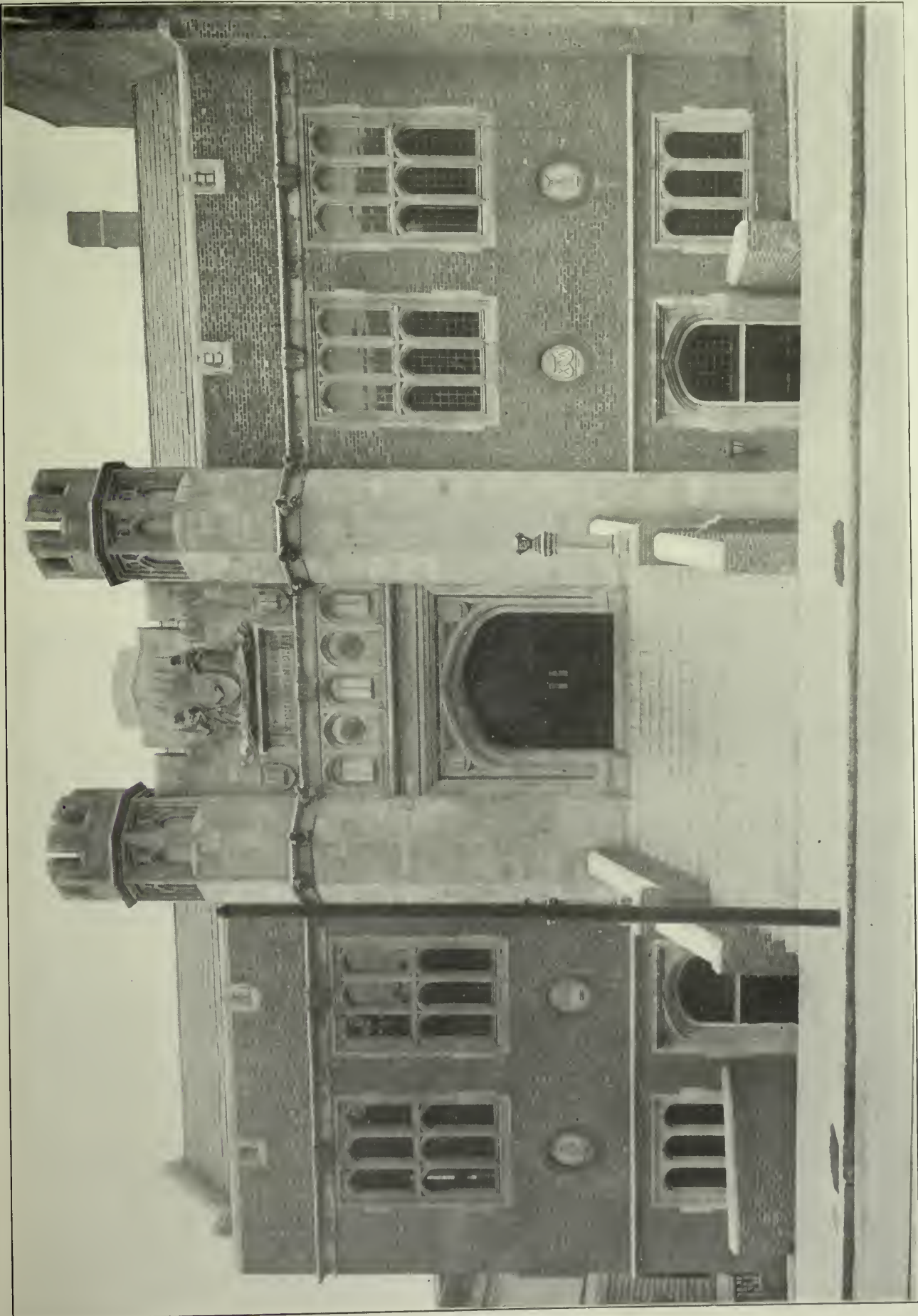
SUNDERLAND BROTHERS, ARCHITECTS.



BASEMENT PLAN.
 ASSEMBLY HALL, GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.
 SUNDERLAND BROTHERS, ARCHITECTS.

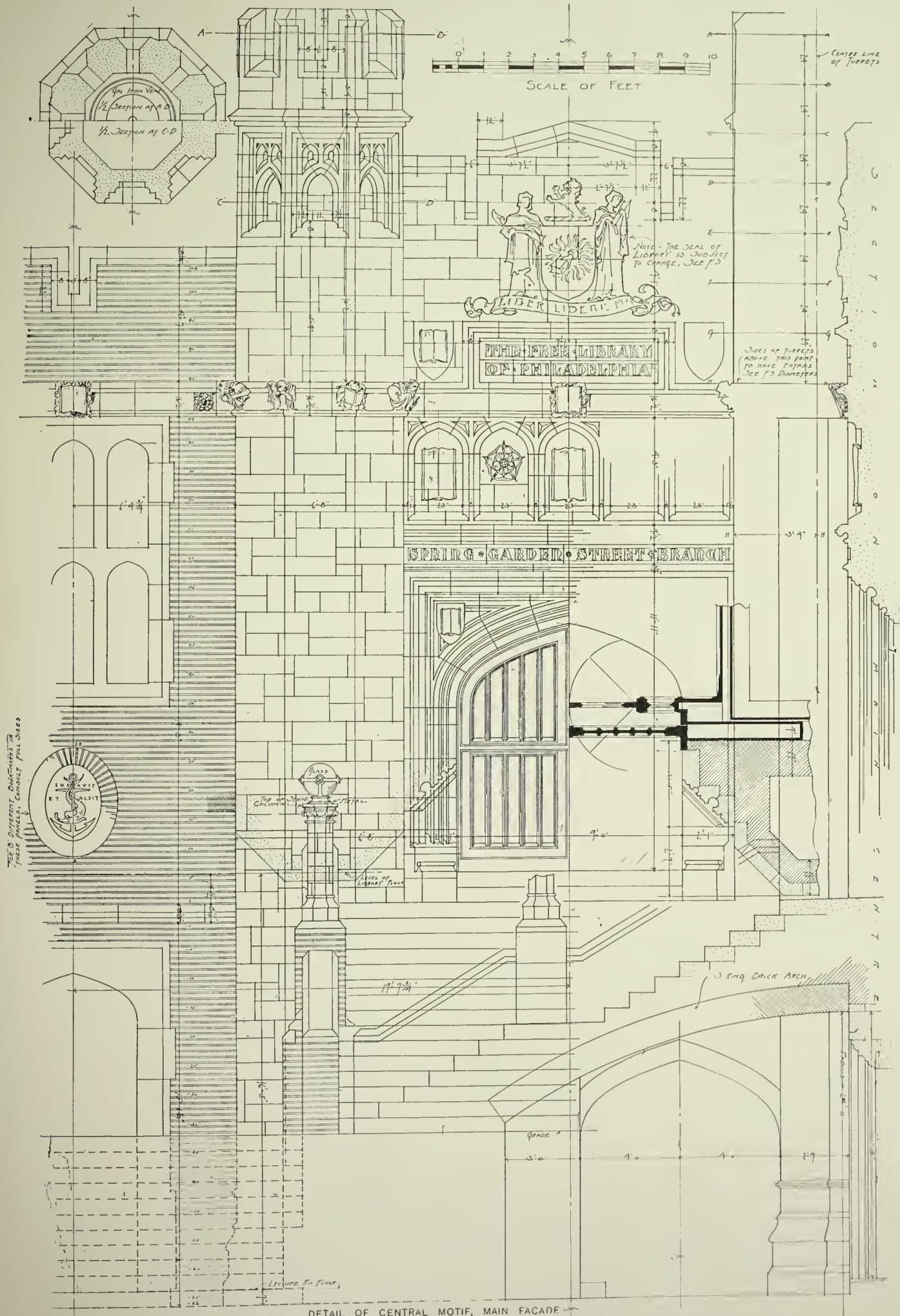


GALLERY PLAN.



FRONT VIEW.

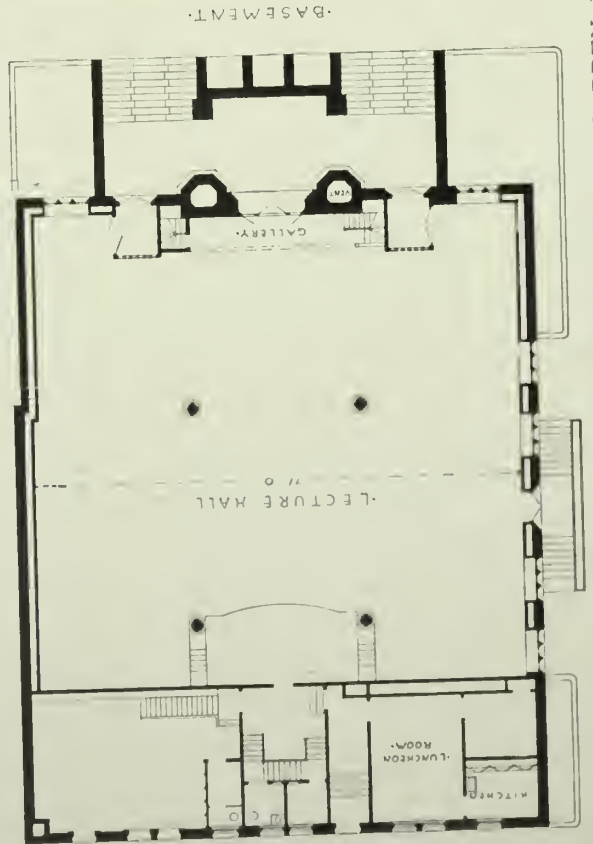
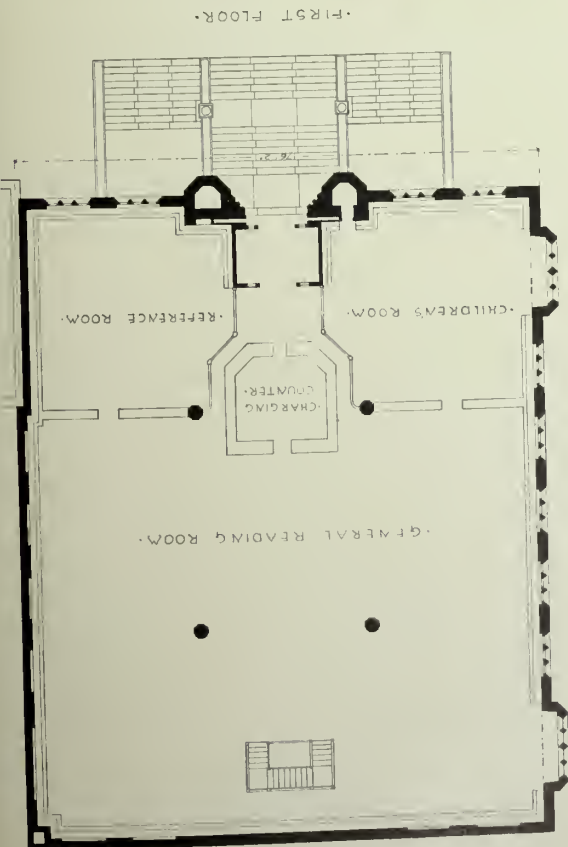
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DETAIL OF CENTRAL MOTIF, MAIN FACADE
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DETAIL OF LOWER PORTION OF REPUBLICAN CLUB, NEW YORK CITY
YORK & SAWYER, ARCHITECTS

THE BRICKBUILDER

VOLUME XVI

AUGUST 1907

NUMBER 8

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ADVERTISING

Advertisers are classified and arranged in the following order:

	PAGE		PAGE
Agencies—Clay Products	II	Brick Enameled	III and IV
Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

BUTLER & RODMAN; CARRÈRE & HASTINGS; HELMLE & HUBERTY; ROBERT D. KOHN; BENJAMIN WISTAR MORRIS; PEABODY & STEARNS; HORACE TRUMBAUER; WALKER & MORRIS; WARREN & WETMORE.

LETTERPRESS

	PAGE
HATFIELD HOUSE, THE CLOCK TURRET, HERTFORDSHIRE, ENGLAND	Frontispiece
EDITORIALS	135
NEW SHOP FRONTS. I.	Edwin Trowbridge 136
THE USE OF ARCHITECTURAL TERRA COTTA IN THE WEST STREET BUILDING, NEW YORK,	Charles P. Warren 141
WHAT \$7,500 WILL DO IN BUILDING A FIREPROOF HOUSE.	Alex. Warren 146
EDITORIAL COMMENT AND SELECTED MISCELLANY.	149



HATFIELD HOUSE, THE CLOCK TURRET, HERTFORDSHIRE, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 8 DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY AUGUST 1907

THE ETHICS OF ADVERTISING.

THE profession of architecture is peculiar in that before the architect can effectively demonstrate his capacity he must find some kindly client who will pay all the bills for the experiment. Nor do the difficulties of the situation cease when the architect has acquired a fairly settled practice, for the search for the client must ever continue, the necessity for new opportunities is ever present, and the architect who hides his light under a bushel has only himself to thank if he lives and dies unknown and untried. His light must be set on a hill or there is no architectural opportunity for him. In the middle ages the architect was a mere upper mechanic possessed of a certain experience and cleverness in laying out work. To-day he must be a leader and known of all men, and the problem of how to get work involves some fine questions of ethics which are not necessarily elucidated by a course of college training. The architect, like every other man in business, must advertise directly or indirectly, one way or another, for surely architecture should be no less businesslike for being a fine art.

IT has been assumed that there are only four ways for an architect to acquire a practice: to ally himself with a speculative builder; to employ runners or agents to deliberately drum up work; to take part in competitions, earnestly and often; or to identify himself with the community, grow up with it, allowing years for a gradual growth. The first two methods mean a degree of self-abasement and self-effacement which absolutely prohibits any genuine architectural development, and are unethical in that they lead to artistic falsehood, to placing money above art, and to almost inevitable business dishonesty. Besides, such means are rarely successful in building up a practice, and those who have profited most by them would be the first to condemn them. Competitions as a means of building up a steady business remind one of Dr. Johnson's simile of a dog walking on his hind legs, 'tis never done well; we only wonder that it should be tried at all.

THERE remains, then, the fourth way; to grow up with his community. The rate of growth will be determined almost entirely by his innate ability and by the extent to which he can rightly place himself before his fellow men. Assuming that the architect has real ability, appreciates the artistic possibilities of the profession, and

has taken it as both vocation and avocation, there should be little uncertainty as to his course or doubt of the outcome. He may join clubs, and thereby form business friendships; he may win friends through politics or religion; he may join architectural societies or contribute to the journals, but these factors are really of value only as they serve to make him a part of the life about him, and fit him to become a leader of men, for only as such can he acquire the kind of greatness which leads to abundant success. The architect must advertise, he must be known. People must appreciate what he stands for and what he can do; but the mere placing a card in a large journal or making speculative alliances does not mean architectural opportunities. Architecture to-day comes pretty near being the index of civilization, and to grasp the larger opportunities the architect simply must be a leader. There may be some mute, inglorious Miltons pegging away in the lower ranks of the profession, unsuspected by those about them, but it is a pretty safe general statement that the great architectural prizes of the past few years have gone to men who were not only architecturally fitted to handle them, but were also men who had made themselves leaders, who had developed what we term executive ability, and who were honored by the community at large.

TO acquire this leadership, this recognition as an architect, is not possible to all; many are called but few are chosen, but every one who is really in earnest can at least raise his average. He can make himself known not merely by his buildings but also by his attitude on the public questions which are so closely related to architecture. He can come out from the cloistered life so dear to many an artist, be a mixer in the affairs of his fellow men, and try to place himself always in line with what is best and most beautiful. He can have the courage of his artistic conviction, and show in his life the pride of his profession, and if in time he is not a leader among men, a mold of thought and destiny and a weaver of the imperishable records of civilization in the shape of noble public buildings, it is no fault but his own. The public is looking for leaders,— it asks but to be led, and so long as the architect takes the position to which his profession entitles him, doing his level best because he loves it rather than for money, and gives his best thought and effort to the community which is so ready to reward him, just so long is he advertising himself in the best and truest manner, and in just such a degree will his progress be swift and sure.

New Shop Fronts. I.

BY EDWIN TROWBRIDGE.

ONE of the chief difficulties in designing buildings devoted to trade is the manifest incapacity of glass to carry weight. In all shopping districts, the first story, and often the second story, is devoted to displaying the objects for sale, and becomes, in fact, exactly what its name indicates, the show window. The desire is naturally to gain as much space as possible, well within the range of vision of the passer-by, in which to make an attractive assembling of merchandise. Every pier or column and even the necessary window frames are begrudged, as they diminish the area of window space. The building above may be monumental, massive, of stone or of brick and terra cotta; in fact, composed of tons of building material, all of which has no visible means of support, unless it be by a few meager columns, and the result has been far from satisfactory.

The strength of iron is now so well known, that masses which in the early part of the nineteenth century would have seemed apparently too heavy for their supports, are now accepted without hesitancy, the mental attitude as to what is apparently strong and safe structure having become readjusted to changed conditions, not alone amongst the architects, but also amongst the general public. For a considerable length of time attempts have been made by placing heavy piers at longer intervals than formerly was done and spanning from pier to pier either by a flat arch or by a girder of obviously great strength, to create a first-story motive that manifestly could carry the load of the stories above, but this treatment was necessarily so large in scale that it was out of harmony with the rest of the building, and usually inharmonious with the objects in the show windows, which were in most cases comparatively small and often delicate in character. Especially was this the case in the retail shopping district, where millinery, dress goods and all sorts of fantastic confections required a setting which was less brutal than the heavy pier and lintel. Also there was little opportunity for individuality or for variety in the single sheet of plate glass between two uprights of stone; and the very *raison d'être* of the show window is to advertise, and to advertise with ingenuity, with a certain element of the spectacular, with *réclame*. Not only must the show windows be capable of displaying goods liberally and well, but they must do it with character, with distinction and, above all, with unique quality.

The first attempts to bring the details of this great glass panel at the base of a building into scale with its contents was in the subdivision of the glass. Mullions and transoms are introduced, at times without further detail, elsewhere with very considerable effect of molding and carving, etc., upon these secondary features, and it becomes more and more apparent that the framing of the show window justifies a type and variety of detail which is separate from that of the building itself, and is to a certain extent isolated and sufficient unto itself and is to receive attention for its individual virtues. In fact, the show window is to be considered as *sui generis*. It has its antitype, in a sense, in the individual details around cathedral portals, which, while harmonizing in their light and shade with the great structural features

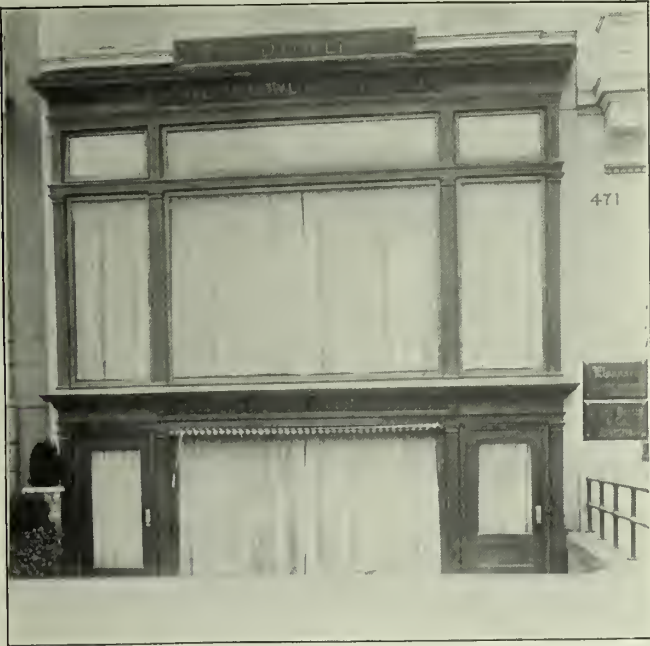
of the building, are still complete in themselves, and decorate as well as adorn.

At the moment that the show window is considered as a decorative frame to its contents it begins to have character and interest, for, after all, trade architecture is exposition architecture, and has in it the necessity for fantasy and for spectacular effect. Up to that time it is merely a utilitarian opening adapted to a use. The earlier show windows have the glass not only subdivided by mullions and transoms, but also by leading, and as leading is thin and poor, if the pieces of glass are large, and as it interrupts the spectator's view of the objects displayed, if they are small, the leaded glass was in most cases placed above the transoms where it would not interfere with the view. Yet such a disposition seemed a waste of good window space, decorative it might be in a sense, but not of sufficient advertising character. Attempts were made for gaiety by gilding the lead, but this distracted the attention from the wares, and the space above the transoms began to be utilized by the erection of shelves and even of little galleries, upon which the contents of the stores were displayed.

The continually increasing enrichment of the show window in its panel between the piers, its individual treatment and its evidently applied quality, that is, the effect which it produces of not being a structural part of the building, has tended to divert the attention of the observer from the base of the building as a base, and cause a feeling that after all the façade may be supported behind the window and that this is simply an *affiche* upon its face; and, as a matter of fact, this is often the case. It does not necessarily diminish the effect of stability in a wall, if landscapes are painted at its base, or if posters are displayed upon it, and in the case of the show window, the glass and its divisions, the enrichments of the jambs and mullions and transoms, and the objects in the window itself, become merely decorative planes, behind which it is quite conceivable that there may lurk strong supports to carry the superposed façade. In fact, it is no longer a void. It has become a separate entirety on the face of the building. It is interesting to note this fact, for it is exactly the result desired by the occupants. They care little, or not at all, for the general effect of the building, excepting in so far as it is distinguished in appearance. Their desire is to make an attractive and unique exposition of their wares, and the building itself as it increases in height is more and more courting distant observation, not near at hand and intimate inquiry. But in order that both the building and the show window shall have their individual character and their relative importance, the show window must be enriched, detailed and personal.

No. 1 has a well arranged and inviting entrance below the level of the street. The upper portion has become the more important part of the design. There is little effort to subdivide the glass surfaces, simple transom and mullions, the latter, in the form of pilasters, being the only motives used. The moldings are delicate and refined in character.

No. 2 has an entrance level with sidewalk; the second story is the important feature, and muntins only divide the glass. The window lintel is loaded at its center by a panel, and the effect is one of weakness.



NO. 1. FIFTH AVENUE, NEW YORK.



NO. 2. FIFTH AVENUE, NEW YORK.



NO. 3. FIFTH AVENUE, NEW YORK.



NO. 4. CHESTNUT STREET, PHILADELPHIA.



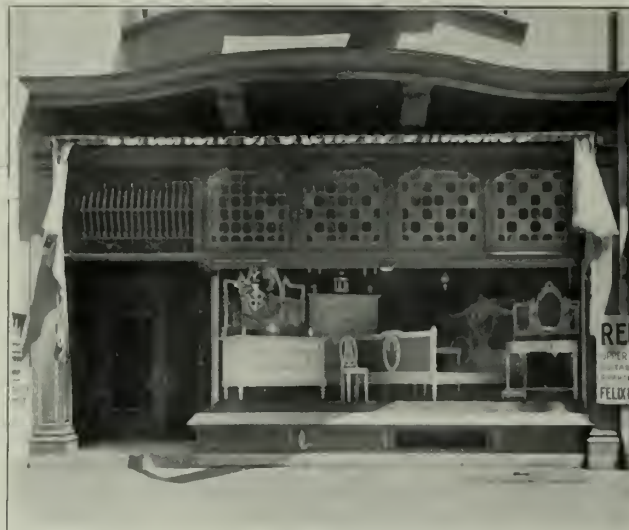
NO. 5. FIFTH AVENUE, NEW YORK.



NO. 6. WALNUT STREET, PHILADELPHIA.



NO. 7. CHESTNUT STREET, PHILADELPHIA.



NO. 8. WALNUT STREET, PHILADELPHIA.



NO. 9. CHESTNUT STREET, PHILADELPHIA.



NO. 10. CHESTNUT STREET, PHILADELPHIA.



NO. 11. WALNUT STREET, PHILADELPHIA.



NO. 12. FIFTH AVENUE, NEW YORK.



NO. 13. TREMONT STREET, BOSTON.



NO. 14. FIFTH AVENUE, NEW YORK.



NO. 15. FIFTH AVENUE, NEW YORK.



NO. 16. FIFTH AVENUE, NEW YORK.

In No. 3 the window is framed very much in the manner in which a picture would be framed. This motive could be successful if well treated; in this case the frame for the second story window is too broad and out of scale with the first story detail.

No. 4 has the glass leaded above the transom, and has taken full advantage of the recessed doorway. It is of interest only as representing a type.

No. 5 has its windows advanced in bays. The second story is the important feature, the first story being below the level of the sidewalk. There is but little interest in the design. The façade at the left, which has a third story show window divided by mullions and transoms, produces a better sense of gradation in the general design than does the one at the right, in which the scale changes abruptly from the second to the third story.

No. 6 has well considered subdivisions of glass and has adopted a hood over the door and another in the form of a slightly projecting tiled roof over the entire window. The hoods and the curved lines at the tops of the sashes, and the corbels, give an impression of considered detail, which of itself is interesting.

No. 7 is well arranged in its proportions and detail within and including the frame of the opening, but has a heavy frieze and excessive cornice of poor detail.

No. 8 has individuality,—the frame projection and heavy shadow of the string course under the bay, with the strong brackets like beam ends supporting the bay, give opportunity for the treatment of the window alone by itself without regard to the façade above. This has been done, and while the detail appears coarse, the idea has character. Many of the shop windows of oriental streets and bazaars, and of the mediæval façades which remain in small French and Italian towns, have this quality. They are low, broad and intimate in character; they seem to court investigation, and either in the shutters or over the transoms are to be found interesting pieces of detail. Indian architecture also is full of suggestive schemes for shop fronts and show windows, especially in relation to advancing and retreating planes. As far as grilles are concerned, it is very easy to overdo the amount of importance given to them. There is nothing more puerile than the perpetual introduction of turned balusters used as screens, or than an over-abundance of grill work, whether of metal or of wood, but the occasional introduction of either as an ornamental detail is often most successful.

Both No. 9 and No. 10 have an arched motive above the transom, the tympana being filled with leaded glass. No. 10 has the lighter and more delicate treatment, but is unfortunate in having no colonnette to support the lintel below the spring of the third arch. It would have sacrificed but little window space to have inserted a support at this point, and would have materially improved the design. In No. 9 the constructive motive is satisfactory, but the detail of the arches is somewhat heavy for the lintel.

In this design, also, curved glass is used in the vestibule recess. Curved glass reflects light like a polished cylinder, and is objectionable in a show window, as it distorts objects within, and by its reflections prevents

them from being seen excepting close at hand. In No. 10 the show window has been advanced beyond the face of the wall above, and therefore is disassociated from it, as far as effect of support is concerned, and as a matter of fact the effect is produced of the wall of the building being supported behind the show window, and independently of it, which is an advantage.

No. 11, a shop front and show window associated with a simple brick front, is excellent in detail and effect. The cornice not only acts as a strong lintel ample to support the façade, but it projects with corbels, which assist in apparently supporting the balcony. The doorway is adequately detailed and interesting, the modillions being perhaps a trifle heavy, and the window has its own sufficient trim. The subdivision of the glass over the transom is in the style and in harmony with the other detail, and evidently this shop front has improved rather than detracted from the original building.

In No. 12 the transom has become a hood supported on carved brackets, the transom lights forming a second story above this hood. Compare this with No. 6 and note the gradual transition between the show window and the face of the building, instead of the abrupt change in No. 6, in which the hood is above the transom lights. The entrance in No. 12 is accented by a low arch forming a central axial motive, and the vestibule is closed at night by an ornamental gate.

No. 13 is two-storied, the lintel over the main opening being assisted by a low arch with small thin spandrels, the transom lights are filled with prisms, and the marquise is on the transom line over the central entrance only. This also is a rectangular marquise, supported by chains, but full advantage is taken of the effect gained by pendants. The corbel course and balustrade over the show window opening form a successful transition between this opening and the architectural motives above. The face of the glass in the show windows is in a plane with the face of the columns above, but it would be still better if it was in advance of that plane.

No. 14 is individual in having two entrances with a central show window between, all within an arched opening. The marquise on the transom line advances more over the show window than over the recessed entrances, thus not only protecting the window, but forming an axial feature. It lacks grace, however, and while in scale with the architecture seems heavy on its outer edge.

No. 15 is, as far as the entrances, show windows and transoms are concerned, substantially the same as No. 14. The marquise advances, however, in an elliptical plan, extending across the entire opening, is supported by ornamental chains and gives a graceful line and shadow. It is also lightened in appearance by the pendants on its edges. These two examples deserve comparison: the first, No. 14, gets its scale by its detail, not by its plan; the second, No. 15, gets its scale by the simplicity of its plan, and its detail is diminished in size.

No. 16 is a still better example of the possibilities of a simple elliptical marquise. It is admirable in scale and detail, is accented at its center, and has a rich and successful associate in the subdivisions of the transom. This whole design has distinction.

The Use of Architectural Terra Cotta in the West Street Building, New York.

BY CHARLES P. WARREN.

THE architect of the West Street Building is one of the few who seems to have realized that architectural terra cotta is not imitation stone and that it should not be used as such; that it is an entirely different material, having peculiar properties of its own, and should be treated in a wholly different way. The elevation shows unmistakably that this has been done. What could be more unlike stone than the treatment of the upper portion? On the twentieth story, for instance, just under the crowning member, what may appear to be at first glance a row of Gothic cusps carved in high relief from the background is, in reality, a series of round arches with a pendent flowered ornament on the soffit. As shown in the section on the detail, the whole is projected in front of the plane of the wall. The arches spring from drops, or pendants, which are hung by rods passing through them and fastened to an angle which is cantilevered out from the frame. Wherever possible the decoration, as in the canopies over the piers between the sixteenth-story windows, and over the caps of the columns in the nineteenth story, is suspended, or hung, from the wall and not projected or cut out as in stone. Moreover, the belt courses and moldings are made with great overhangs and are deeply undercut, and the flowered decoration is in very high relief.

Obviously such treatment is not suitable to stone, not only because the great expense involved would be beyond consideration in a commercial building, but also because the pendants and drops would soon, from the effects of the weather, become dislodged and fall off, and, after a few years of weathering, the entire façade would have its ornament trimmed off nearly back to the plane of the wall. Here, indeed, is a novel, highly interesting and very successful use of a misused material.

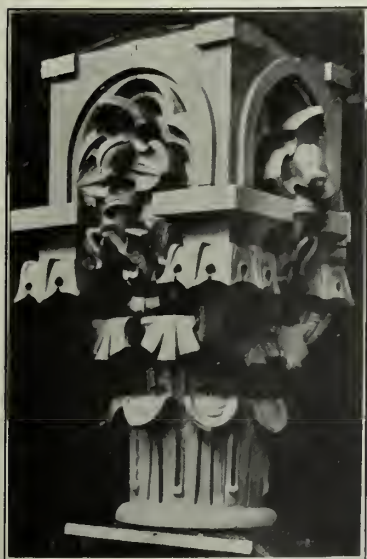
In order to still further emphasize the fact that this is not an imitation stone façade, any constructive use of the material has been carefully avoided. The steel columns are not masqueraded as stone piers, nor are the beams and girders hidden behind stone arches and lintels. Everything is done to draw attention to the fact that the outside is a mere veneer, or covering, and has no structural function whatever. Instead of attempting to suggest a Gothic clustered pier for the twelve-story wall divisions between



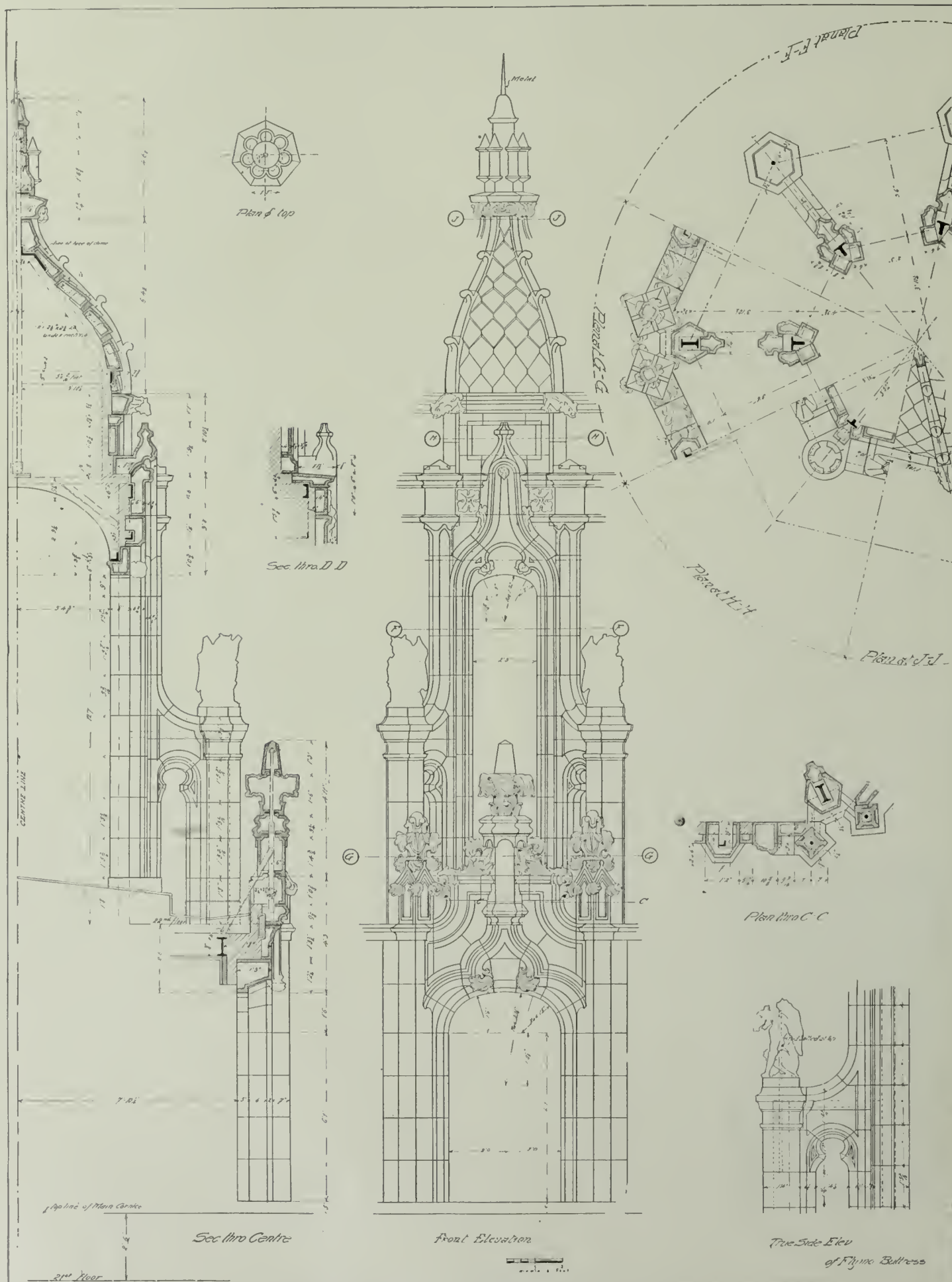
WEST STREET BUILDING, NEW YORK.
Cass Gilbert, Architect.

the coupled windows, which would have required deeper reveals and many undercut moldings, the wall surface is nearly plain, the play of light and shadow being produced by reeding. Even in the rows of arches previously referred to, there are no corbels, or brackets, built out from the wall to give them even a semblance of support. They are frankly suspended from above.

The ornament, moreover, has been designed for this particular building. It is not a modification or adaptation of Gothic ornament,—as a matter of fact there is scarcely anything Gothic about the entire façade,—but is the result of studies of the effects of light and shade made on the models. Contrary to the usual custom, full size detail drawings of the ornament were not made. Half-size details, however, were made, and from these the clay models. On the models, the moldings and ornaments were studied, high lights were made here, deep shadows there, as they seemed to be required. The result is that the whole work has the impress of the individuality of the designer. Witness the tourelles terminating the corner piers. Could anything be more graceful, charming and delightful, and more suited to the purpose, than these, but they are not Gothic, nor is it easy to classify them with any of the well-known styles.



CAPS OF COLUMNS AT NINETEENTH
STORY.





DETAILS OF MAIN FAÇADE, WEST STREET BUILDING, NEW YORK.

What \$7,500 will do in Building a Fireproof House.

BY ALEX. WARREN.

WHILE riding through the country the other day in the auto with some friends, we had occasion to cut through a small side street, and found there a strikingly different house from anything I had seen in many a day. It was of the French chateau type, but of very simple design, as the owner was a man of moderate income and did not wish to incur much expense. It was built

in this room, in fact in several other rooms in the main part of the house in the first floor, were plastered between rough beams with one coat of rough finish plaster, tinted to the shades as required to match the finish of the room. The red brick mantel, with its wrought iron crane, added to the charm of the room, especially as the brick were selected to imitate the very old bricks, the same as found in some of the oldest houses, with rounded edges and very much discolored. This living-room had four very large French windows in it, two of them going out into the terrace at the side of the house, the other two overlooking the front and rear. Between the living-room and the reception room was a small hall finished



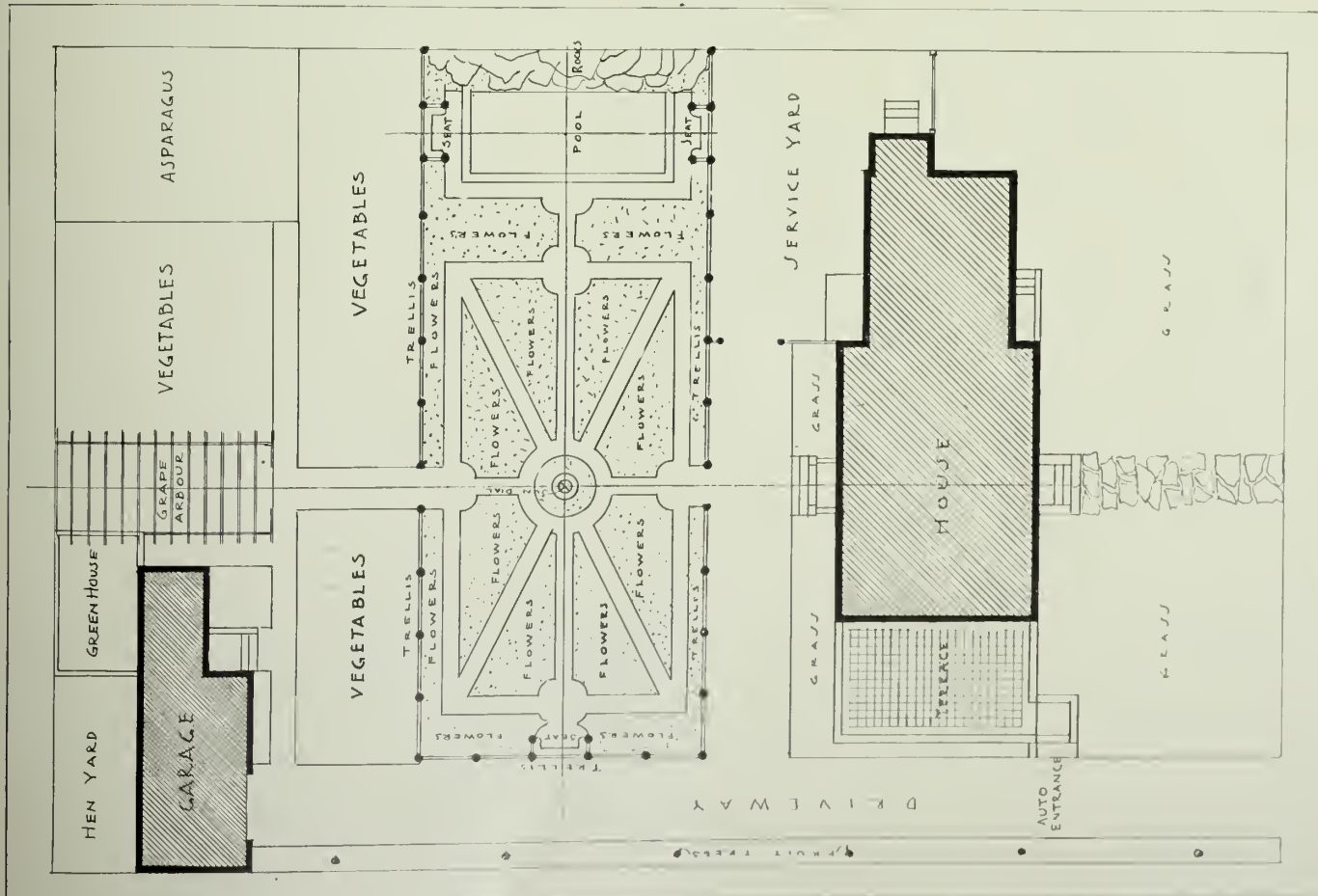
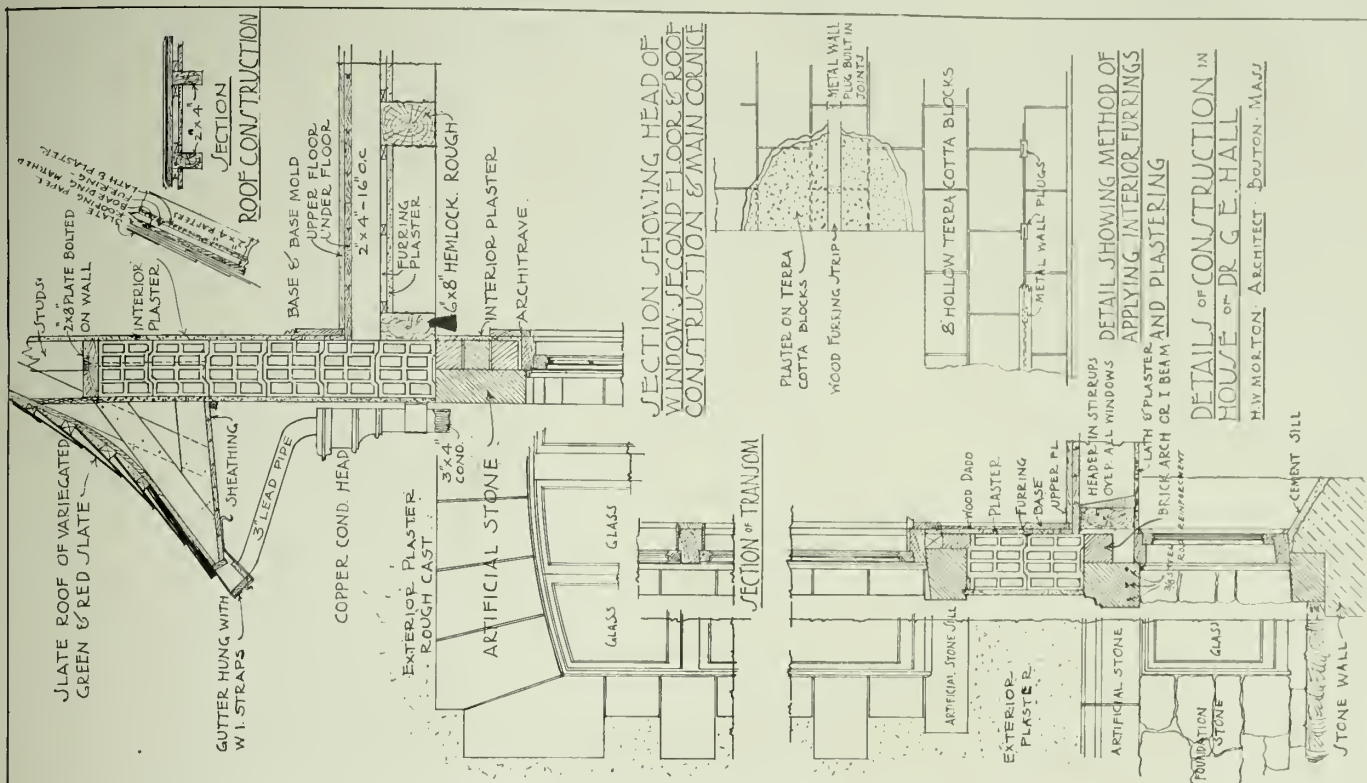
HOUSE FOR DR. G. E. HALL, NEWTON, MASS.
H. W. Morton, Architect.

so as to require the least possible care and expenditure in repairs in the future, so the architect had chosen the hollow terra cotta block type of construction, which gave a wall about eight inches thick, plastered on the outside with Portland cement mortar, very roughcast, and flush with the trimming stone on the buildings. The inside plaster was put directly on to the blocks, so that there was not the least chance for mice, etc., to communicate to the upper part of the house.

On entering the house, — by invitation of the owner, Dr. Hall, — from the terrace, we went into the living-room, which was paneled four or five feet high with oak wainscotting and plastered above and papered. The ceiling

the same as the living-room, with a coat closet and a door to the vestibule on one side and the stairs to the upper story on the other side. Dr. Hall said that the reason it was so small was that he considered it unnecessary to have a large hall when he had such a reception room and a large living-room. The reception room was finished in wood lattice, stained green, over lilac design wall paper, in panels, with trellis effect, all round the room and on the ceiling.

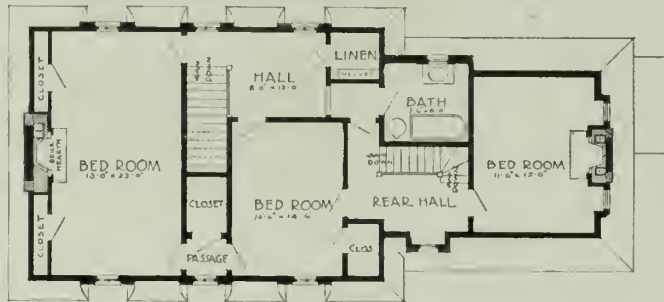
The dining-room was of natural oak finish, with the same style ceiling as in the living-room, and with a simple board dado about two feet high. The china closet, kitchen, kitchen closets and what was called the cold



HOUSE FOR DR. G. E. HALL, NEWTON, MASS.

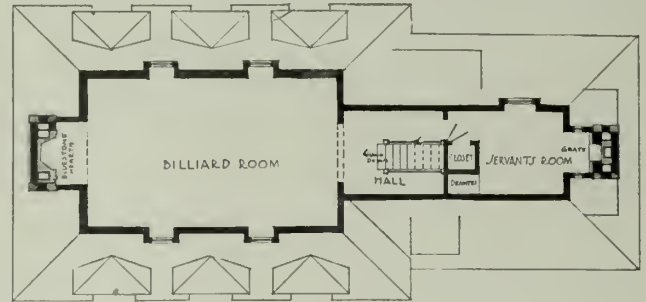
closet, also the rear hall, had a floor made of square clay tiles, chosen for variegation and color effects and laid with a very small joint. One reason for this was that there was no cellar under this part of the house, and therefore it was laid on a bed concrete, which made it warm in winter and cool in summer, and at the same time perfectly sanitary, lasting and fireproof.

The recess in which the stove was set was covered over with a galvanized iron hood leading to a vent register in the back to keep the odors from broiling, etc.,



SECOND FLOOR PLAN.

billiard room or divided into two bedrooms. All the rafters of the roof were shown, and between these a filling of rough plaster had been used. I noticed that the construction was very light, that is, of very small sized timbers, and was told that this had been used for two reasons: One to save in expense and the other that it was all that was necessary, as the roof was so steep and high that it was practically a vertical load. Each rafter was trussed at the upper part of the room, and a niche at the opposite end of the room to the stairs had a delight-



THIRD FLOOR PLAN.

from getting into the main part of the house. The cold closet back of the kitchen, and separated by a kitchen closet, held the refrigerator on one side and a screen closet on the other side, and so designed those the window in winter could be opened, thus saving the expense of ice. The walls of this cold closet, as well as those of the entire first story of the house, were of the eight-inch terra cotta tile of a special design, and so made as to have no through joints in which water might work, either vertically or horizontally.

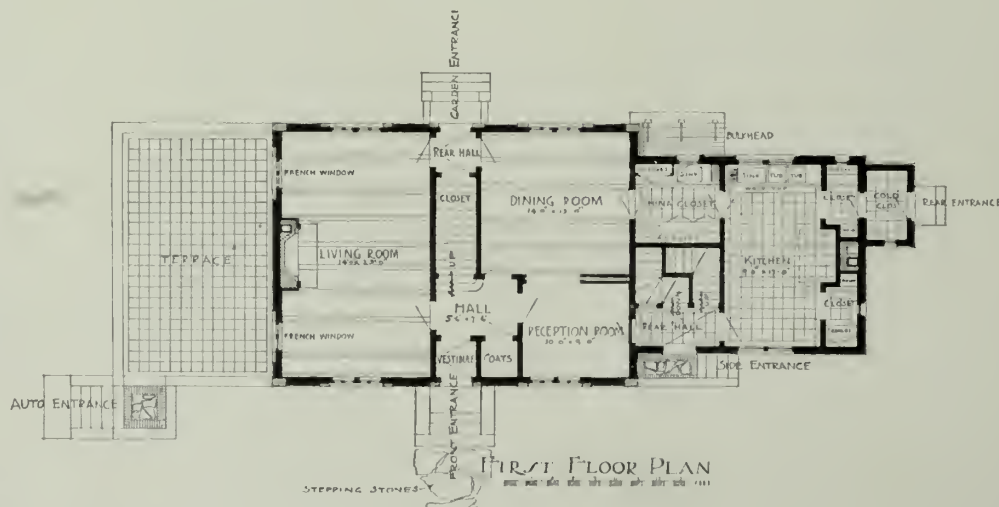
One pleasing thing was a blind door between the reception room and the rear hall, so made that when the lattice work in the reception room was put on the joint was absolutely hidden, and as no hardware of any kind showed in the room the door was perfectly secreted.

The second story was filled with good sized, cool, well lighted bedrooms with large closets wherever possible. The linen closet was fitted with drop shelves and drawers, and the wood was of red cedar so it could be used for storage of winter goods in the summer time to protect from the moths. The bathroom had the regular fixtures and a large tub fitted with a ring shower, also a wood floor and a tile dado to about five feet in height. On the third story was a most interesting room which was used for a play room at the present time for the children, but so designed as to be easily made into a

ful large fireplace of red brick, which made the room very interesting. All the woodwork had been stained brown and the plastering tinted slightly off of the white so as not to have too sharp a contrast. The roof of the main house and kitchen part was covered with variegated red and green slate laid in wavy lines of different sizes and thicknesses, and was different from anything I had seen in a long time.

On going down to the first floor again we went through the living-room and out of the garden entrance across the service driveway to the flower garden, which

was enclosed in a high trellis of simple design and painted white, and over which were growing crimson ramblers. Inside this trellis was a beautiful Italian garden, with its seats and paths, and in the center a sundial. At one end of the garden was the lily pool of ce-



FIRST FLOOR PLAN

ment, with a large rockery at the back of it in which were hardy ferns and vines. Seats at each end of the pool added to the delightfulness. Beyond the flower garden and at the rear of the place was the vegetable garden.

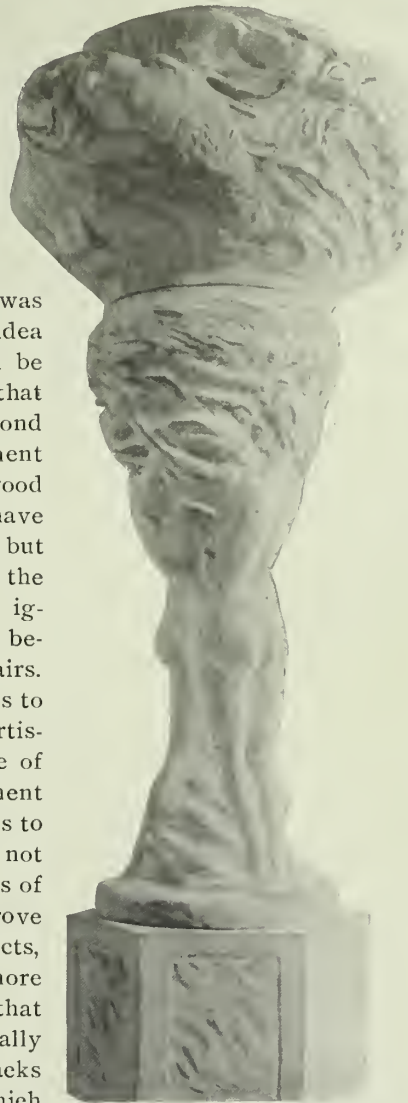
A small garage of the same type of construction as the house had been built in one corner, with space in the upper part for a man to live in, and back of the garage a large hen yard and a greenhouse. The stable and greenhouse were heated from the same source.

Editorial Comment and Selected Miscellany

MAKING LONDON BETTER FOR THE POOR.

SOME thirty years ago the work of improving the housing condition of the poor in our great cities was begun on a large and systematic basis as a result of the bequests of George Peabody. Unfortunately, this work in England, almost from its inception, was placed in the hands of a board whose sole idea seemed to be that the buildings should be well constructed and well planned, but that the element of good looks was quite beyond their province, and that a model tenement house could not be model if it were good looking. In studying the results which have been accomplished in London, one cannot but be impressed with the extent to which the architectural opportunities have been ignored. The English architects are, we believe, to blame for this condition of affairs. The very poor are not the kind of tenants to whom one would wish to trust the most artistic buildings, but an educational force of great value is ignored when these tenement houses are built with no consideration as to beauty. The object of such structures is not to provide simply for the physical wants of the inmates, but also to actually improve their condition, to brighten their prospects, and to make them more desirable and more aspiring citizens, awakening in them that ambition so essential if a people is to really progress. To house them in ugly barracks is a crime, and the helpless multitude which live in these homes will surely reflect a certain portion of this ugliness. Fortunately, the conditions have not been altogether similar in this country. We have some pretty bad tenement house districts, and we do not boast of our slums, but in the few instances where organized efforts have been made to properly house the very poor, the element of beauty has been by no means

disregarded, as is instanced by the very interesting work Mr.



JARDINIERE MODELLED BY
LOUIS POTTER.
Color, delicate blues and greens.
Made by Hartford Faience Co.

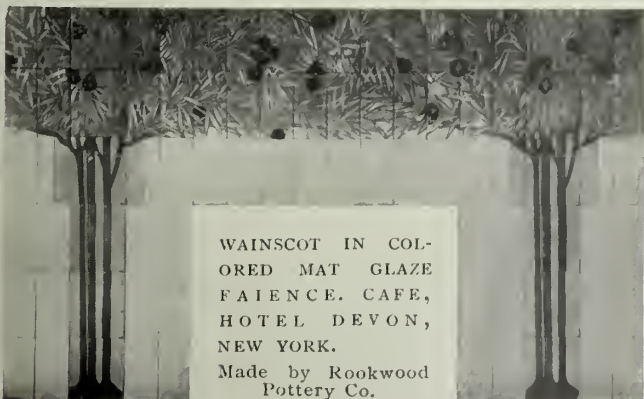


DETAIL WEST STREET BUILDING, NEW YORK.
Cass Gilbert, Architect.
Atlantic Terra Cotta Co., Makers.

Atterbury, Mr. Flagg and others have been doing in New York and elsewhere. Any commission to study the housing of the poor ought to include as a majority of its members, architects who understand the true possibilities of building, and who would at least try to make these tenement houses beautiful as well as hygienic. Aside from these considerations is the one of return on the capital invested and in this connection it may be said that refinement in design does not necessarily call for expensive elaboration.

SCHOOLS IN CITY PARKS.

PRESIDENT CHARLES W. ELIOT in the *Outlook* has advocated a scheme, first proposed, we understand, by J. R. Coolidge, Jr., the Boston architect, to relieve the congested down-town school districts and give the children better accommodation in more helpful surroundings. The idea is that the city should utilize the outlying parks as sites for school buildings to which the children from the slum districts could be brought by the elevated trains in the morning, and returned at the close of the sessions, the city supervising them in transit, and providing them with lunch and suitable opportunities for recreation. The problem of providing school facilities in the congested tenement house districts is a serious one both on account of the high cost of the land and the difficulty of obtaining adequate and satisfactory sanitary surroundings. New York has, in some cases, tried to solve the problem by building tall structures with elevator service and providing roof gardens in which the children could obtain recreation. It is argued, however, with a good deal of truth, that Mr. Coolidge's scheme is far better. The land would cost the city nothing, the buildings would not constitute serious encroachment upon the larger parks, and the saving in first cost would more than offset the added



WAINSCOT IN COLORED MAT GLAZE
FAIENCE. CAFE,
HOTEL DEVON,
NEW YORK.
Made by Rookwood
Pottery Co.



SECURITY BANK BUILDING.

Long & Long, Architects.

Faced from ground up on three sides with satin finish enameled brick. Made by Tiffany Enameled Brick Co.

expense of car fares, supervision and lunches, while the benefit to the children themselves from being out in the fresh air away from the slums of the city would, from a physical standpoint, be highly desirable. It is also doubtful if the fatigue of the travel on the cars to and fro would be as much physical discomfort as climbing long flights of stairs and remaining in the crowded down-town districts. At the time the children would be using the cars for transit, the bulk of the travel would be in the opposite direction, and they could consequently be easily accommodated by the roads. This is a project which deserves very careful consideration, and there is hardly any doubt of the benefit it would be to the children, or of the relief it would afford to the congested tenement house districts.



TERRA COTTA DETAIL BY FRANK ANDREWS, ARCHITECT.

Carter, Black & Ayers, Makers.

THE BONDING OF BRICK WORK.

THE recently enacted Building law of the city of Boston prescribes in Section 25: "Every eight course, at least, of a brick wall shall be a full heading or

bonding course, except where walls are faced with face brick, in which case in every eight course at least every other brick shall be a full header. No diagonal header ties shall be used.

DETAIL BY NEW YORK ARCHITECTURAL
TERRA COTTA CO.

The diagonal header bond which has been used for so many years to tie face work into the backing has never been satisfactory nor have we ever felt very much confidence in any of the metal ties which have been advocated for this purpose. It will be remembered that the brick facing of some of the buildings in the Baltimore fire, notably the Continental Building, was entirely peeled away from the backing, notwithstanding the presence of the metal ties of the standard spacing. The Flemish bond has been considered as giving the most thorough bond. The Boston statute permits a variate from this, but of course does not prohibit additional bonding if desired. There is a form of bond, to which reference has lately been made, which is used quite



COMMERCIAL NATIONAL BANK BUILDING, CHICAGO.

D. H. Burnham & Co., Architects.

"Milford Granite" Colored Terra Cotta above third story,
North-Western Terra Cotta Co., Makers.
Fireproofed by The National Fireproofing Co.



PUBLIC BATH HOUSE, ST. LOUIS.
James A. Smith, Architect.
Terra Cotta made by St. Louis Terra Cotta Co.

membered, however, that no bond is of very much value unless the bricks are thoroughly bedded in good mortar.

BUILDING OPERATIONS FOR JULY.

THE long prevailing prosperity in building operations continues with little abatement, practically none if Greater New York be eliminated from the calculations. Official reports from fifty-five leading building centers collected by *The American Contractor*, New York, and tabulated, shows a loss in twenty-six cities and a gain in twenty-nine as compared with July, 1906. The losses are comparatively light from a monetary standpoint, with the exception of New York city, which brings down the total decrease to 11 per cent. This decline must be



DETAIL BY SOUTH AMBOY
TERRA COTTA CO.

commonly in engineering work in the East Indies, called the Habri bond. In this construction each course is laid in the same manner and consists of two rows of stretchers alternating with one row of headers across the thickness of the wall.

In the next course above the bricks are laid in exactly the same manner but setting over toward one face of the wall a quarterbrick, so as to break joints, the face brick thus requiring to be clipped. This bond is not specially good for thin walls, but for heavy masonry constructions makes a very strong construction and knits the whole thoroughly together when properly built. It seems better than the Flemish bond, and is far better than any Flemish bond which is not carried clear through the wall. It must be re-



HOUSE AT PITTSBURGH, PA.
Alden & Harlow, Architects.
Roofed with Ludowici-Celadon Tiles.

chiefly ascribed to the enormous operations of recent years and the consequent supply of new buildings. The following figures show the percentage of gain in some of the cities: Chicago, 10; Cleveland, 21; Chattanooga, 276; Dallas, 44; Denver, 21; Detroit, 48; Duluth, 28; Milwaukee, 40; Mobile, 37; Nashville, 15; New Haven, 12; Omaha, 22; Paterson, 110. Losses are as follows:

Baltimore, 39; Birmingham, 60; Buffalo, 17; Harrisburg, 7; Hartford, 42; Indianapolis, 16; Kansas City, 17; Louisville, 78; Los Angeles, 26; Minneapolis, 37; New Orleans,



BARRACKS AT FORT ONTARIO, OSWEGO, N. Y.
Built of dark red brick made by Jewellville Pressed & Paving Brick Co.

31; New York, 23; Philadelphia, 7; Pittsburg, 43; Pueblo, 39; St. Louis, 7; San Francisco, 28; Syracuse, 33; Salt Lake City, 33; Topeka, 24. The total loss as compared with July, 1906, is 11 per cent. The gains and losses are widely distributed and show a response to demands for new buildings.

IN GENERAL.

The entrance of the Weld Boatclub, illustrated in the plate form of this issue, is richly ornamented with terra cotta, and the boat pediment above the entrance is also of terra cotta, all being the work of the Atlantic Terra Cotta Co.

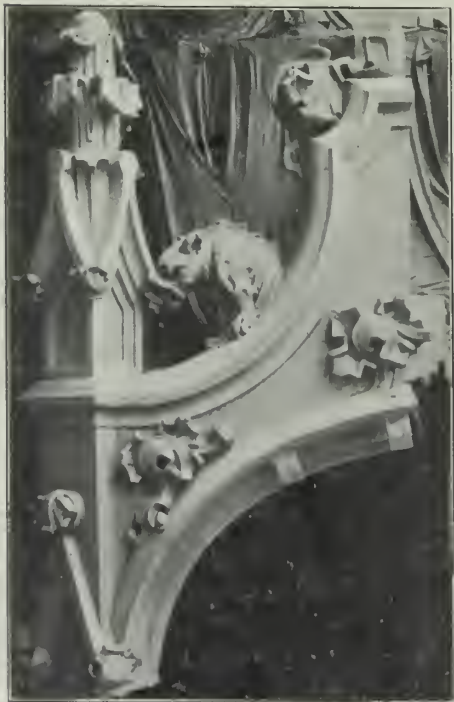
The "Hermitage," Robert D. Kohn, architect, illustrated in the Plate Form of this issue, was built of brick furnished by the New York office of Fiske & Company.

Harbison-Walker Refractories Company furnished the brick used in the West Street Building, Cass Gilbert, architect, illustrated in a special article in this issue.

The main entrance to the Metropolitan Building, St. Louis, Mauran, Russell & Garden, architects, will be treated in Faience, made by the Hartford Faience Co.

The Hydraulic-Press Brick Co. of St. Louis, will furnish 1,250,000 gray impervious brick for the New Palace Hotel, San Francisco, Trowbridge & Livingston, architects.

Terra cotta will be supplied by the Indianapolis Terra Cotta Co. for the following new buildings:—Two school houses, Charleston, W. Va., Martindale & Rigg, architects; Warren Co.



DETAIL, WEST STREET BUILDING, NEW YORK.
Atlantic Terra Cotta Co., Makers.



DETAIL BY HENRY BAECHLIN, ARCHITECT.
New Jersey Terra Cotta Co., Makers.

Courthouse, Williamsport, Ind., J. W. Royer, architect; Y. M. C. A. Building, Bloomington, Ill., Arthur L. Pillsbury, architect; Churchill Building, Burlington, Ill., H. I. Goddard, architect; High School Building, Milroy, Ind., W. Walter Skilling, architect. Some of the work will be executed in color and glazes.

NEW BOOKS.

ACADEMY OF ARCHITECTURE (Am. Ed., Vol. XXXI—1907). Edited by Alex. Koch, Architect, containing: I.—A Selection of the most prominent Architectural Drawings hung at the Exhibitions of the Royal Academy, London, and the Royal Glasgow Institute



DETAIL, WEST STREET BUILDING, NEW YORK.
Atlantic Terra Cotta Co., Makers.

of the Fine Arts, Glasgow. II.—Sculptures. III.—American Architecture. IV.—A Review of interesting architectural subjects carried out or designed during the last few years in England and Abroad. Price \$1.75, postpaid. Agent for United States and Canada, M. A. Vinson, 205 Caxton Bldg., Cleveland, Ohio.

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For Full Information address Dr. J. H. Penniman, Dean, College Hall, University of Pennsylvania, Philadelphia.

A Limited Number of the illustrated "Review" of the School of Architecture, for 1907, can be supplied to those who will enclose 24 cents in stamps with their applications. Address for the "Review," Professor Warren P. Laird, College Hall, as above.

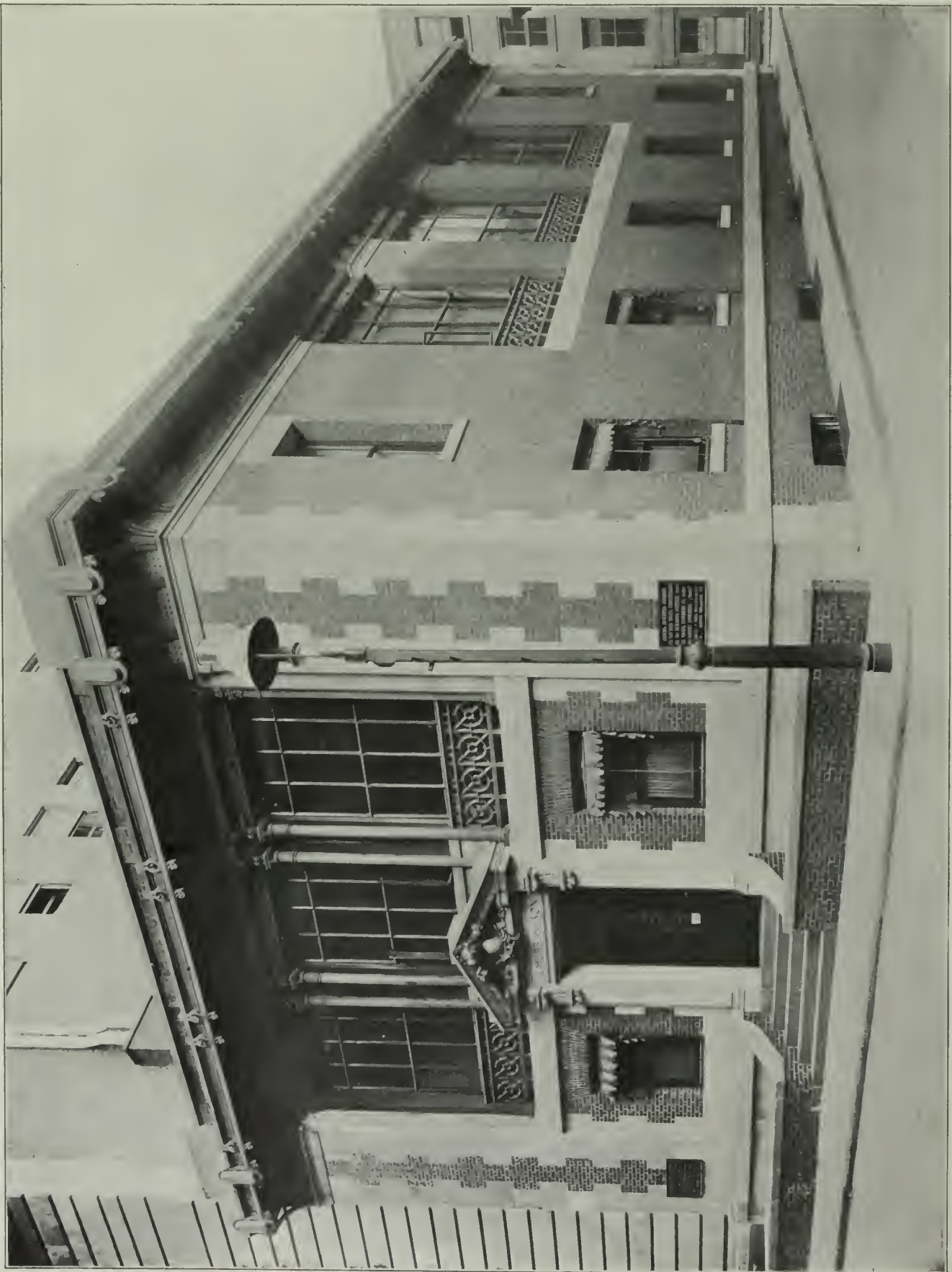




STABLE, 139 WEST FIFTY-FIFTH STREET, NEW YORK.

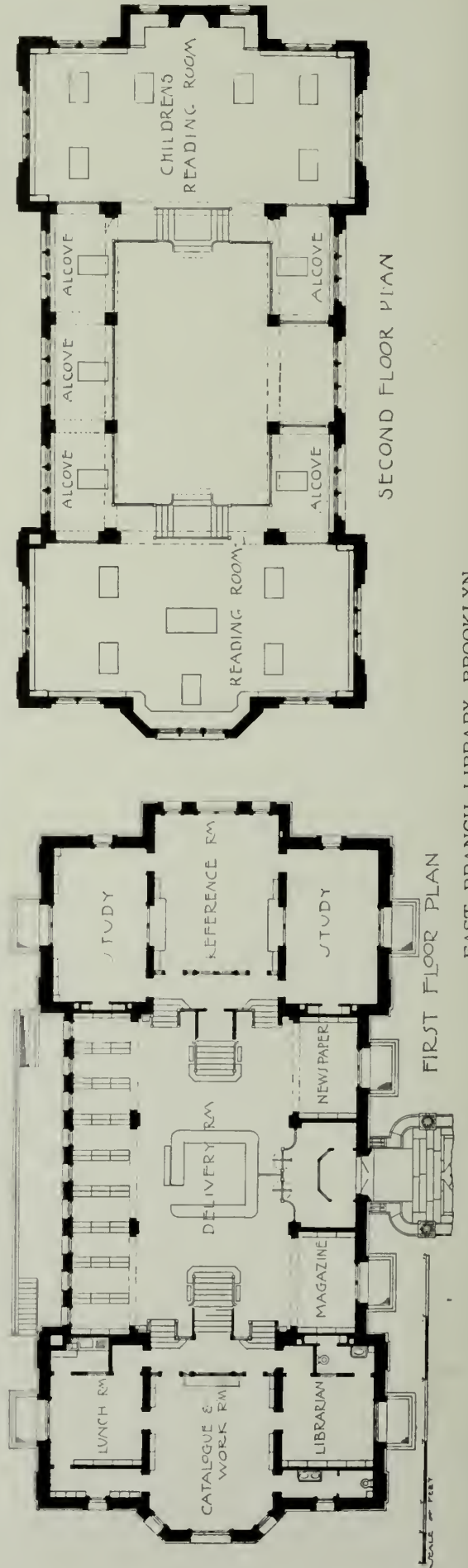
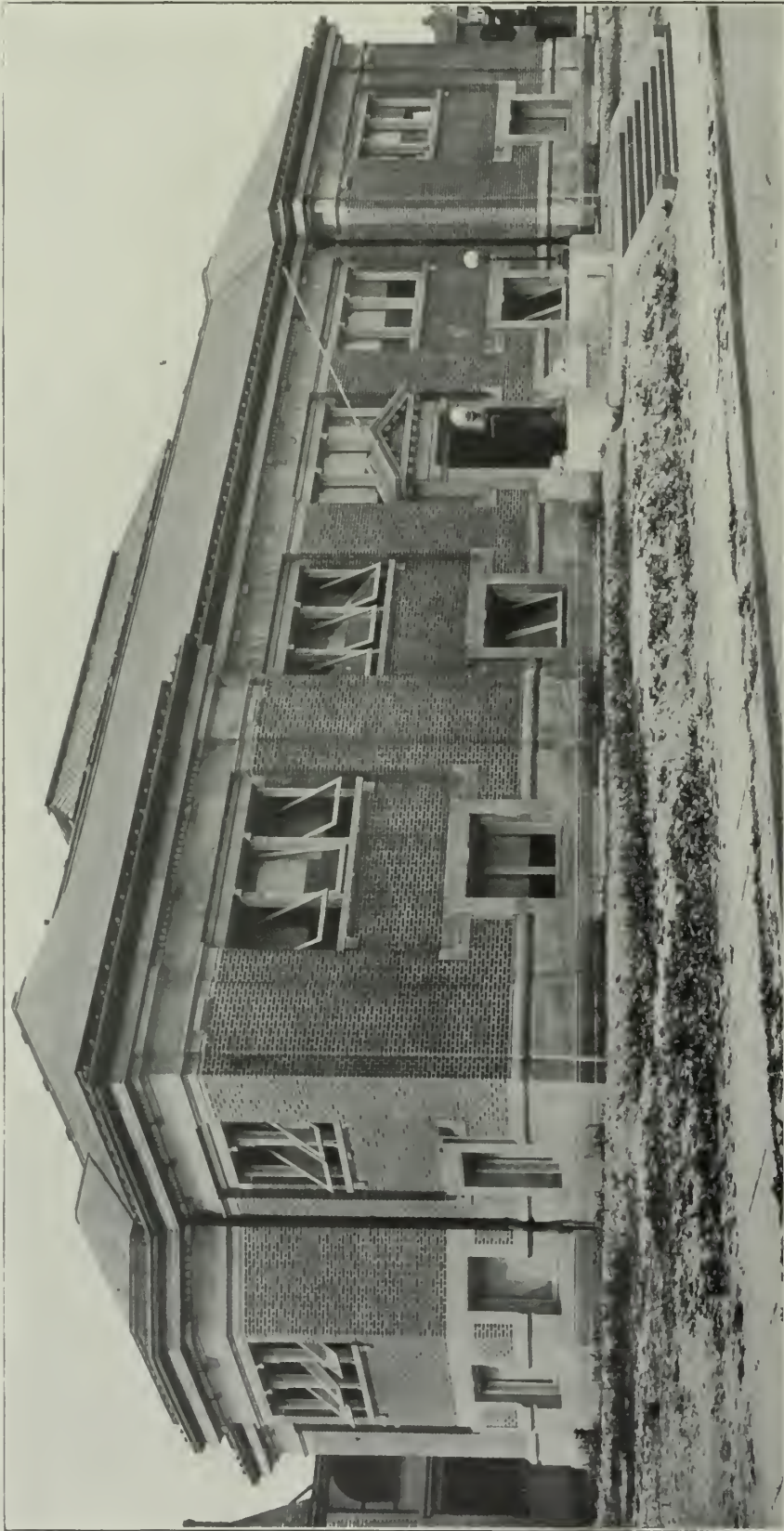
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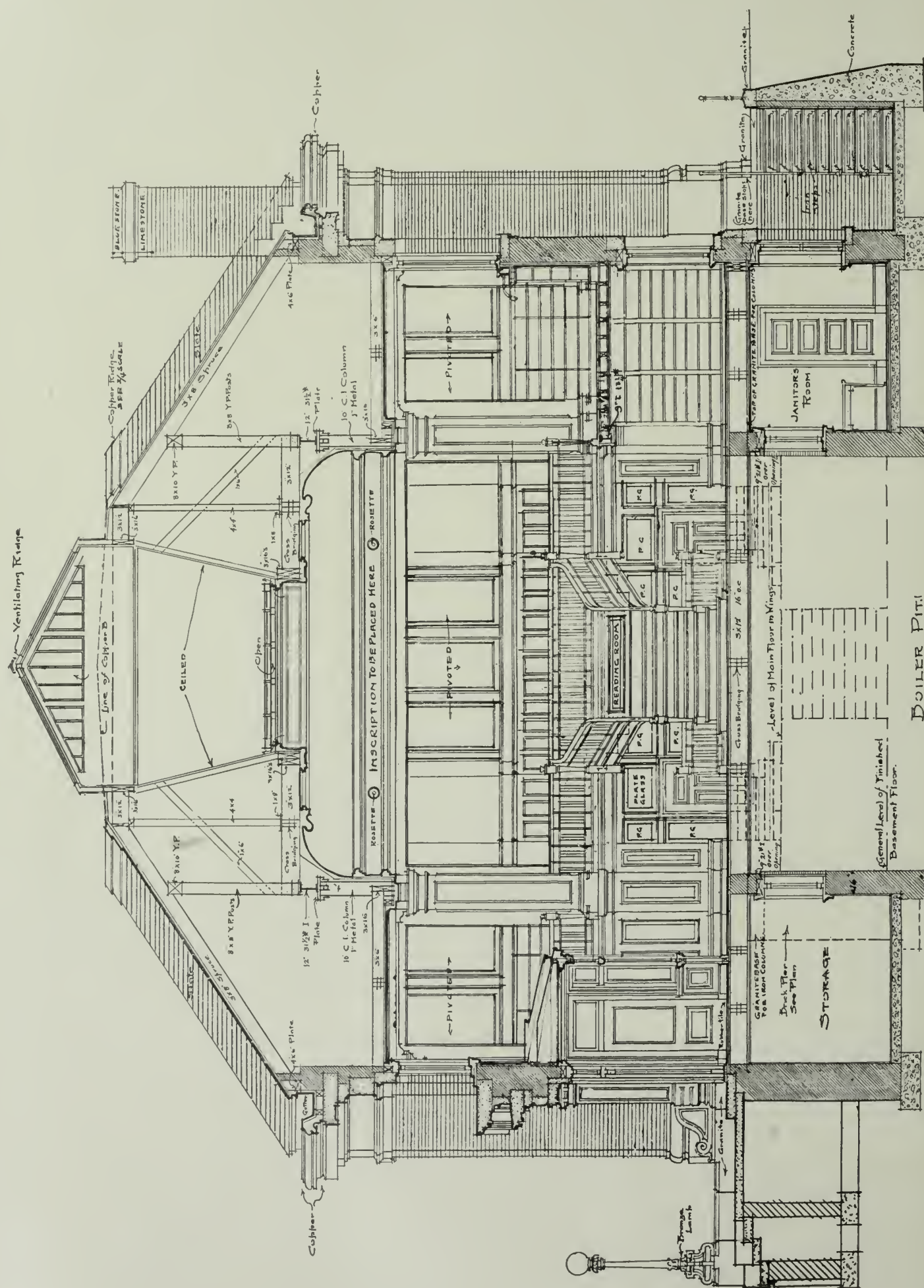
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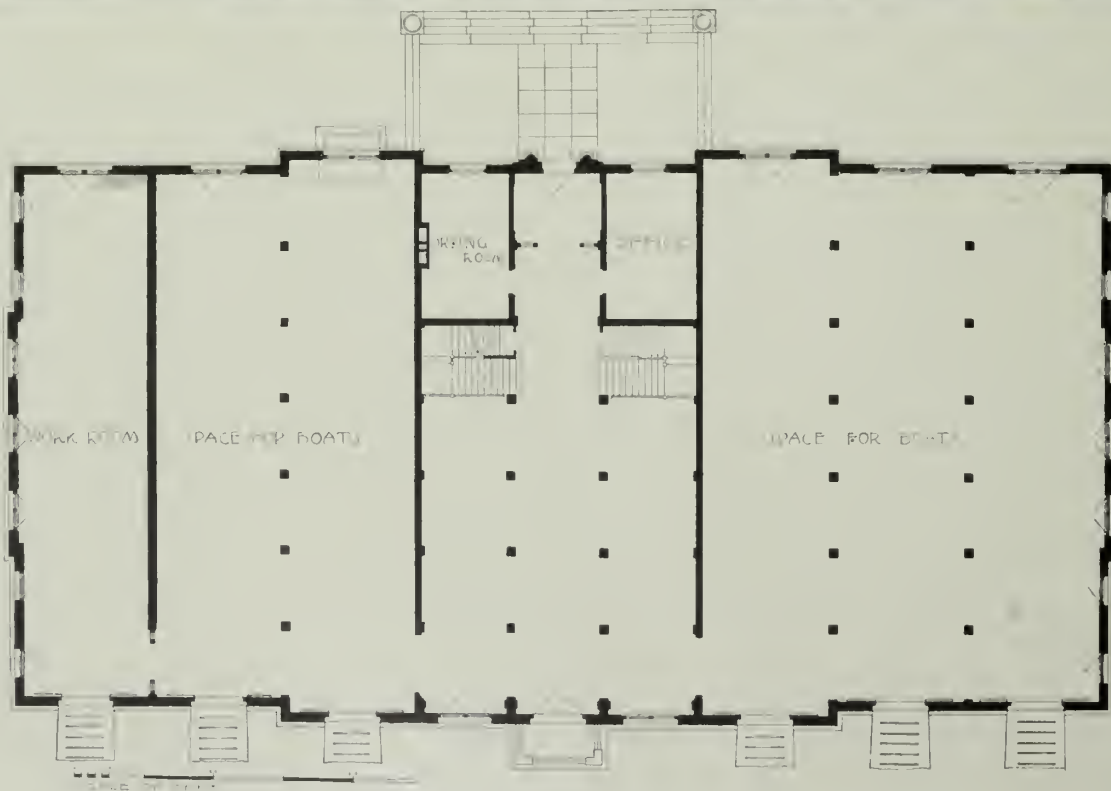


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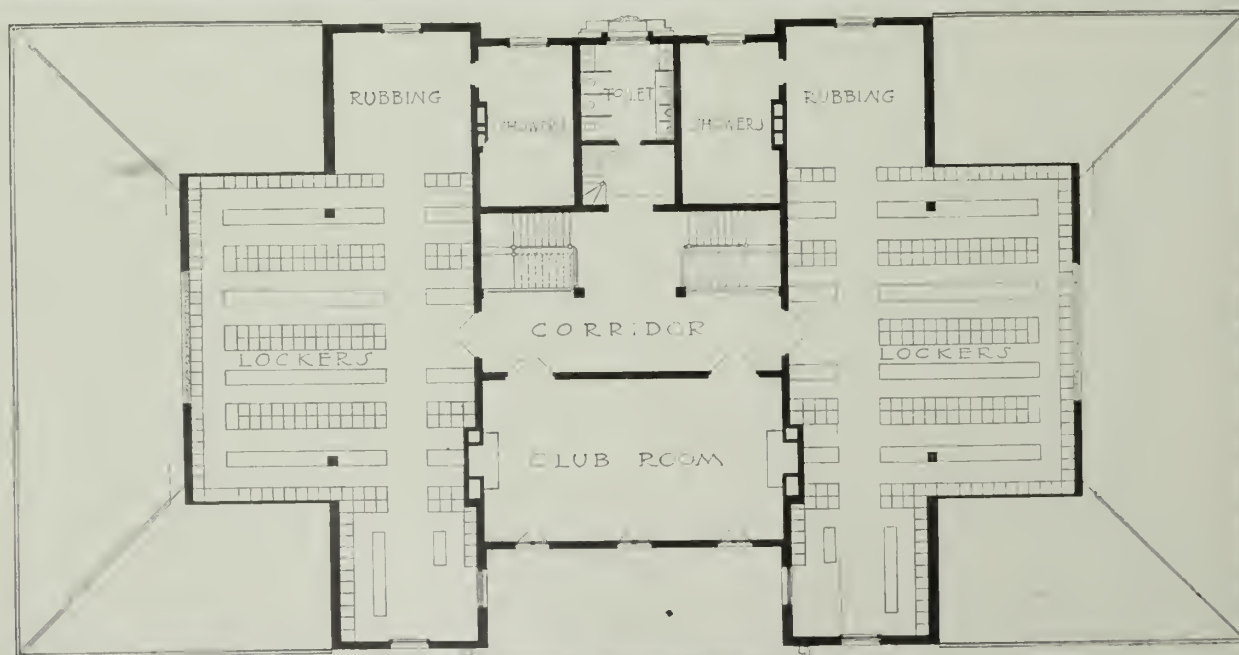




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FIRST FLOOR PLAN
WELD BOATHOUSE, CAMBRIDGE, MASS.
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SECOND-FLOOR PLAN.

WELD BOATHOUSE, CAMBRIDGE, MASS
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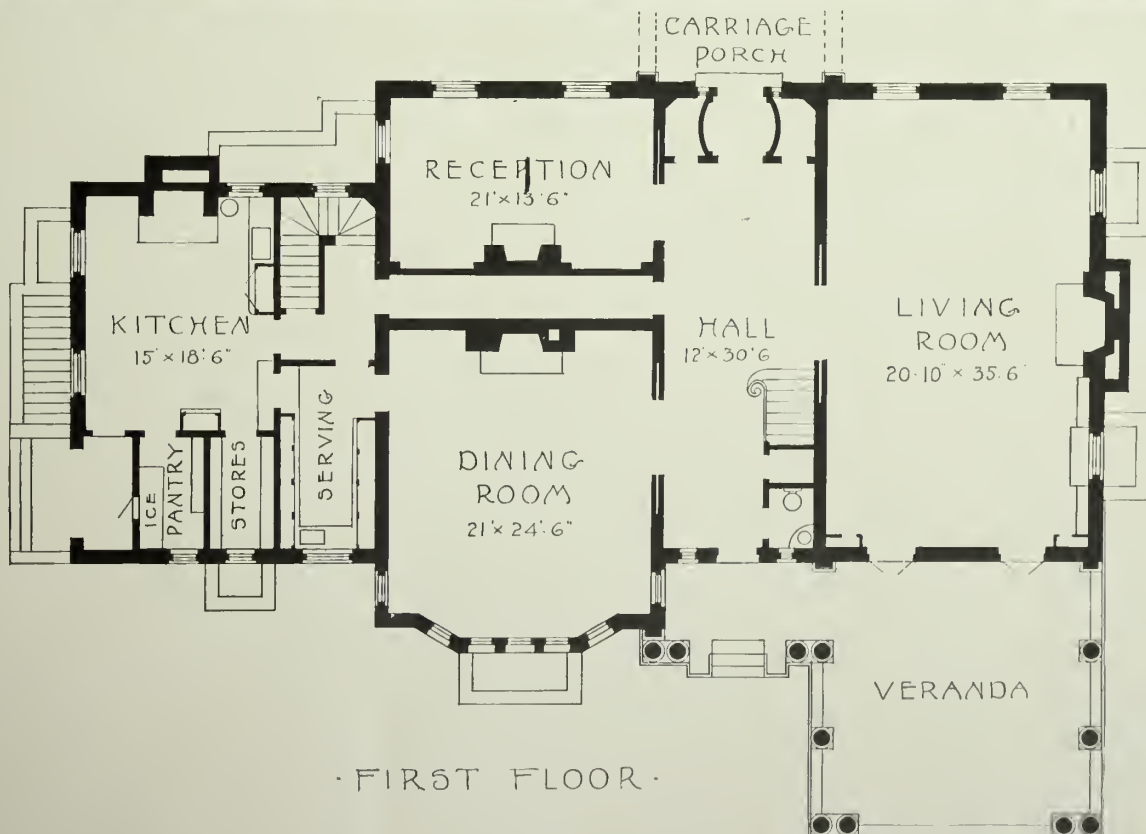
SECOND FLOOR PLAN

HOUSE AT TARRYTOWN, N Y

PEABODY & STEARNS, ARCHITECTS.



FIRST FLOOR PLAN
HOUSE AT TARRYTOWN, N. Y.
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· FIRST FLOOR ·

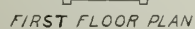
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BENJAMIN WISTAR MORRIS, ARCHITECT.



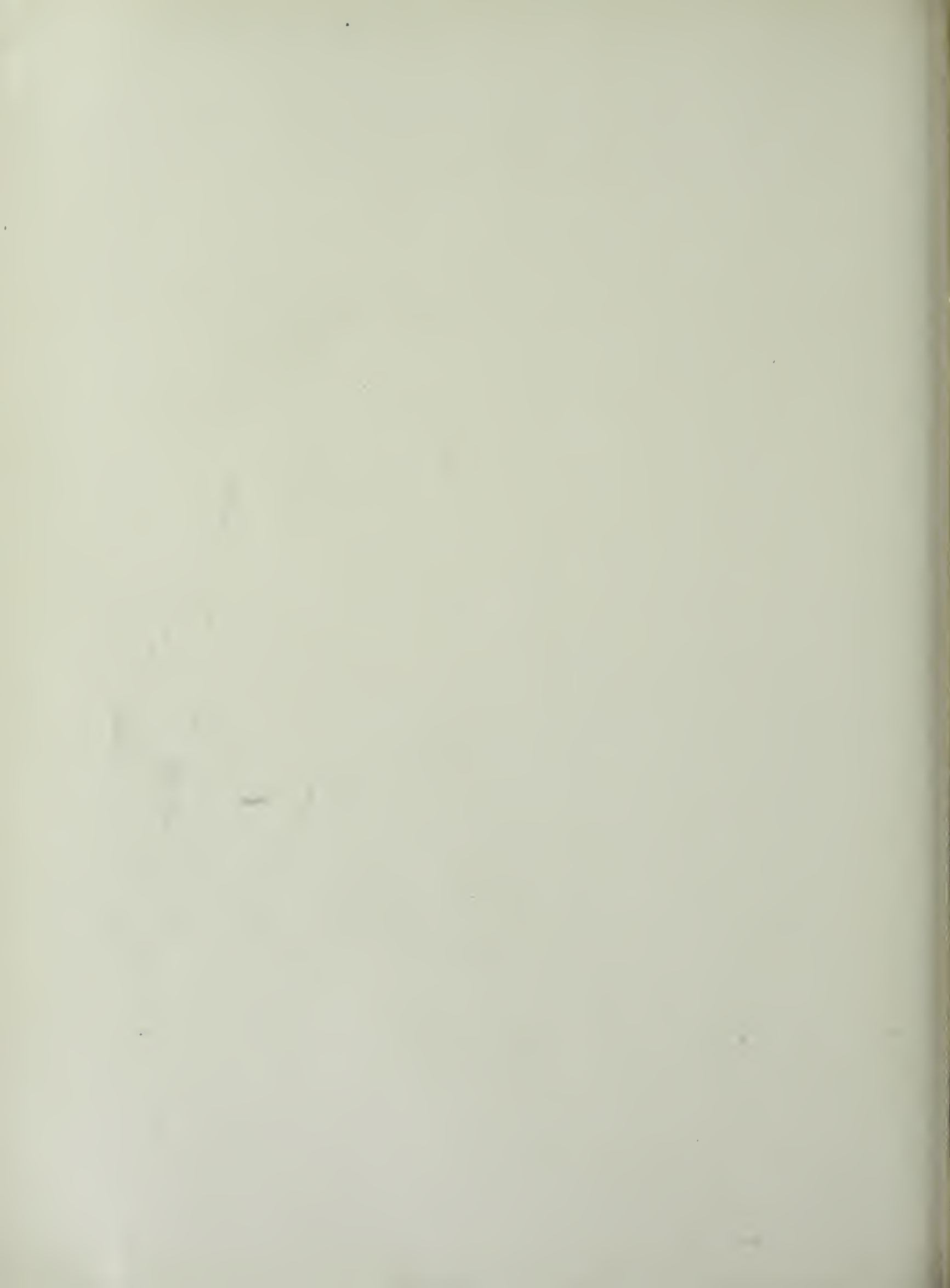


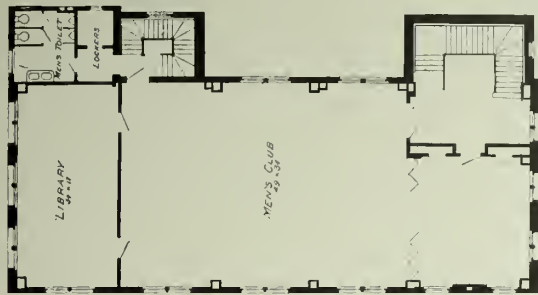
HOUSE AND STABLE AT PENLLYN, PA.
HORACE TRUMBAUER, ARCHITECT.



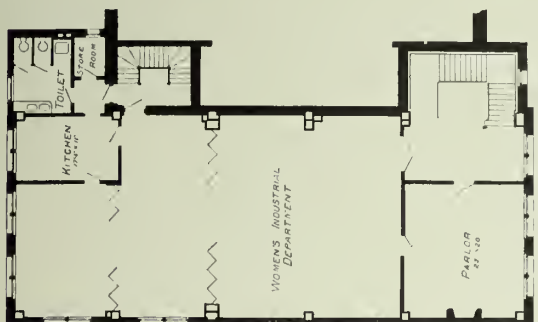


HOUSE AND STABLE,
AT
PENLLYN, PA.
HORACE TRUMBAUER,
ARCHITECT.

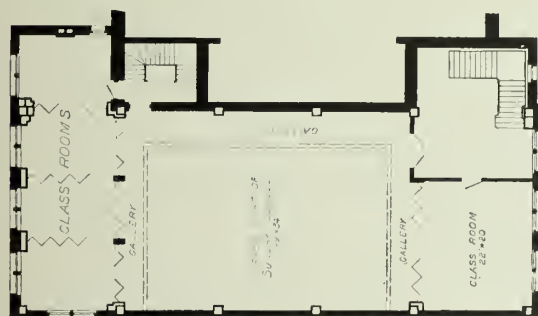




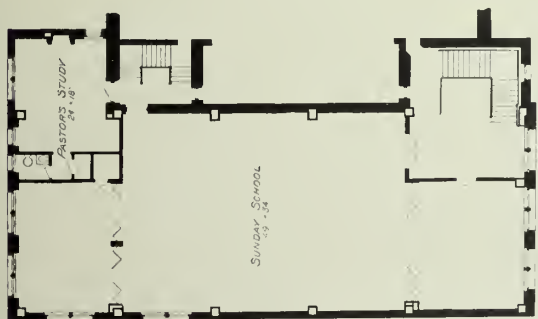
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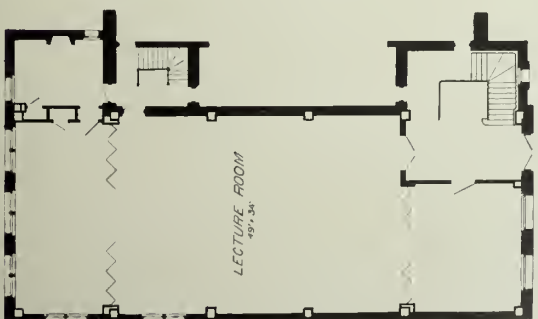
FOURTH FLOOR PLAN



THIRD FLOOR PLAN



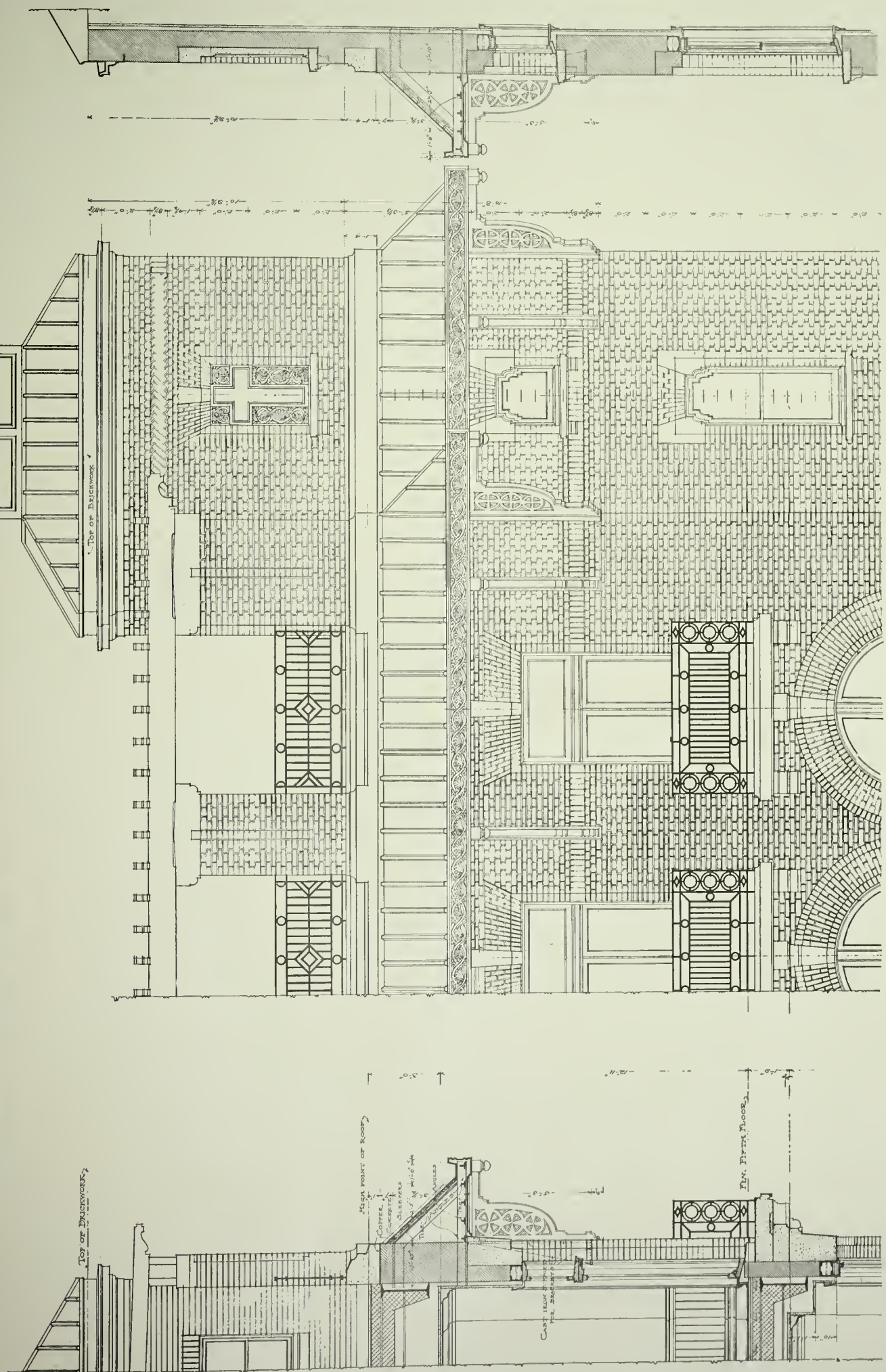
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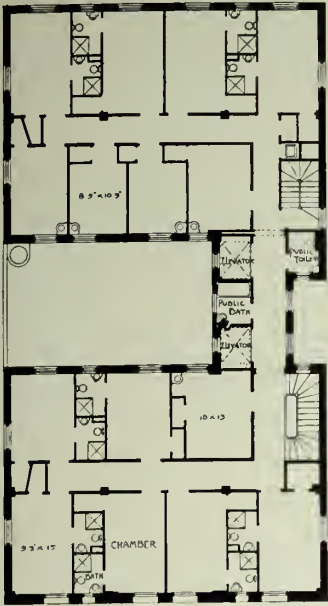
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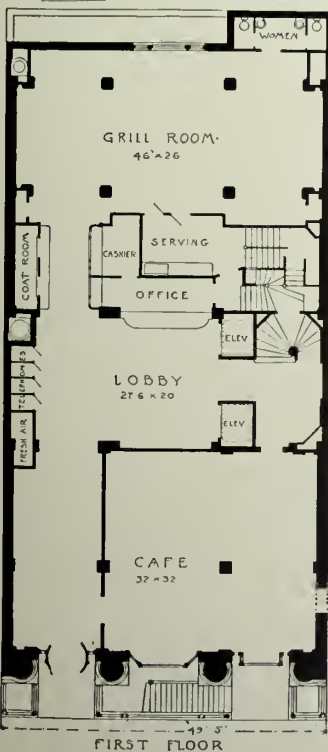
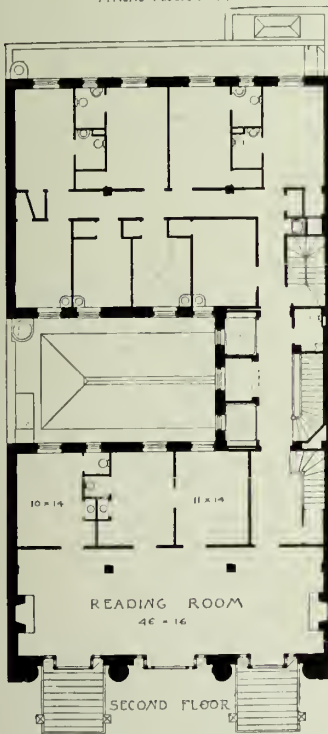
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DETAIL OF UPPER PORTION OF FRONT ELEVATION.
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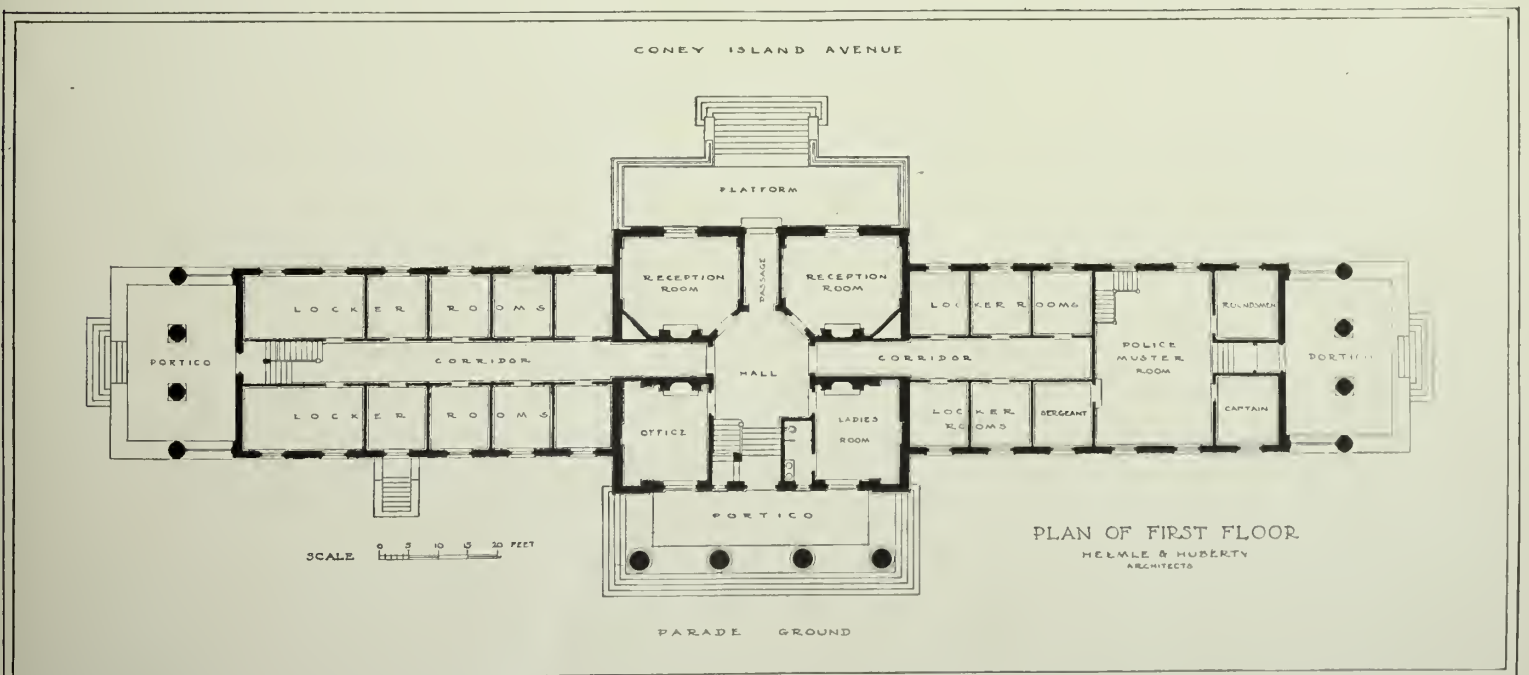
TYPICAL FLOOR PLAN



THE "HERMITAGE" HOTEL, SEVENTH AVENUE, NEAR FORTY-SECOND STREET.
NEW YORK. ROBERT D. KOHN, ARCHITECT.

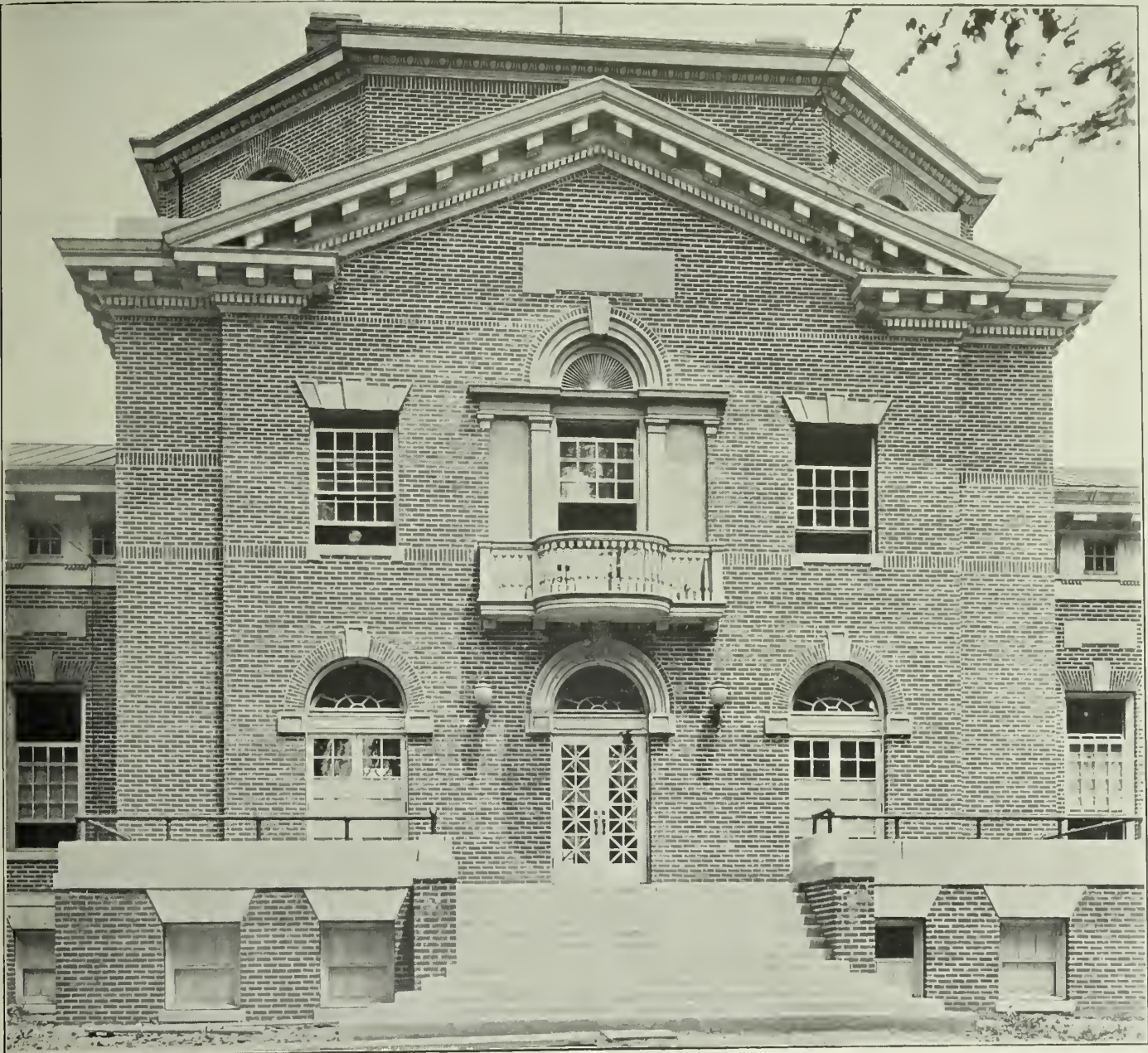


FROM THE FIELD.

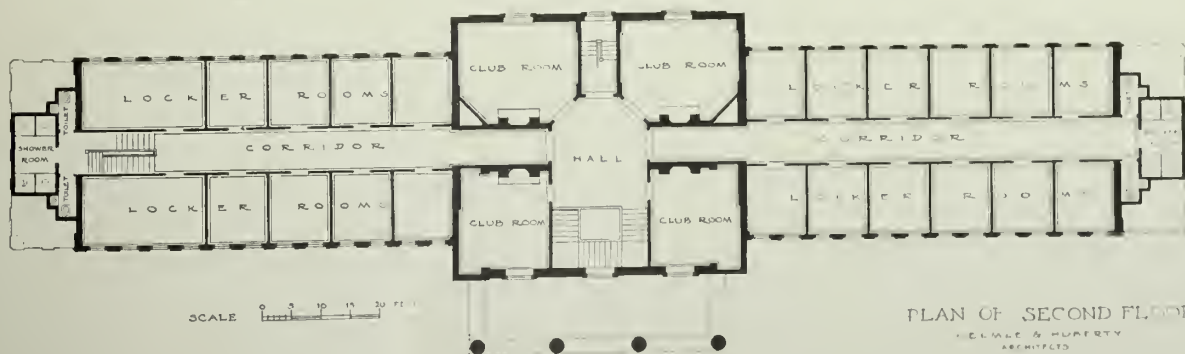


ATHLETIC BUILDING, PROSPECT PARK, BROOKLYN.

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FRONT ENTRANCE, CONEY ISLAND AVENUE.



PLAN OF SECOND FLOOR
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ATHLETIC BUILDING, PROSPECT PARK, BROOKLYN
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THE BRICKBUILDER

VOLUME XVI

SEPTEMBER 1907

NUMBER 9

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	PAGE		PAGE
Agencies — Clay Products	II	Brick Enameled	III and IV
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“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

GROSVENOR ATTERBURY; BABB, COOK & WILLARD; PHILIP B. HOWARD; LORD & HEWLETT; PHILLIPS, ROGERS & WOODYATT; FRITZ SCHUMACHER; WHITFIELD & KING; W. CARBYS ZIMMERMAN.

LETTERPRESS

	PAGE
RAGDALE OLD HALL, LEICESTERSHIRE, ENGLAND	Frontispiece
EDITORIALS	153
THE GROUP PLAN. III. HOSPITALS <i>Alfred Morton Githens</i>	154
NEW SHOP FRONTS. II. <i>Edwin Troxbridge</i>	158
INEXPENSIVE HOUSES OF FIREPROOF CONSTRUCTION	163
THE PHIPPS MODEL TENEMENT HOUSES	165
EDITORIAL COMMENT AND SELECTED MISCELLANY	167



RAGDALE OLD HALL, LEICESTERSHIRE, ENGLAND

THE BRICKVILDER

VOL. 16 NO. 9

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

SEPTEMBER 1907

A SUMMER HOTEL AS AN INVESTMENT.

THE fact that so many summer hotels mysteriously catch fire and are destroyed at the end of a dull season is not necessarily an evidence of attempt on the part of the owners to beat the underwriters. A dull season means small profits, deferred hopes, disappointed prospects and resulting lack of interest in the property, which leads to carelessness such as might easily allow a bad fire to be started without malicious intent. It is certainly a fact, however, that, whether intentionally or otherwise, the life of the average summer hotel is quite short and is usually terminated by conflagration. It is also a fact that these structures are not always very good investments, and it is our conviction that the cause for their repaying so poorly the capital invested is not far to seek. They are generally poorly designed, wretchedly arranged, and built with no consideration for even retarding the spread of ordinary fires, and the experience of a number of well-built hotels seems to show that if these structures were better built, if their architecture was less open to reproach, and if they combined in their construction at least a slight degree of resistance to ordinary fires, they would prove better investments for several reasons. They would live longer on account of the reduction of fire risk; they would keep in better order with a less bill of repairs because of better and more thorough construction; and above all, they would appeal to the public more strongly and in direct proportion to the excellence of the architectural design.

A WELL-BUILT, well planned and good looking hotel in a fair location, and run in a good manner, will attract far more patronage than a cheap fire trap in the most advantageous site that could be found. And there are plenty of instances of well designed and well constructed hotels tucked away in poor locations which have owed a very considerable share of their publicity and success to the catchy pictures of the architect's designs which have been published in the advertisements of the house. In other words, the experience in this line is much the same as with the large city hotels; the best ones pay the most. The commercial value of good looks, the advertising value of thorough construction can be demonstrated in country hotels quite as effectively as in any other class of buildings. The great trouble usually is that the promoters are looking to a very few years of quick profits to enable them to recoup the whole outlay,

and consequently are not willing to consider these structures as investments, but rather as speculations, notwithstanding the frequent and costly object lessons which every favorite country resort can show.

THE problem is one of the most fascinating which is known to the architect. In proportion as the country develops we can hope for more permanence in these summer resorts. We can remember the days when the style of the Fort William Henry at Lake George represented everything that was best in a summer hotel. We would not be satisfied with such shoddy magnificence now, but we have yet a good deal to hope for. It is only of quite recent years that our large city hotels have been well designed and well built, and if the country hotels were to be considered as investments rather than speculations, and more emphasis given to a worthy architectural treatment, to fire resisting, and in many cases to fireproof construction, we believe that such structures would command the following of the public, and would prove, in the long run, to be thoroughly good investments, even though the returns in a single prosperous year would not be relatively as great as are now won by some of the shoddy seaside fabrics.

THE cost of a summer hotel which would be reasonably fireproof would not be so great as to be in any sense prohibitive for any structure of one hundred rooms and upward. The building itself could be built with masonry constructed walls and fireproof floors at an expense of something like eight cents a cubic foot. The cost of an ordinary wooden structure, in many cases, runs up over ten cents a cubic foot, and the cost of the finished work, if carried out in what would be fairly called fireproof construction, would probably not be more than five per cent above the cost of a completed wooden structure. The average successful country hotel, when constructed of wood, will earn fifteen to twenty per cent on the investment in a good year, but its life is short, and after it has been up a few years it generally looks shabby and ceases to draw. On the other hand, a fireproof structure could be counted on to earn ten per cent for an indefinite period and keep its fresh appearance for many years. So that as an investment, even at slightly greater outlay, it would be much preferable. There have been a few cases of such hotels which have been built in various parts of the country, and they have almost always brought success when well designed.

The Group Plan. III.

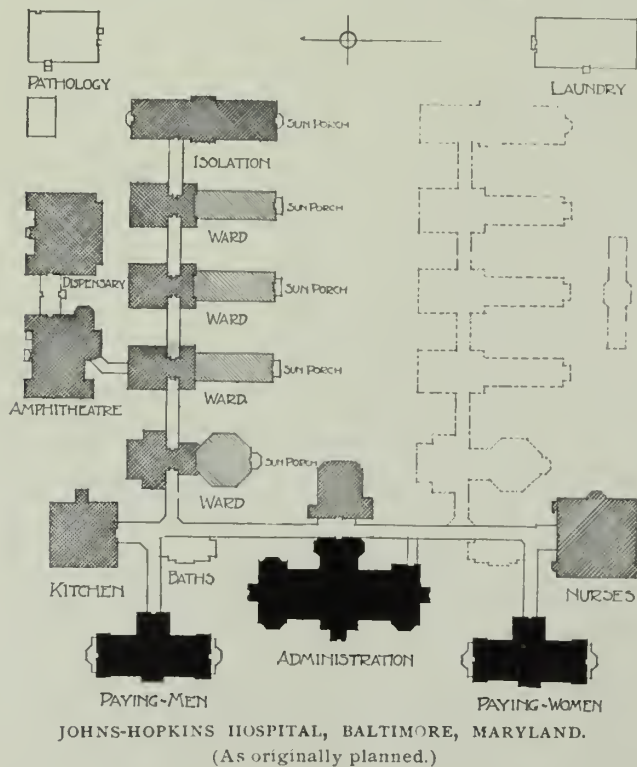
HOSPITALS.

BY ALFRED MORTON GITHENS.

(Articles I and II were published in THE BRICKBUILDER for July and September, 1906.)

ARCHITECTURAL expression of the hospital seems to have extended through the entire range of æsthetic possibilities from the lowliest to the most monumental. Archaeologists find that certain Egyptian temples were used chiefly as hospitals; at the other extreme were the temporary structures of sixty years ago, resulting from Florence Nightingale's much-quoted advice that buildings for the treatment of the sick be of such material that they might be burned every ten or twelve years and new ones constructed. Asepsis and Antisepsis have done away with this theory and the ideal modern hospital is a permanent group of buildings thoroughly well lighted, ventilated and easily cleansed. Variety of arrangement seems unlimited. Combination after combination of wards and pavilions has been tried and still each new plan differs from its predecessors. Burdett has attempted this classification, now widely accepted as a standard: Pavilion Hospitals, Block Hospitals and Corridor Hospitals; but since certain groups are not distinctly any of these, he whimsically adds a Heap-of-Buildings Hospital.

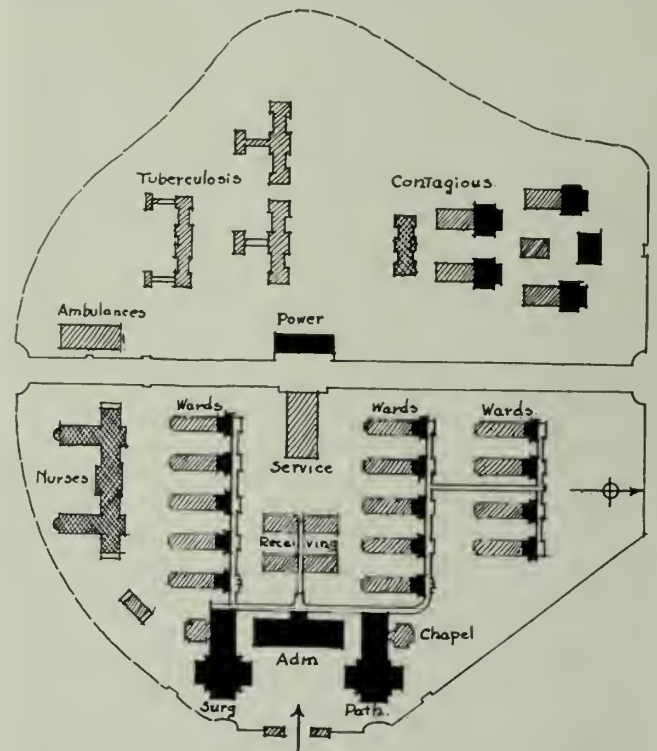
The first example of the pavilion class in America, and one of the very best of its type, is the Johns-Hopkins Hospital in Baltimore, planned thirty years ago under the direction of Dr. Billings. Former hospitals had been



of the block or corridor type with wards closely connected and in many cases having administration and service in the same building. Dr. Billings attempted complete isolation of wards, each in a pavilion having passages connecting its basement with other wards and with the first floor of the general administration and service.

Such arrangement is, of course, possible only where land is not closely restricted. It is to-day the most generally approved type for country or suburban hospitals, as evidenced recently by the programme of the Municipal Hospital for the District of Columbia. Mr. Day's successful design is a development of this system. The Freedmen's Hospital at Washington, on a smaller scale, is another example. The Western Pennsylvania Hospital, the Newport, Burbank and Long Island hospitals are still others. In some cases two wards are superimposed, a great disadvantage with old-time wooden floor construction, but permissible, though not desirable, now.

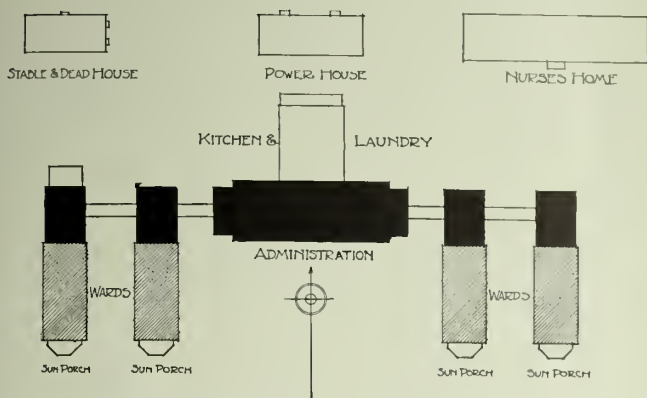
The ward is the key to the pavilion plan, a room running north and south with windows on both sides and beds between the windows. At the south end is a glazed



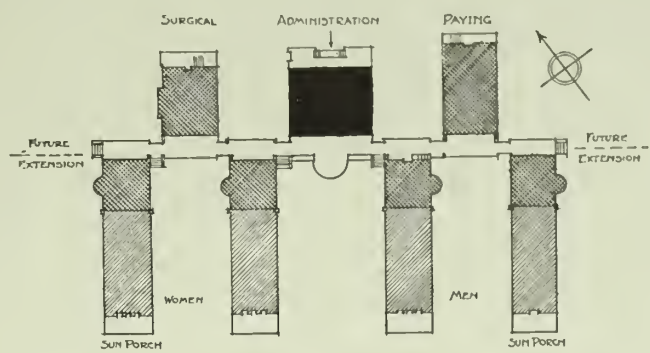
MUNICIPAL HOSPITAL FOR THE DISTRICT OF COLUMBIA.
(Successful competitive design accepted by Board of Directors.)
Frank Miles Day & Brother, Architects.

sun-room or solarium; at the north, where the general passage joins it, are the services. Such a ward allows of the best light and natural ventilation, but it has been severely criticized as draughty, and so arranged that every patient is directly facing the light, half the day the full sunlight. The octagon wards of Johns-Hopkins partly meet this disadvantage. Sunlight has been proven a strong germ destroyer, and it has been agreed that outside walls should be exposed to it as much as possible. In most of these hospitals the short north wall is the only one not so exposed, but the north light is, in some cases, utilized for examination rooms and in others the connecting corridor protects the wall from dampness.

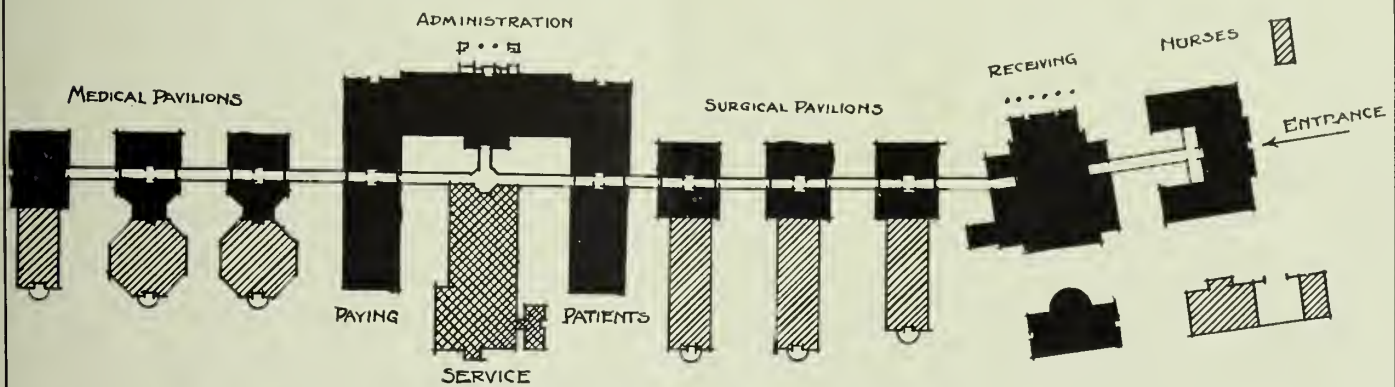
Dr. Worcester and Mr. Atkinson in their book on "Small Hospitals," sum up four requirements for the buildings: "First, to secure a large amount of sunlight for each one; second, to impede as little as possible the circulation of air in and around the buildings; third, to provide for a future enlargement of the hospital; fourth,



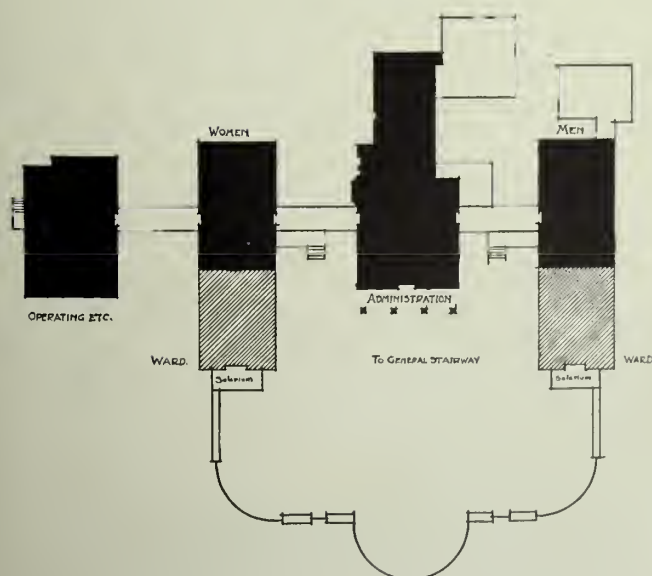
FREEDMEN'S HOSPITAL, WASHINGTON, D. C.
Bruce Price and de Sibour and John Russell Pope, Architects



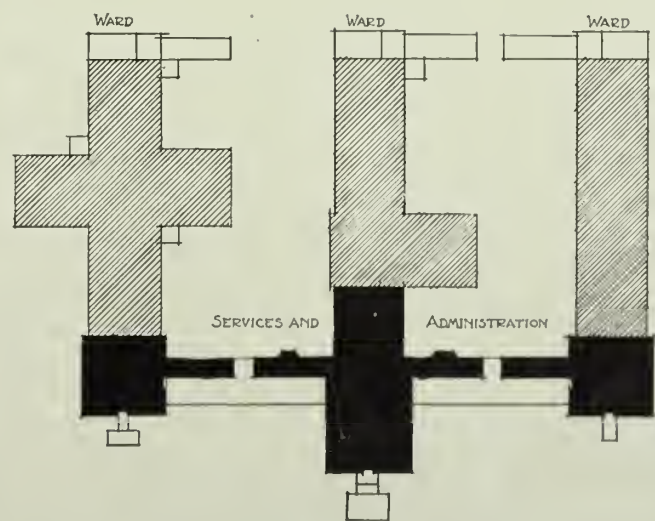
NEWPORT HOSPITAL, NEWPORT, R. I.
William Atkinson, Architect.



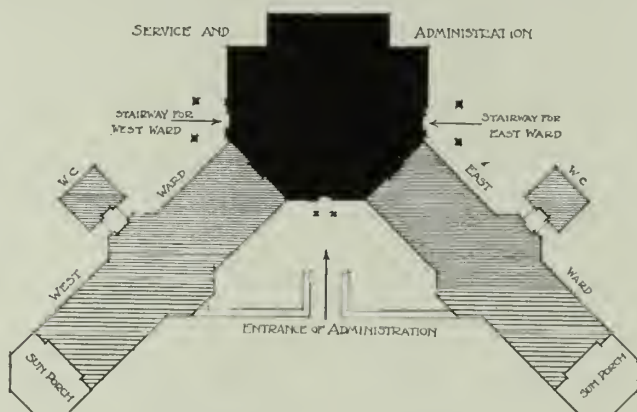
WESTERN PENNSYLVANIA HOSPITAL, PITTSBURG.
Wm Ross Proctor, Architect.



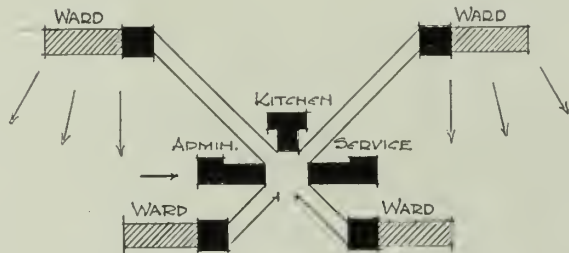
BURBANK HOSPITAL, FITCHBURG, MASS.
Kendall, Taylor & Stevens, Architects.



LONG ISLAND HOSPITAL, BOSTON.
Edmund M. Wheelwright, Architect.



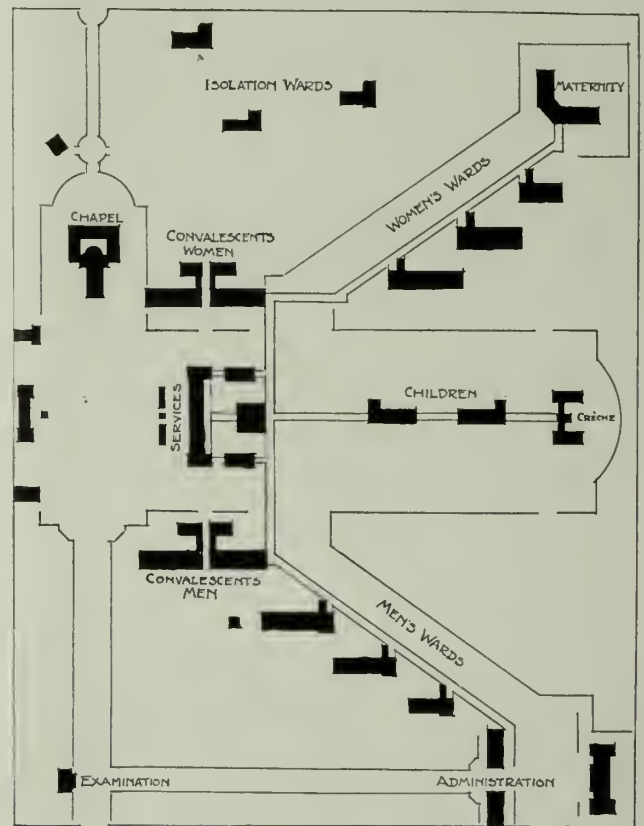
HOSPITAL FOR CONSUMPTIVES, STATE ALMSHOUSE, TEWKSBURY,
MASS.
John A. Fox, Architect



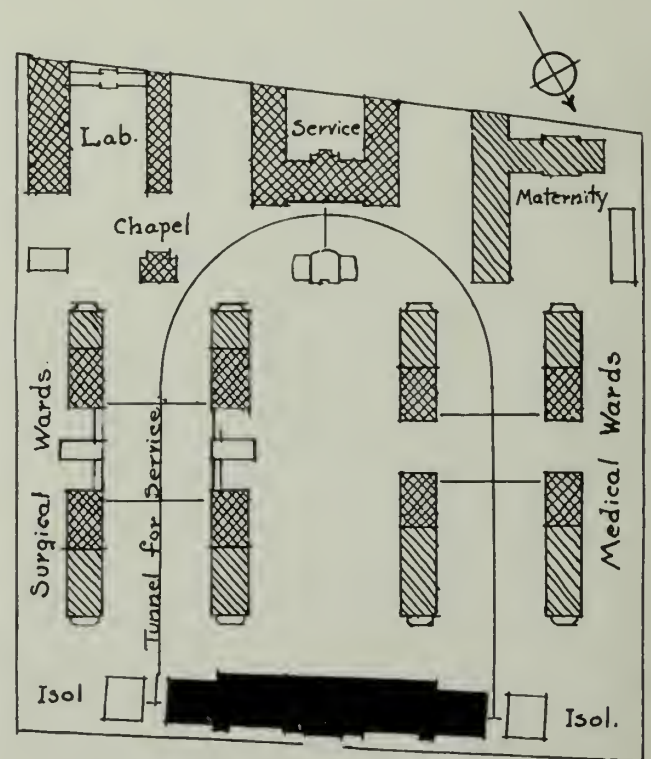
ESQUISSE, ÉCOLE DES BEAUX ARTS: A HOSPITAL FOR CHILDREN
ON THE SHORES OF THE MEDITERRANEAN.



GRAND HOSPITAL OF HAMBURG.



PRIX LABARRE: A HOSPITAL ON A HILLSIDE.
H. Prost, Architect.

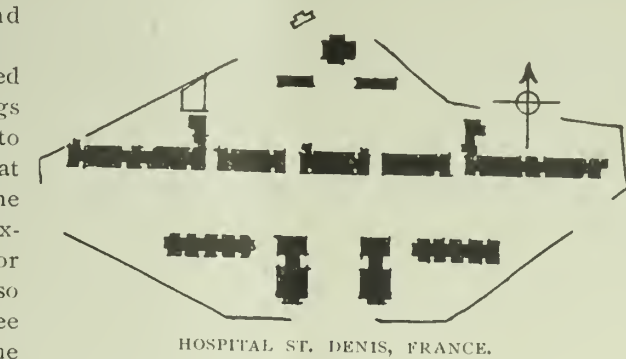


ADMINISTRATION AND CONSULTATION.
HOSPITAL BOUCAULT, PARIS.
Legros, Père et Fils, Architect.

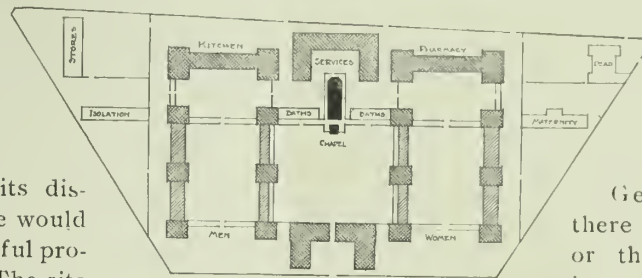
to promote convenience and economy of administration."

Mr. Atkinson later published a theory that hospital buildings should be placed with corners to the points of the compass so that all walls should have sunshine during part of the day. An example of this is the Hospital for Consumptives at Tewksbury, so planned as to give each ward free outlook, — a great gain, for the more cheerful the prospect, the better the spirits of the patient, and therefore the more rapid the recovery. The French lay great stress on this. Their more recent hospitals attempt nothing monumental. They insist that these buildings must be cheerful to look at, "*coquet*," "*d'aspect riant*."

Interesting, though perhaps sadly impractical, since its distances are so great that service would be difficult, is M. Prost's successful project in the Concours Labarre. The site is supposed to be a hillside and the wards are so arranged that each has an unobstructed view. Another project — for a hospital for children at the seaside — is more compact, but illustrates this principle. The diagonal corridors overcome the steep grade of the hillside.



HOSPITAL ST. DENIS, FRANCE.



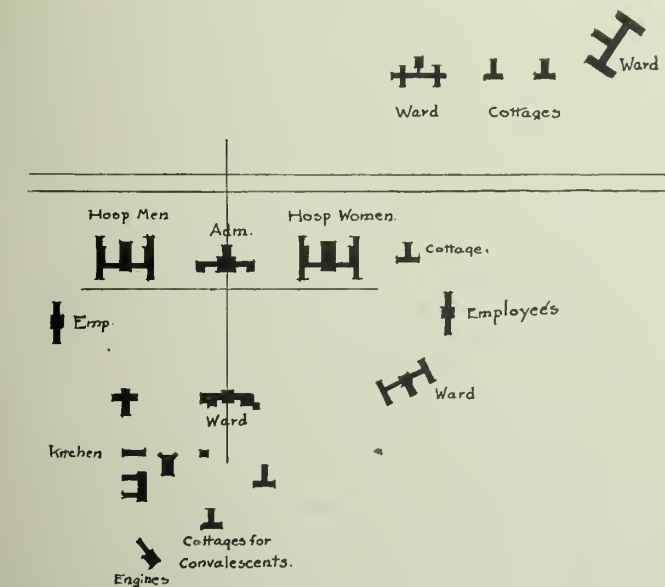
HOSPITAL TENON, PARIS.

of the connected pavilion plan. When its corridors are glazed, though appearing on the architect's drawings in the smallest points of black, they are in reality as obstructive as passages of stone.

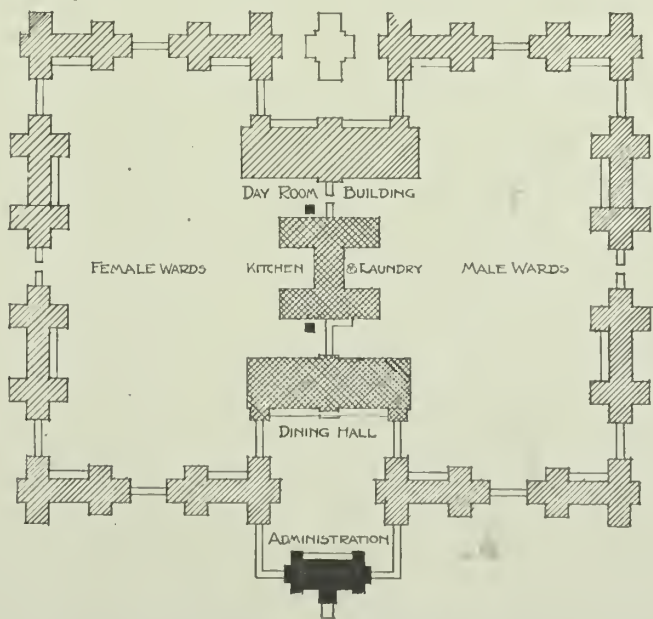
Another development is the St. Denis Hospital, and, less distinctly, the Tenon and Boucicault in Paris, where the wards are in pairs, end to end, so permitting a free current of air between the pairs. The last named is one of the most recent of French hospitals, a radical departure in the omission of the central chapel and the "*côté des hommes*" and the "*côté des femmes*." It preserves the symmetry and carefully studied balance typical of French hospitals.

Generally, in American groups, there has been no systematic scheme or the architect's plans have been ignored as the construction proceeded, witness the Hospital for the Insane at Washington, — or the administration

and other buildings at the front are studied as symmetrical compositions, and in the arrangement of the wards absolute symmetry is sacrificed to utility, just as in English country houses the entrance front and fore-court are sym-



GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.
(As constructed)
Shepley, Rutan & Coolidge, Architects.



STATE HOSPITAL FOR CHRONIC INSANE, WERNERSVILLE, PA.
(As planned and accepted by the Board of Directors.)
Rankin & Kellogg, Architects.

As has been said, circulation of air about the buildings is important, — so important that it has been the guiding principle in another type of plan. For the General Hospital at Hamburg, with its staff of resident physicians, this was considered paramount to ease of communication. The pavilions are separate, in rows, each row "breaking joint" with the row below so that the ends of each are lighted. With no galleries above ground there are no pockets for dust-whirls or stagnant air, sometimes a fault

metrical and the kitchen and garden front are not. This is exemplified in the Hospital for the District of Columbia, a successful principle it seems, for, maintaining dignity where it is needed, it permits a certain liberty in arranging the working parts with the greatest technical efficiency, and allows, from time to time, additions and alterations that would sadly disfigure a hard-and-fast composition, as recent additions have destroyed the admirable plan for the Insane Asylum at Wernersville.

New Shop Fronts. II.

BY EDWIN TROWBRIDGE.

A GREAT sheet of plate glass alone is merely a void in the building, and such a void must have an integral relation with the whole. Strong columns and piers at proper intercolumnation must occur as they do in the Tiffany Building in New York. If this *parti pris* is taken, the building must count first, the show window second. But if, on the other hand, the show window is the important factor, it must live up to the part and become so intrinsically a decorative and interesting detail of the building, that it is considered as an exterior embellishment. This leads up to the next development of the window, that is, its advance in front of the party line of the wall above. Probably this occurred entirely from desire to gain window depth and from no æsthetic reason, but it is only another example of the constantly amicable relations of utility and art, if both are sane. Under the rulings of building laws and of lot restrictions, it is not always possible to advance the shop window into what is practically a bay, but when the possibility occurs, the result may be admirable. Even if the effect is apparent and not real, that is, when the center of the window is in a line with the ashlar and the sides recede so that the piers have deep jambs, there is a great gain in apparent stability. Also, the variations of window plane assist the decorative effect and suggest detail, and the perspective



NO. 17. WEST 41ST STREET, NEW YORK.

of the street becomes more interesting. It is possible to itemize and select shop fronts as they are approached, not merely when they are opposite.

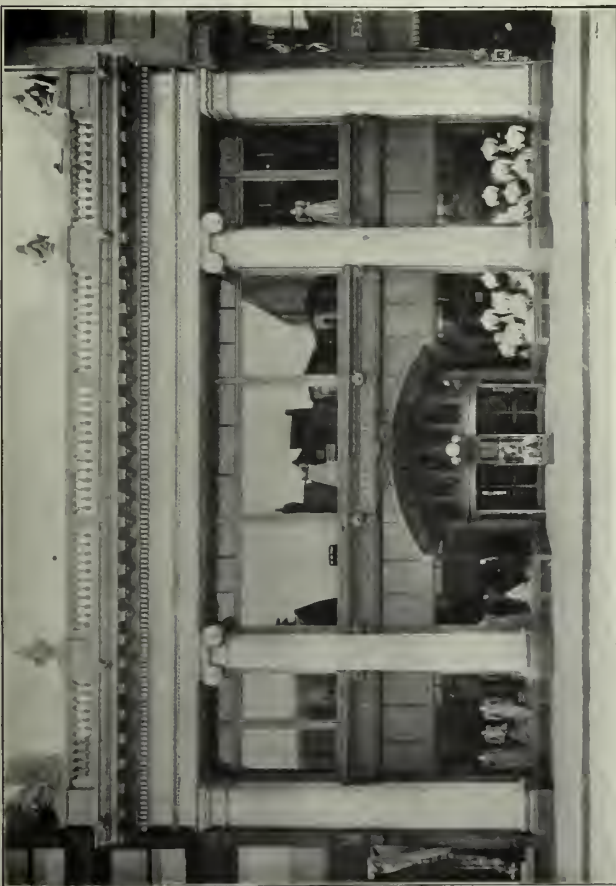
Any traveler, especially if he also have the ability to sketch, will appreciate the picturesqueness and charm of the varying angles of bays and of small shop fronts in the smaller English and German towns, which are almost entirely produced by the variations of advancing and



NO. 18. FIFTH AVENUE, NEW YORK.

retreating small forms. Just this variety is appearing on our highways. A photograph or sketch looking along the first stories from the sidewalk of the usual street, for instance the Rue de Richelieu in Paris, does not begin to have the interest that is already occurring in Fifth Avenue, New York, that interest being produced largely by the character of the shop fronts. And as the show windows increase in interest it is noticeable that the puerile, and in most cases ugly, advance agents of the stores, those cases of frames set out from the buildings, are disappearing. They have become obstacles in the way of the observer, and are no longer either necessary or advisable. This brings us to another factor which is already recognized, that of the protection of those who look in at the windows. When the window was merely an opening in the wall, the drip from melting snow, or from rain, fell in long lines just outside the window, the sun beat in, and awnings had to be lowered or shades drawn.

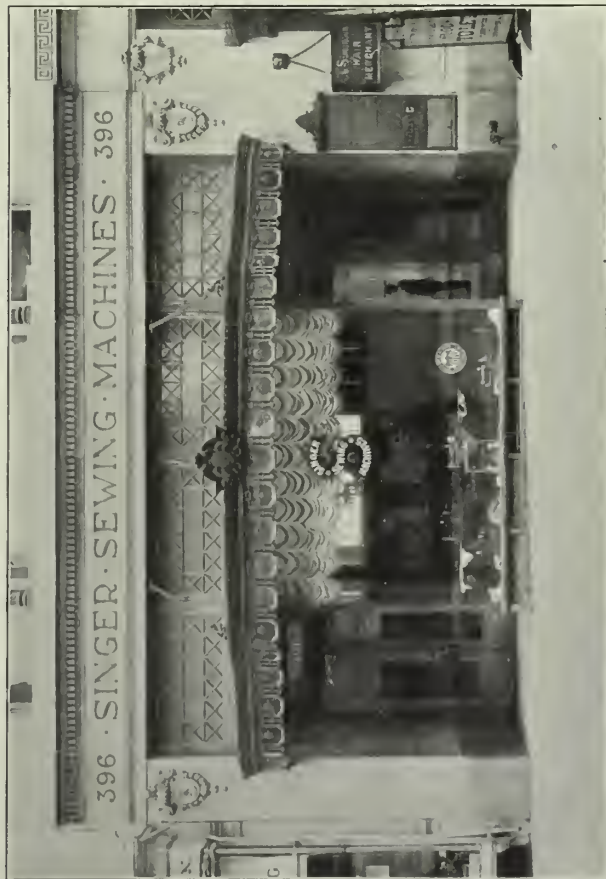
Now has come the marquise, at first over the doorway, later over the entire front. The marquise is a very decorative feature. It is light, graceful, has the charm of the subtle lines of metal and of contrast of material and color. It is naturally placed low, otherwise its object of protection and of shade would be lost. It appears on the transom line, and it can flare like a fan, be pendant like a canopy, be semi-domed like a roof. It is filled with translucent glass, and has a decorative border like an edge of lace. It carries with it all sorts of possibilities in the way of secondary detail, can be supported on delicately wrought brackets, or hung by ornamental chains, can have pendants, or flaunt staffs with bannerettes. It is above everything, gay, light, brilliant, exactly the type of detail to give individual character to a show window. And it is independent, has little or no allegiance to the building, being as obviously distinct from it as an awning. The marquise is, without doubt, one of the most decorative and interesting details which the modern show window has adopted, and its infinite variety and delightful possi-



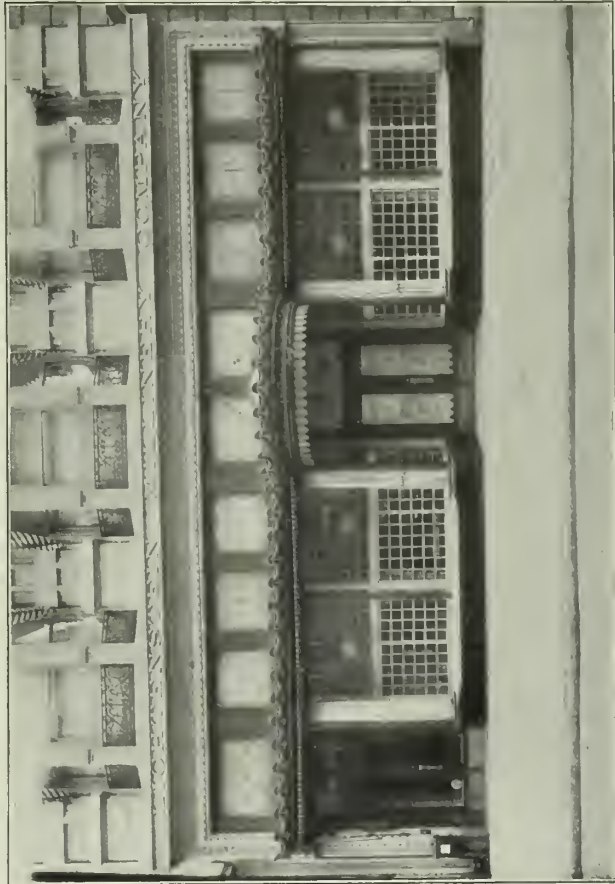
NO. 19. BOYLSTON STREET, BOSTON.



NO. 20. FIFTH AVENUE, NEW YORK.



NO. 21. FIFTH AVENUE, NEW YORK.



NO. 22. FIFTH AVENUE, NEW YORK.



NO. 23. FIFTH AVENUE, NEW YORK.



NO. 24. FIFTH AVENUE, NEW YORK.



NO. 25. WALNUT STREET, PHILADELPHIA.



NO. 26. CHESTNUT STREET, PHILADELPHIA.




NO. 27. FIFTH AVENUE, NEW YORK.



NO. 28. FIFTH AVENUE, NEW YORK.

bilities go far to make attractive an otherwise ordinary first story.

The entrance of the store is important, and the device of recessing the door is frequently adopted. By this means not only a certain sense of invitation to enter is gained, but also side windows are obtained on either side of the entrance. By splaying the entrance, the effect of greater breadth is at once apparent. There also occurs the opportunity for arched treatment over the door and for special treatment of the marquise at this point, either by advancing or by heightening this feature. A vestibule is formed which often has its own gates, which are closed at night and which can be made very attractive and ornamental. The half story above the transom, which is necessarily low studded, has its light increased by glass prisms, or by Luxfer lights, which also can be made decorative. Finally, the whole shop front with its show arranged windows can be advancing and retreating with planes, with bays, and recesses which give great play of light and shade and opportunity for ingenious arrangement of decorative surfaces. Such windows, while often,  bizarre, have a character in keeping with the sale of bric-a-brac and other confections which at first thought seem fantastic and perhaps puerile, but nevertheless can be made to have distinct individual merit, and if considered merely as decorative and not as necessarily fundamental parts of the structure of the building appear not only justifiable, but excellent.

Certainly the general air of enterprise, and of gaiety of a city street gains by these show windows when they are well designed. At night, the association of electric lights well grouped, and with the light thrown back into the windows by reflectors permits further ingenious design, the possibilities of which have been thus only occasionally considered. As to color, most of the frames of the show windows are in metal, and are therefore dark in tone. Occasionally they are painted light to conform to the general trims of the building. But this is not always advisable, as they are individual and not structural parts of the building. In certain cases, the level of the first story has been dropped below that of the sidewalk. Only the necessity of gaining height would justify this. These windows are at a disadvantage, as passers-by are less likely to step down to such a window than they are to linger beside one on the level with the street. But granted the necessity at times, the solution of the problem has been very well done.

In No. 17 there is a distinct and successful effort to keep the openings well controlled by the structure and at the same time to obtain variety; in fact, these windows are integral parts of the design, not associated parts.

No. 18 is two storied with a very broad recessed vestibule, of which the lintel is brought slightly in advance of

the windows. The second story is divided by transoms and has low arched window heads, which could well have been omitted, as they do not harmonize with the arch of the whole opening.

No. 19 is an architectural colonnade enclosing two stories, with the possibility of the building being, at a later date, increased by additional stories in height. The features are transom lights in both stories filled with prisms, and a recessed central arched vestibule, the detail in all the show window trims, etc., being kept smaller than in the architectural features. The effect is excellent.

No. 20 begins with an unfortunate initial arrangement of doors and show windows, which are as far as possible brought together and into accord by the richness of the marquise. The transom lights are divided in the same manner as those of No. 16, and the design appears to have been made by the same architect. The edge of the marquise is particularly good, — light, graceful and with style. It seems as if it would have been as well to omit the central cartouche in this example, as it does not indicate an axis, for the window space behind it has none.

No. 21 is the next shop front to No. 20, on Fifth Avenue, and has the same general character, the marquise, however, having an interesting plan of curves which is very graceful. The glass lambrequin pendants are especially attractive, and are made materially lighter by their spacing and by the introduction of an alternate motive between the pendants. In this case the axial cartouche is justifiable, as it centers on the show window behind. In all of these examples the angles of the show windows are simple corner trims or strips and make no

attempt to express support; in fact, in some cases the glass is either lapped or beveled at the angles and fastened with clamps. This is quite in accord with the purpose of the window and with the desire already explained to have the windows designed independently of their architectural frame and with smaller detail.

No. 22 has the advantage of a broad façade, but the disadvantage of heavy piers coming down on a very long lintel. It is an admirable example of a design which, if examined, has no adequate supports for the wall above, and yet which gives no impression of instability. This effect is gained in several ways. First, the opening is strongly framed, the frame accented, and the lintel broad and supplemented by a projecting belt course above. Second, the frame is kept on the face line of the bays in front of the line of the piers. Third, the mullioned divisions of the transom story are broad and doubled at intervals and appear to assist in supporting the lintel. Fourth, the plane of the plate glass of the show window is in front of the transom light plane, and, finally, there is a



NO. 29. CHESTNUT STREET, PHILADELPHIA.

series of sashes separating the show windows from the store, and much subdivided on a line with the transom plane. In no case, excepting in the slight show window frame, is a supporting factor carried to the ground, and yet as each plane in which these members are is in advance of the next supporting member above, the structural question is not raised excepting by a mental effort. The mind does not attempt to penetrate the plane, although that plane is transparent. This is an extremely interesting and successful example. Its detail also is good, the frieze alone of the small marquise over the door being somewhat heavy.

Nos. 22 and 24 give examples of comparatively simple windows in one or two planes with simple marquise. No. 24 has the windows advanced, the transom lights leaded both in the main opening and the windows, and a marquise, with rectangular lines throughout, bracketed and hung by chains. The effect is somewhat rigid and stiff.

In No. 23 the pilasters and entablatures are strong and adequate, the light color of the pilaster assisting materially in the effect of vigor. The transom has somewhat too definite a projection.

No. 25 has a rectangular marquise on the transom line suspended by chains and with a delicate *cheneau* of Greek palmettes and with glass lambrequin pendants around its edge. The transom lights are hidden by this marquise. The shop front is two storied, a basement story below the street, and the story with the principal window reached by a flight of six steps with wrought iron posts and rail. These posts and rail give an opportunity for decorative detail which could be still further developed.

No. 26 shows an effort to recess the central portion not only for the door, but in the space above in the transom story. Apparently this was recognized as of poor proportions and a small marquise of no particular value

was crowded into this space to establish continuation of the transom line; also in this case the curved glass *coupé* windows are used. The example is only interesting as indicating a type of treatment.

No. 27 has the marquise on the transom line, but as the transom story or gallery is very low, and the windows undetailed there seems to be no reason why this marquise should have been put in this place,—the space above seems compressed. The panel in the architectural trims is crude, large in scale, and seems very insecure.

No. 28 is excellent of its type; there is no transom, the elliptical marquise is delicate and well designed, and the show window is effective. The individual factor in this design is the doming of the marquise, which by its ribs produces a sense of attractive curves.

No. 29 is of the same type as No. 29, without the marquise, and with a little more attention to detail.

No. 30 is interesting as an example of gain in space in a very narrow frontage by splaying the vestibule, the effect of splay being adopted over the lintel. This is original but not convincing.

In most cases these show windows have been inserted in old buildings, and have therefore been hampered by previous requirements, and when they have been made

the most successful they have been treated as details of a single opening, which opening has been strongly framed and linteled. Wherever the show window has been designed, at the time when the building was designed, architectural supports have been incorporated in the first story, leaving ample space for the windows between them. Such windows and first stories are those of the Gorham and Tiffany Buildings in New York, and naturally these are of an ideal character. But of the examples shown in these articles, Nos. 11, 21, 22 and 23, deserve especial commendation.



NO. 30. BOYLSTON STREET, BOSTON.



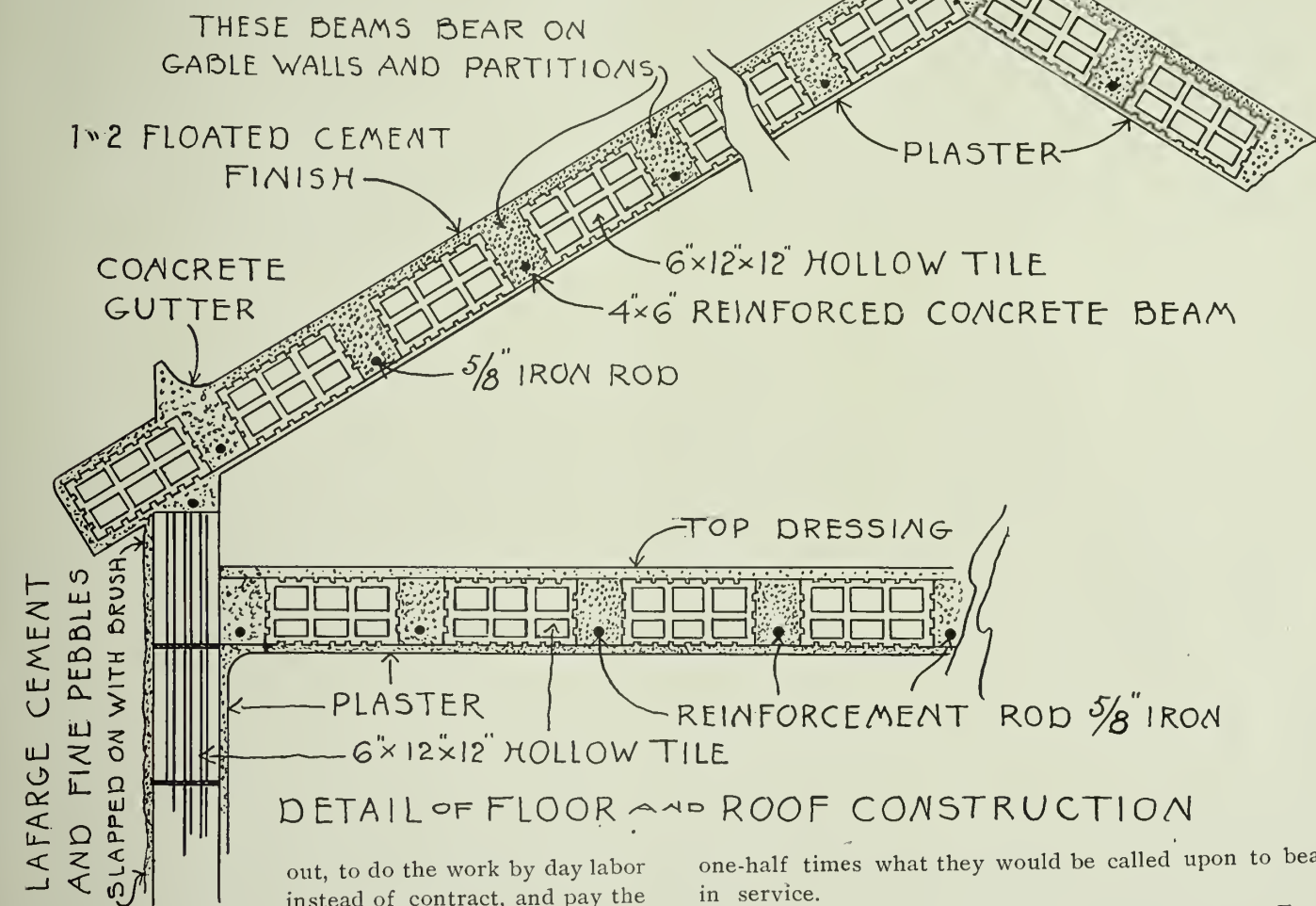
Inexpensive Houses of Fireproof Construction.

THAT the cost of a fireproof house built entirely of hollow tile is reasonable has been demonstrated in two buildings recently put up in Briarcliff Manor, a suburb of New York. Designs were prepared for an eleven-room house, also a small post-office with an apartment on the second floor, both of the familiar wooden frame type. Bids for their construction of wood were considered high, and alternate bids using concrete walls and wooden floors were asked for. As these second bids were even higher than the first, it was decided to use hollow tile through-

between, all covered with a layer of cement, in which nailing strips for securing the wood top floor are embedded.

Great ingenuity is used in this floor construction, for where a reinforced beam bears upon the side walls, a hollow tile block is omitted from the wall and the concrete of the beam is tamped in to fill the space completely. This gives an excellent tie between the beams and walls and also increases the bearing area of the beams upon the walls materially.

A large section of floor was tested with a dead load of 150 lbs. per sq. ft. The deflection was almost nothing, although both floor and supporting walls were loaded to about two and



out, to do the work by day labor instead of contract, and pay the

builder ten per cent as his commission.

The actual cost (including builder's ten per cent) of these buildings, also bids on their construction using wood or concrete, are as follows:

	House	Post Office
Wood	\$6,000	\$7,000
Concrete Walls and		
Wooden Floors	6,600	8,900
Hollow Tile	6,500	6,500

The illustrations show clearly the construction and arrangement of the house. Its exterior is finished in stucco with pebbled surface, a treatment which harmonizes exceedingly well with its simple and massive outlines.

The outside walls are 8 in. x 12 in. blocks 6 in. thick, and the partitions are of the same size blocks 3 in. thick. Floors and roof are of the combination type, 4 in. x 6 in. reinforced concrete beams with twelve hollow tile blocks

one-half times what they would be called upon to bear in service.

The stairs are built up of hollow tile blocks. Each tread is composed of several blocks, held together by steel rods embedded in concrete within the cavities of the blocks. Treads of this form are readily made by simply piling the blocks on end one above another, placing the rods through them and pouring the cavities full of concrete. Lintels over the doors and windows may be quickly and cheaply made in the same way.

Windows and door frames are secured in place by screwing 2-inch log screws into them and allowing the screws to project into the blocks of the partitions or walls. As the blocks are laid up, concrete or cement can be filled in to completely surround the screws and thereby anchor them to the wall.

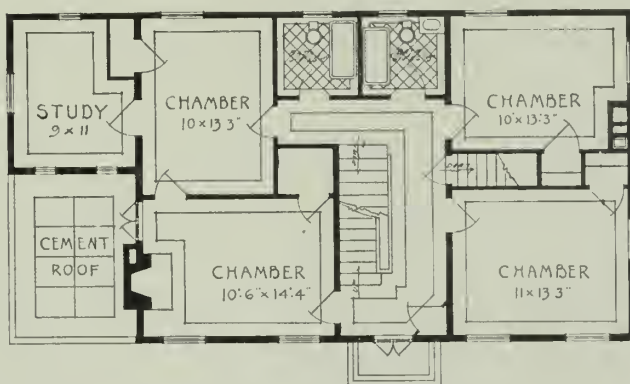
Conduits for electric wires are embedded in the cement floor covering, and carried in the vertical walls through the cavities in the tiles.



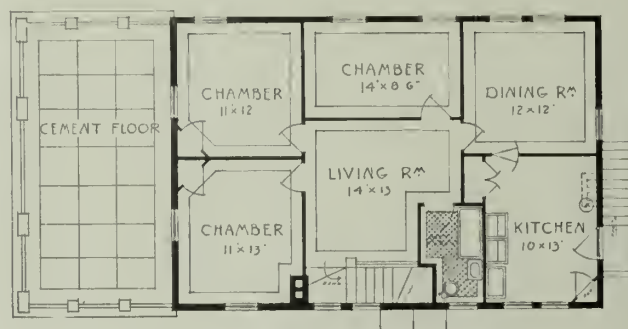
COTTAGE, BRIARCLIFF MANOR, N. Y.



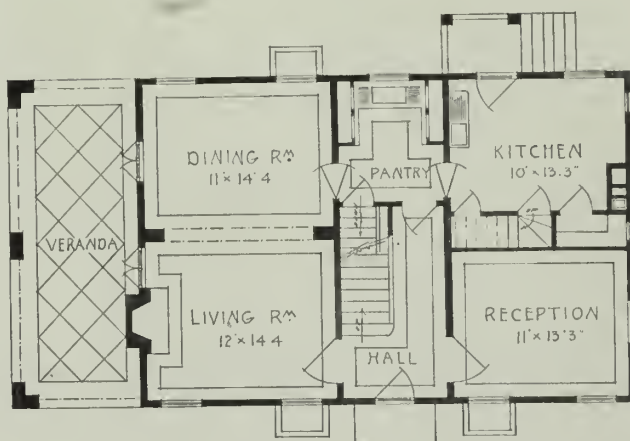
POST OFFICE, BRIARCLIFF MANOR, N. Y.



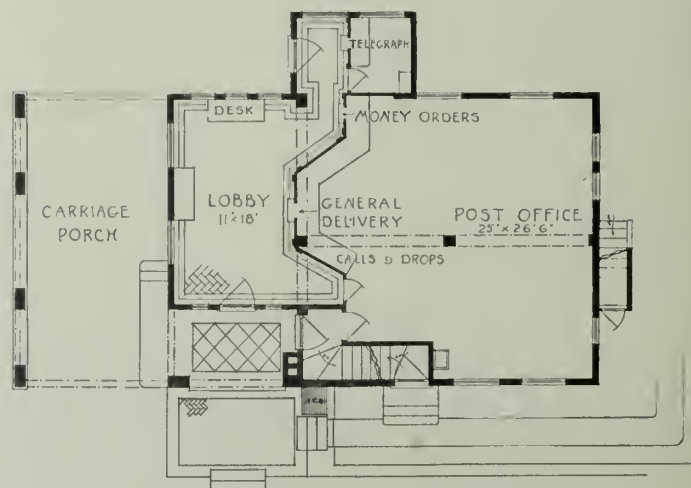
SECOND FLOOR PLAN OF COTTAGE.



SECOND FLOOR PLAN OF POST OFFICE.



FIRST FLOOR PLAN OF COTTAGE.

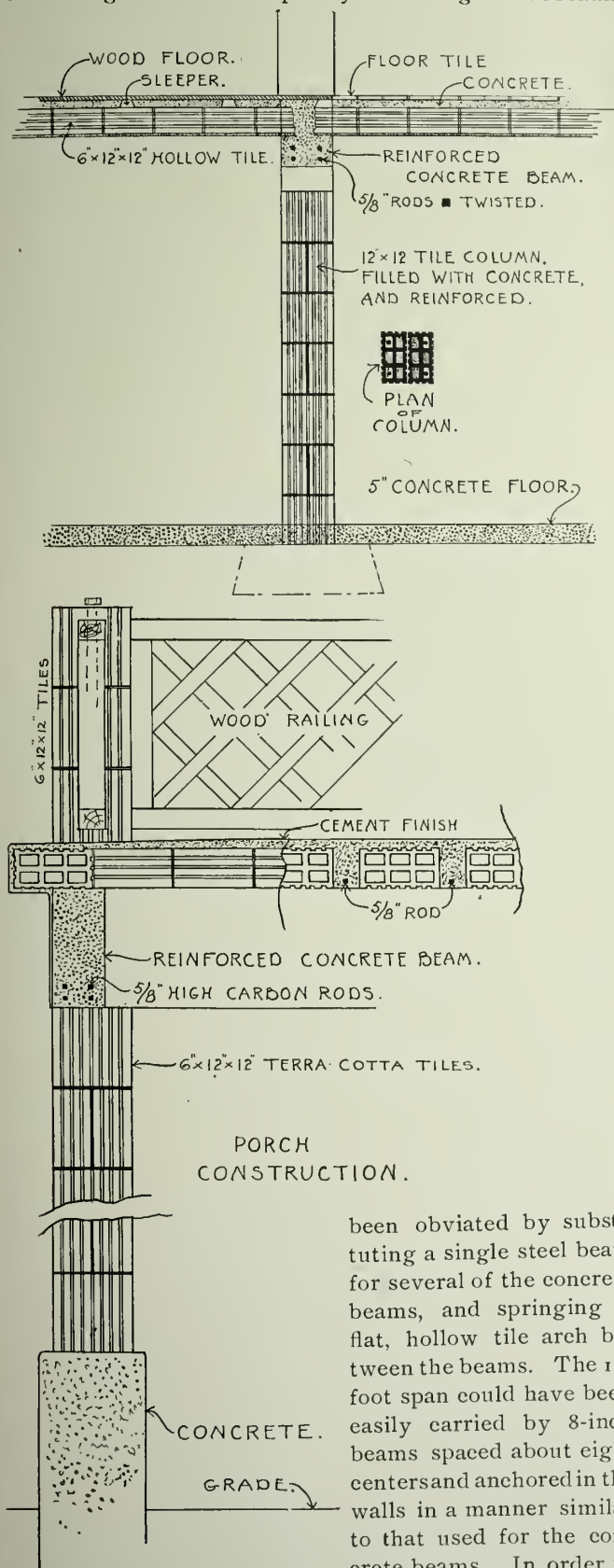


FIRST FLOOR PLAN OF POST OFFICE.

INEXPENSIVE HOUSES OF FIREPROOF CONSTRUCTION.

Robert W. Gardner, Architect.

Necessary soil and vent pipes for the plumbing are brought up exposed through the butler's pantry, and some of the piping for the bathrooms is exposed upon the ceiling of the butler's pantry. This might have readily



been obviated by substituting a single steel beam for several of the concrete beams, and springing a flat, hollow tile arch between the beams. The 14-foot span could have been easily carried by 8-inch beams spaced about eight centers and anchored in the walls in a manner similar to that used for the concrete beams. In order to

provide ample wall support for the steel beams the blocks in the walls or partitions below their points of support could be entirely filled with concrete, forming a column to the foundations.

The Phipps Model Tenement Houses.

THE site upon which this first group of buildings is erected is a plot situated on the north side of East 31st Street, near First Avenue, New York City, and the relative number of two-room, three-room and four-room tenements, as well as certain other features desired by the trustees, and as far as possible carried out in the design of the buildings, were largely determined by the character of the population and the tenements found in the surrounding neighborhood.

The plot has a frontage on the street of one hundred and eighty feet, with a depth of ninety-eight feet nine inches, and the general scheme of the building is that of three similar units, each with sixty feet frontage, six stories and basement in height, and enclosing two entrance courts opening through archways to the street.

The four hundred and twenty-seven rentable rooms contained in the entire building of three units are arranged in one hundred and forty-two suites, containing from two to five rooms, the larger apartments being placed on the street front and corners, and the smaller suites, opening on the courts and yards of the building.

Of the one hundred and forty-two apartments, forty-three are two-room suites with toilet and shower; sixty-three three-room suites with toilet and shower; twelve are four-room suites with toilet and tub baths; sixteen are four-room suites with toilet and shower; and eight are five-room suites with toilet and tub baths. The percentage of the various suites is as follows: thirty per cent, two rooms; forty-four per cent, three rooms; twenty per cent, four rooms, and six per cent, five rooms.

All the tenements are supplied with steam heat, hot and cold water and gas; and every suite has a toilet with either a shower or tub bath, and is equipped with a gas range, two wash tubs, a kitchen sink, closets and dressers.

In connection with the accompanying plans and illustrations, it may be of interest to note the following respects in which the first of the Phipps Houses differ from most of the existing model tenements in New York, and will, therefore, be more or less experimental:

1. The doing away with all closed interior courts, such as are found in almost all tenements previously erected, by their connection through an archway to the street.

2. The attempt to use this space, usually devoted to purposes of light and ventilation only, both as entrance courts and as social centers; in place of the street curb, particularly for children; and, secondarily, as a means of popularizing the rear tenements by giving them an outlook more nearly like those in the more fashionable front portion of the building, and giving both of these social hemispheres an equally attractive access.

3. An effort to avoid in both court and exterior treatment, as far as possible, the barrack-like effect, ordinarily the result of a great number of apartments arranged economically in one large building.

4. The sacrifice of a considerable amount of rentable space for the sake of a more than usual degree of privacy of living in all apartments by the insertion of private vestibules and hallways wherever required, so as to avoid the necessity of entering any room by passing through a bedroom or even through a so-called parlor, which latter is ordinarily the case, even in "model" tenements.

5. To the same end, the insertion of the simple shower in combination with the toilets in every apartment where baths are not otherwise provided—even in the two-room suites, for example—so as to do away entirely with all public conveniences of this sort, heretofore habitually put in groups in the basement or on some of the lower floors, and the subject of much abuse, not to say hygienically dangerous.* These showers consist of a spray nozzle, supplied with hot and cold water, set directly in the side wall about five feet six inches above the floor, pointing down at an angle of about forty-five degrees, so as to strike a person of average height on the shoulders. This permits their use by women without wetting the hair; and striking the wall at a downward angle, the splash is considerably reduced.

6. A considerable increase in the amount of window surface in the majority of rooms, particularly in the living rooms, in which a central double hung window is flanked on either side by a narrower casement for use in summer. These casements, when open, give the entire benefit of the window opening instead of one-half, as in the case of the ordinary weighted window.

7. The provision of wide exterior sills outside of such windows, with low iron rails, as a place for the setting of plants, and as a useful shelf for objects desired to be kept cool in winter.

8. The use of one-half of the roof as a roof garden and the provision of two permanent pavilions with solid roofs, for the purposes of protection, both day and night,—where tenants may sleep in the oppressive heat of summer.

9. The tapping of the ordinary vent flues required for the gas ranges at the ceiling in each living room, for the purpose of giving at least a compulsory minimum amount of ventilation for the living room, each room having its own separate flue.

10. The installation of electric conduit, with a view to the use of electricity for lighting purposes, whenever its cost shall be equivalent to that of gas, and a suitable type of "demand meter" found,—that is, a meter arranged to give automatically a certain amount of electricity, when a coin is dropped into the slot,—with the possibility, in such an event, of doing away with leakage and odors, and the very great vitiation of air in rooms illuminated by gas.

11. The arrangement of rooms and suites so that 80 per cent of all the apartments in the building have through draughts between courts, yards or streets, and the avoidance of all small shafts, recesses or re-entrant angles in the plan of the building.

12. The provision of a kindergarten, or play-room, accessible from the street, as well as from the tenement, for the use of the tenants or kindergarten associations desiring to conduct their work in the building.

*The cost of this simple contrivance was about \$16, in addition to which a certain amount of additional waterproofing of the floor was necessary.

Mr. Phipps in his letter to the men whom he asked to constitute his original board of trustees, says:

"I propose to organize a society for the purpose of building tenement houses in the city of New York, preferably in the borough of Manhattan, if it can be done advantageously, but if land be found too high, or if building conditions are such as to threaten undue cost of construction or unreasonable delay, then in the other boroughs of the city or elsewhere.

"I propose to give one million dollars for this purpose. I expect the tenements to be so planned as to earn about four per cent on their cost, after allowing a proper amount for their maintenance and repairs. I intend to have the earnings accumulate and to be used from time in erecting more tenements,

"My wish is that the rooms should not be rented at a price below the market rate. I do not wish to discourage individual investors from building tenements on a purely business basis. To do so might check building operations, raise rents, and, in the end, prove injurious to the working people whom I wish to aid and who must rely in so large a measure on building for purely business reasons to provide them with homes."

Thus, under the provisions of Mr. Phipps' donation, each building erected has the reproductive power characteristic of a living organism, and becomes, within a short period of years, the father of a new generation of model tenements.

Starting with three buildings, which we may assume to represent the original investment of the one million dollars donated by Mr. Phipps, giving a total housing capacity of some two thousand people, the Phipps Houses, if their cumulative earnings be devoted continuously to the acquirement of new land and buildings, will, in the days of our grandchildren, very probably number a round hundred buildings, housing no less than sixty thousand souls, and covering, if grouped together, some fifty average New York city squares.

Although this is clearly the policy intended, to avoid certain obvious dangers and as a general precaution, it is not made obligatory upon the trustees who are actually given the power to distribute the income among benevolent and charitable institutions.

While the model tenement problem in New York is, under present laws and conditions, probably near the crystallization point with respect to economy and efficiency of plan, their being in this respect surprisingly little margin for improvement, its solution in the matter of construction and decoration is undoubtedly far from being reached. While in the last analysis of such a problem these two elements should doubtless be synonymous and result in a building that will produce a decorative effect through ornamental construction, without constructed ornament, the model tenements erected so far have almost universally failed to express externally the "home" idea, which seems such a vital element in any proper definition of a model tenement. In the matter of interior arrangement, and practical conveniences, it is much more nearly realized, but its architectural expression is, as a rule, institutional, if not barrack-like and hopelessly dreary.

And it is more than a question of the influence of the æsthetic, which we are so apt to assume as an attribute of education and wealth and not of nature, recognizing it in its artificial and less healthy phases where we ignore its cravings and deny its gratification in the masses in whom its potency for good is really greatest and most extensive.

Editorial Comment and Selected Miscellany

ARCHITECTS' NAMES.

IN every daily paper there are reports of social gatherings, civic functions or public events, in connection with which will be published the names of officials, committeemen or even just plain citizens, the newspapers seeming to delight in associating some names with a news item whether it be a runaway match, a reunion of the Smith family, or the launching of a motor boat. But when it comes to the matter of a work of art, to a notice of a public building, to a description of some architectural or artistic success, it seems as if our daily press is determined to wholly avoid the use of certain names and ignore, as completely as possible, the architect, the builder and those who are really responsible for the work. Indeed, it seems almost as if the more pronounced the architectural success, the less willing are the papers to associate it with any name. Entertainment committees, reception committees, committees of ladies, even sextons' names, appear to have a legitimate and welcome place, but the architect who may have worked for months and produced a genuine addition to civic beauty and to municipal art, is conspicuous by his absence. Occasionally, we find an editor who is frank enough to say that he does not propose to advertise the architect. The unfairness of it all does not seem to appeal to any of our daily papers. But even aside from a question of whether it is or it is not advertisement, the papers are equally blind to the fact that the name of an architect and builder, associated with the building is a matter of genuine interest to a great many people. Where there are a dozen who would watch for the name of the chairman of the

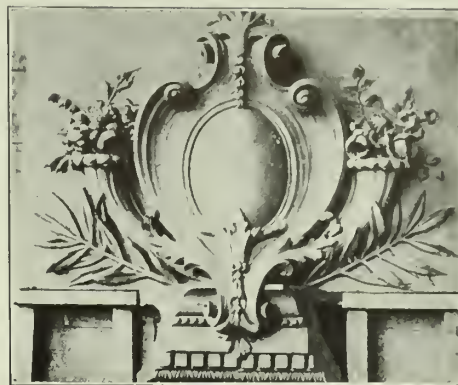
building committee, or the ladies who are to furnish flowers for the event, there would be a hundred who would have a direct personal interest in knowing who is the builder or who is the architect; and as a matter

of news for the public, leaving aside entirely the architect and his feelings, it ought to be an accepted fact that in any printed description of a building, the name of the architect and builder is of more importance than any other one single item.

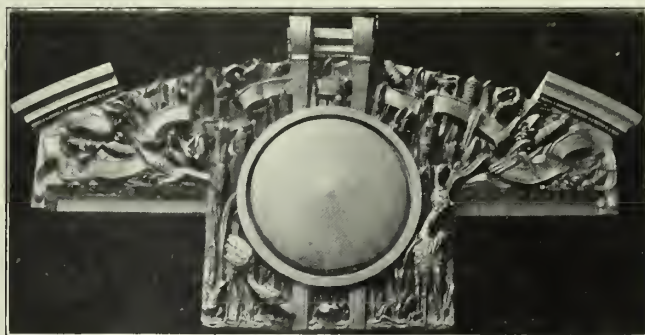
There is a deeper reason, however, why the name of the creator of a piece of architecture should be made public in connection with every reference to a building. Architecture is too closely connected to the life and the growth of civilization to be disregarded, and the extent of public appreciation of good architecture is, after all, a pretty precise index of the measure of civilization and culture. A disregard of the personal element in our architecture implies a lack of appreciation of what architecture really is, a lack of

interest in architecture as a creation, and an unwillingness to recognize the force of individual effort in the development of our national growth. To that extent the action of our newspapers, though often unthinking, though generally arising from mere neglect or oversight on the part of uninformed reporters, rather than from any deliberate intent to slight, indicates a lack in our public sentiment and appreciation, which ought to be remedied. The public has a right to know who is responsible for these buildings. The architect has a right to have his creations recognized and known as such, and if they are wrong or bad he should receive in his own name the onus and the blame, just as when they are right, he should receive the credit and the praise.

The remedy is in the hands of the people themselves. The newspapers are not run as opportunities for spite against artists or architects, but to meet the demands of the people, and if the readers of the daily press would take the trouble to write to the papers when the name of an architect does not accompany that of the building, and ask for it as a matter of public interest, a sentiment would soon be manifested that would tend very greatly to



DETAIL BY WINKLE TERRA COTTA CO.



DETAIL BY SOUTH AMBOY TERRA COTTA CO.



HOUSE AT MT. VERNON, N. J.
Van Vleck & Goldsmith, Architects.
Roofed with "Old Mission" Tile, made by Ludowici-Celadon Co.



HENGERER BUILDING, BUFFALO.

Porter & Son, Architects.

Entire exterior from second floor up of Gray Dull Glaze Terra Cotta.
Made by Atlantic Terra Cotta Co.

the raising of the standard of appreciation. It is not a matter of advertisement, nor merely a matter of individual justice, but it is a question of the public being able to interest itself intelligently and discriminatingly in the work of those who are writing, in stone and clay, the history of the land.

AN ADVISORY BOARD OF ARCHITECTS.

THE street railway system of the city of Boston is under the control of a single corporation known as the Boston Elevated Railway Company, which leases the subways and, in addition to its surface lines, has built and operated a number of elevated structures circling the



HOUSE AT WARREN, PA.

E. A. Phillips, Architect.

Roofed with Green Glaze Tile.

Made by Cincinnati Roofing Tile & Terra Cotta Co.

business portion of the city and reaching out toward the suburbs. At the North Union Station a work of considerable magnitude has been under consideration for some time, involving the construction of a large elevated station, a long viaduct reaching towards the west through the streets and a causeway on the down stream slope of the Charles River Dam connecting Boston and Cambridge. In the designing of these elevated structures the Railway Company has taken a stand which is deserving of great praise. It was desired not merely to mitigate the appearance of these structures but to make them worthy additions to the architectural interest of the city, and the Railway Company, with the advice of the Boston Society of Architects, appointed five of the leading architects of the city to act as an advisory board to consult with the Railway Company's experts on matters relating to art and architecture. So far as we know this is the first instance in this country of a public service corporation deliberately seeking the advice and coöperation of a society of architects in an endeavor to improve the architectural appearance of its structures. There have been numerous cases

where individual architects have been employed to design a portion or the whole of a system, but they have not been



HOUSE AT WASHINGTON, D. C.

A. P. Clarke Jr., Architect.

Roofed with Bennett's Roofing Tiles.

in a position to give unbiased or free advice, their criticisms have always been regarded from an engineering rather than from an architectural standpoint, and it is one of the artistic disgraces of our country that railroad structures as a whole have been of such an inferior character. It is not too early yet to say what will be the results in Boston. The causeway across the Charles has been given an architectural turn in its appearance, a dignity of composition which quite removes it from a mere utilitarian engineering structure and there have



ST. CLARE'S CHURCH, WEST 36TH STREET, NEW YORK.
N Serracino, Architect.

been some ideas put in execution with the ordinary elevated street construction which are very interesting and are a decided advance over the awkward framed structures which one usually sees and associates with an elevated railway. It is not probable that the results obtained in Boston will be as satisfying as those which are found in Paris and Berlin. Even our most public spirited corporations are not yet prepared to pay for good looks at the rate which seems to obtain so easily abroad, but where there is so much room for improvement, even a little advance is a decided gain, and Boston is certainly leading the procession in its attempts to make an elevated structure endurable.



DETAIL BY KEES & COLBURN,
ARCHITECTS.
American Terra Cotta Co., Makers.

BUILDING OPERATIONS FOR AUGUST.

A GREAT volume of building and construction is still

going on throughout the United States. Official reports, from some fifty representative building centers, to the *American Contractor*, New York, tabulated, show a gain in twenty-two cities, varying from 1 to 463 per cent, and 28 cities show a loss from 1 to 74 per cent as compared with August of the past year. 1906 being a record breaker in the field of building construction, the statistics of the past month make an excellent showing. Leaving out Greater New York, which shows a loss of 21 per cent, the average loss would be about 3 per cent.

IN GENERAL.

J. Harleston Parker and Douglas H. Thomas, Jr., who have practised architecture under the firm name of Parker &



DETAIL BY HALE & ROGERS,
ARCHITECTS.
New York Architectural Terra Cotta
Co., Makers.



DETAILS BY GILLESPIE & CARREL, ARCHITECTS.
Brick, Terra Cotta & Tile Co., Makers.

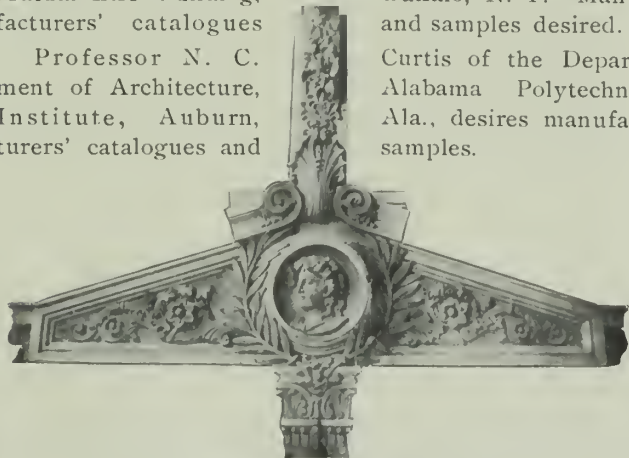
Thomas, and Arthur Wallace Rice of Peters & Rice, all of Boston, have formed a co-partnership under the firm name of Parker, Thomas & Rice, offices 110 State Street, Boston.

John Parkinson & Edwin Bergstrom, architects, of Los Angeles, Cal., announce the removal of their office to 1035 Security Building.

Architect M. I. Kast of Harrisburg, Pa., has opened a branch office in the Kohler Building, Hagerstown, Md., which will be in charge of A. J. Klinkhart.

Architect Edward G. Henrich has opened an office in the Mutual Life Building, Buffalo, N. Y. Manufacturers' catalogues and samples desired.

Professor N. C. Curtis of the Department of Architecture, Alabama Polytechnic Institute, Auburn, Ala., desires manufacturers' catalogues and samples.



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
New Jersey Terra Cotta Co., Makers.

Eli Benedict, architect, will conduct the class in Architectural Drawing in the night school of the Y. M. C. A., 23d Street, New York, during the coming season. Mr. Benedict's Atelier Class will be continued at Lincoln Square Arcade, 1947 Broadway, New York.

Pittsburg Architectural Club will hold its Annual Exhibition in the Carnegie Institute Galleries from



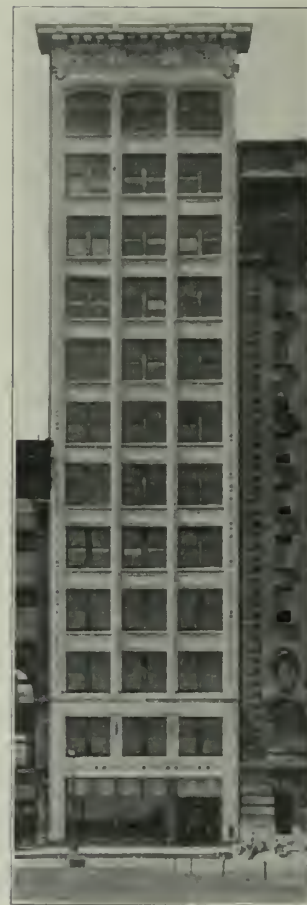
DETAIL BY WILLIAM STEELE & SONS, ARCHITECTS.
Conkling-Armstrong Terra Cotta Co., Makers.

November 9 to December 1. For full particulars apply to Richard Kiehnel, 902 Publication Building, Pittsburg.

An Exhibition of the Arts and Crafts will be held in the Galleries of the National Arts Club and the Studios of the National Society of Craftsmen, New York, from November 19 to December 11.

The Architectural League of America will hold a competition, open to members of the organizations comprising the League, for a cover design to be used in the Architectural Annual. One prize of fifty dollars and three honorable mentions will be given. The competition closes October 15. For particulars apply to Edmund H. Poggi, 529 Real Estate Trust Building, Philadelphia.

The Washington Architectural Club recently gave an "Inspection Tour by Automobile," of the principal public buildings in course of construction. Some fifty odd members participated. The cost per person was seventy-five cents.



MUNICIPAL COURT BUILDING,
CHICAGO.

Jenney, Mundie & Jensen,
Architects.

Front of White Enameled Terra Cotta. Made by Northwestern Terra Cotta Co.

COMPETITION FOR PLANS FOR THE CAPITOL OF PORTO RICO.

San Juan, Porto Rico.

By Act of the Legislative Assembly of Porto Rico, dated March 14, 1907, the Commissioner of the Interior is authorized to announce a competition for a building to be known as the "Capitol of Porto Rico," the cost of such building not to exceed \$300,000.00.

Architects who wish to enter this competition must signify their intention in writing, to the Commissioner of the Interior, on or before November 1, 1907. Drawings will be received from no others.

The competitive designs must be received on or before February 1, 1908.

Copies of the program, embracing terms of the competition, will be mailed upon request.

L. H. GRAHAME,
Commissioner of the Interior,
San Juan, P. R.

WANTED—In an architect's office located in a city in Mexico, a first-class draughtswoman who is competent in design and construction. A good permanent position. Address Mexico, care of THE BRICKBUILDER.

WANTED—Partner, by a well established Chicago architect with a growing practice. Address, with details, "Chicago," care THE BRICKBUILDER.

DETAILER WANTED—An office doing a good class of work, and located in a popular winter resort of the South, wants a man for details and general office work.

Address, c x 30, care THE BRICKBUILDER.



PHIPPS HOUSES, TENEMENT NUMBER 1, EAST 31ST STREET, NEW YORK, N. Y.

GROSVENOR ATTERBURY, ARCHITECT.

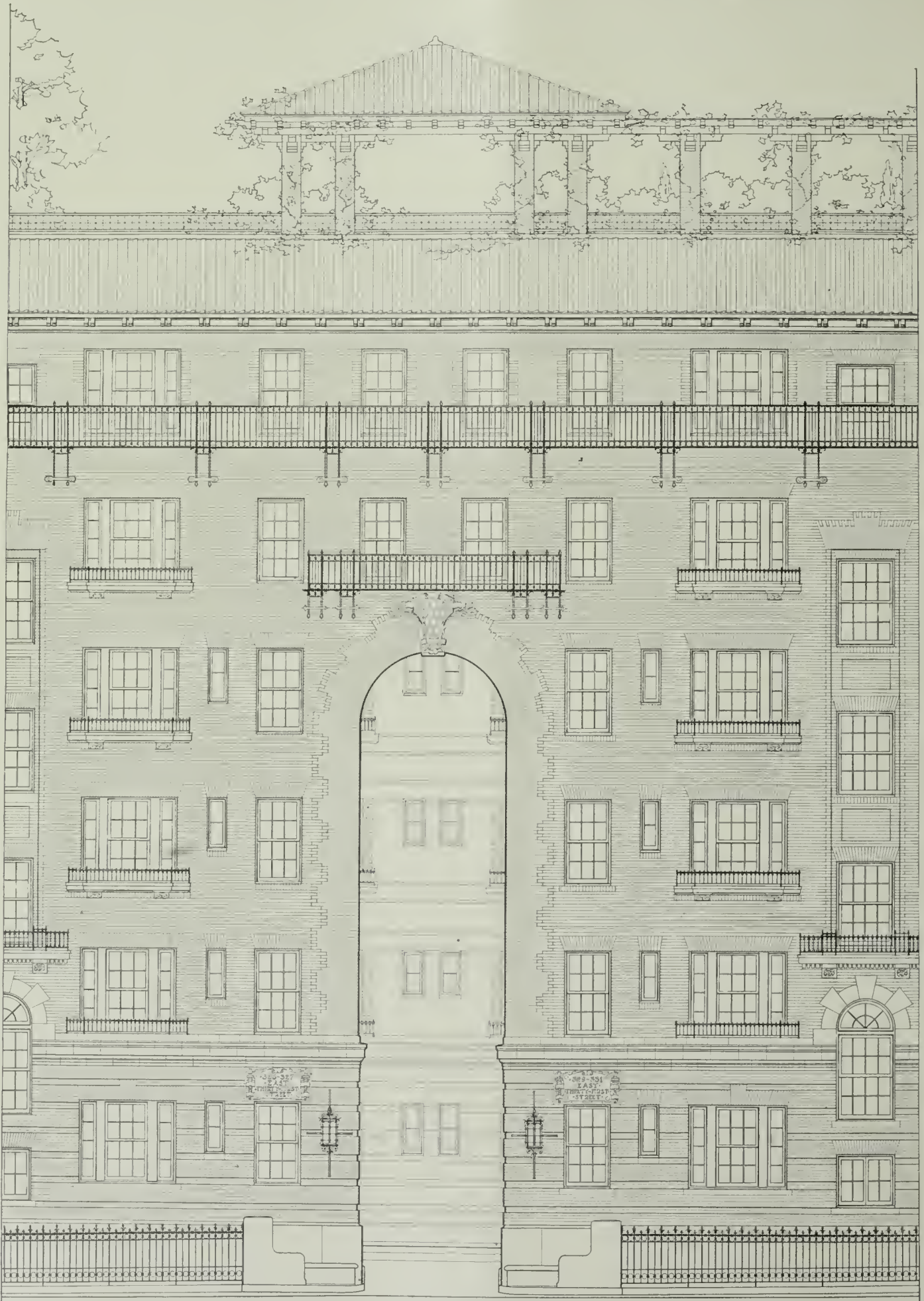


THE ROOF GARDEN.



A VIEW OF ONE OF THE COURTS.
PHIPPS HOUSES, TENEMENT NUMBER 1, EAST 31ST STREET, NEW YORK, N. Y.
GROSVENOR ATTERBURY, ARCHITECT.



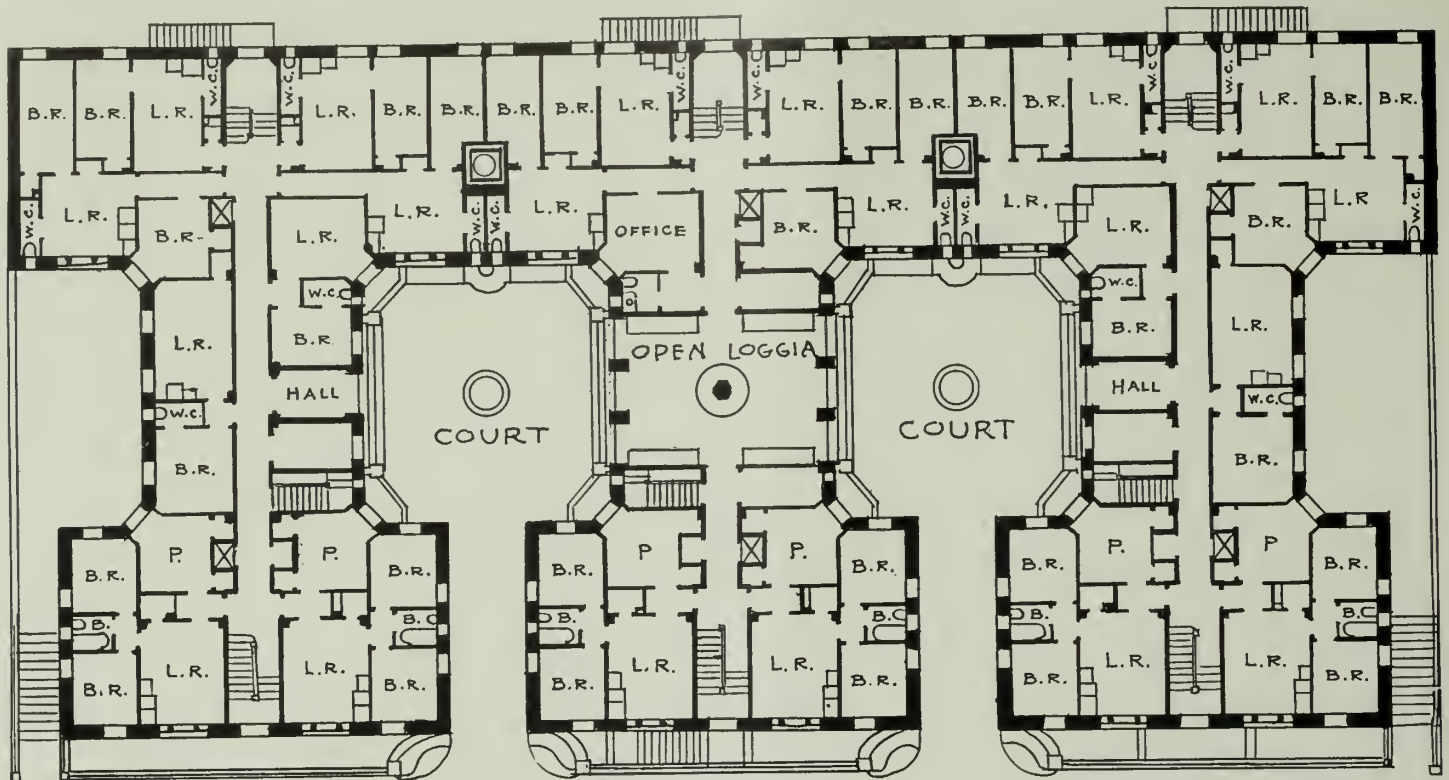


DETAIL OF FRONT ELEVATION.

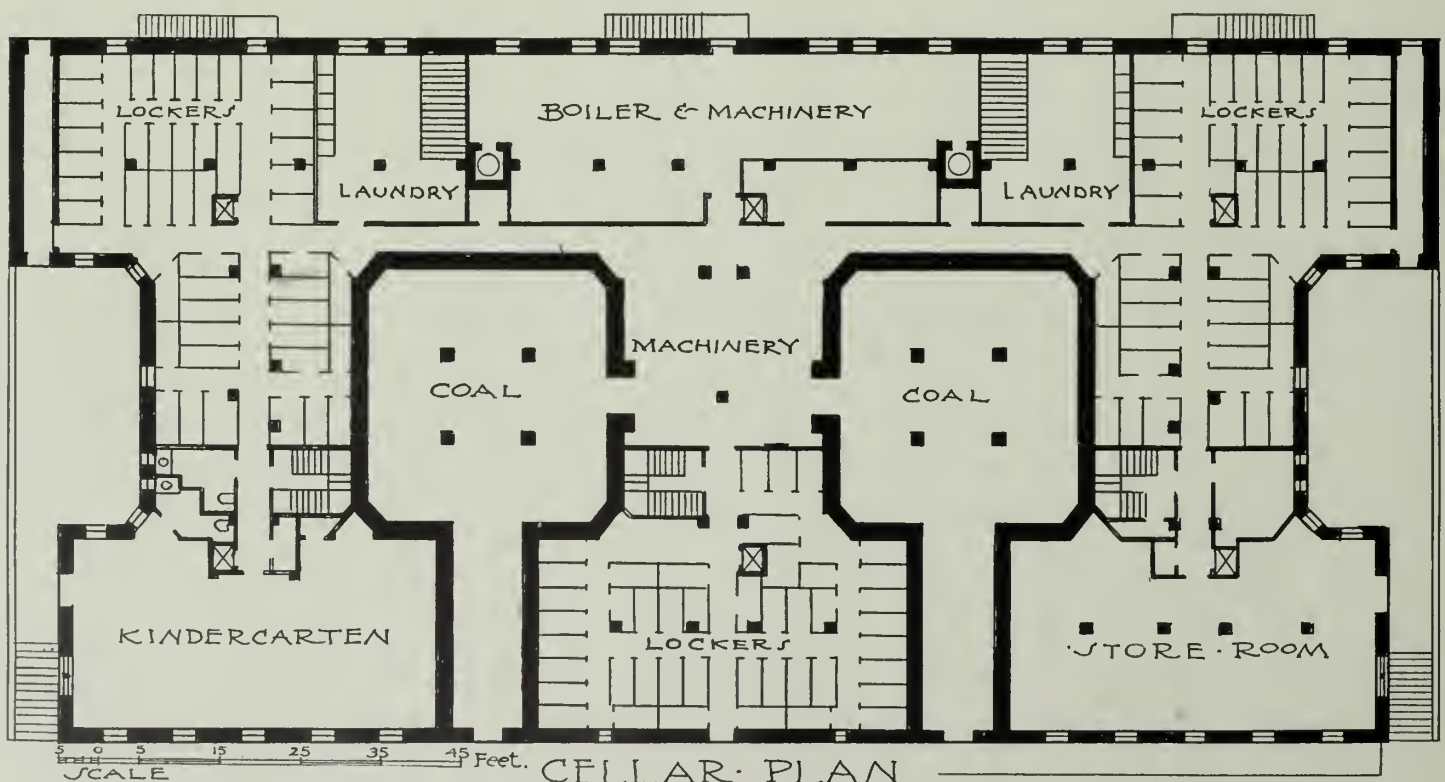
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GROSVENOR ATTERBURY, ARCHITECT.





FIRST FLOOR PLAN



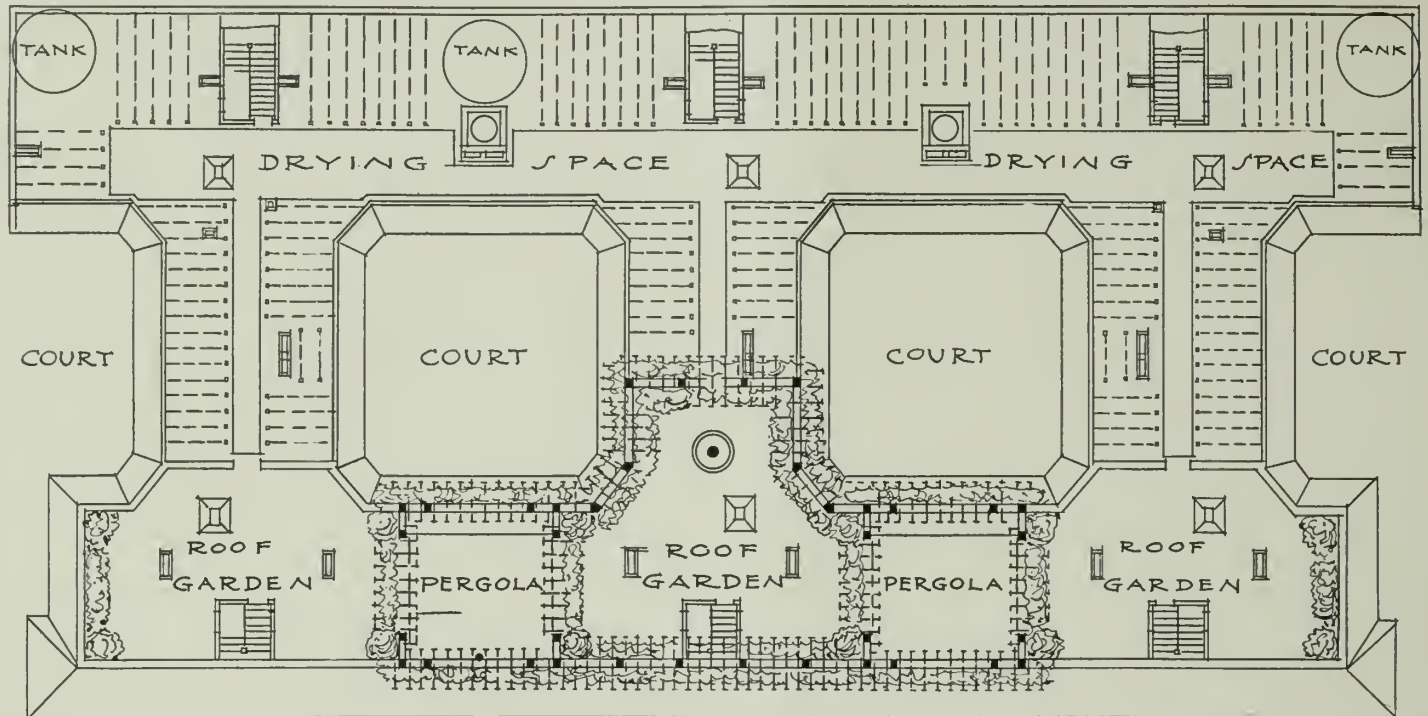
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CELLAR PLAN

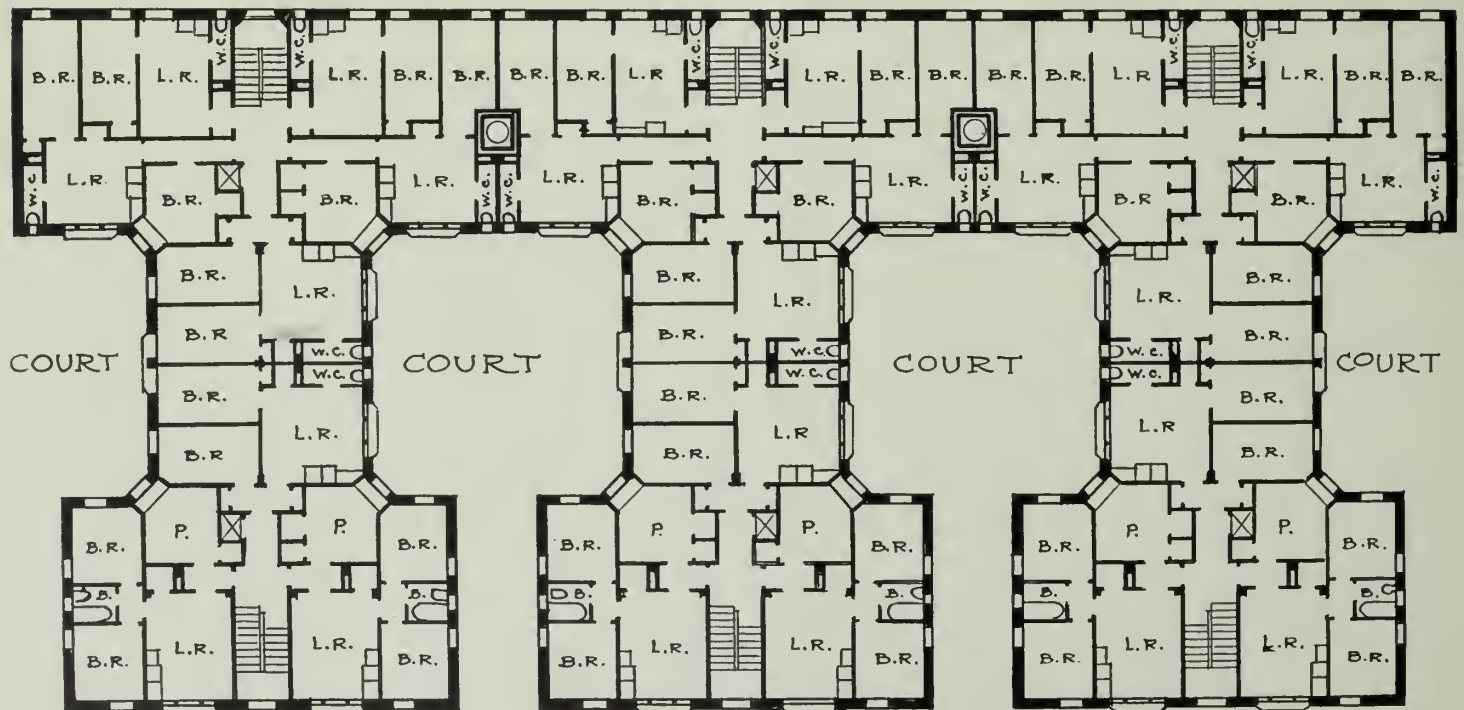
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GROSVENOR ATTERBURY, ARCHITECT





· ROOF · PLAN ·



· TYPICAL FLOOR · PLAN ·

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GROSVENOR ATTERBURY, ARCHITECT.





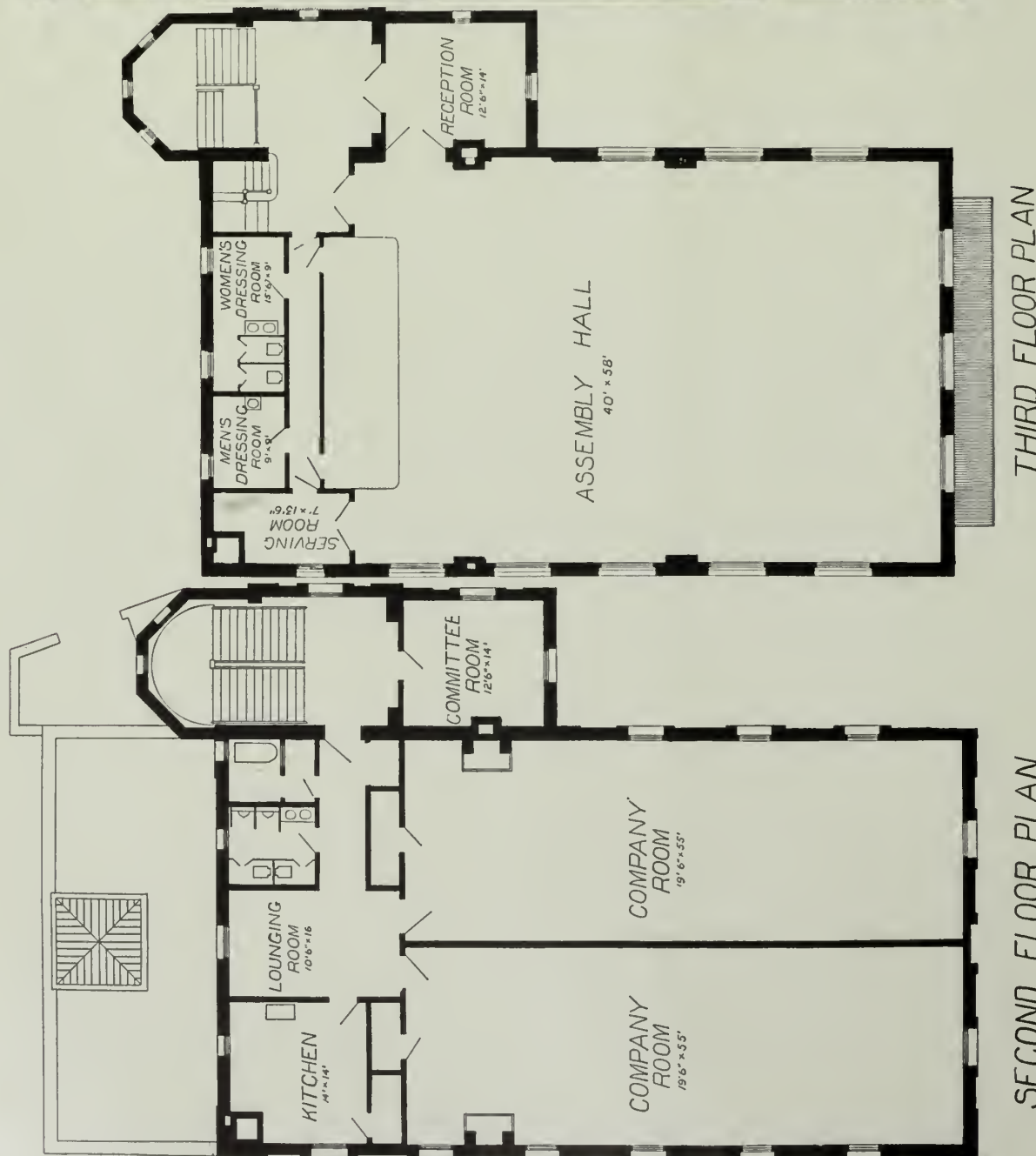
FIRE STATION AND AMUSEMENT HALL, PORTCHESTER, N. Y.

LORD & HEWLETT, ARCHITECTS.





FIRST FLOOR PLAN



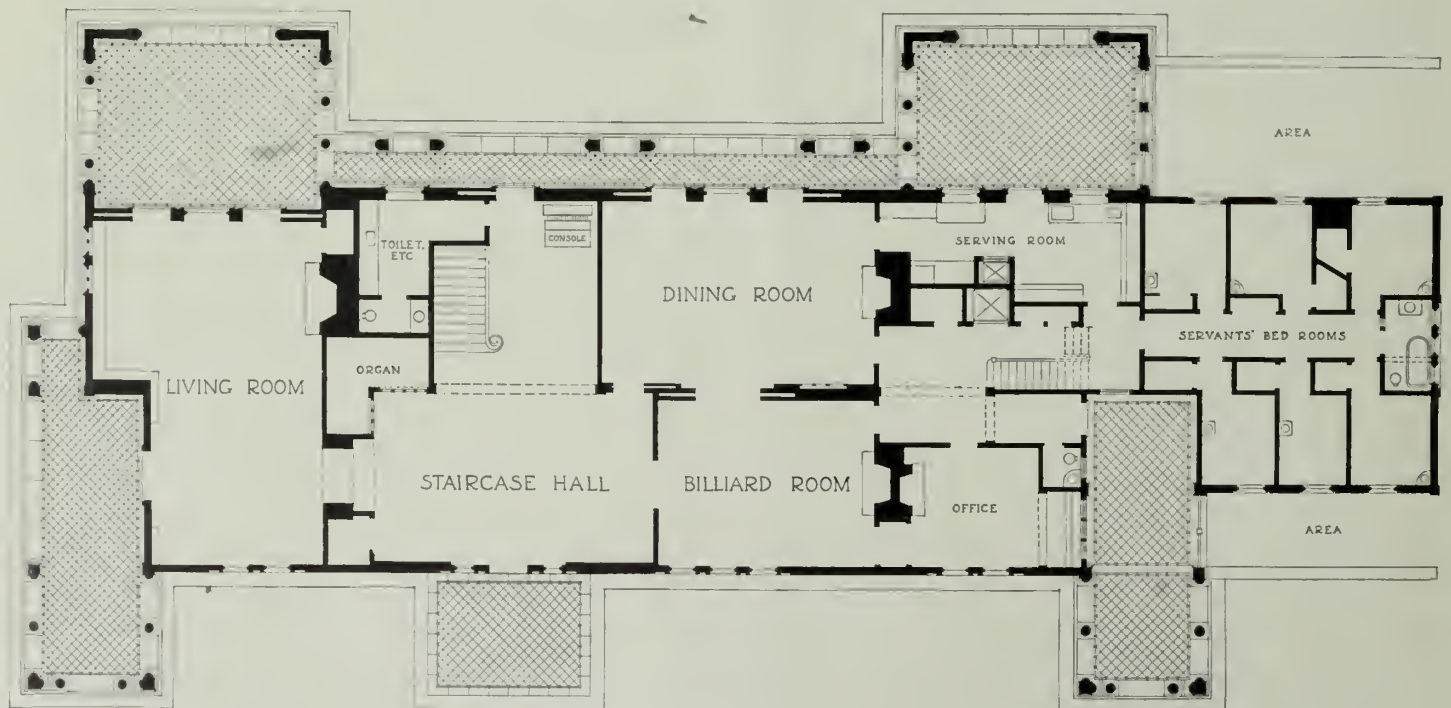
SECOND FLOOR PLAN

THIRD FLOOR PLAN

FIRE STATION AND AMUSEMENT HALL, PORTCHESTER, N.Y.

LORD & HEWLETT, ARCHITECTS.



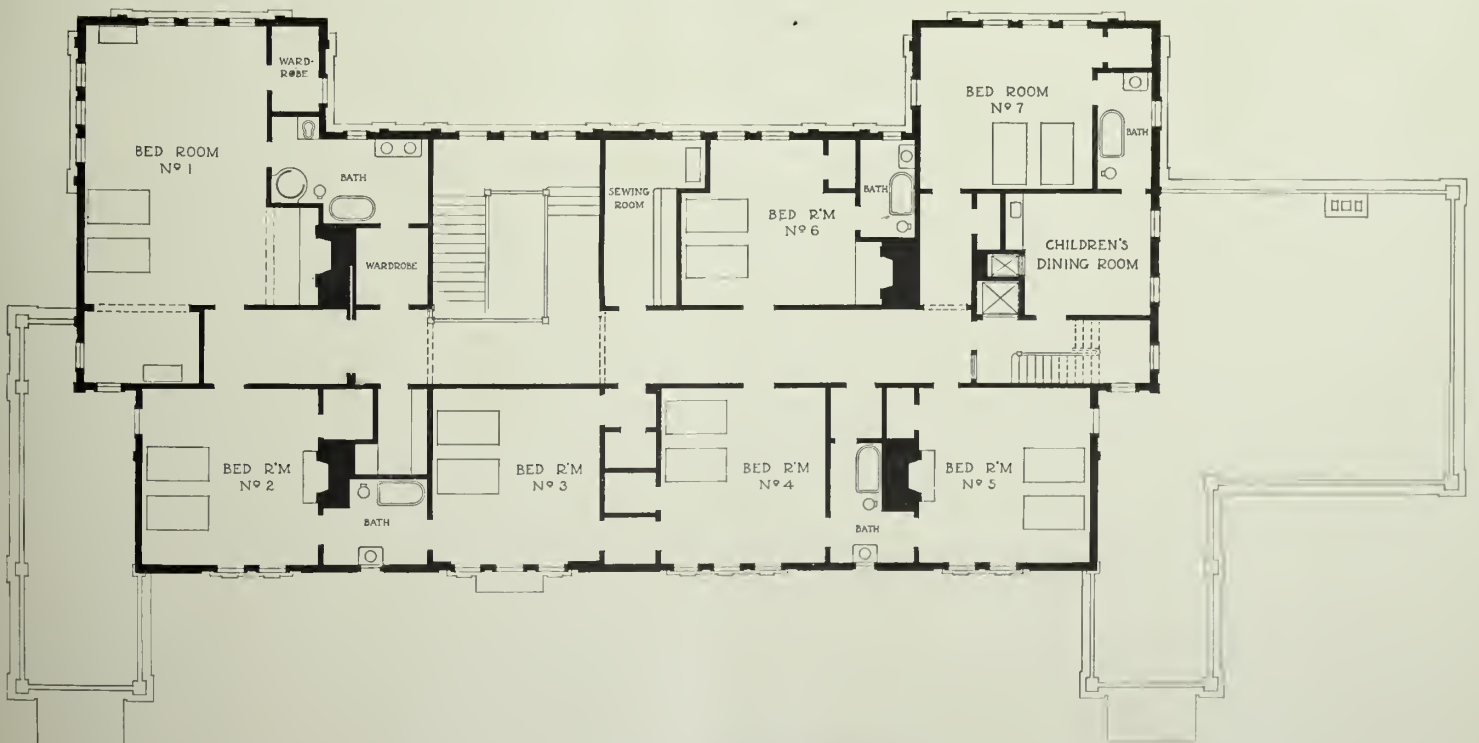


FIRST FLOOR PLAN

SCALE

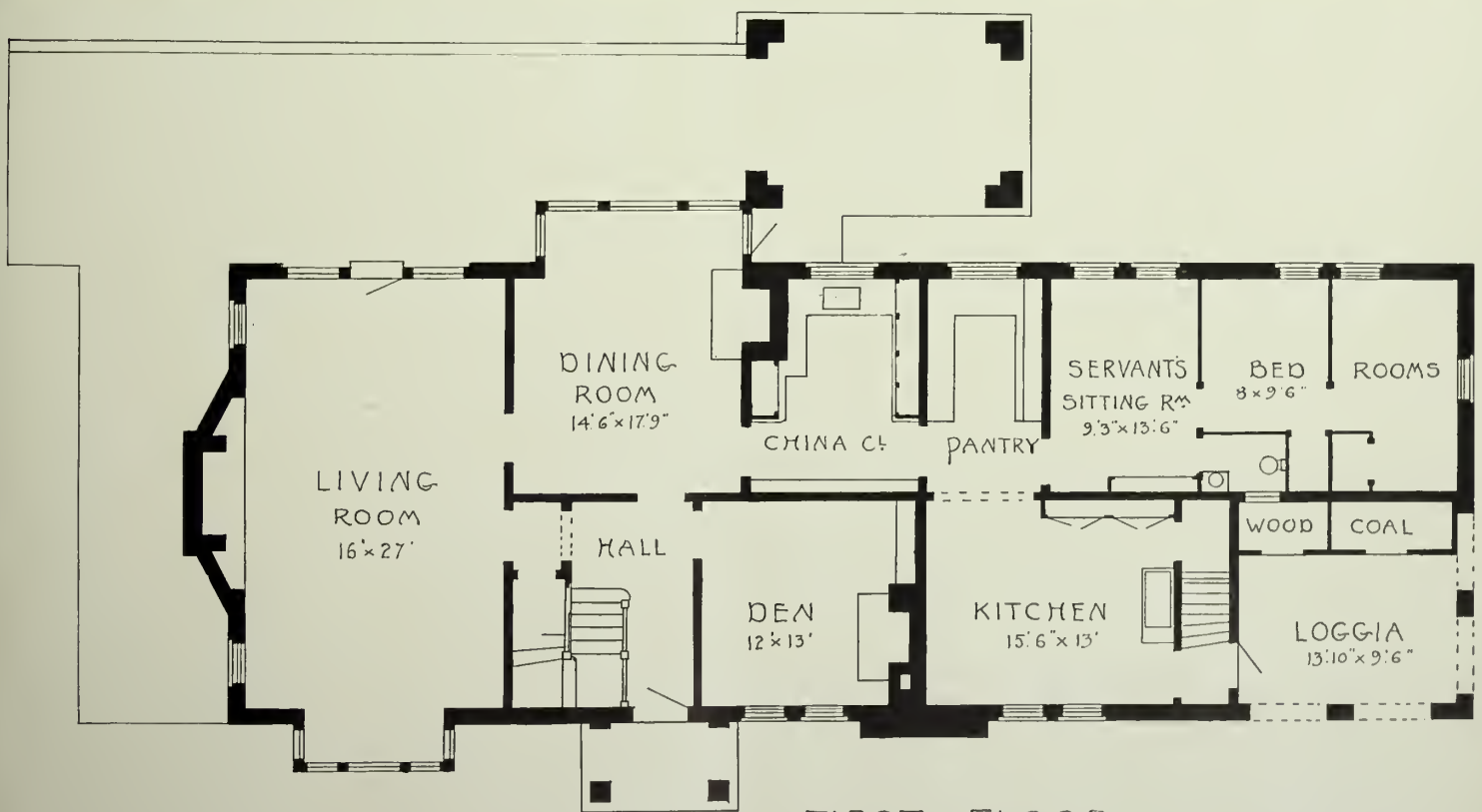
HOUSE AT GLEN COVE, LONG ISLAND, N. Y.

BABB, COOK & WILLARD, ARCHITECTS.



SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"

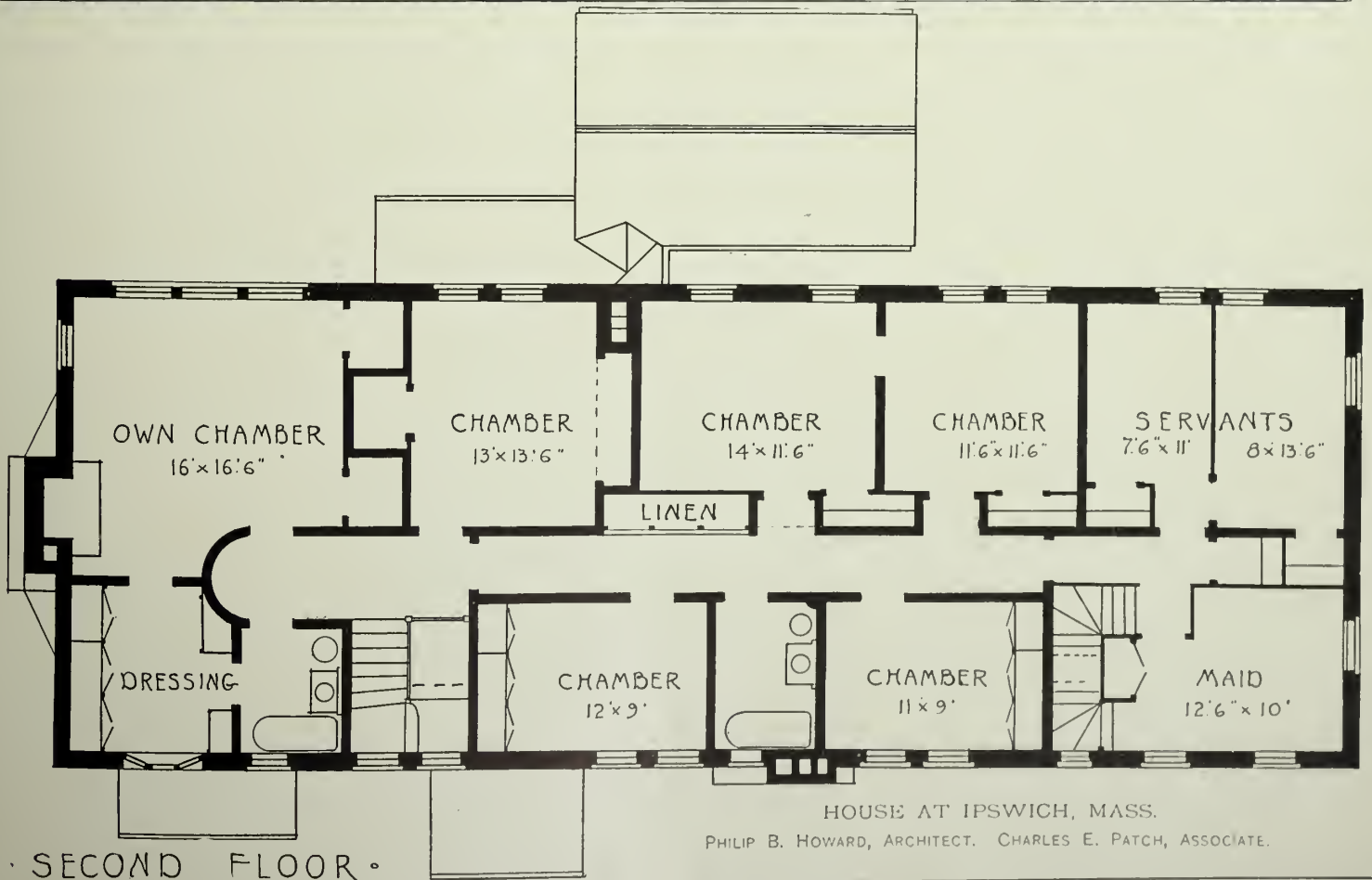
HOUSE AT GLEN COVE, LONG ISLAND, N. Y.
BABB, COOK & WILLARD, ARCHITECTS.

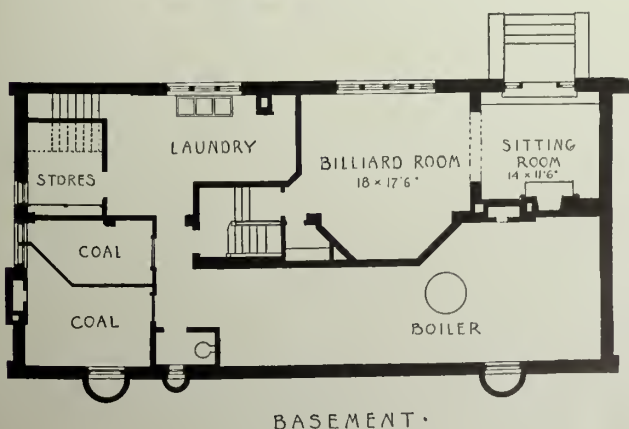
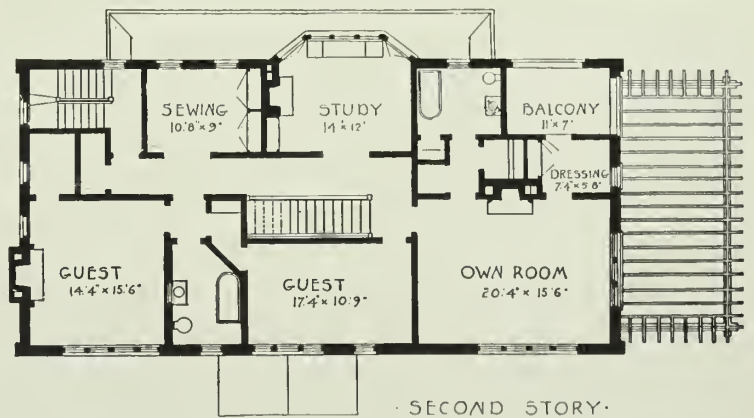
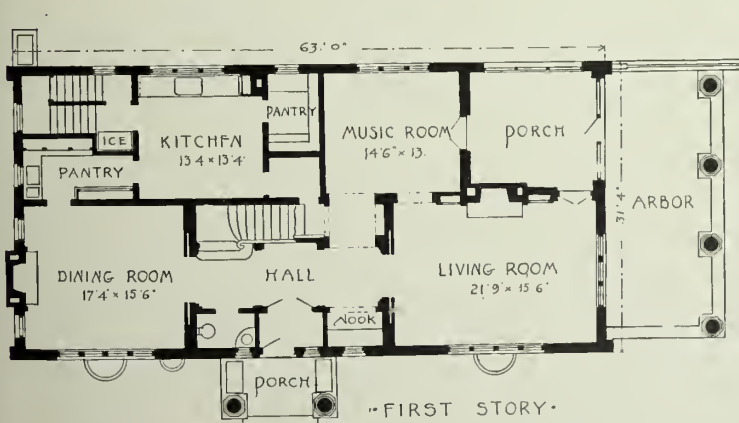


• FIRST FLOOR •

HOUSE AT IPSWICH, MASS.

PHILIP B. HOWARD, ARCHITECT. CHARLES E. PATCH, ASSOCIATE.

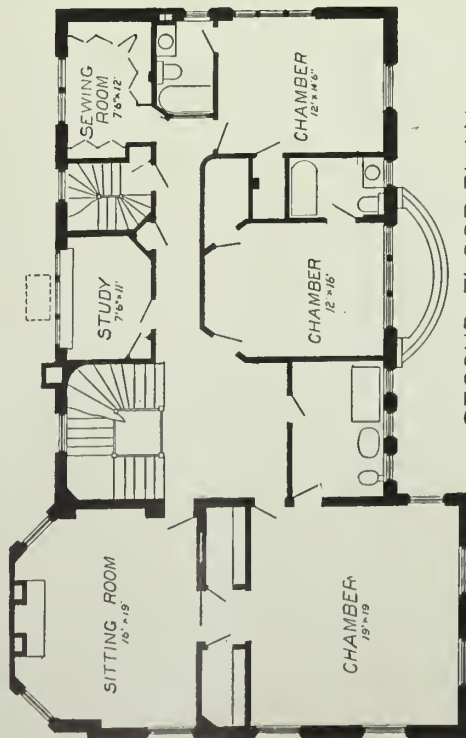




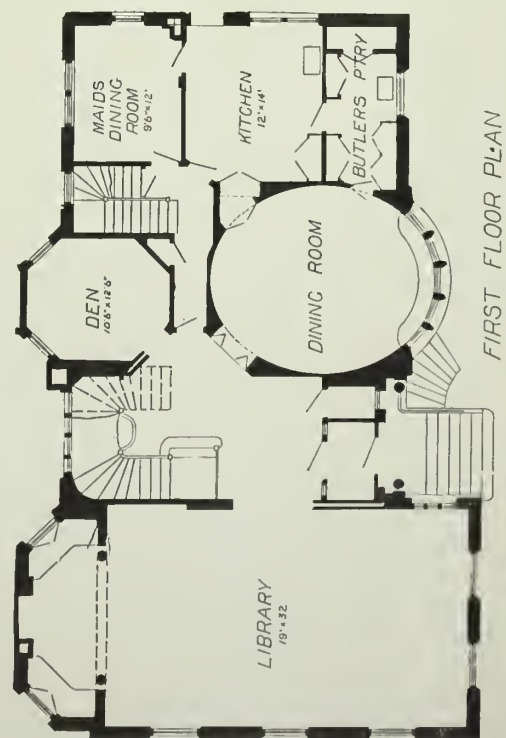
HOUSE AT EVANSTON, ILL.
PHILLIPS, ROGERS & WOODYATT.
ARCHITECTS.



THIRD FLOOR PLAN



SECOND FLOOR PLAN

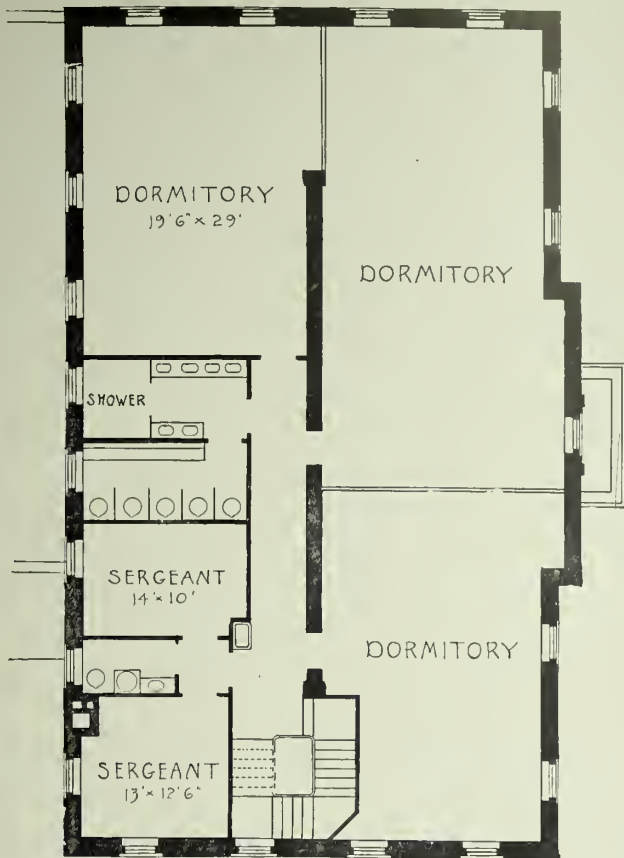


FIRST FLOOR PLAN

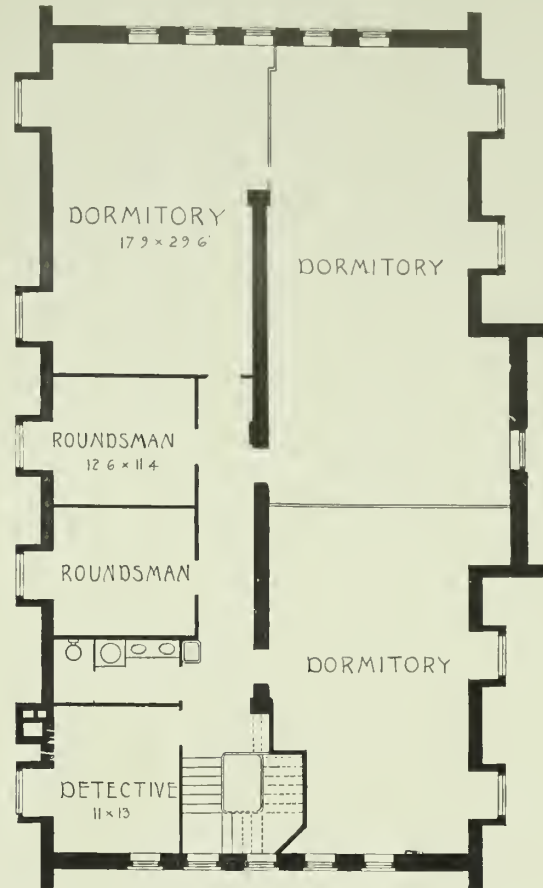
HOUSE AT 71 ASTON STREET, CHICAGO, ILL.
W. CARBYS ZIMMERMAN, ARCHITECT.



THIRTY-NINTH PRECINCT POLICE STATION, MT. VERNON, NEW YORK, N. Y.
WHITFIELD & KING, ARCHITECTS.



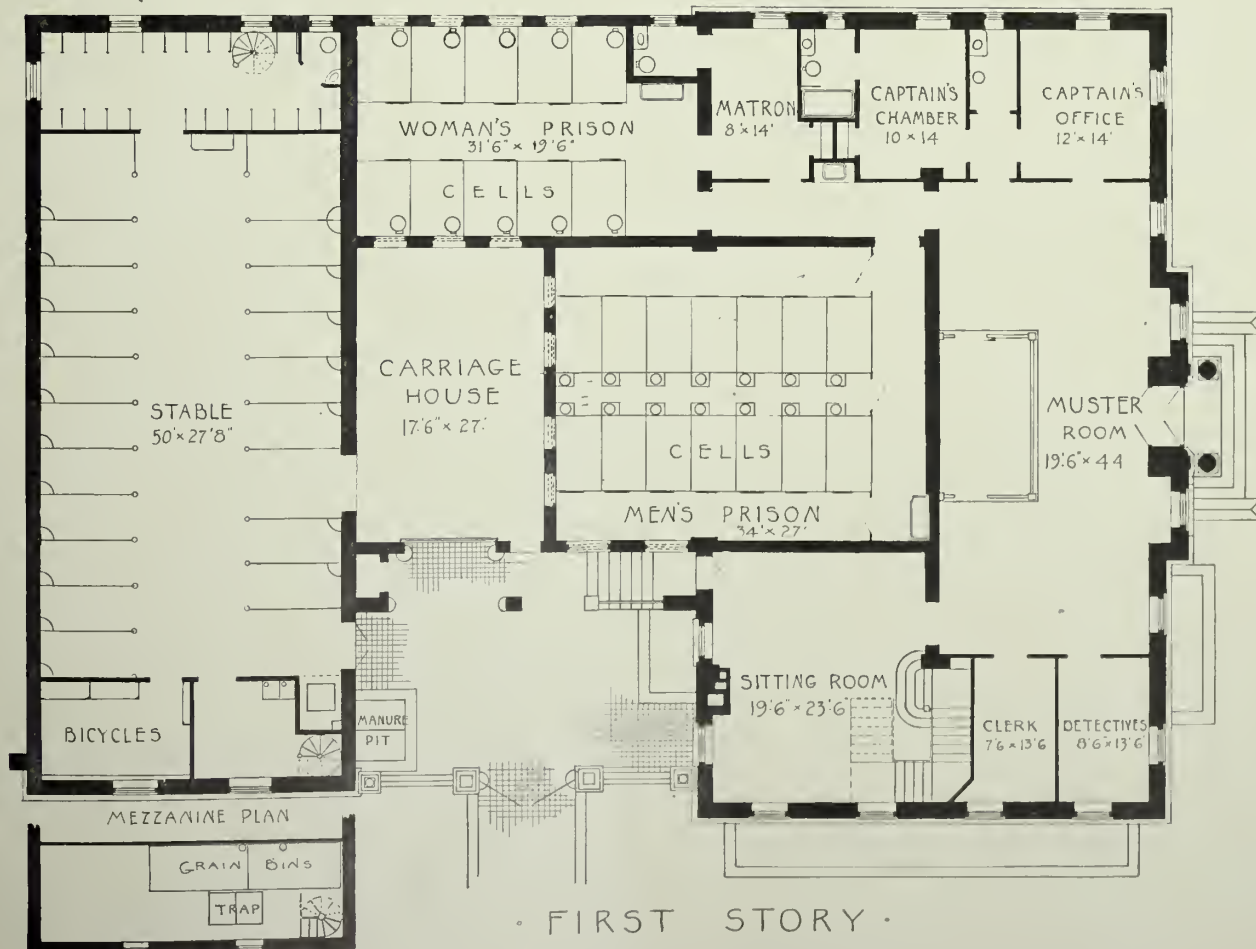
• SECOND STORY •



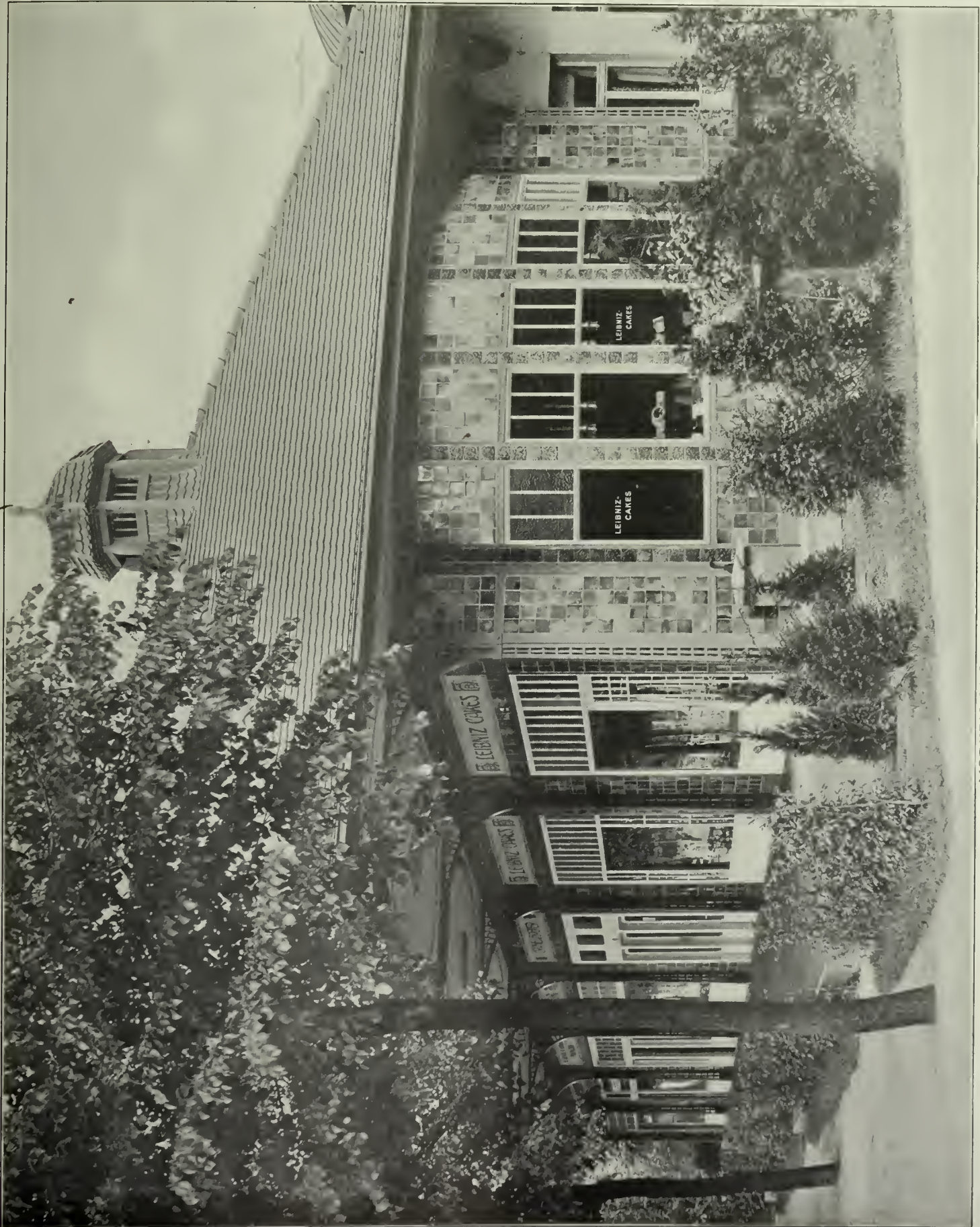
• THIRD STORY •



MEZZANINE PLAN



• FIRST STORY •



MODERN SHOPS AT DRESDEN, GERMANY.

FRITZ SCHUMACHER, ARCHITECT.

SHOWING INTERESTING USE OF TILE AND STRUCTURAL STEEL FOR EXTERIOR WALLS.

THE BRICKBUILDER

VOLUME XVI

OCTOBER 1907

NUMBER 10

PUBLISHED MONTHLY BY ROGERS & MANSON

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Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

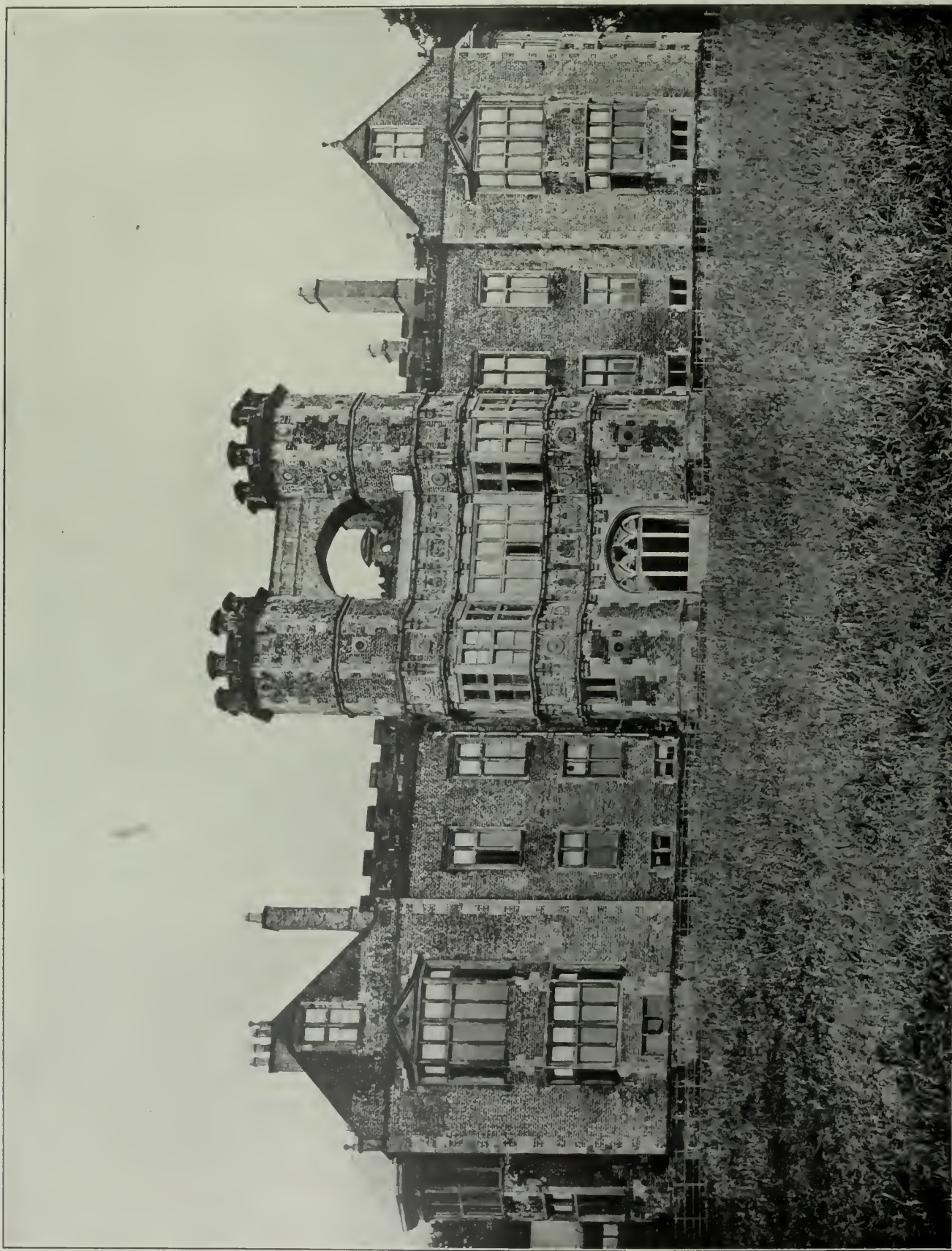
PLATE ILLUSTRATIONS

FROM WORK BY

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LETTERPRESS

BRERETON HALL, THE PRINCIPAL FRONT, CHESHIRE, ENGLAND.....	Frontispiece
EDITORIALS	171
THE DESIGNING OF A COURTHOUSE.....	J. B. Noel Wyatt 172
ARRANGEMENT OF PHOTOGRAPHS AND MAGAZINE PLATES.....	175
HOUSE AT SEWICKLEY, PA.....	Alden & Harlow, Architects, Illustrations 177
HOUSE AT SEWICKLEY, PA.....	Alden & Harlow, Architects, Illustrations 178
HOUSE AT PRINCETON, N. J.	W. E. & F. S. Stone, Architects, Illustrations 179
HOUSE AT CYNWYD, PA.....	Field & Medary, Architects, Illustrations 180
HOUSE AT GERMANTOWN, PA	George T. Pearson, Architect, Illustrations 181
HOUSE AT SYRACUSE, N. Y.....	A. L. Brockway, Architect, Illustrations 182
HOUSE AT NEEDHAM, MASS	Philip B. Howard, Architect, Illustrations 183
DESIGN FOR A SUBURBAN HOUSE	Edgar Guy, Architect, Illustrations 184
THE GROUP PLAN. IV. Hospitals (Continued)	Alfred Morton Githens 185
EDITORIAL COMMENT AND SELECTED MISCELLANY	187
PROGRAMME FOR "THE BRICKBUILDER" ANNUAL COMPETITION.....	192



BRERETON HALL, THE PRINCIPAL FRONT, CHESHIRE, ENGLAND

THE BRICKBUILDER

VOL. 16 NO. 10

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

OCTOBER 1907

The Theater Competition.

IT has been the practice of THE BRICKBUILDER for a number of years to offer money prizes of considerable amount for the best designs in architectural terra cotta, submitted in competition in accordance with a definite programme. The subject selected this year, as will be seen by the announcement elsewhere in this issue, is a theater, and we believe it will be of more than mere passing interest to the contestants, being of value to our subscribers and to the architectural profession generally.

Unless one has followed somewhat closely the doings in the theater world it is easy to lose sight of the extent to which the theater has come to the front as an architectural problem within the past few years. The large combinations of capital and talent have been able to offer opportunities to the architect in this direction, such as came but seldom in the past, when individuals owned isolated theaters and leased them to traveling companies. Moreover, in many respects the theater is one of the most fascinating problems which can be offered to the architect, and in its solution there is involved a great deal more than the mere question of an intelligent use of ornament and a pleasing composition in design. Theater building has, to a considerable extent, been confined to specialists, but there is nothing insurmountably difficult in the solution of the problem as it usually offers itself, and the probabilities are that each year the general practitioner will be more likely to include a theater in the scope of his work. We believe, therefore, that in this competition, while primarily intended to call out designs for the employment, in a beautiful and appropriate manner, of architectural terra cotta, there will also be presented, as a result of the labors of the many men to whom the competition will prove attractive, a mass of documents which will be pretty sure to be of tangible value to the architect who may be called upon to construct an actual theater. Also, the value of a competition of this sort is far reaching in its effects, and the draughtsman who gives serious study to it will influence his fellows in the office, and not unlikely his employers will be stimulated by the enthusiasm which we anticipate for this competition, and which was so marked in the competitions of previous years.

There are some points not specifically mentioned in the printed programme which we venture to suggest for the consideration of the competitors. The Paris Opera House was the creation of a genius. It was a monumental treatment of a grand, majestic problem, and the

design was so emphatically theatrical in every respect that Garnier's influence is hardly less strong to-day than it was thirty years ago when the Opera was opened. Consequently, the young man who starts in to consider a theater as an abstract problem is very apt to take as his *parti* the general *motif* of the Paris Opera House, with its strong accusation on the outside of the three principal divisions in plan,—foyer, *salle* and stage,—forgetting that the Paris example was purposely carried to an extreme, that the dome, which is supposed to mark the *salle*, is really occupied by a carpenter shop, and that such lavish disregard for cubic contents would be simply ruinous in anything but the most liberally endowed state institution. The American theater has developed a sensible, straightforward and perfectly logical treatment, which needs only the adornment of appropriate and legitimate design to make it just as correct as the Paris type, without straining after accusations of the plan.

Next the contestants should really think more than they draw. The number of times when an architect, especially a clever one, lets his pencil run away with his wits is unfortunately larger than some would care to admit. Do not try for magnificence at the expense of straightforward common sense. Do not dispose the seats in the galleries in a long horseshoe so that spectators see more of each other than they do of the actors. That is not the American way, nor is it common sense. Bear in mind that the first requisite of a good auditorium is good sight lines. If the foundation is not good no amount of elaborate architecture will make it even passable, and where the practical requirements can be conceived in almost any way, as in this case, there should be no excuse for lack of thought or irrational treatment introduced merely for effect. And do not pitch the stage floor nor waste any time in piling up the imaginary windlasses, *coulisses*, traps, etc., above and about the stage, such as are so dear to the heart of the Beaux Arts boy.

We hope to call forth designs which will be essentially American in their feeling because following the lines of American practice in practical requirements. And if the young men who take part want a little practical illustration of how the problem is well solved along the lines which commend themselves to our practice let them study the best of our recently built American theaters. None of these are perfect, all of them have had difficulties in the way which required that some artistic consideration had to be sacrificed, but in all of these the real problems have been met and solved in a usable manner.

The Designing of a Courthouse.

BY J. B. NOEL WYATT.

FIREPROOFING.—The absolute necessity that a courthouse should be built of some system of fireproof construction as nearly perfect as possible admits of no question, recognizing the vast importance of the public records and other contents of such a building, and the calamity resulting to a community in case of its destruction. The fact, therefore, that a courthouse should be as absolutely fireproof as scientific knowledge can make it may be admitted without further discussion.

SITE.—As in the case of all buildings for whatever purpose, the proper designing and arrangement of a courthouse must necessarily depend largely upon the conditions and surroundings of the proposed site. If the building is for a small community, in a city, for example, of the second or third class as regards population, and in a location of somewhat suburban character, — such as an open site insuring freedom from disturbance, from outside noise, and perhaps permitting features of parking and foliage, — it is evident that the problem must be treated on different lines from those to be followed, if the elements of a great metropolis are to be taken into consideration. The limitations of a single article for the treatment of this subject require that we regard the problem only from the latter aspect, viz., a complete courthouse building in a large city, in which case it would, for convenience, necessarily be located near the business center, with only such isolation for the purposes of light, quiet and fire protection, as may be obtained in the limited widths of surrounding streets or plazas, thronged with a city's traffic.

Another important factor of the site, which essentially modifies both internal and external arrangement, is the grade. If this is sufficiently great through either main axis to admit of a basement story throughout any large portion of the area, of a satisfactory height and capacity for light, there are several departments of a courthouse building which would necessarily be disposed of in such a basement story rather than elsewhere. Furthermore, as it not infrequently happens that a good site is too crowded to admit of one building of sufficient area to accommodate all the various necessary departments under one roof, there are certain departments which it is natural to suggest should be disposed of in separate buildings, adjacent to, or near by, a point we may note further in dealing more with the details of the separate departments.

ARCHITECTURAL STYLE.—Before dwelling upon the all important point of interior arrangement, we may consider, in a general way, the question of the appropriate architectural style for a courthouse. The iron-bound rule or dogma, fixing exactly the style proper for any one building or class of buildings, has probably never been formulated, nor ever will be. Recognizing, however, that the administration of law, justice and equity is one of the most serious, important and dignified phases of life in a community, it is safe to suggest that its expression in architectural forms should be that of solidity, repose and order, to a greater degree than for any other building, except, perhaps, the prison and tomb,

and for this expression the adoption of some of the forms of the so-called classic style is almost obligatory, ranging from the extreme severity of the Egyptian, on the one hand, to the lighter elegance of the Renaissance on the other, centering where conditions permit, in the simplicity and dignity of the Greek. Notwithstanding the difficulties in which we at once involve ourselves, when we endeavor to impose a classic and monumental treatment upon the varied complications and littlenesses of modern requirements, the problem must be met as best we can, for there seems no other fitting solution, and it has been done with more or less success, more than once, with many incongruities and inconsistencies frankly acknowledged and accepted.

A conspicuous exception to this statement as to architectural style may be found in the noteworthy courthouse in Pittsburg, which, while entirely free from any classic restraint, will probably always retain its prestige as one of the most successful buildings in America, in its individual style, and will always receive that approval which the exceptional talent and ability of its great architect forces us to give to all his work.

Although there are noteworthy and important court and law buildings erected in the Gothic style, in localities where that style is apparently held as a *sine qua non* for all purposes, it is difficult to see, both from the point of design and of practical utility, how Gothic forms can be appropriately adjusted to meet in the best way the requirements of a great court of justice of the twentieth century, and as a matter of sentiment such forms, while suggesting a great religious feeling and movement, do not recall an epoch where the administration of justice was altogether in accord with the ideas guiding it in our own later days.

One architectural feature, although not infrequently made a part of modern courthouse buildings, scarcely seems called for or appropriate, viz., the tower, for while there may be rare occasions when a tower may be deemed desirable for some especially practical purpose, or to enhance the value of a commanding site, this would probably occur only in connection with a small building and a rather suburban location, and would with difficulty be made to accord with the style we have suggested as best fitting a great metropolitan city, tending to detract from its dignity and repose.

MATERIAL.—The question of material is an elastic one, considered in conformity with our methods of construction as merely an external covering for the fireproof frame, and varying from the granites and marbles, through the various lime and sand stones, to brick and terra cotta.

INTERIOR ARRANGEMENT.—While it is obviously impossible to suggest any one general scheme of floor plan or other interior arrangement adaptable to varying localities and conditions, there are certain desirable and undesirable features to be considered in all cases. Light, ventilation and freedom from noise are important questions. The methods of ventilation are so closely connected with those of heating that they cannot well be treated apart, and together they are especially to be studied for successful results in every individual instance only by an expert, the problems to be solved in case of a courthouse not differing essentially from those of many

other large public buildings offering similar conditions and we need not dwell further upon them here. An important point, however, to which careful attention should be given, is the elimination, as far as possible, of all vibration and noise in the court rooms from any power plant located within the building.

It is hardly necessary to say that all parts of the building should be as thoroughly lighted as possible, including corridors, offices, smaller rooms, toilets, store-rooms, etc., etc., and for all court rooms it is important for the windows to be on two opposite sides, reaching nearly to the ceiling, and with square-headed rather than round-headed openings where feasible; and in order to avoid a city's dust and noise in a court room, particularly during the months when some windows must be open, a most desirable arrangement is to have, embraced within the building, one or more ample interior court spaces, into which the windows of at least one side of the principal courtrooms shall open.

COURT ROOMS.—In the planning of the interior, the proper approach to, and distribution of, and arrangement of the chief court rooms and their dependencies, must receive the first consideration. The number and character of the court rooms required will probably vary in some degree in different states and localities, but they may be broadly classed as the criminal courts and those for other purposes such as common pleas, circuit, orphans, superior, etc., etc., with one room distinctly varying from the others, of smaller dimensions, but marked by a treatment of greater dignity and elegance, both in plan and detail, for the use of the supreme bench. Among the necessary dependencies or annexes to all court rooms there must be provided for each the judge's private room, communicating with the court room near the bench, to have also, whenever possible, outside exit to the public corridor, and to be furnished with proper toilet rooms. For all courts there must be also adequate clerks' rooms, communicating with the public corridor; one or two jury rooms (for courts requiring juries), and rooms for both male and female witnesses, all to have proper toilets. Provision is to be made for the comfort of the jury when kept over night, and a matron's room be placed near the female witness room in connection with the criminal court. It is important that the jury rooms, also, shall have private access from the court rooms, without the necessity of the jury passing through the main corridors, or coming in contact with the public in the court room itself.

The criminal courts require special attention to other details also, on account of the importance and popular interest attached to their proceedings, generally greater than to those of other courts, consequently their areas should be larger, and their location and approaches more prominent. In fact, they should be treated as the most important points of the building and should open from the main vestibules, or corridors, with two entrances, giving opportunity for speedily clearing and closing them when necessary, and ample space without, where the crowd which gathers about them may be properly taken care of in an orderly manner. By far the most important feature, however, to be considered in connection with the criminal courts, is the proper provision made for the reception and care of the prisoners. Whether brought

from jails or lockups situated within the building itself, or in vans from a jail outside, their introduction into the court room must be accomplished with as little publicity as possible, and never through the main entrances or corridors where the public congregate. In direct communication with each criminal court room, having entrance thereto in the rear, near the prisoners' "bar," either by private corridor or stairway (if a different floor is utilized for the purpose), should be arranged separate and carefully guarded "lockups" for male and female prisoners, well lighted and ventilated, with smooth cement floors and walls of glazed material of light color, each provided with a toilet room, and all protected from the gaze of the people from either within or without the building. If the prisoners are to come from outside they should be brought in closed vans, which should only discharge their occupants at interior court spaces, from which the public are rigidly excluded, and directly at the entrance to the lockups, where the prisoners are kept until called for in the court itself, where they are taken by the private rear entrance, and immediately returned to the lockups when their presence is no longer needed, the vans meanwhile waiting in the court spaces to take them back to the jail on the final adjournment of the court.

It is to be noted that the areas required in the building for the necessary dependencies of each important court room, such as the clerks' departments, and rooms for records and storage, in addition to those already mentioned for juries, witnesses, etc., etc., will be found generally to be much greater than the area of each respective court room itself, the varying spaces required for these several departments depending largely upon the character of the respective courts to which they belong. The only means by which these may be properly provided, of sufficient areas, is by a thorough and careful study of the problem by those familiar with the uses the rooms will be put to, and a clear and accurate statement of the figures in the programme of instructions given to the architects. It is evident that this must be true also for a very large part of all the details of a building of this class, and while the various arrangements and features noted in this article are deemed important and desirable, it is obvious that there may be conditions attached to many problems where they would not be feasible, and a quite different solution necessary. As stated above, the discussion of our subject is limited to the conditions probably prevailing in designing buildings of the first class in large cities; but it is also obvious that the statements in regard to solving the problems, and the various features enumerated as belonging to such buildings, are in many cases equally applicable to smaller buildings in other localities, and it should be here further stated that while the features herein dwelt upon as essential have been incorporated in many of the larger court-houses erected within the last ten or twenty years throughout the country, more or less successfully, the facts and opinions are largely taken from the results to be noted, both as to points desirable or otherwise, in the design of the courthouse in Baltimore, completed a few years ago, with which the writer was closely connected.*

* The plans of the courthouse at Baltimore, Wyatt & Nolting, architects, will be illustrated in connection with another article on courthouses.—EDITORS.

Before leaving the subject of the court rooms themselves, it should be noted that such of their interior details as the position and arrangement of the judge's bench, the jury seats, the prisoners' bar, the witness stand, the lawyers' tables, etc., etc., may be regarded rather as adjustable matters of furniture which may greatly vary with circumstances. One point, however, is important, namely, that the bench should not be placed facing a wall in which there are windows, nor should there be windows immediately behind it, and while skylights may be admitted to increase the lighting and ventilation, without serious objection, they should never be depended upon solely for this purpose.

RECORDS.—The department for records will require a larger area than any other, not even excepting the largest criminal court, comprising, first, a large storage space, where the records should be disposed of in fire-proof stacks, systematically arranged and readily accessible. A large recording room must be near by, with one also for a cashier and several for clerks; proper cloak and toilet rooms must be included, and this whole department, which may be fittingly located on an upper floor, must, in that case, communicate by book lift with the room to be placed directly beneath it on the ground floor for the reception of deeds and other documents.

POLICE, LICENSE, SHERIFF.—In addition to the court rooms, three separate departments are generally to be provided for in a building of this class, namely, those for the police, for the sheriff, and for licenses, and these are the ones that, for practical purposes, would be more conveniently found on the lower floor or in the basement, or, where limitations of space require, might even be located in a separate building. In either case, the requirements for each department are about as follows: For the police, a Board meeting room with commissioner's private room; a witness room and two "lock-ups"; secretary's office and clerk's room, and one or two additional rooms for sundries and toilets where absolutely necessary. The sheriff requires two or three rooms of ample size for himself and clerks, with one or two for prisoners, while for licenses there is only needed one large room with a smaller clerk's room attached. In addition to these there must naturally be provided an office, with some small dependencies, for the superintendent, and at convenient points through the buildings public toilet rooms, for both men and women, easily accessible but not conspicuously located, to which most careful attention should be given in regard to all hygienic arrangements and neatness. A possible disposition of these suggests itself in mezzanine floors opening from the landings of staircases, and above the smaller rooms of the floor below, where the entire ceiling height of the court rooms is not needed; the remaining space of the mezzanines to be disposed of as convenient storage rooms or for sundry like purposes.

The desirability of having a restaurant located within a courthouse building is questionable. While in some cases doubtless a matter of convenience for the mid-day meal of the large number of officials of different grades in such a building, if no restaurants are to be found near by, the complicated details involved in the proper maintenance of such a feature, and the un-

avoidable objections that arise in connection with it, would lead one to decide that it was, on the whole, not advisable.

BAR LIBRARY.—There remains one other department to be considered, which, while not an essential feature in a great courthouse, is an important, and for many reasons a very desirable one to have incorporated within the building itself, namely, the bar library. The books and other property appertaining to this institution may or may not belong to the city, and hence may either be placed within some municipal building, or be housed elsewhere. It is, however, evidently far more accessible and convenient for the actual use of those who most need it to have this library as a conspicuous part of the courthouse, and to it should be accorded ample space, as free from noise as possible, well lighted and ventilated, and capable of being treated in a dignified and monumental manner, with possibilities for appropriate decoration. There should be included in this department at least one large room or hall, containing the proper cases and stacks for the books, carefully arranged in alcoves, or other form of grouping, well lighted and accessible, with several smaller rooms or studies for private work, and the department must be connected by speaking tubes or telephones, and book-lifts with all floors on which court rooms are located. Also for the convenience of those who will constantly seek it from outside, it must be readily accessible by special entrance, remaining open in the evening.

INTERIOR WALL SURFACES.—Few buildings require more careful consideration as to the treatment of interior wall surfaces, for durability and cleanliness, than a courthouse, bearing in mind the severe wear and tear it is continuously subjected to from the careless, irresponsible public that daily throng its corridors and court rooms. That all floors should be laid in some form of tiling, "terrazzo," or other composition, is therefore obligatory, for sanitary reasons as well as for fire protection, and that as little plaster wall surface as possible, with its liability to defacement and dirt, should form part of the construction is also important. That the ceilings alone should be of plaster is not seriously objectionable, and even has some advantages, if they are not encumbered with forms of molding or relief, affording surfaces for dust accumulation. It is therefore desirable that all public corridors, and rooms of medium height, eight or ten feet, should have polished marble or tile wainscoting from floor to ceiling. While other and more important rooms of greater height of ceiling and monumental proportions should have the marble or tile wainscot of such height as to place the plaster surface above it beyond ordinary reach of such contact as would in any way deface it, leaving it, with the ceiling, to be treated in such color scheme or other forms of decoration as may be decided upon, either for immediate application, or deferred for greater elaboration at some future time, the color scheme of the marble to be considered in relation to the general decoration of the respective rooms, and to be designed to avoid, as far as possible, dust accumulation where it cannot be readily removed. These suggestions do not necessarily exclude entirely a judicious use of some wood wainscoting and paneling, of oak or mahogany, at appropriate points where it may be regarded, in an other-

wise fireproof building, rather as features of furniture than as part of construction.

DECORATION.— Finally, when we come to the question of fitting treatment for the plaster walls surfaces, although this may be deemed a matter of mere decoration, it is nevertheless one of some importance in the successful completion of the building, as a mural decoration in a courthouse, fitting in subject and skillful in execution, may contribute largely not only to its beauty, but also to its generally satisfactory results, while a detail of this kind, inappropriate and unskillful, would be a very undesirable feature. We do not dwell here on decoration consisting chiefly of a color scheme. Such must be treated by what appears to the eye, and written discussion is inadequate. We refer to mural painting and mosaics where "subject" and figures are part of the composition. For the large public halls and corridors it is not difficult to find subjects—historical, symbolical or allegorical—which, when treated with that conventionality recognized as proper for wall surfaces, and made to harmonize with the architectural lines and surrounding color scheme, may become valuable factors in the education of both mind and eye. For the interior

of the court rooms themselves, the choice of a fitting subject for an artistic decoration, which the eye will continually rest upon, is more difficult, if the aim is, as it should be, to make this in some way accord with the special function or use of the particular room, or at least, not to conflict with it. From this point of view one might almost claim that the walls of the court rooms should only be treated in schemes of color, omitting all pictorial subject. It is hardly necessary to assert that all mural decoration for such a building, at whatever point located, should be entrusted only to the most skillful artists of the highest rank. The courthouse at Baltimore has been fortunate to have upon its walls decorations of great beauty and interest by such men as John LaFarge, Edwin Blashfield and C. Y. Turner.

It does not need this brief description to show what should be an accepted fact, that a great courthouse is not merely a building designed solely for the purpose of having courts of justice and equity, etc., etc., but that it becomes a great municipal monument, which stands in the community as the exemplar of all that is best in law and order, dignity and beauty.

Arrangement of Photographs and Magazine Plates

EDITORS OF THE BRICKBUILDER.

Dear Sirs,— Having adopted the so-called "Decimal Classification" in arranging photographs and the numerous plates of current architectural magazines, I was very much interested in the articles recently published in THE BRICKBUILDER, describing the methods in vogue in the offices of architects in Boston, Philadelphia, New York and elsewhere. I was somewhat surprised that the "Decimal Classification," now so widely adopted in libraries of the United States, because of its simplicity, its practical utility and economy, has not found a place, at least, in some architects' offices. The system has every merit that has been ascribed to any of the methods already described. It is "dustproof, elastic, compact and orderly, anybody can attend to it," as Mr. Kelsey says of his loose-leaf filing system that he has adopted. It is, at the same time, inexpensive, is easily understood, easily remembered and readily used, can be expanded without limit and without confusion; it lends itself to minute and close classification, features most essential to an easy, proper and practical classification of these numerous plates.

The Decimal System of Classification divides the field of knowledge into nine main classes, numbered by the digits 1 to 9. Cyclopædias, dictionaries, etc., so general in character as to belong to none of these classes, are marked 0 and form a tenth class; for example: Class 1 is a library of Philosophy; Class 7 is a library of Art; Class 9 of History, etc. These special classes are then considered independently and each one is separated again into nine special divisions of the main subject, numbered from 1 to 9, as were the classes, general works, belonging to no division having 0 in place of the division number.

Thus, 72 is the second division (Architecture) of the seventh class, Art. A third division is then made by separating each of these divisions into ten sections, numbered in the same way, with 0 and the nine digits, and this decimal division is repeated, till it secures as many subsections as may be needed to any topic. Thus, 725 is the fifth section (Public Buildings) of the second division (Architecture) of the seventh class (Art).

This number giving class, division, section, subsection, if any, is called the classification or the class number, and is applied to every photograph, plate or sheet. All Public Buildings are numbered 725; all Ecclesiastical and Religious Buildings, 726; Educational and Scientific Buildings, 727; Residences, 728.

To illustrate how minutely the subsections enable one to classify the sheets in an orderly and permanent manner, two or three examples will suffice. Thus, division 725, Public Buildings, includes the following sections:

- 725.1 Administrative. Governmental.
- 725.2 Business and Commercial.
- 725.3 Transportation and Storage.
- 725.4 Manufactories.
- 725.5 Hospitals and Asylums.
- 725.6 Prisons.
- 725.7 Refreshments. Baths. Parks.
- 725.8 Recreation.
- 725.9 Other Public Buildings.

The sub-sections of section 725.2, Business and Commercial Buildings, are:

- 725.21 Stores (Wholesale and Retail).
- 725.22 Mixed Stores, Offices and Apartment Buildings.
- 725.23 Office Buildings—Telegraph and Insurance.

725.24 Banks — Safe Deposit and Savings.

725.25 Exchanges — Board of Trades.

725.26 Markets.

725.27 Cattle Markets. Stock Yards.

725.28 Abattoirs.

725.29 Other Business Buildings.

The division 726, Ecclesiastical and Religious Buildings, has these sections :

726.1 Temples.

726.2 Mosques.

726.3 Synagogues.

726.4 Chapels.

726.5 Churches.

726.6 Cathedrals.

726.7 Monasteries, Abbeys.

726.8 Mortuary — Tombs, Vaults.

726.9 Y. M. C. A., etc.

Again, the sub-sections of every division can be subdivided as minutely as one desires. 728, Residences, has a subdivision, 728.3, City Houses. This is divided as follows :

728.31 Between party walls. Stone.

728.32 Between party walls. Brick.

728.33 Between party walls. Partly wood.

728.34 Semi-detached, including end houses in city blocks. Stone.

728.35 Semi-detached, including end houses in city blocks. Brick.

728.36 Semi-detached, including end houses in city blocks. Partly wood.

728.37 Detached. Stone.

728.38 Detached. Brick.

728.39 Detached. Partly wood.

By placing these numbers on each plate at the upper edge, it is labelled permanently, can be removed from the portfolio, vertical file or shelf, and readily and quickly replaced. There can be no derangement or confusion. If one desires to arrange some of the plates or photographs under style, there are sections:

722 Ancient and Oriental Architecture.

723 Mediæval Architecture (Christian and Moham-medan).

724 Modern Architecture.

These again have sub-sections enabling one to classify buildings in every known style. Not only are buildings in general classified in this way, but every detail also; thus, under section 729 are included Architectural Design and Decorations. A subdivision of this section is 729.9, Architectural Accessories and Fixed Furniture, and this is divided as follows:

729.91 Altars. Organs.

729.92 Pulpits. Tribunes.

729.93 Dais. Thrones.

729.94 Buffets

729.95 Mantels. Overmantels.

729.96 Screens. Rood screens. Reredos.

729.97 Chairs.

729.98 Interiors.

729.99 Tables.

This decimal system has been found so accurate and comprehensive, and yet so simple and satisfying, that I have at times been prompted to urge upon the publishers of architectural periodicals to adopt this system and

enable all subscribers to classify the plates uniformly and scientifically. In order to do this all that would be necessary would be to print, in large type, on the upper right or left hand corner of the plate, the permanent number designating the sheet; as, for example: — 725.11, Capitols; 725.24, Banks; 725.31, Railway Passenger Stations; 725.47, Mills; 725.52, Hospitals for the Insane; 725.62, Jails; 725.76, Buildings for Parks; 725.85, Gymnasiums; 729.91, Exhibition Halls; 726.3, Synagogues; 727.3, Colleges; 727.8, Libraries; 728.1, Tenement Houses; 728.4, Club Houses; 728.8, Country Seats; 728.94, Stables; 729.36, Towers; 729.38, Doors and Windows; 729.8, Stained Glass; 729.91, Altars; 729.95, Mantels, and so forth. Each publisher would be required to adopt the same Relative Subject Index, that is, an index containing in a single alphabet all the subjects named in the complete Table of the Decimal Architectural Classification. This could be issued in pamphlet form, and be sold for a nominal sum to each subscriber by the publisher, possibly in accordance with an agreement with the publishers of the Dewey Decimal Classification. I am confident that the usefulness of each periodical would be greatly increased, for it would enable every subscriber to classify all plates as they came to hand in a uniform and economical manner and with great ease and expedition. The publishers, it seems to me, too, would also be enabled to classify their plates in their offices and thus also be benefited by it, — in fact, the yearly index of illustrations could take the form of the Decimal Classification.

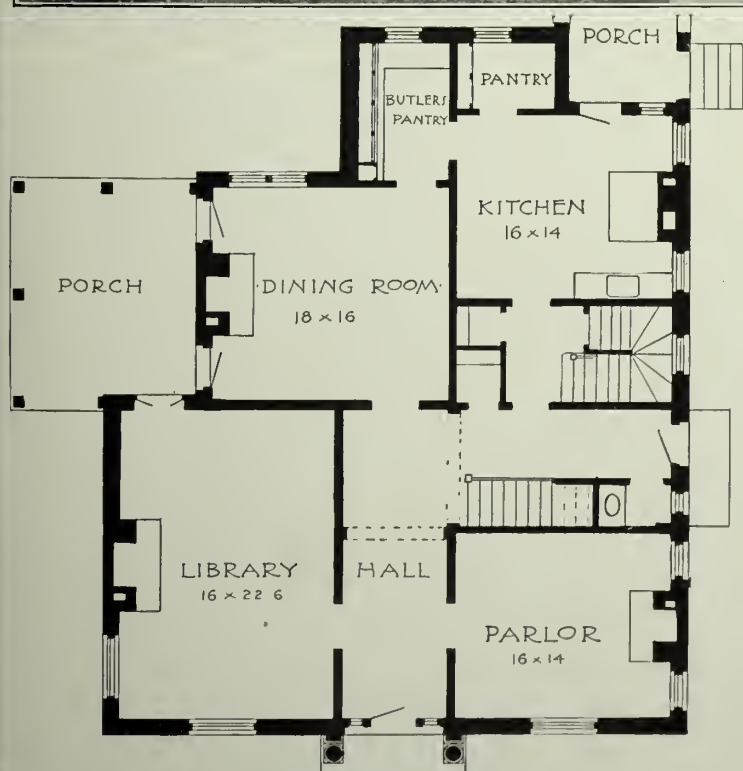
EMIL GINSBURGER,
130 Fulton Street, New York City.

THE DEWEY DECIMAL CLASSIFICATION.

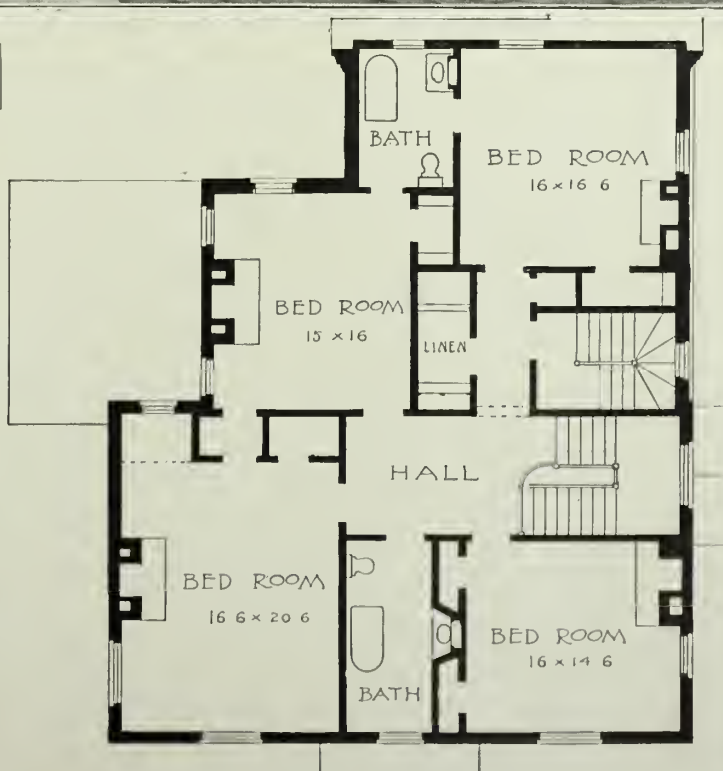
THE Engineering Experiment Station of the University of Illinois has just published Bulletin No. 13, "An Extension of the Dewey Decimal Classification applied to Architecture and Building." This greatly extended classification has been in use in a more comprehensive form in the Department of Architecture for many years, but it has never before been published. It forms a supplement to the extended classification applied to the branches of engineering previously issued in Bulletin No. 9.

It is preceded by a very brief explanation of the exceedingly valuable system invented and introduced by Dr. Melvil Dewey for the classification of books and literary materials, but which has since been found to be the best known method for arranging all tangible things and ideas. For the convenience of persons not fully conversant with the system, and for finding the proper numbers quickly, a relative index of subjects has been added. In its present form it is believed that this bulletin will prove useful to architects, engineers and constructors in classifying books, pamphlets, articles in periodicals, data and all other material relating to architecture and construction.

Copies may be secured upon application to the Director of the Engineering Experiment Station, Urbana, Illinois.

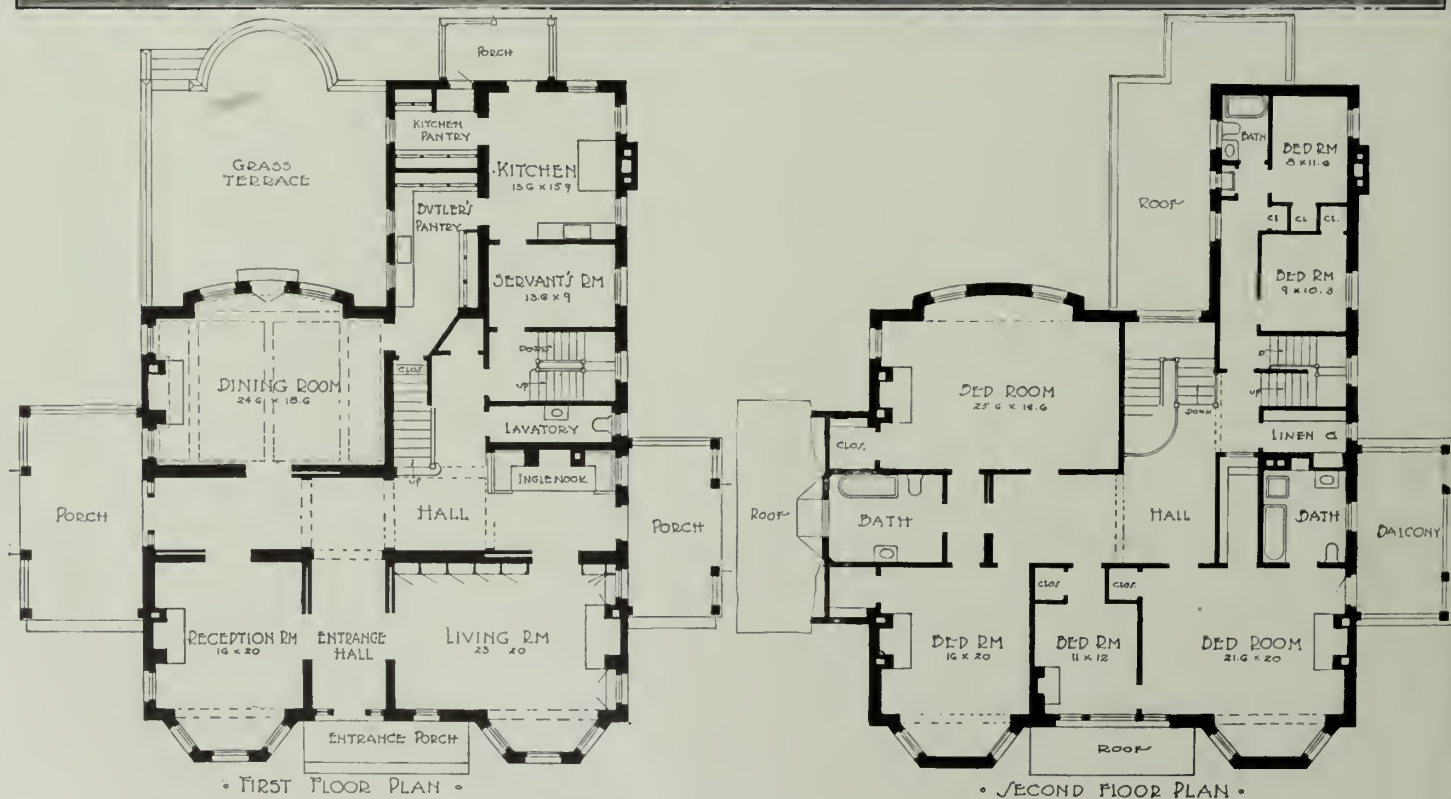


FIRST FLOOR PLAN.

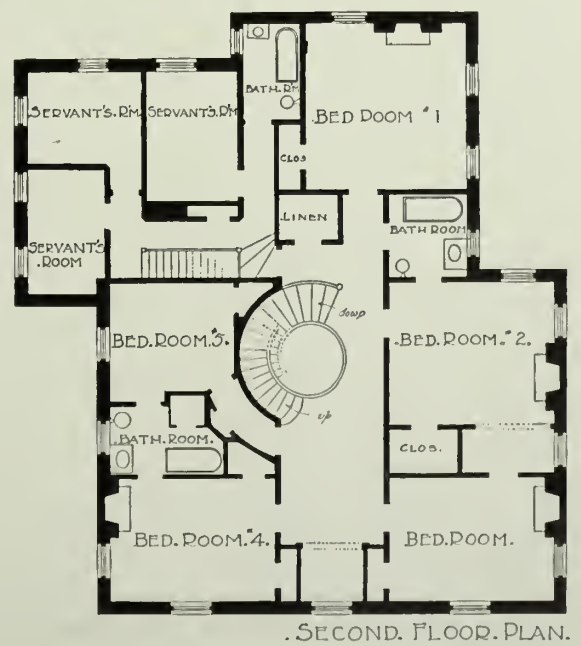


SECOND FLOOR PLAN.

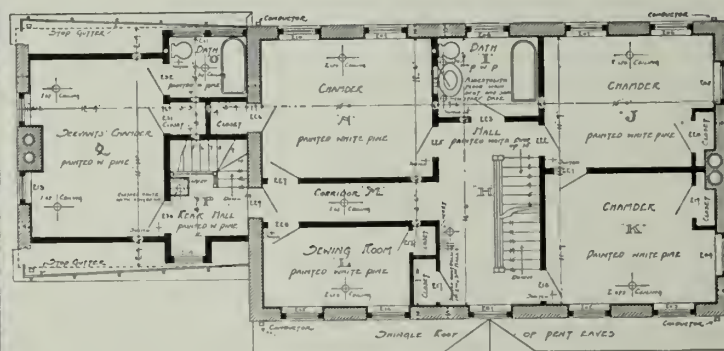
HOUSE FOR SAMUEL ADAMS, ESQ., SEWICKLEY, PA.
Alden & Harlow, Architects.



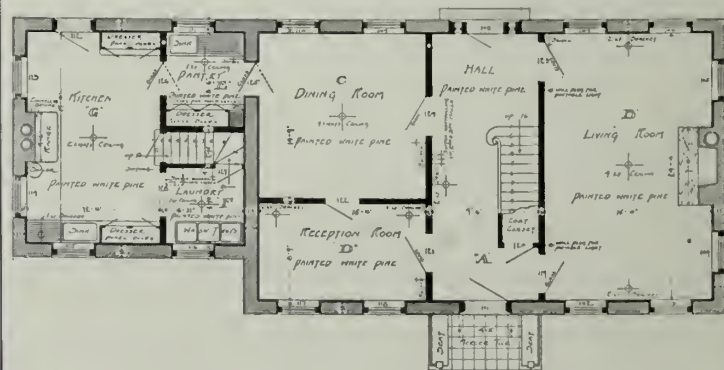
HOUSE FOR A. L. LOWRY, ESQ., SEWICKLEY, PA.
Alden & Harlow, Architects.



HOUSE AT PRINCETON, N. J. W. E. & F. S. Stone, Architects.



PLAN OF SECOND FLOOR



PLAN OF FIRST FLOOR

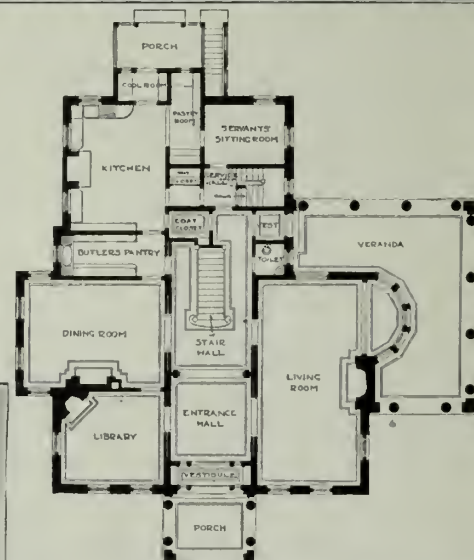
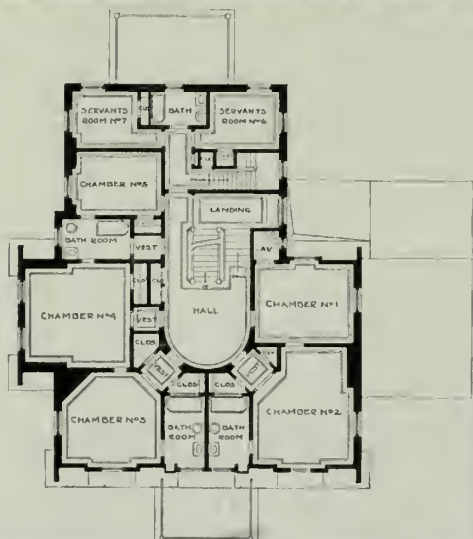
HOUSE AT CYNWYD, PA. Field & Medary, Architects.



HOUSE AT GERMANTOWN, PA. Savery, Scheetz & Savery, Architects.



HOUSE AT GERMANTOWN, PA. George T. Pearson, Architect.



HOUSE AT SYRACUSE, N. Y. A. L. Brockway, Architect.



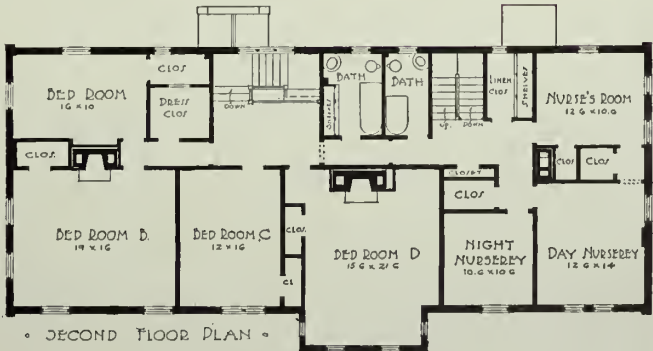
FRONT ELEVATION.

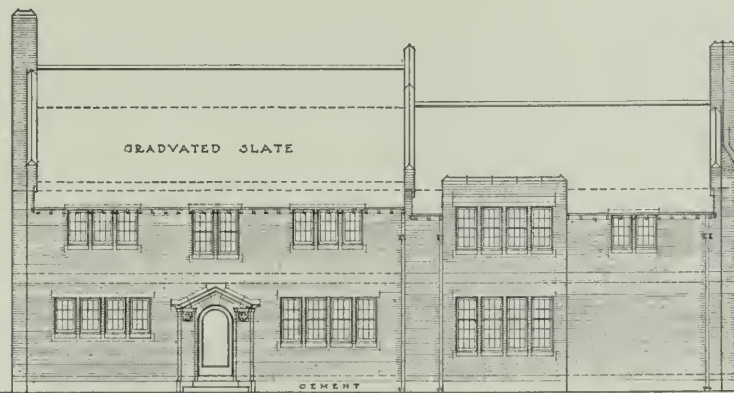


REAR ELEVATION.

HOUSE FOR
REDINGTON FISKE, ESQ.,
NEEDHAM, MASS.

Philip B Howard,
Architect.

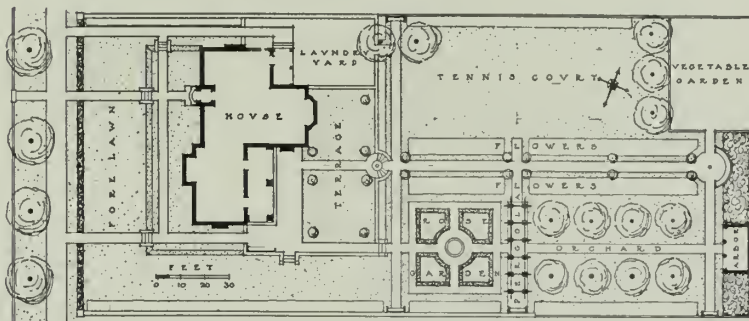




FRONT ELEVATION



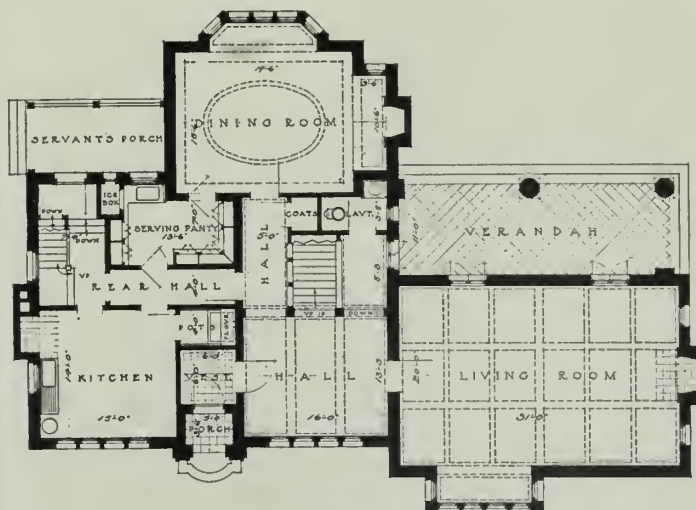
SIDE ELEVATION



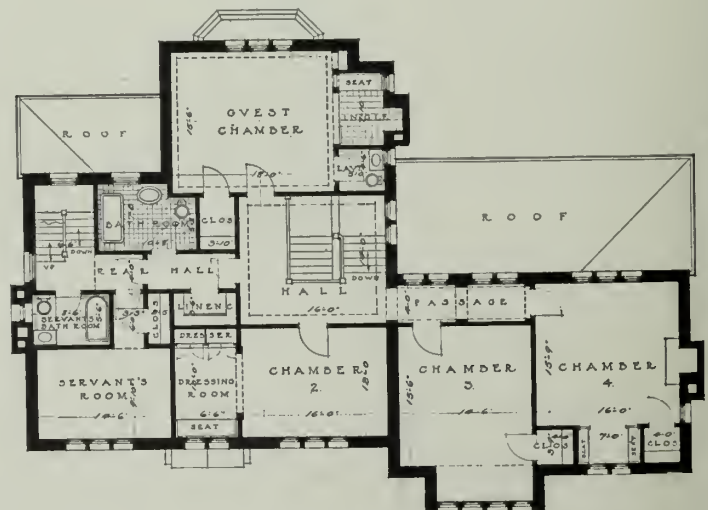
PLOT PLAN



SECTION



FIRST FLOOR PLAN



SECOND FLOOR PLAN

DESIGN FOR A SUBURBAN HOUSE.
Edgar Guy, Architect.

The Group Plan. IV.

HOSPITALS — (Continued.)

BY ALFRED MORTON GITHENS.

The foregoing principles and plans are adapted to institutions where resident physicians do the chief work, generally suburban or country hospitals. The city hospital presents two new elements. Since the most important work is done by visiting physicians, often with such large private practices that their time is limited, rapid communication is essential. Land is valuable and restricted,

making it necessary to superimpose the wards instead of placing them side by side, therefore natural ventilation from the exterior cannot be relied upon, and a forced system is employed, by which fresh air is driven into each ward near the ceiling and vitiated air exhausted through openings near the floor. Windows supply light only and theoretically are kept closed. Modern floor construction is impermeable, so there is no communication of air between stories. This has made practicable a partial return to the old hospital plan. The Massachusetts General Hospital is a typical instance. "Certain wards," to quote Mr. Wheelwright, "instead of being considered quite unsuitable, as they were twenty-five years ago, are now satisfactory and are to be regarded as excellent for the classes of patients for which they are used. To modernize them it was only necessary to remove the toilet and other service rooms to exterior towers."

In St. Luke's and St. Margaret's hospitals, Mr. Flagg has concentrated the stairs and elevators in the administration building, and has attempted an absolute separation of the wards by short open passages, each passage "furnished with a low covered way not high enough to interfere too much with the cross circulation of air. The covered way is roofed and

glazed and fitted with a contrivance which automatically opens a sash on its leeward side. . . . By this arrangement there is no possibility of the circulation of air from one pavilion to another, and as the ward pavilions contain no staircases, or shafts of any kind, it is impossible for air to circulate from one ward to another above or below it."

The wards occupy the southern half of the square pavilions, the beds against the exterior walls, so that the patients do not face the windows as in the usual pavilion hospital, and yet there is sunlight all through the day.

The wards of the Mt. Sinai Hospital are arranged in the same way, but the means of communication are on

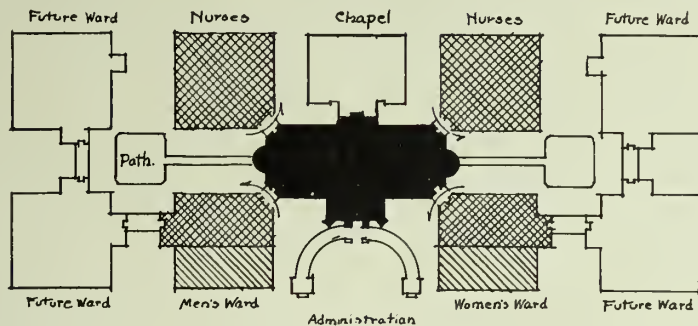
a different principle. The air cut-off has been given up as better in theory than in practice and more conducive to draughts than to ventilation. Each ward-pavilion has its staircase and elevator, so that the visiting physician can quickly pass from ward to ward without returning to the administration building, communication with which is

only by the first floor.

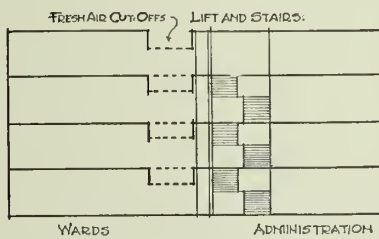
In plan St. Luke's is noteworthy, because, though the buildings are compact and connected, each has the light on all sides, an arrangement suggesting the black squares on a checker-board. The corners of the Mt. Sinai Hospital follow the same

principle. This arrangement has not been found necessary in the Harlem Hospital. The wards here are of a different type, resembling those of a pavilion hospital. The circular wards of Mr. Haight's New York Cancer Hospital are interesting. Fresh air is introduced between the beds, around the circumference of the circle, and vitiated air drawn out through a vent-shaft in the center of the room.

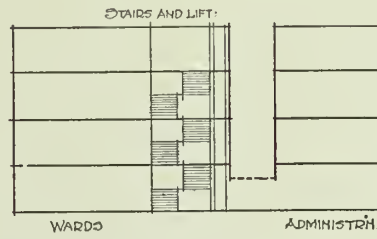
Perhaps the greatest of all modern hospitals will be the new Bellevue. It is to provide for twenty-eight hundred beds and nearly five thousand persons, easily the largest in the world. It is designed "in the grand manner," following the old principle that the municipal



ST. LUKE'S HOSPITAL, NEW YORK CITY.
Ernest Flagg, Architect.

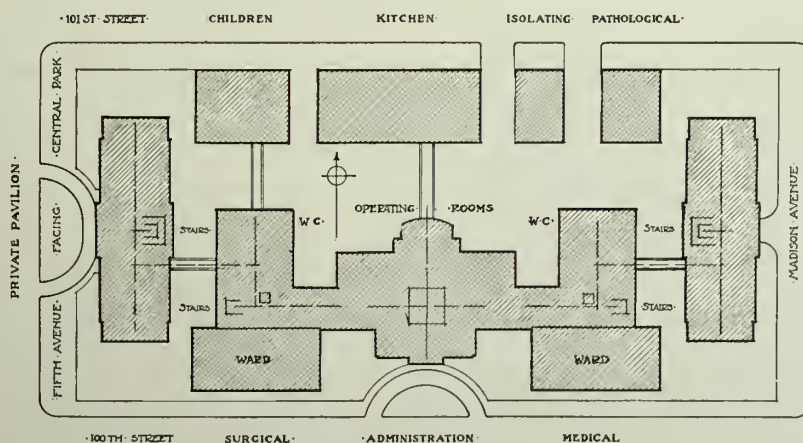


ST. LUKE'S HOSPITAL.

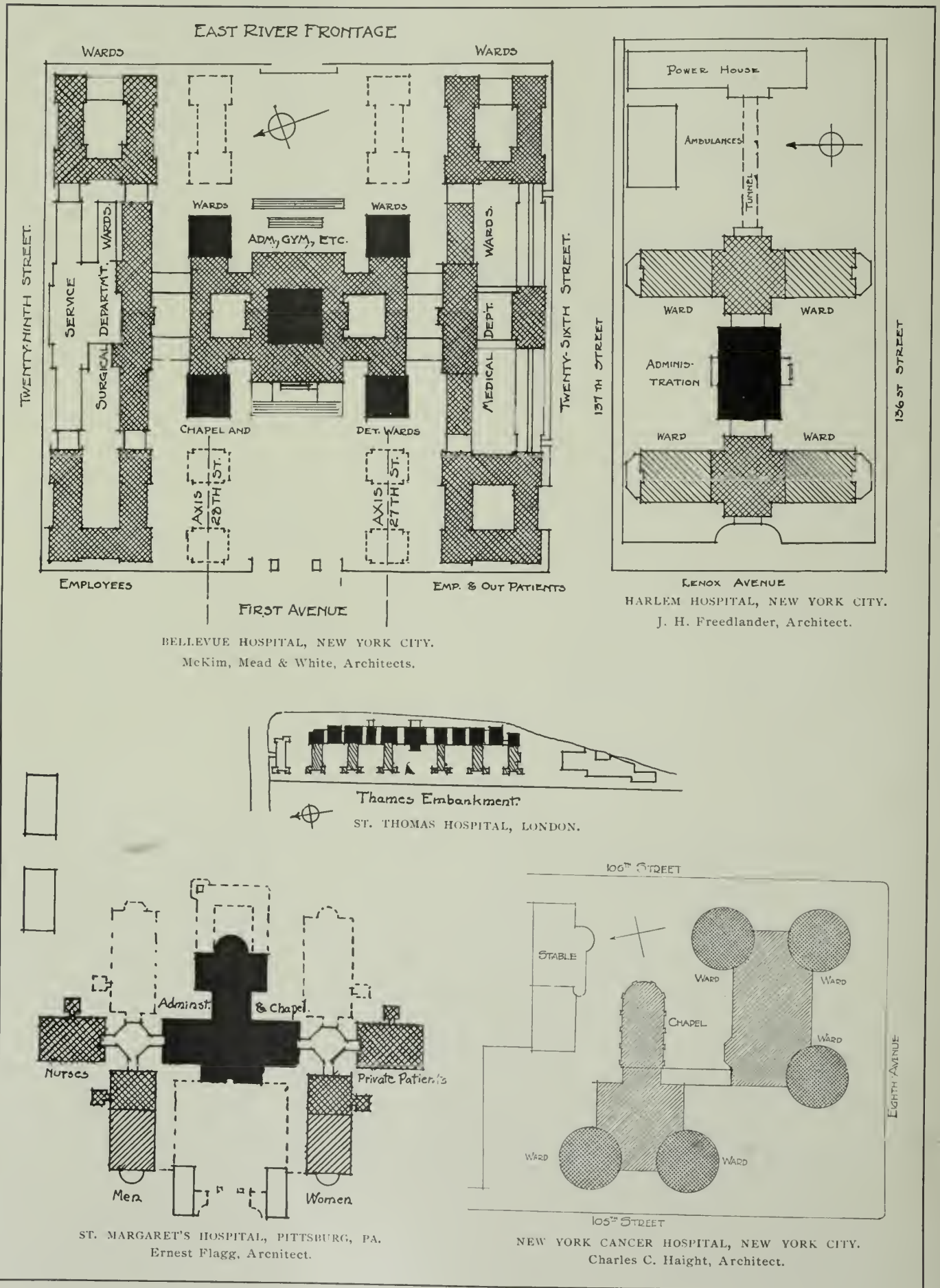


MT. SINAI HOSPITAL.

SECTIONAL DIAGRAMS COMPARING CIRCULATION OF ST. LUKE'S
AND MT. SINAI HOSPITALS.



MT. SINAI HOSPITAL, NEW YORK CITY.
Arnold W. Brunner, Architect.



hospital should be one of the great monuments of a city, as the Greenwich Hospital is in London. Its arrangement is well worth study, both practically and æsthetically. Covering three city blocks it over-



DIAGRAM SHOWING JUXTAPOSITION OF BUILDINGS IN PLAN WITH ALL SIDES WELL LIGHTED.

looks the East River, and the wards are so placed that they have the advantage of the outlook, as the wards of St. Thomas's Hospital overlook the Thames. Though modern in arrangement and equipment, it has the character of a plan by Wren or Vanbrugh, an example of a true pyramidal composition with a central dome surrounded by four smaller domes and flanked by lower pavilions at the corners.

History is making fast. Sixty years, and wooden sheds replace the city monuments; sixty more, and the wheel is completely turned. A theory arises and is upset by the next until the circle of falling books is completed, and the first knocks over the last. True, but only partially, for many elements are introduced that make such reversal possible—perhaps a progression in circles that brings to mind a curious diagram showing how a theory starts direct to its conclusion, but is deflected and returns on itself only to start anew a little in advance of the place it left.

FIRE BARRIER ACROSS NEW YORK, FROM RIVER TO RIVER, WILL STOP ANY CONFLAGRATION.

ACROSS the lower end of New York City the greatest fire wall in history is nearing completion. It will effectually cut off the financial district of the Metropolis from the rest of the city in case of a conflagration.

Almost two blocks thick and hundreds of feet in height, this great unburnable barrier, roughly following the line of Liberty Street, is formed by a chain of sky scrapers composed mostly of steel and hollow blocks of Jersey clay which have each been heated to a temperature of 2,000 degrees in the process of manufacture, and in their finished state as porous terra cotta are absolutely not burnable.

Beginning at the North River, the Central Building, of twelve stories, and the West Street Building, of twenty-three stories, form the west end of the wall. Between Washington and Greenwich streets is a break, but it is more than counterbalanced by the Hudson Terminal Building between Greenwich and Church streets, and the Singer Building, the highest in the world, the City Investing and the Trinity Buildings, between Church Street and Broadway.

Crossing Broadway the fireproof wall is continued by the Broadway-Maiden Lane Building, the Jewelers Building and the Provident Savings Life Building. East of Nassau Street are the Mutual Life Insurance Building, the Continental Building, Royal Insurance Building, Bishop Building, International Building and the Tontine-Tabor Building, forming an almost unbroken line to Water Street of structures as nearly fireproof as human art can build.

Editorial Comment and Selected Miscellany

PROSCRIPTIVE BUILDING REGULATIONS.

THE new building law for the City of Boston went into effect on the first of August. This law was drawn up by a special commission appointed by the Mayor, and an attempt was deliberately made to lessen



FAIENCE DECORATION IN PANELS, DINING-ROOM, HOTEL SINTON, CINCINNATI.

Frank M. Andrews, Architect.
Executed by Rookwood Pottery Company, from design by John Dee Wareham.

the burdens which the law in past years had imposed upon those who improve real estate for residential purposes. Some of the philanthropic and charitable organizations, however, in what we believe to be a mistaken idea to ameliorate the condition of the poor, succeeded in



PERFORATED TILE FOR FRONT OF WINDOW SEAT.
Willard T. Sears, Architect.

Executed in yellow and green faience by Hartford Faience Co.

imposing upon the commission's report a series of regulations regarding tenement house construction which, though modified somewhat through the efforts of the commission, were, at the same time, quite exacting and contained conditions for light and air, yards, courts, exposure, etc., which, while unquestionably good of themselves, have served simply to defeat the very project which the philanthropists had in view. During the two months and a half since the law went into effect there were



DETAIL BY HALE & ROGERS, ARCHITECTS.
New York Architectural Terra Cotta Co., Makers.

hedge the construction of low-priced dwellings with so many restrictions that they cannot be built at all. Restrictions now in force in New York, Cleveland and Chicago are even more severe, in our judgment, than those which have been imposed upon Boston, and it is only the marvelous material development of these cities, the absolute necessity

of housing the poor in the very heart of the city, and the impossibility for tenement dwellers to go to the suburbs that has called into being so many new tenement



HOUSE AT CHICAGO, ILL.

W. C. Zimmerman, Architect. Built of Roman Gray Brick, made by the Hydraulic-Press Brick Co.

filed with the building commissioner just three applications for the construction of tenement houses, whereas, ordinarily, in the same period there would undoubtedly have been at least thirty. This falling off is not due to any great extent to the condition of the market, but it is ascribed almost wholly to the undue severity of the new law. We must have tenement houses, though we may not all want to dwell in them. The general well-being of the community must be considered, but it is an economic mistake to

houses under these restrictive acts. In Boston the tenement houses will not be built and the poor will be

crowded worse than ever into the existing structures, or forced into the suburbs. We do not specially deprecate the latter condition, but we do feel that the law should prescribe a minimum rather than a maximum of restrictive conditions and should be devised to encourage the proper housing of the very poor under conditions which will allow a fair return on the capital invested.



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
New Jersey Terra Cotta Co., Makers.



MAIN WAITING ROOM, PASSENGER STATION, PENNSYLVANIA RAILROAD, ALLEGHENY, PA.
Price & McLanahan, Architects. Walls treated with Colored Faience, made by Grueby Faience Co.

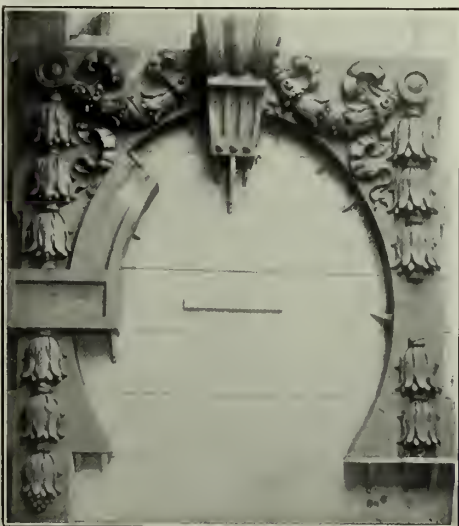
THE HIGHEST BUILDING.

THE Singer Building in lower Broadway is rapidly approaching completion. It will be the tallest building in the world, numbering forty-seven stories. Its designer, Ernest Flagg, built the original Singer Building a number of years ago at a time when the skyscraper movement was in full swing in New York. Mr. Flagg then strongly opposed the construction of excessively tall buildings, and the Singer Company allowed him to put up the structure which still stands at the height of only a few stories, as buildings go in New York. Whether he has experienced a

change of mind, or has been convinced that the sky scraper is a modern necessity, the fact remains that right in the midst of his original Singer Building he has carried up this tallest of the tall structures, going everyone a little bit better, and speaking the last word to date for height in New York. The design of this building is familiar to our readers. It is certainly a very striking addition to the really picturesque outline of lower New York, Hopkinson Smith to the contrary notwithstanding.

THE SKY SCRAPER.

THE New York *Post* publishes a very interesting communication from Calvin Tomkins in regard to



DETAIL BY RUHE & LANGE, ARCHITECTS.
Ketcham Terra Cotta Works, Makers.



DETAIL BY LONG & LONG, ARCHITECTS.
American Terra Cotta Co., Makers.



DETAIL BY SOUTH AMBOY TERRA COTTA CO.



DETAIL BY CONKLING-ARMSTRONG
TERRA COTTA CO.

the sky-scraper problem, in which the writer urges that the sky scraper should not be considered as an abnormal excrescence on the city's growth, an evidence of personal greed and disregard for one's neighbors, for it is an economic necessity, it has made possible the transaction of business along modern lines, and any attempt to restrict it as to dimensions or to force its development in any other lines except such as naturally result from business conditions, is sure to bring economic difficulties which would more than outweigh any æsthetic objections which could be raised against it. Admitting the undesirability of encroachments upon light and air, he advocates the scheme proposed and repeatedly urged by Mr. Carrère that above a certain height a building should be set back on the pyramidal idea and that the development of the city should follow the block unit instead of the lot unit. We have suffered, on the whole, more from too much law than from too little, and if our building laws could be gone through rigidly and everything excluded which is not absolutely essential, the development of our large cities would undoubtedly take on a no less satisfactory form than is now apparent. The application of the structural possibilities of steel, the modern fireproofing methods of protecting steel, have come as practical necessities rather than because of legal enactment, and it is these factors which have made the sky scraper possible and have brought this tremendous factor into our modern business life.

the sky-scraper problem, in which the writer urges that the sky scraper should not be considered as an abnormal excrescence on the city's growth, an evidence of personal greed and disregard for one's neighbors, for it is an economic necessity, it has made possible the transaction of business along modern lines, and any attempt to restrict it as to dimensions or to force its development in any other lines except such as naturally result from



PUBLIC SCHOOL, BERNARDSVILLE, N. J.
H. J. Hardenberg, Architect.
Roofed with Shingle Tile, made by Ludowici-Celadon Company.

IN GENERAL.

Columbia University will offer at night, during the year 1907-1908, twenty evening courses specially adapted to the needs of technical and professional workers. This

includes work in Applied Mechanics, Architecture, Electricity, Fine Arts, Industrial Chemistry, Mathematics, and Surveying and Structures. The work begins on October 28, and continues for twenty-five weeks. A full description of the courses is contained in the Announcement of Extension Teaching, which may be obtained on application to the Director of Extension Teaching, Columbia University, New York.

The *Annual*, the official organ of the Architectural League of America, will be ready for distribution December 15. The committee having the work in charge have endeavored to make it the best number yet issued. Architects and League members of prominence have contributed articles. For further information address Edward H. Poggie, 529 Real Estate Trust Building, Philadelphia.



CENTRAL PORTION OF RANDOLPH STREET FRONT OF NEW COOK COUNTY COURTHOUSE, CHICAGO.

Holabird & Roche, Architects.

Filling between the granite columns is of bronze-colored terra cotta. All the material above the main architrave is terra cotta which perfectly resembles the stone below it.



THE PACKARD GARAGE, BROADWAY AND 61ST STREET, NEW YORK.

Albert Kahn, Architect. Entire exterior of white matt glazed terra cotta, made by Atlantic Terra Cotta Co.

Members and ex-members of the Sketch Club of New York are requested to send their names and present addresses to Edgar A. Josslyn, Secretary, 3 West 29th Street, New York city, who wishes to communicate with them on a matter of special interest.

MacDonald & Applegarth, architects, have opened new offices in the Call Building, San Francisco, and will be glad to receive manufacturers' samples.

The American Enameled Brick and Tile Company report the following new contracts:—100,000 mottled brick for the Keenan Building, Pittsburg, Pa., Thomas Hanna, architect; 25,000 mottled brick for the front of the Morris-Lynch Building, Uniontown, Pa., Andrew P. Cooper, architect; 125,000 seconds for the Engine and Boiler Rooms of the new Manomet Mills at New Bedford, Mass., C. H. Makepiece, architect, 500,000 brick for the Welsh Building, San Francisco, Cal.; 125,000 brick for Public School, Flushing, N. Y.; 60,000 brick for Public School at Richmond, L. I., 25,000 brick for Delbert Block, San Francisco, Cal.

FIFTH AVENUE LOFTS—Fine north light. One block from Madison Square, New York. Corner building. Address, Room 70, 2 Wall St. Telephone, 927 Rector.

WANTED—First-class draughtsman seeks position in architect's office for sake of experience. Englishman, well educated, 28 years old; neat and accurate. Moderate salary. Location unimportant. Address Saxon, care THE BRICKBUILDER.

WANTED—In an architect's office located in a city in Mexico, a first-class draughtswoman who is competent in design and construction. A good permanent position. Address Mexico, care of THE BRICKBUILDER.

COMPETITION FOR PLANS FOR THE CAPITOL OF PORTO RICO.

San Juan, Porto Rico.

By Act of the Legislative Assembly of Porto Rico, dated March 14, 1907, the Commissioner of the Interior is authorized to announce a competition for a building to be known as the "Capitol of Porto Rico," the cost of such building not to exceed \$300,000.00.

Architects who wish to enter this competition must signify their intention in writing, to the Commissioner of the Interior, on or before November 1, 1907. Drawings will be received from no others.

The competitive designs must be received on or before February 1, 1908.

Copies of the program, embracing terms of the competition, will be mailed upon request.

L. H. GRAHAME,
Commissioner of the Interior, San Juan, P. R.

Competition for a Theater Building

First Prize, \$500

Second Prize, \$200

Third Prize, \$100

COMPETITION CLOSES JANUARY 15, 1908

PROGRAMME.

THE problem is a Theater Building. The location may be assumed in any city or large town of the United States. The site is at the corner of two streets of equal importance. The lot is perfectly level, has a frontage on one street of 100 feet and a depth on the other street of 150 feet to a 15-foot alley at the rear.

The following is offered by way of suggestion:

Depth of stage, 35 feet to curtain line. Projection of stage beyond curtain line, 3 feet. Proscenium opening not less than 36 feet wide, and not over 40 feet high. Width may be increased and height may be decreased to suit design. Auditorium to seat about 1,200 and to have but one balcony.

The sight lines should be so laid out in plan that every seat shall command an unobstructed view of at least three-fourths of the depth of the stage, measured on a center line. The lines of the balcony should be sufficiently raised so that each seat on the floor shall have an unobstructed view to a height of 20 feet on the curtain line.

On the first floor, in addition to the auditorium, provision should be made for the foyer, lobby, ladies' retiring suite, coat room, ticket office and manager's office opening therefrom, and such other features as may seem desirable to the designer.

On the balcony floor there should be a foyer, which may be treated in a monumental manner if desired, also lavatories for men and women, and such other features as may seem desirable to the designer.

It is assumed that a smoking-room and lavatories will be provided in the basement, but plan of this need not be shown. Details of stage arrangement and dressing-rooms may also be omitted.

There should be separate exits and stairways at least 5 feet wide on each side of the balcony, which exits may lead into the foyer of the first story.

There must be an exterior balcony of terra cotta, or loggia, with access thereto from the balcony level. This should be treated as a feature of the design, and may be carried all around the building if desired.

It is not the intention that the exterior should be treated in the style of the Paris Opera House, nor that the design should be out of reason with the commercial requirements of an ordinary theater. The portion devoted to the stage should be carried up to a height of not less than 80 feet above the street; otherwise the height need be governed only by sight lines and by questions of design. It is not necessary to consider daylight illumination for the interior, and openings in the outside wall need be considered only as means of egress.

The exterior of the building and the lobby are to be designed entirely in Architectural Terra Cotta, employing colored terra cotta in at least portions of the walls. The color scheme is to be indicated either by a key or a series of notes printed on the same sheet with front elevation and plans at a size which will permit of two-thirds reduction.

The following points will be considered in judging the designs:

- A. Frank and logical expression of the prescribed material.
- B. Rational and logical treatment of the exterior.
- C. Excellence of plan.

In awarding the prizes the intelligence shown in the constructive use of terra cotta and the development or modification of style, by reason of the material, will be taken largely into consideration.

It must be borne in mind that one of the chief objects of this competition is to encourage the study of the use of Architectural Terra Cotta. There is no limitation of cost, but the designs must be suitable for the character of the building and for the material in which it is to be executed.

The details should indicate in a general manner the jointing of the terra cotta and the sizes of the blocks.

DRAWINGS REQUIRED.

On one sheet at the top, the shorter elevation, drawn at a scale of 8 feet to the inch. At the bottom, the first and balcony floor plans drawn at a scale of 16 feet to the inch, and the color key or notes between the elevation and plans.

On a second sheet at the top, the longitudinal section, drawn at a scale of 16 feet to the inch; immediately below, the longer elevation, drawn at a scale of 16 feet to the inch, and below that, half-inch scale details of the most interesting features of the design.

The size of the sheet (there are to be but two) shall be exactly 22 inches by 30 inches. Strong border lines are to be drawn on both sheets, one inch from edges, giving a space inside the border lines 20 inches by 28 inches. The sheets are not to be mounted.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales to be on all drawings.

Every set of drawings is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawings are to be delivered flat at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before January 15, 1908.

Drawings submitted in this Competition must be at owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others. Those who wish their drawings returned may have them by enclosing in the sealed envelopes containing their names ten cents in stamps.

The designs will be judged by three well-known members of the architectural profession.

For the design placed first in this competition there will be given a prize of \$500.

For the design placed second a prize of \$200.

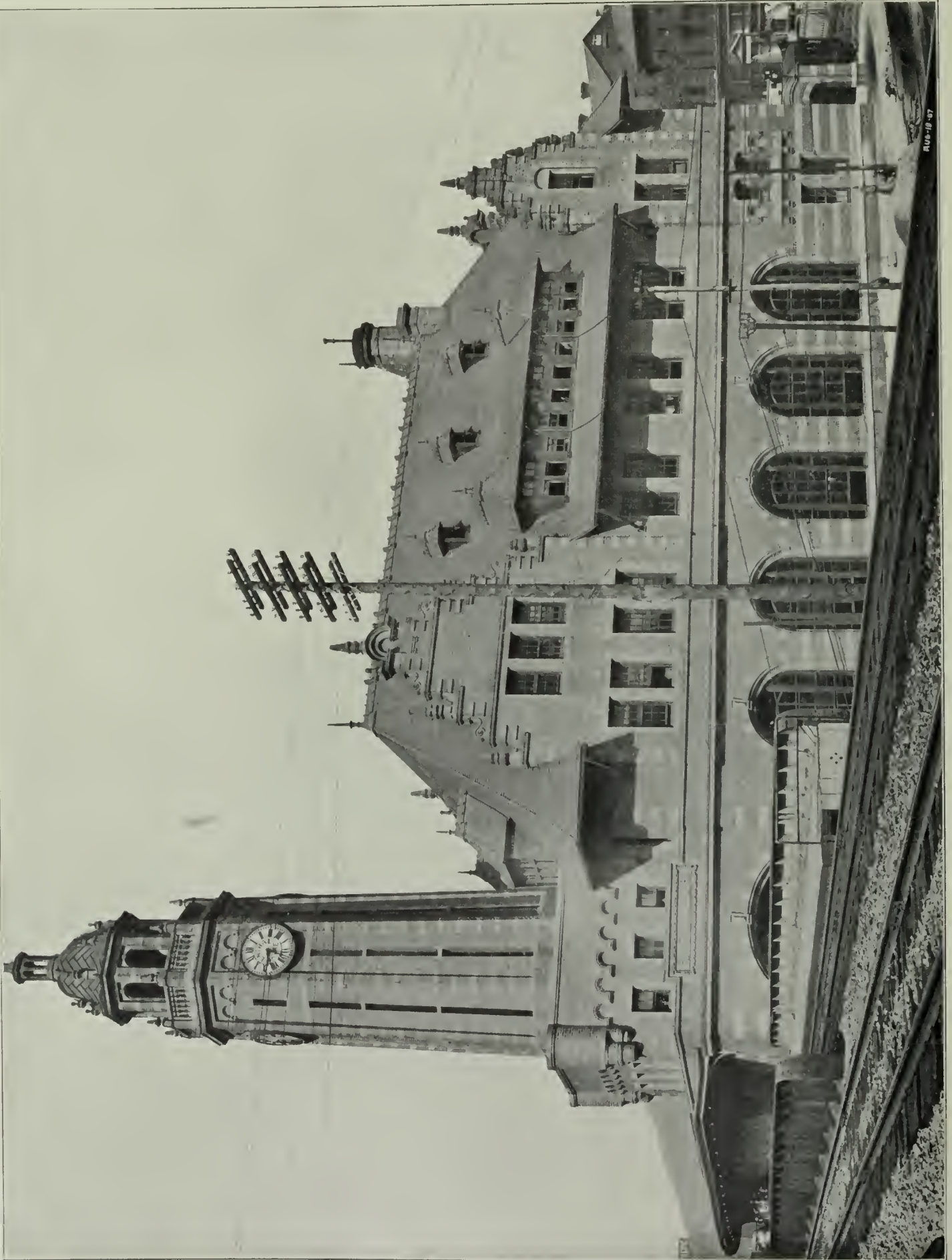
For the design placed third a prize of 100.

We are enabled to offer prizes of the above-mentioned amounts largely through the liberality of the terra cotta manufacturers who are represented in the advertising columns of THE BRICKBUILDER.

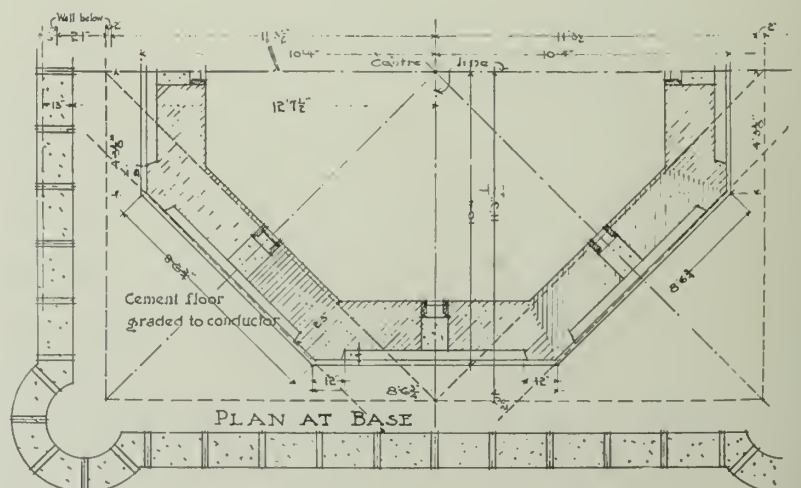
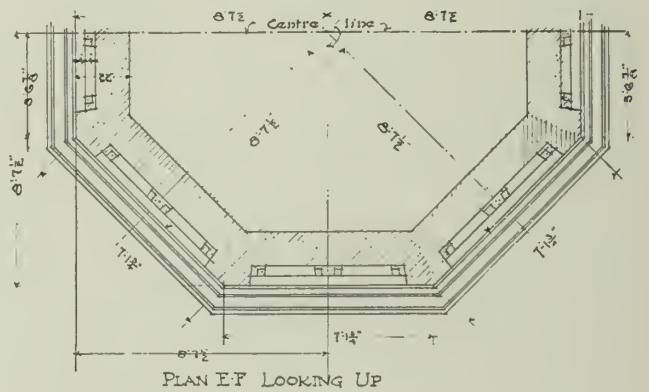
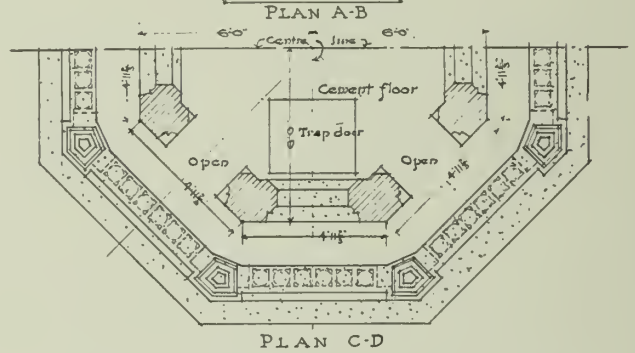
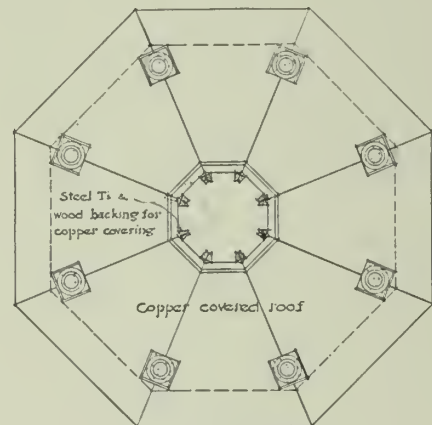
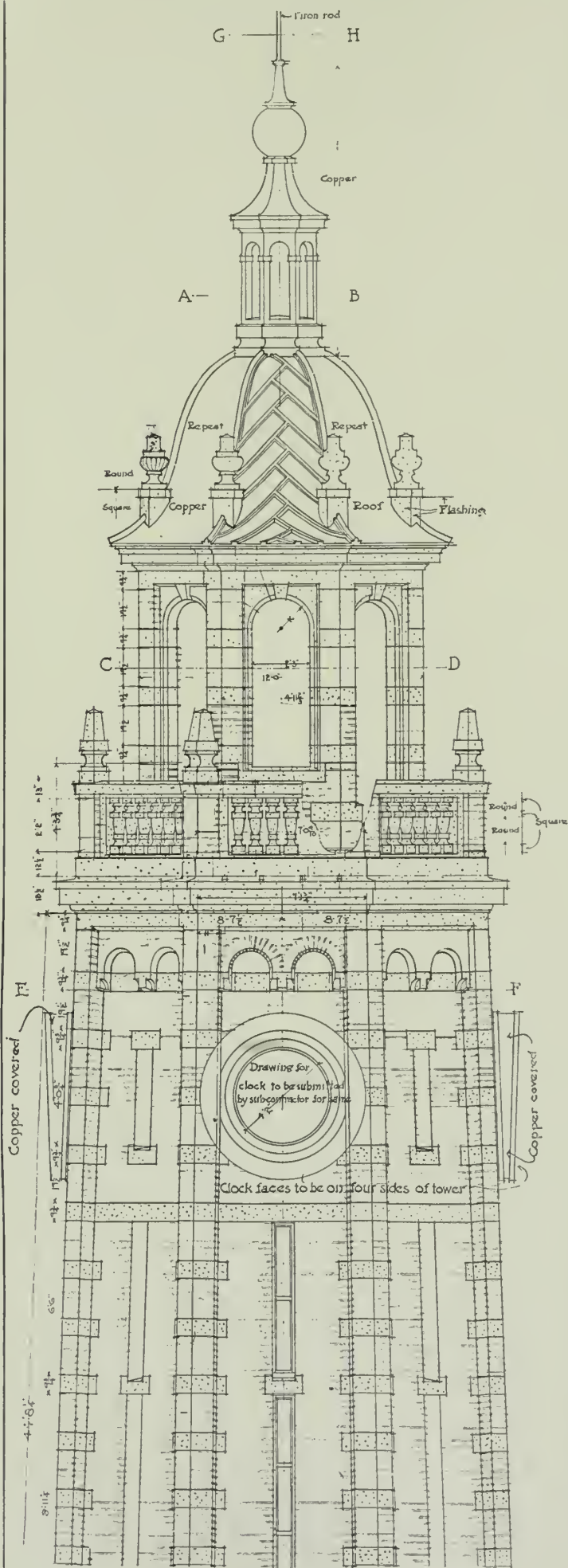
This competition is open to every one.



PASSENGER STATION FOR PENNSYLVANIA RAILROAD, ALLEGHENY, PA.
PRICE & McLANAHAN, ARCHITECTS.



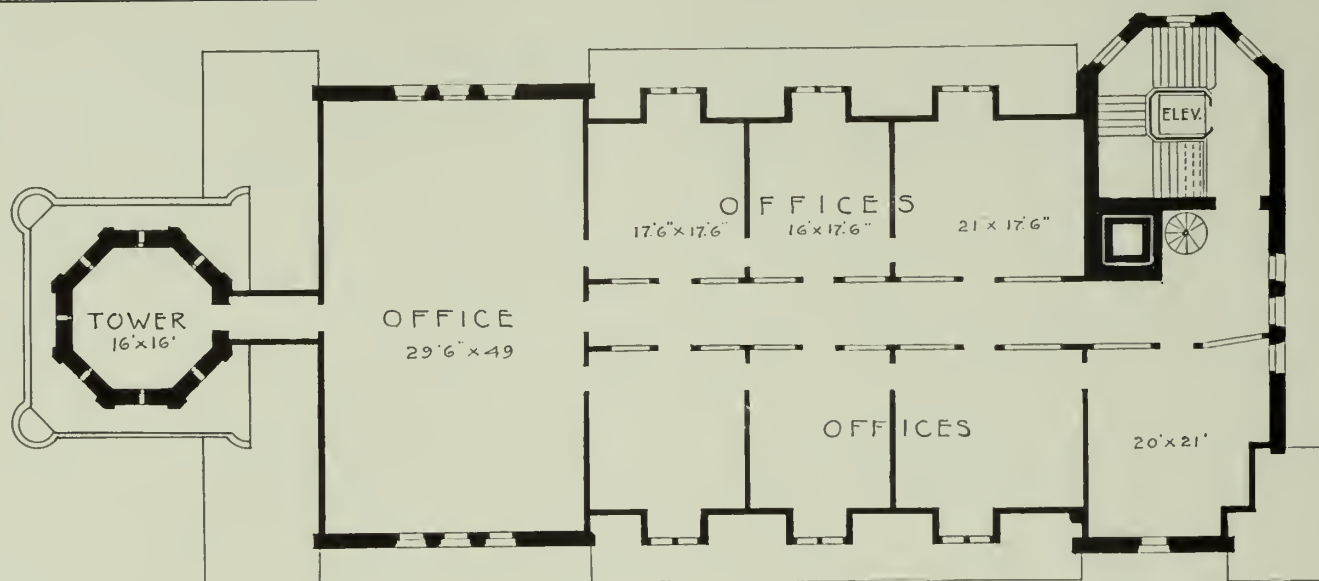
PASSENGER STATION FOR PENNSYLVANIA RAILROAD, ALLEGHENY, PA.
PRICE & MCLANAHAN, ARCHITECTS.



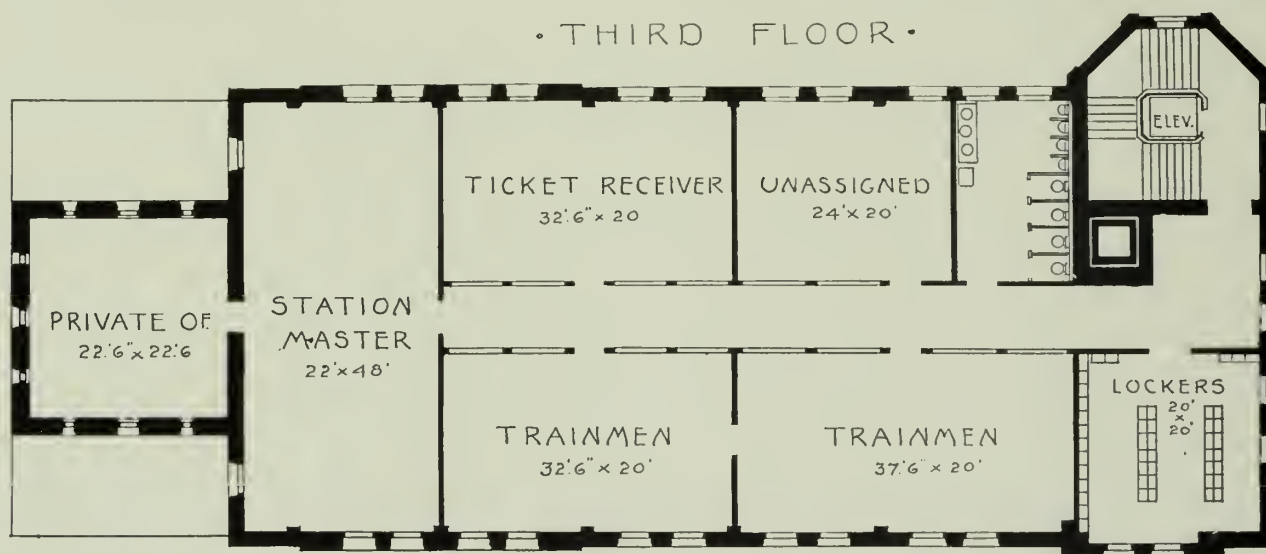
DETAIL OF TOWER.

PASSENGER STATION FOR PENNSYLVANIA RAILROAD, ALLEGHENY, PA.

PRICE & McLANAHAN, ARCHITECTS.

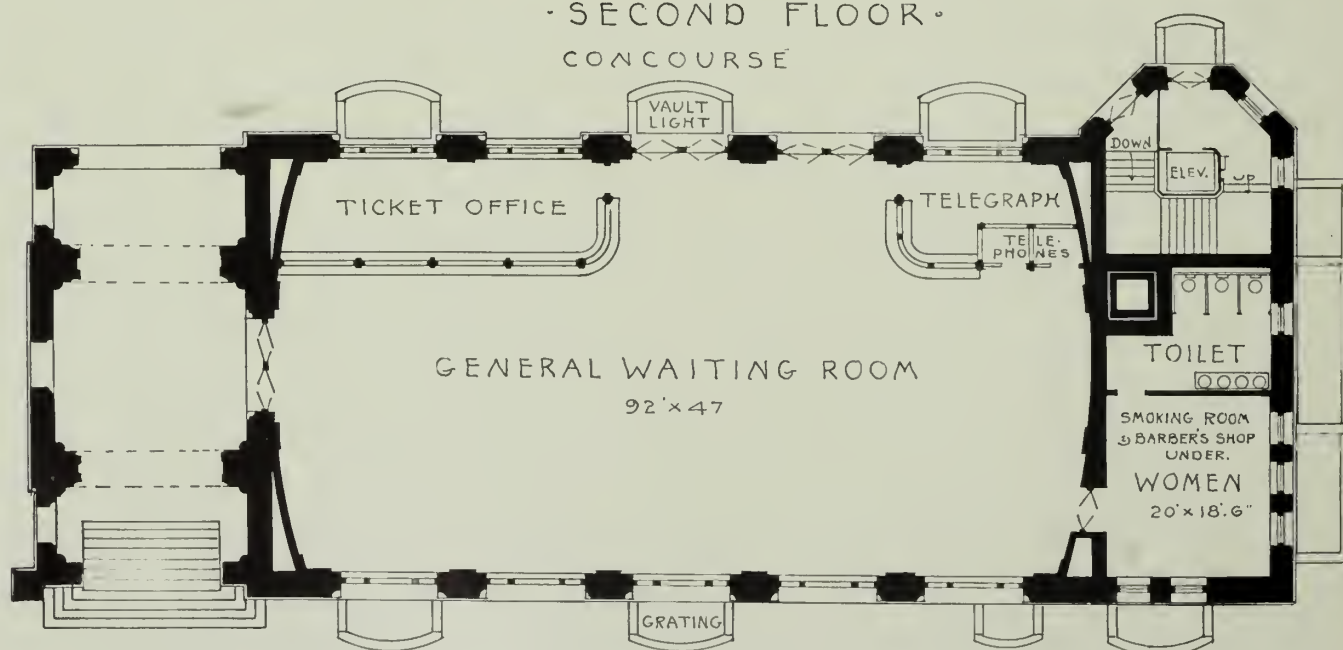


• THIRD FLOOR •



• SECOND FLOOR •

CONCOURSE



• FIRST FLOOR •

PASSENGER STATION FOR PENNSYLVANIA RAILROAD, ALLEGHENY, PA.

PRICE & MCLANAHAN, ARCHITECTS.



GARDEN ENTRANCE.



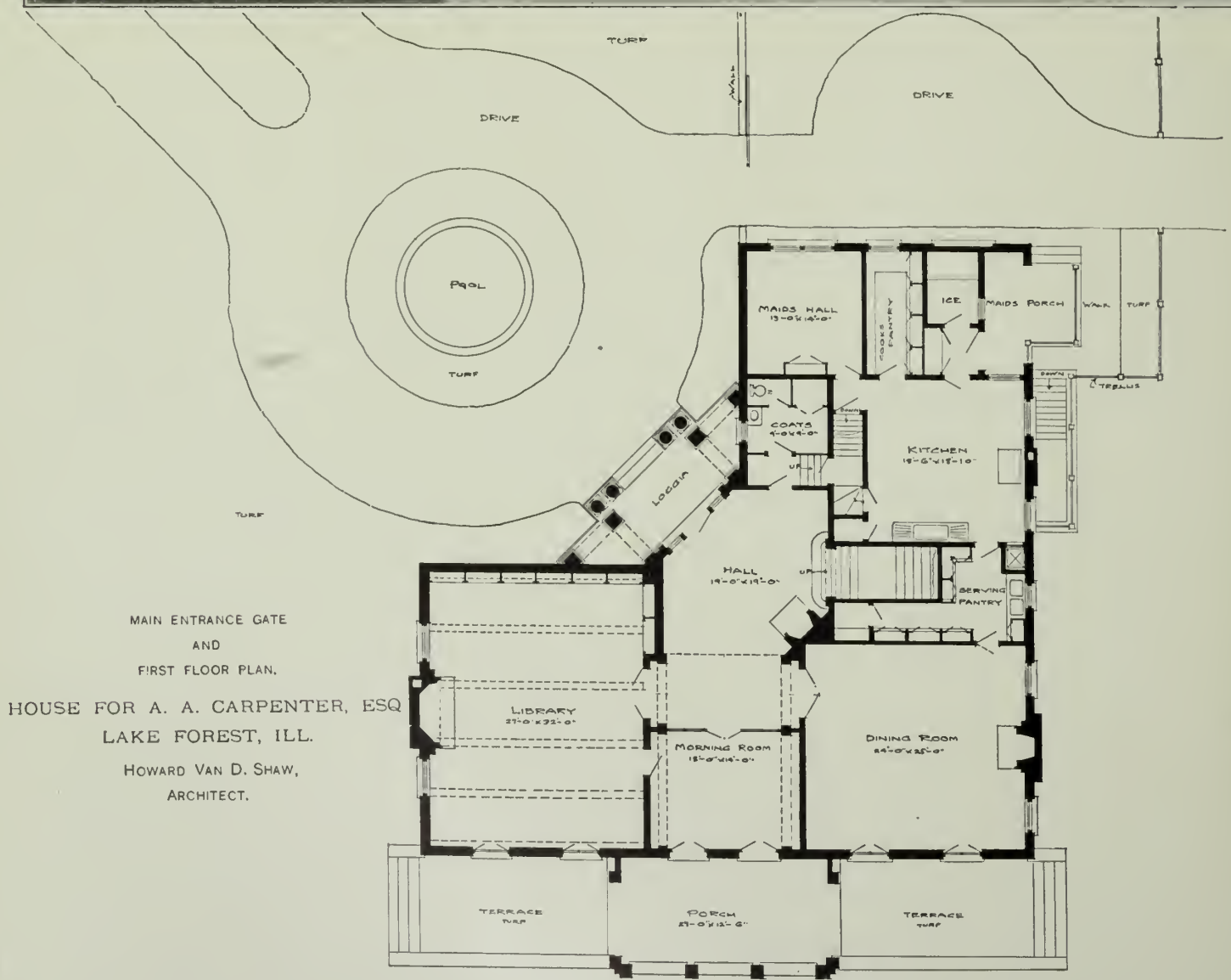
MAIN ENTRANCE.

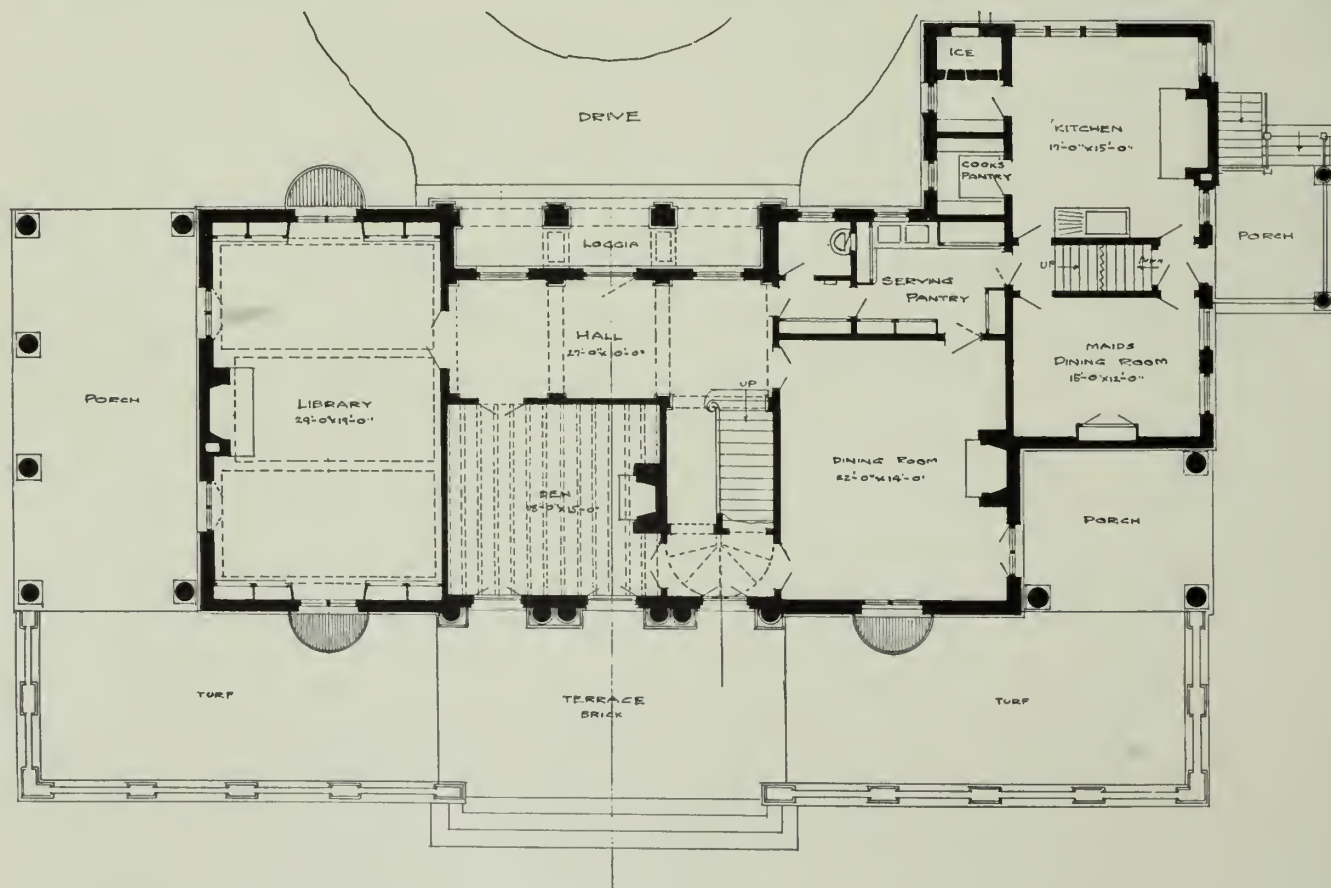
DETAILS OF HOUSE FOR LEVERETT THOMPSON, ESQ., LAKE FOREST, ILL

HOWARD VAN D. SHAW, ARCHITECT.

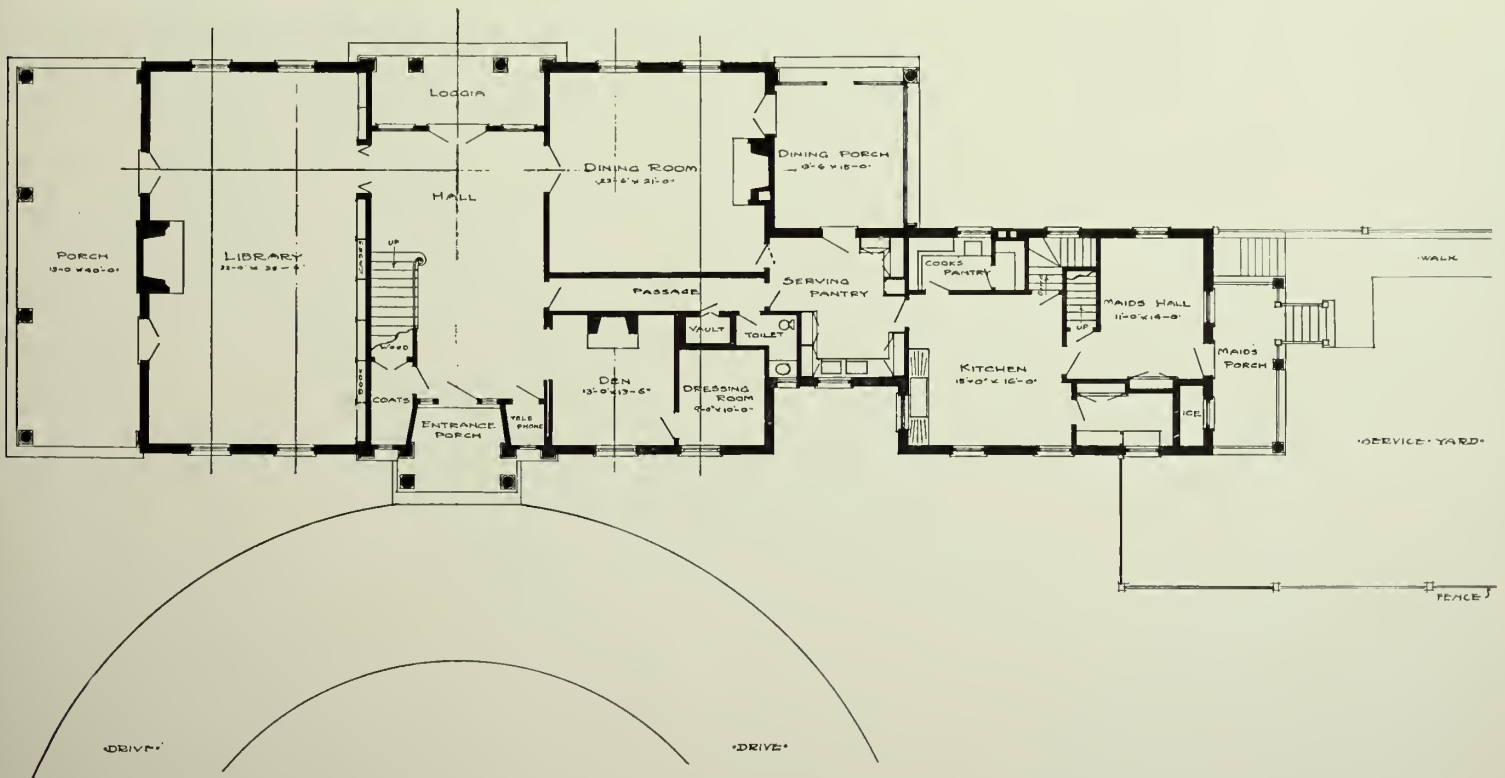


HOUSE FOR A. A. CARPENTER, ESQ., LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.



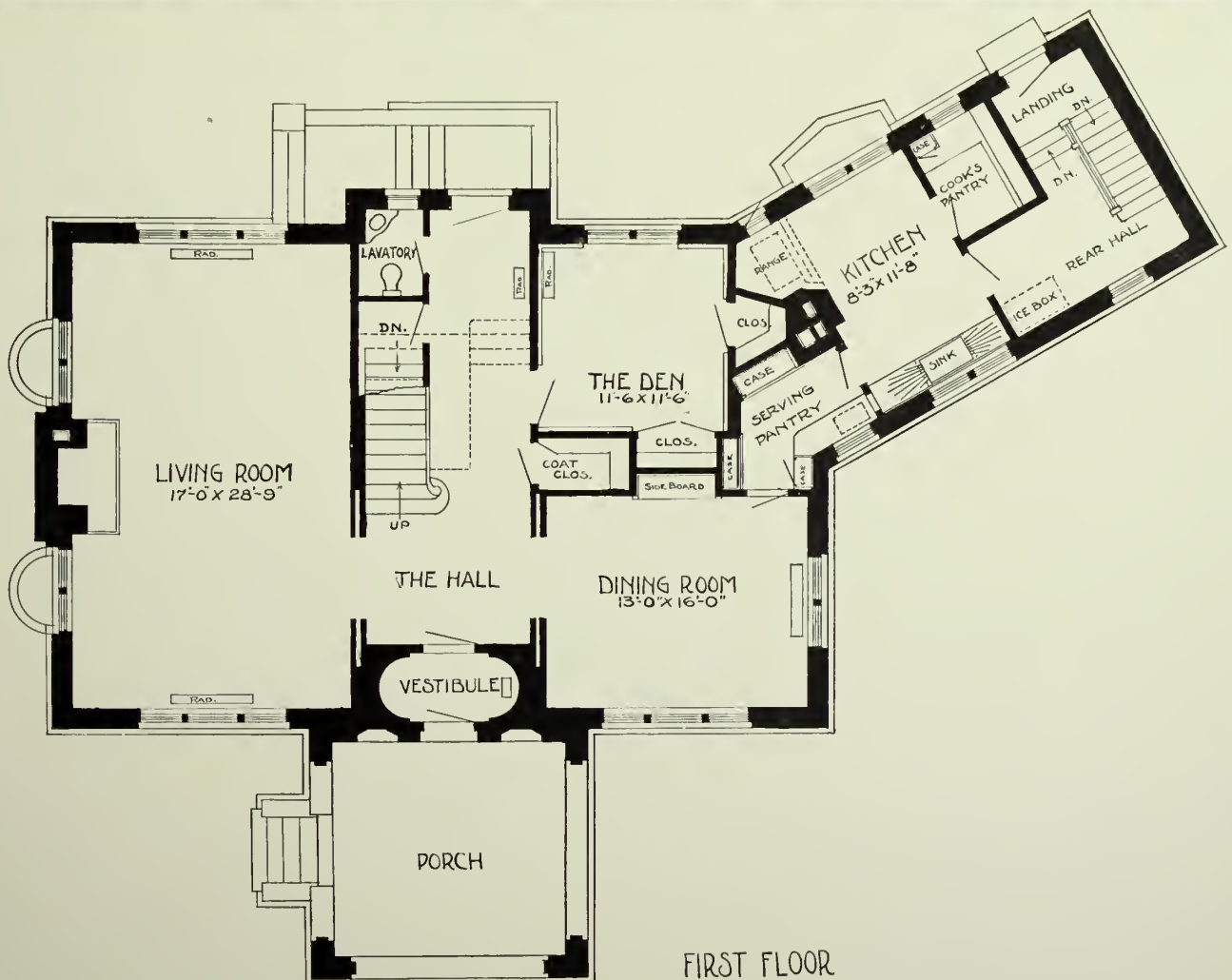


HOUSE FOR LEVERETT THOMPSON, ESQ., LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.

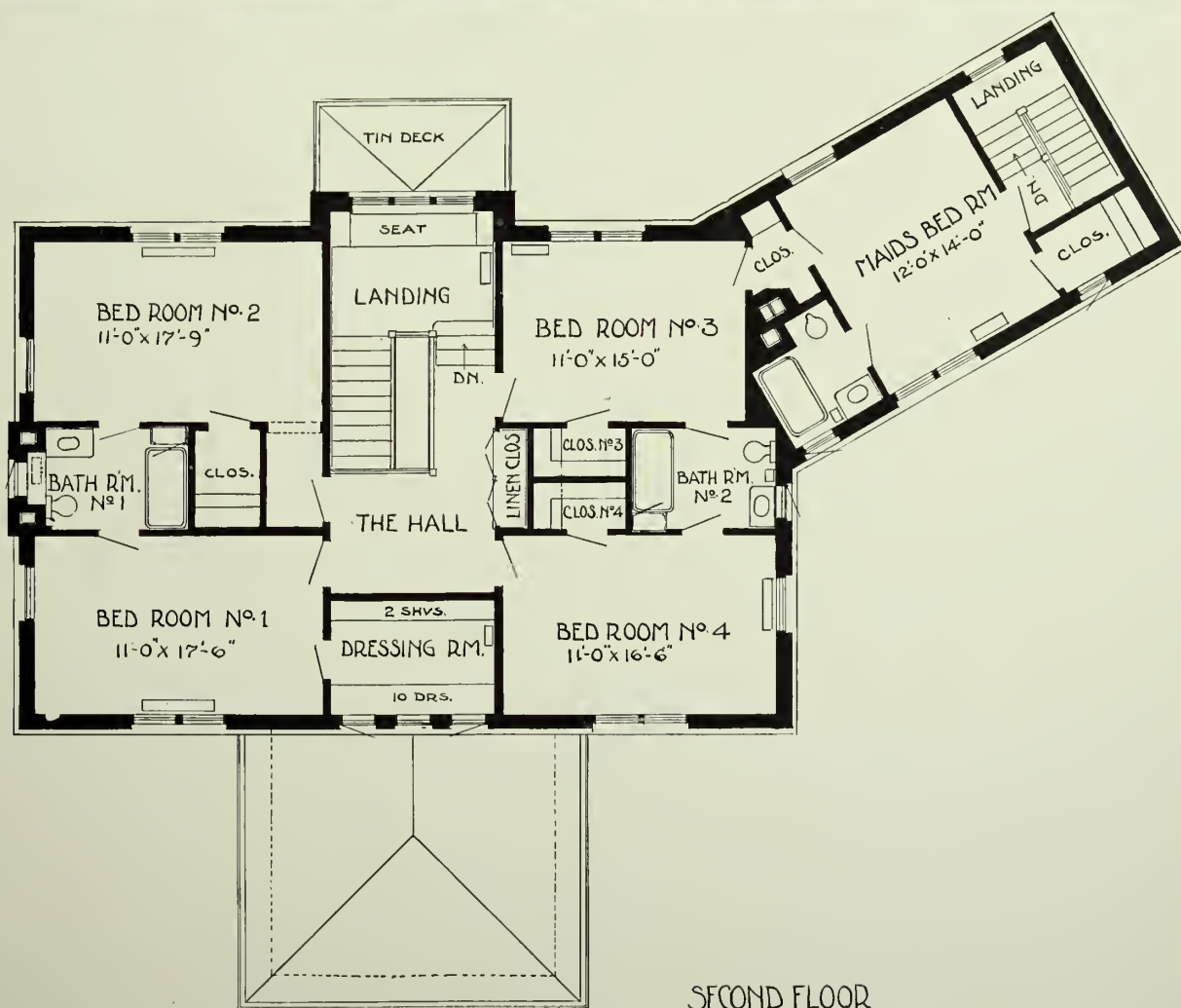


HOUSE FOR A. A. SPRAGUE, ESQ., LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.





HOUSE AT GLENCOE, ILL.
ROBERT C. SPENCER JR., ARCHITECT.



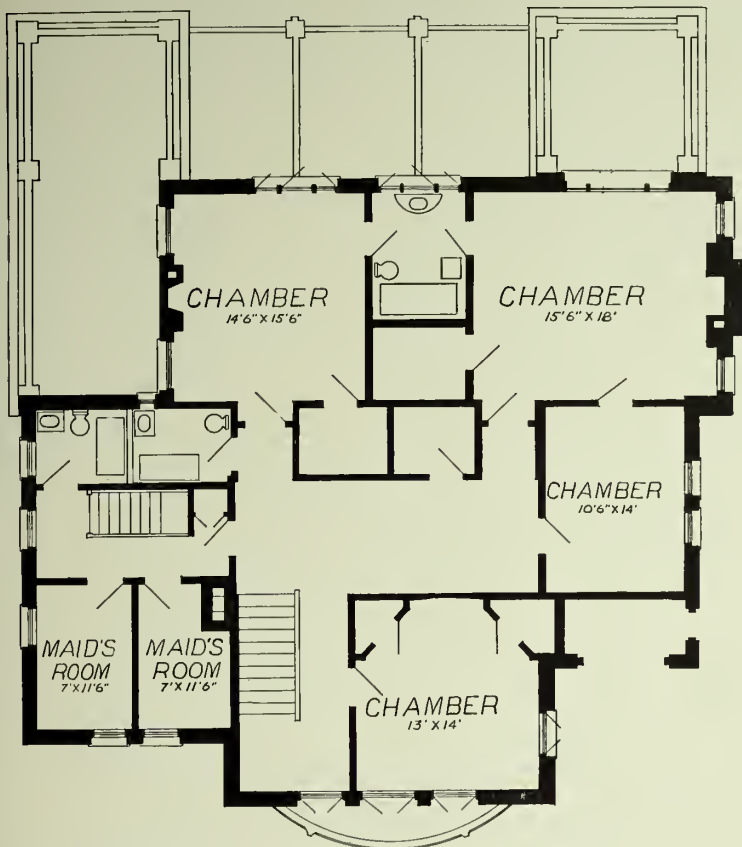
HOUSE AT GLENCOE, ILL.
ROBERT C. SPENCER, JR., ARCHITECT.



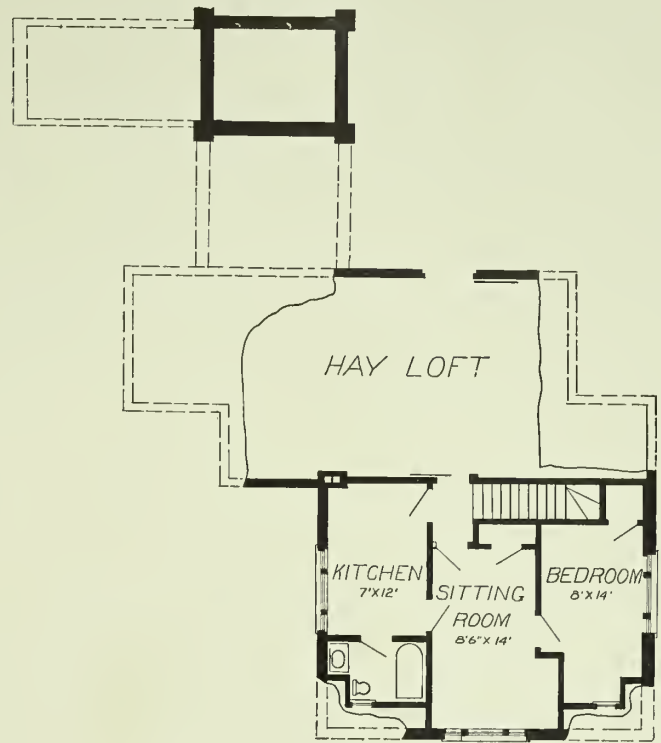
DETAIL OF MAIN ENTRANCE.
HOUSE FOR A. A. SPRAGUE, ESQ., LAKE FOREST, ILL.
HOWARD VAN D. SHAW, ARCHITECT.



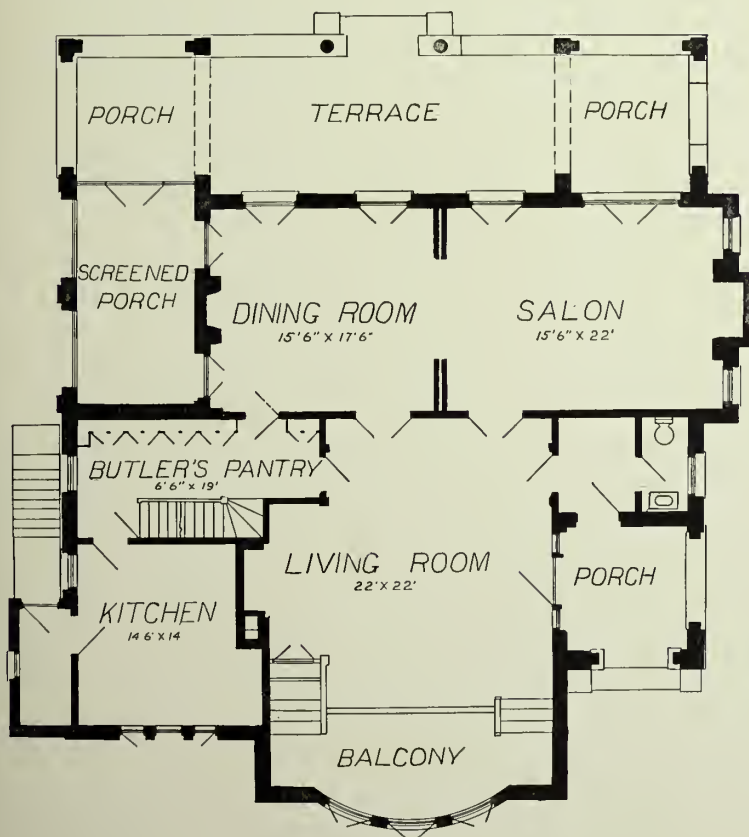
HOUSE AT MIDDLETOWN, R. I.
CHARLES E. BIRGE, ARCHITECT.



SECOND FLOOR PLAN

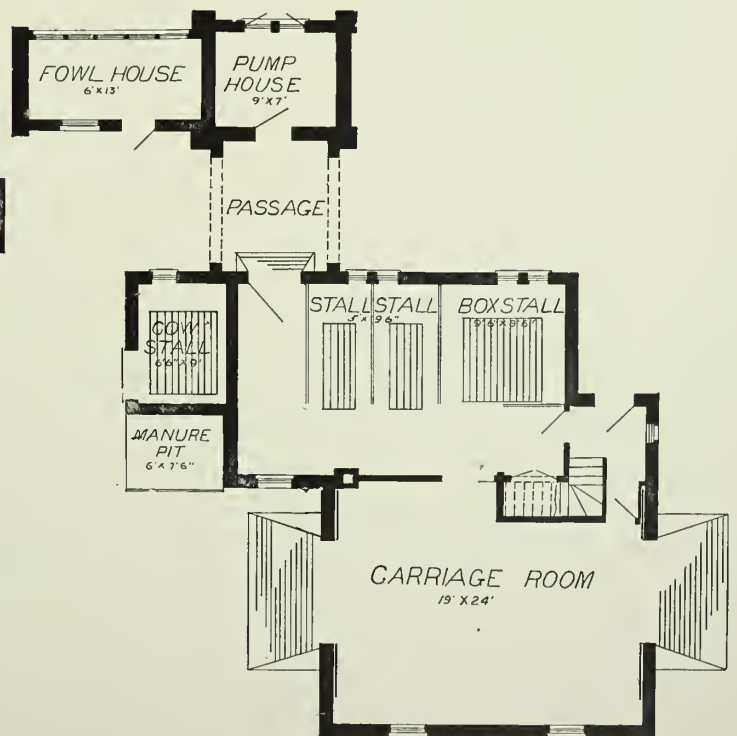


SECOND FLOOR PLAN



FIRST FLOOR PLAN

PLANS OF HOUSE.

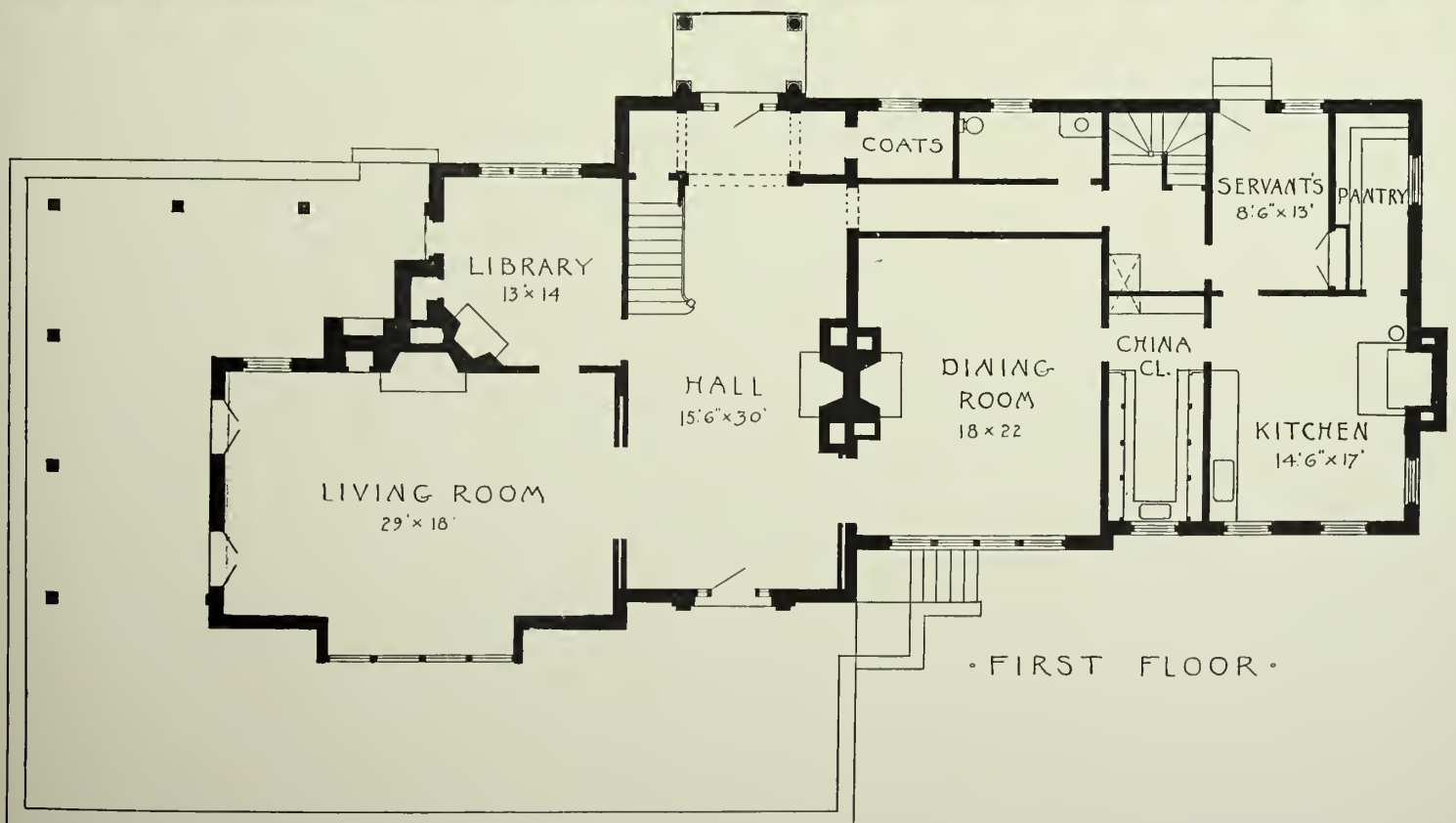


FIRST FLOOR PLAN

PLANS OF STABLE.

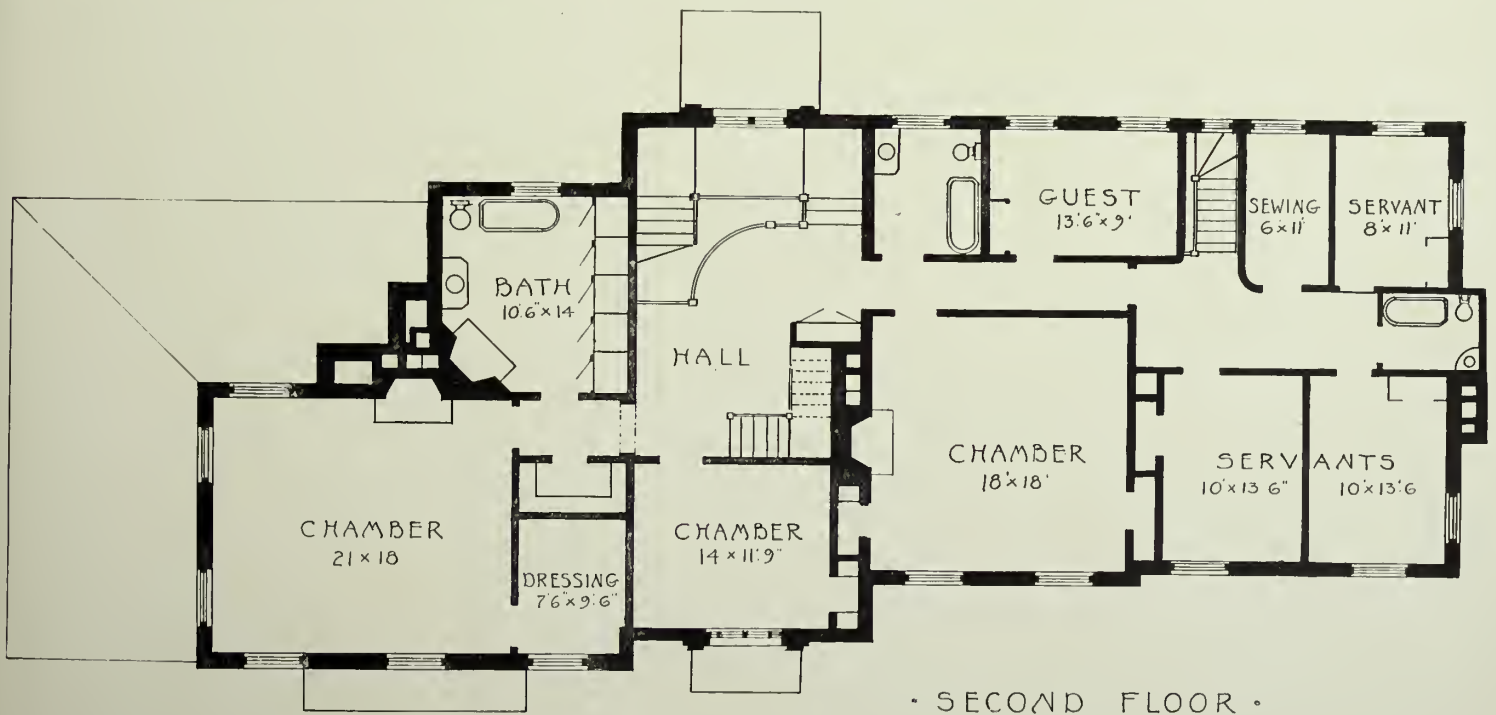
HOUSE AND STABLE AT MIDDLETOWN, R. I.

CHARLES E. BIRGE, ARCHITECT.



HOUSE FOR WILLIAM DE FORD BIGELOW, ESQ., COHASSET, MASS.

PHILIP B. HOWARD ARCHITECT.



HOUSE FOR WILLIAM DE FORD BIGELOW, ESQ., COHASSET, MASS.

PHILIP B HOWARD, ARCHITECT.



THE BRICKBUILDER

VOLUME XVI

NOVEMBER 1907

NUMBER 11

PUBLISHED MONTHLY BY ROGERS & MANSON

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Advertisers are classified and arranged in the following order:

	PAGE		PAGE
Agencies—Clay Products	II	Brick Enameled	III and IV
Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

Advertisements will be printed on cover pages only

CONTENTS

PLATE ILLUSTRATIONS

FROM WORK BY

ERNEST FLAGG; HISS & WEEKES; THEO. C. LINK; PALMER & HORNBOSTEL;
REED & STEM.

LETTERPRESS

	PAGE
COBHAM HALL, THE NORTH FRONT, KENT, ENGLAND.....	Frontispiece
EDITORIALS	193
THE NEW AUDITORIUM AT ST. PAUL	194
FIREPROOF COUNTRY HOUSE AT LOS ANGELES, CAL.....	199
HOUSE FOR SCHENLEY FARMS CO., PITTSBURG, PA ... <i>MacClure & Spahr, Architects, Illustrations</i>	203
HOUSE FOR SCHENLEY FARMS CO., PITTSBURG, PA <i>MacClure & Spahr, Architects, Illustrations</i>	204
HOUSE FOR JOHN WALKER, ESQ., SEWICKLEY, PA..... <i>MacClure & Spahr, Architects, Illustrations</i>	205
ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS, — REPORT.....	206
EDITORIAL COMMENT AND SELECTED MISCELLANY.....	209
PROGRAMME FOR “THE BRICKBUILDER” ANNUAL COMPETITION.....	214

The New Auditorium at St. Paul.

(For additional illustrations see plates 167, 168 and 169.)

IN the design of the Auditorium, built by the city of St. Paul, Minn., the architects were required to solve the problem of making the building serve a three-fold purpose.

First, that of a building suitable for large gatherings, such as national conventions or for exhibition purposes, horse shows and circuses, similar to those given in the Madison Square Garden, New York.

Second, a building suitable for the staging of grand opera performances, with a seating capacity equal to the Metropolitan Opera House, New York.

Third, a building suitable for large, spectacular stage performances, similar to those given in the Hippodrome, New York.

It was also necessary to keep within definite limits of expenditure, so as to make the building a reasonably paying investment.

Heretofore, in the larger Western cities, buildings have been erected intended to partially fulfill these same requirements; the results being obtained, however, in an extremely crude manner by the arrangement of steel partitions used in sub-dividing the large hall into such areas as were required, the problem of providing the necessary attendant facilities and caring for an attractive architectural effect, and the acoustics of these smaller halls being neglected.

The general plan of the Auditorium, which covers a site 181 feet by 301 feet, is based on the use of an arena 125 feet by 200 feet, surrounded by boxes. The architects have devised a system of pivoted boxes, enabling a portion of this space to be formed into a fan-shaped plan, which, by the addition of a movable proscenium arch, creates a theater, complete in every detail. Illustration A is a view of the arena being transformed into a theater with that portion of the floor occupied by the parquet in place.

Illustration B is a view of the theater with the pivoted boxes shifted into position and the proscenium arch dropped into place.

The portion of the arena floor which is used for the theater is provided with movable supports required for the stage floor; the ceiling immediately over this portion of the floor being provided with all facilities necessary for the gridiron loft used for the handling of scenery and accessories.

When used for a theater, the total seating capacity is thirty-two hundred, each seat having an unobstructed view of the stage. The roof and ceiling are carried entirely by through-span trusses, avoiding the use of columns cutting through the balconies. The stage provided is considered the largest in this country. During the recent visit of Secretary of War Taft, it was used for

a banquet at which were seated simultaneously, over two thousand people. Through driveways are provided to enable the scenery to be carried directly into the building with trucks, insuring economical and quick handling. The boxes back of the stage are provided with collapsible wash stands and other necessary facilities to enable them to be converted into stage dressing rooms.

The theater was used last spring by the Conried Opera Company, which played to the largest audiences in the history of the Northwest, and all of the requirements of the stage manager, including successful acoustics, were fully met.

When used for exhibition purposes, the parquet seating is floored over, thus providing a rectangular arena surrounded by boxes, and provided with ample circulating space, which is secured by a system of arcades, entirely encircling the arena boxes. The boxes and accompanying galleries provide a total seating space for six thousand. When used for convention purposes the arena is provided with seats giving a total capacity for ten thousand people.

A large banquet room is provided under the main balcony, with all necessary service facilities.

The main street entrance is devoted to ticket lobbies and stairs to the various balcony levels. The building is amply provided with exits which are secured on both sides of the building in an ingenious manner by the use of a cellular wall construction, with a six-foot clear space between the outside and inside walls. These twin walls take the weight of the roof trusses, at the same time furnishing an absolutely fireproof space in which are located the various emergency exit stairs. In this connection it may be of interest to note that the roof trusses are said to be the largest single span trusses of this type used in this country for similar purposes.

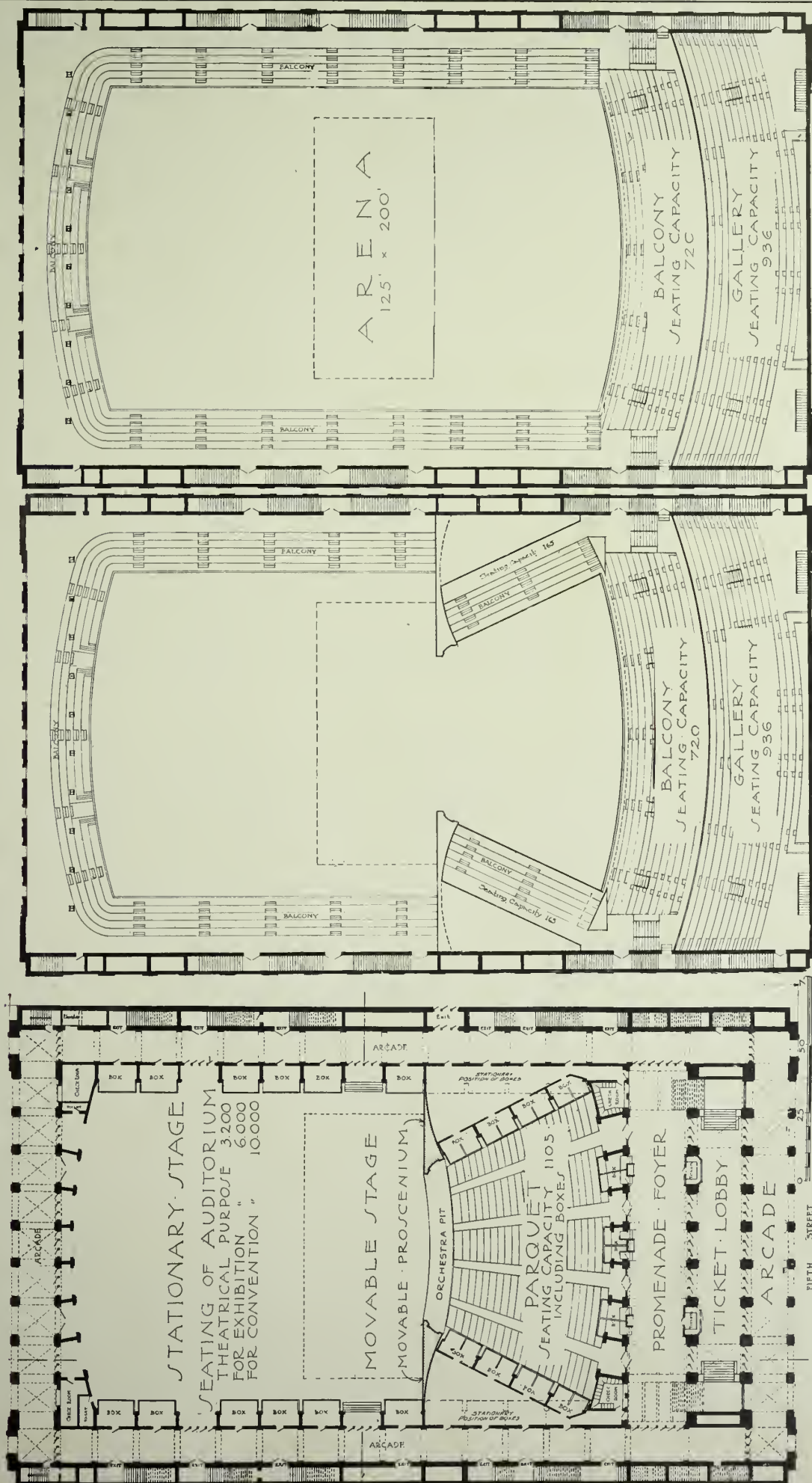
The façade of the building is executed entirely in brick and terra cotta. In style, the architects have followed the modern Italian Renaissance as far as the limited expenditure would permit, color being introduced by the use of simple ornaments worked out with Moravian tile in dark greens and purples.

To sum up, the building is so arranged that it is possible to furnish in the way of amusements, anything from amateur theatricals, to grand opera, and from a horse show to a national convention, all necessary conveniences and facilities being provided for any of these functions. It is also possible to change it for use from one to the other purpose in an hour's time.

The total cost of the building was \$460,000.00. Considering the maximum seating capacity of ten thousand, and the flexibility of the building to several uses, instead of proving a burden to the city, as has been the case in most all similar enterprises, financial success would seem assured. The architects were Reed & Stem of St. Paul and New York.

MONUMENTAL RAILWAY TERMINALS.—In the matter of monumental architecture applied to railway terminals, the large projects now under way bid fair to raise this country to the highest rank. The new Union Station in Washington was put into operation by the admittance of trains of the Baltimore & Ohio this month. Soon two

other enormous stations will assume definite shape before the eyes of New Yorkers. The quiet acquisition by the Pennsylvania company of a vast tract in Chicago will ensure to that city a station whose size and importance justify the belief that it will be monumental in character and a credit not only to Chicago but to the country.

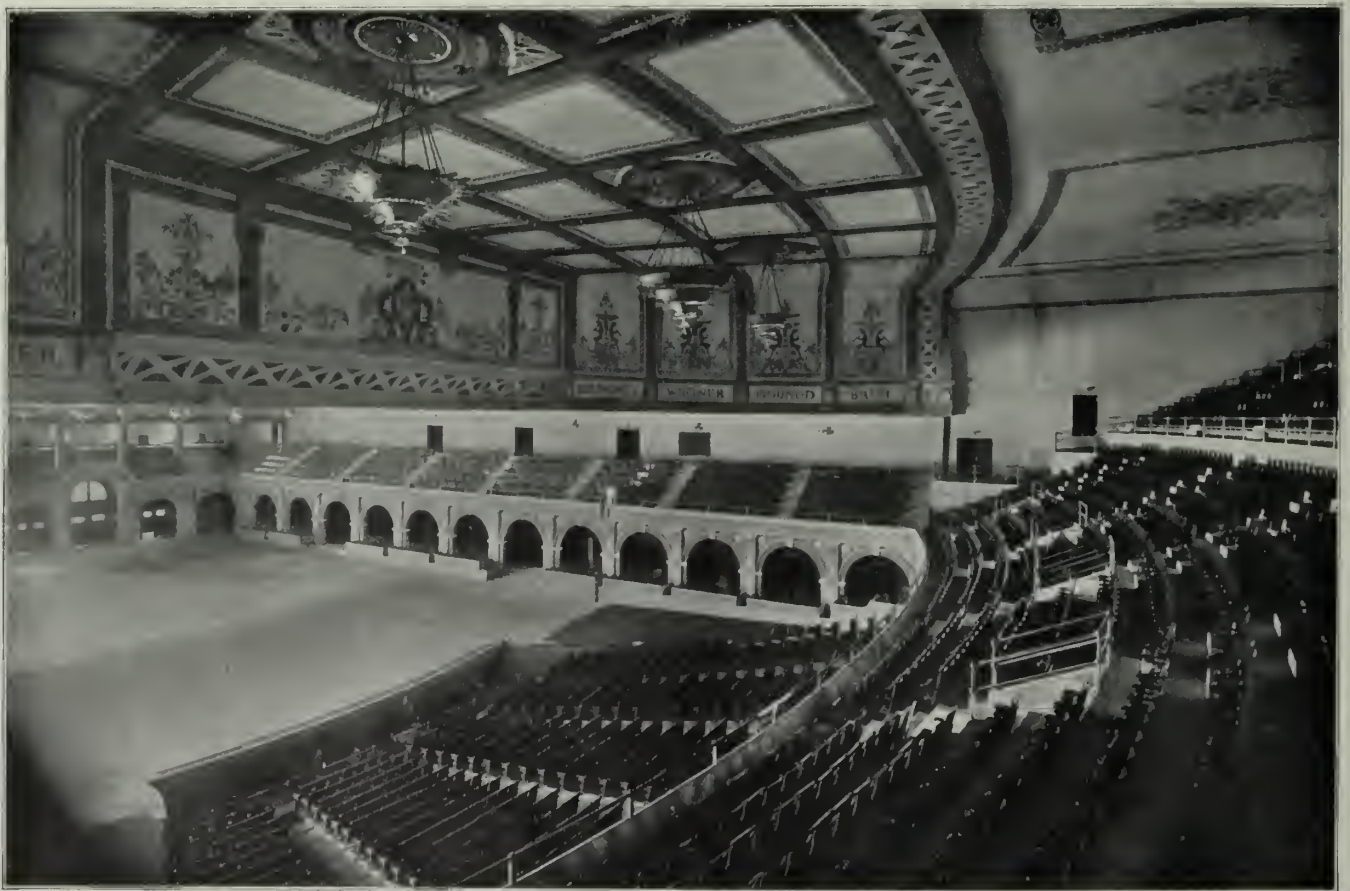


BALCONY AND GALLERY PLANS.
THE AUDITORIUM, ST. PAUL, MINN.
Reed & Stem, Architects.

FIRST FLOOR PLAN.



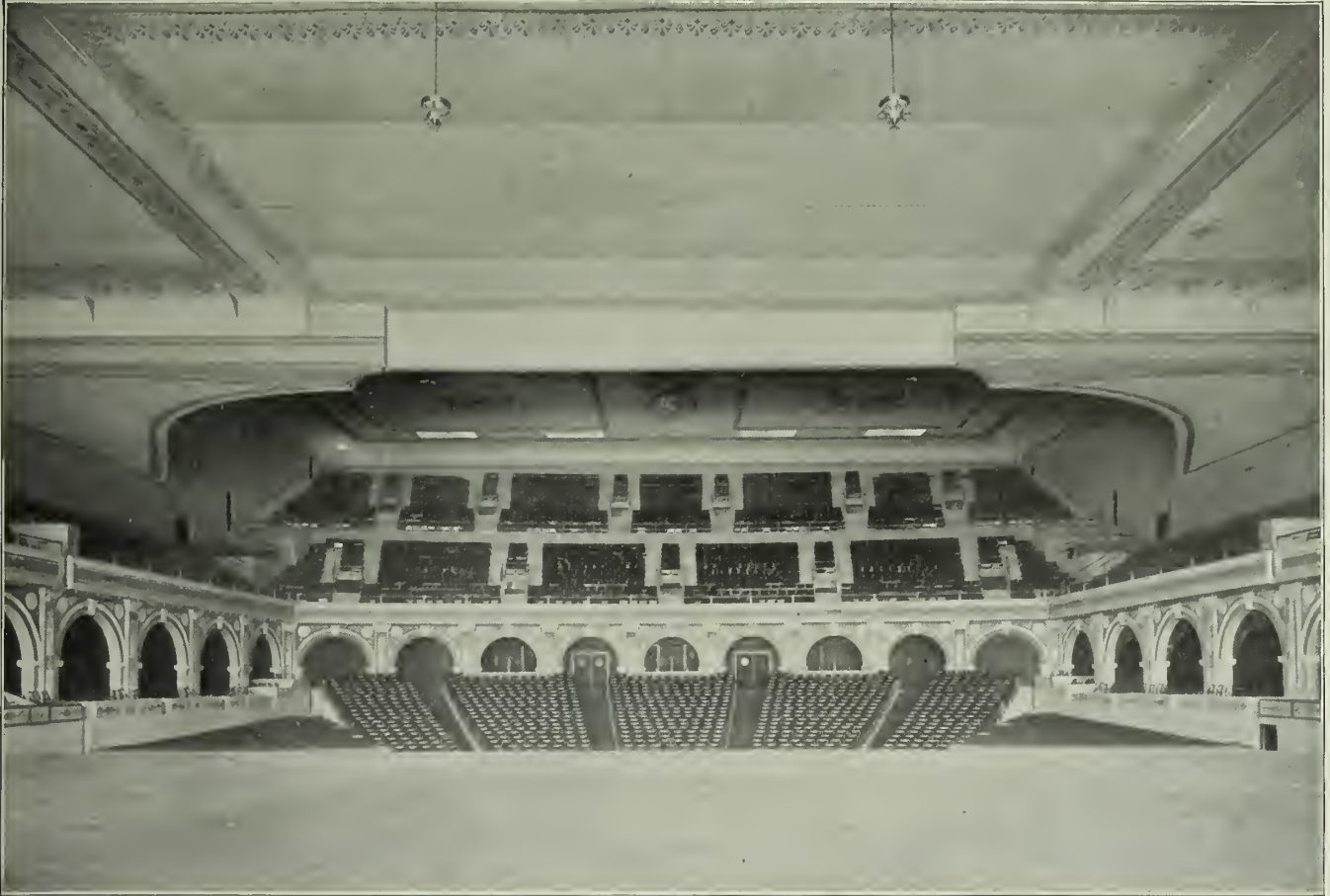
B. AUDITORIUM TRANSFORMED INTO THEATER. LOOKING TOWARD STAGE.



A. ARENA BEING TRANSFORMED INTO THEATER, SHOWING PARQUET IN PLACE.

THE AUDITORIUM, ST. PAUL, MINN.

Reed & Stem, Architects.



LOOKING TOWARD MAIN BALCONY. SHOWING TEMPORARY CEILING OVER STAGE CONCEALING RIGGING LOFT.



ARENA BOXES. SHOWING PIVOTED SECTION.
THE AUDITORIUM, ST. PAUL, MINN.
Reed & Stem, Architects.



TICKET LOBBY.



INSIDE FOURTH STREET ARCADE.



DETAIL OF FOURTH STREET ARCADE.
THE AUDITORIUM, ST. PAUL, MINN.
Reed & Stem, Architects.

Fireproof Country House.

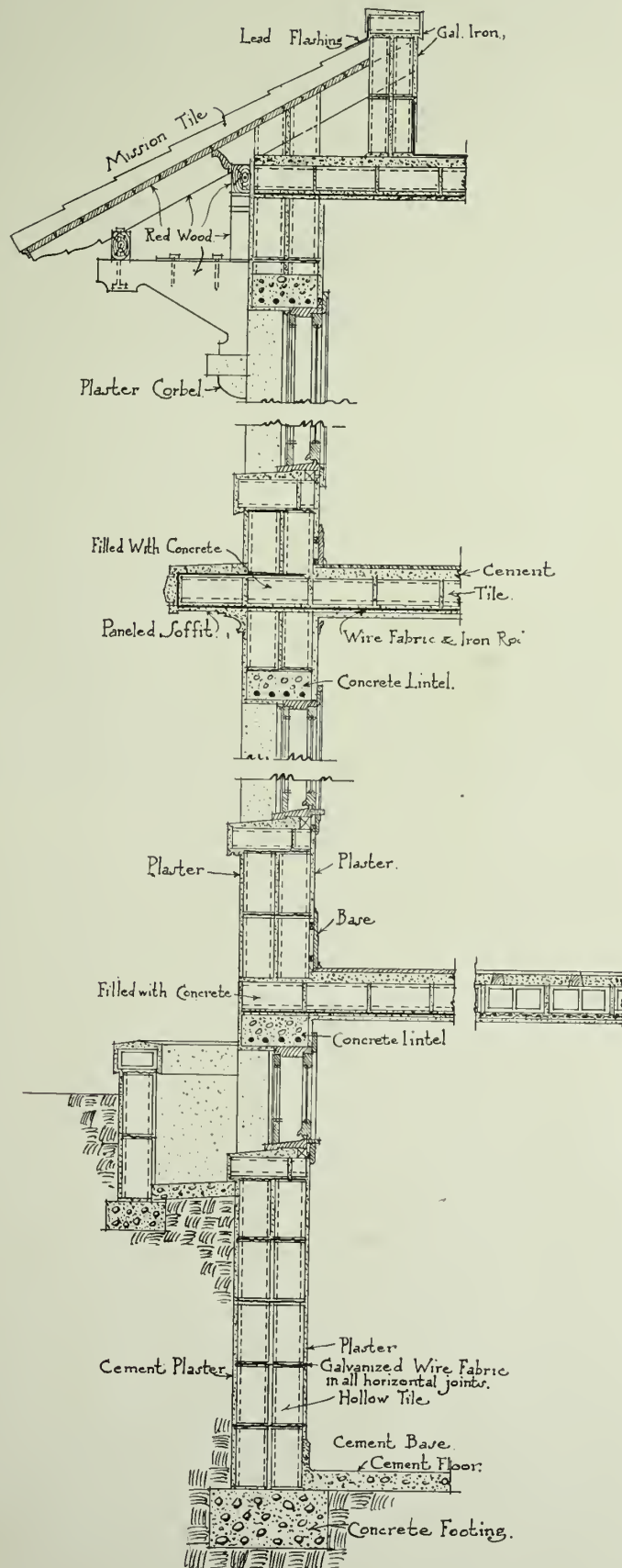
BUILT OF TERRA-COTTA BLOCKS
WITH CEMENT FINISH.

HOME OF EDWIN BERGSTROM,
ARCHITECT, LOS ANGELES, CAL.

THE property on which the house stands—some two acres—is bounded by three streets, and located on a hill sufficiently high to give a commanding view from the first-story windows of the entire surrounding country. The north view is of the Sierra Madre Mountains, to the west lie the Santa Monica Hills and the Pacific Ocean, to the south and east, the city of Los Angeles, with the Island of Catalina in the distance. These views determined the location of the principal rooms, and command of the magnificent sweep of country made the roof garden desirable.

The main idea was to obtain a house particularly adapted to the California climate, with its sudden variations between the hot mid-day and the cool nights; also, a house that would be cool during the summer and warm during the rainy season. For these reasons, terra-cotta tile construction with a finish of cement was determined upon. This insured a fireproof, vermin-proof and sound-proof house, and one which the architect believes will stand any shock that a building can be expected to stand.

The walls, floors, roof, and the structural parts throughout are tile and cement, the only woodwork used being in the trim and floor surfaces. The cornice and roof projections are carried out in the natural



DETAILS OF CONSTRUCTION IN
RESIDENCE FOR
EDWIN BERGSTROM
LOS ANGELES, CAL.
JOHN PARKINSON & EDWIN BERGSTROM
ARCHITECTS.

colors of the red tile and redwood.

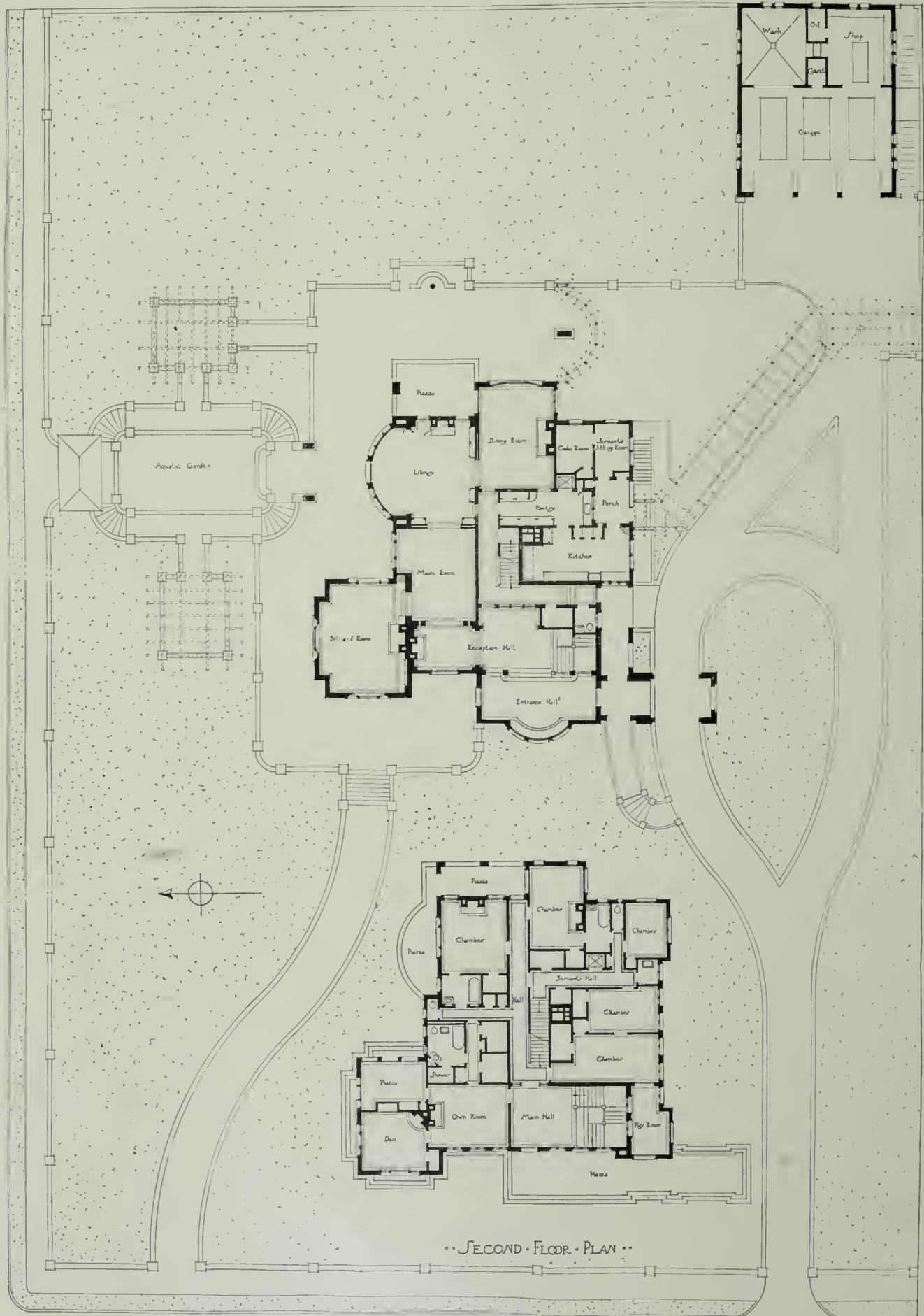
The exterior walls, from footings to roof, are built of two thicknesses of six-inch tile, resting on concrete footings. The interior walls and partitions are of four and six inch tile. All tile walls have galvanized wire fabric in the horizontal joints. The floors and roof are constructed according to the Johnson Tension System. The lintels over all openings, both interior and exterior, are of reinforced concrete. The exterior is plastered with a first coat of cement applied directly on the tile, and a second coat of waterproof plaster with fine stippled surface. The roof and piazzas on the second floor were first finished with cement, and then covered with Malthoid, making them thoroughly water-tight.

The interior plaster was applied directly to the tile. The roof, of Mission tiles, is supported on redwood brackets and timbers, and forms an awning which protects the second story windows from the direct rays of the sun during the middle of the day. No steel is used for construction except as a tension material.

The principal chambers of the house have fireplaces, and open upon piazzas planned to serve as open-air sleeping rooms.

The house is heated by hot air forced into the rooms by rotary fans, and this system is so arranged that the furnace is disconnected during hot weather, and the fans blow cool air into the rooms.

Clay tiles have been used liberally for wainscoting the floors in the billiard room, bathrooms, kitchen and service rooms.



HOUSE FOR EDWIN BERGSTROM, ESQ., LOS ANGELES, CAL.
John Parkinson and Edwin Bergstrom, Architects.



SOUTH FRONT.



WEST FRONT.

HOUSE FOR EDWIN BERGSTROM, ESQ., LOS ANGELES, CAL.
John Parkinson and Edwin Bergstrom, Architects.



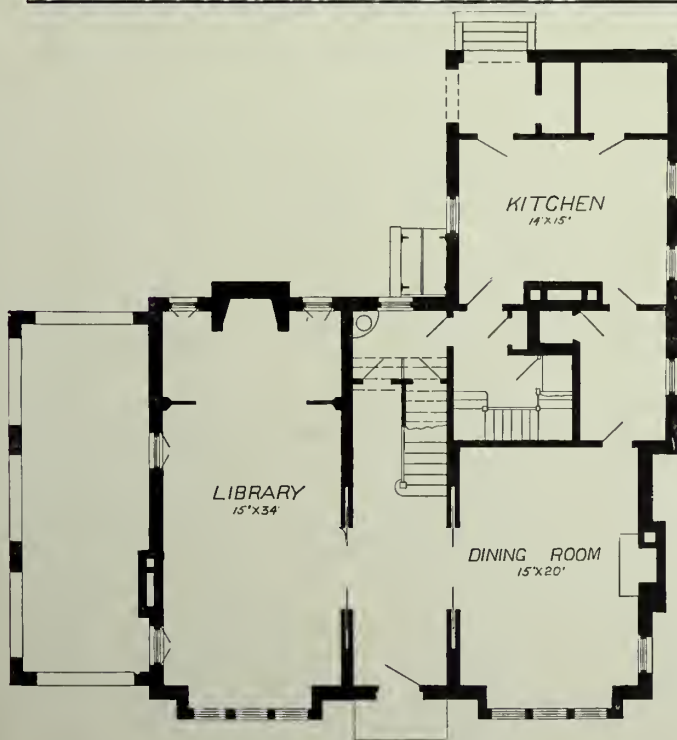
A HOUSE BEING CONSTRUCTED OF TERRA-COTTA BLOCKS.

THE RESIDENCE OF EDWIN BERGSTROM, ESQ.

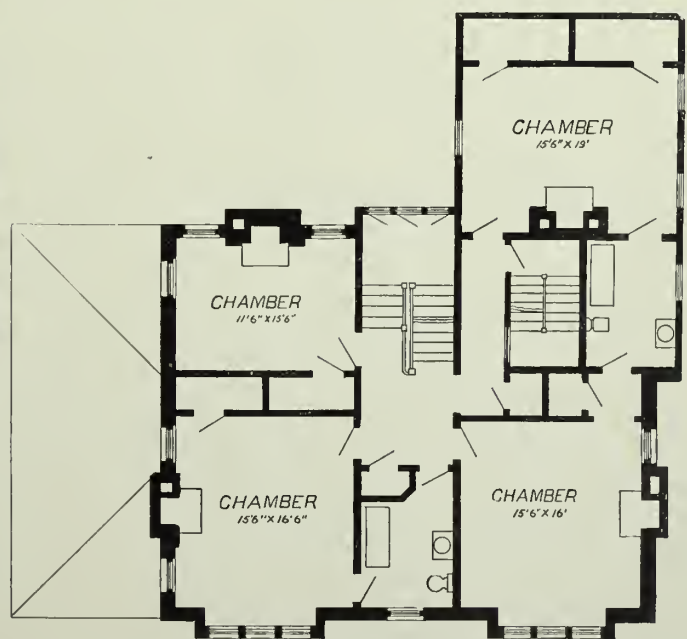
LOS ANGELES, CAL.

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS.



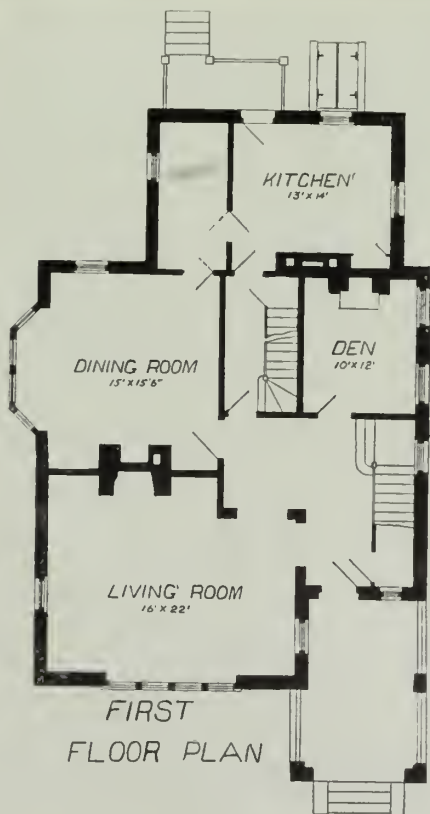


FIRST FLOOR PLAN



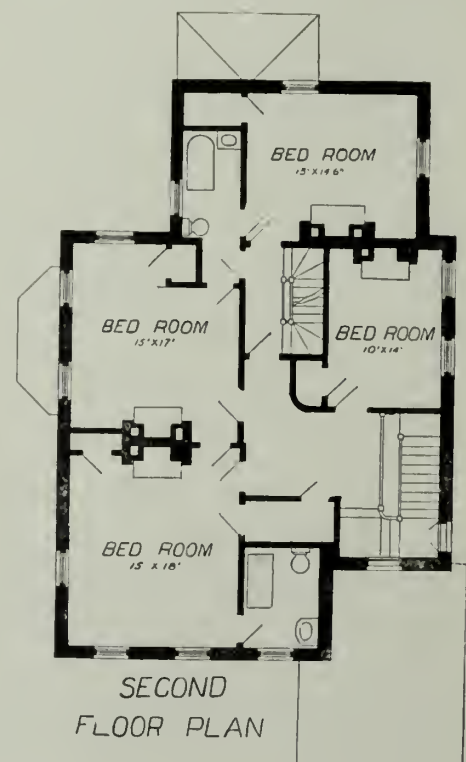
SECOND FLOOR PLAN

HOUSE FOR SCHENLEY FARMS COMPANY, PITTSBURG, PA.
MacClure & Spahr, Architects



HOUSE FOR
SCHENLEY FARMS
COMPANY,
PITTSBURG, PA.

MacCLURE & SPAHR,
ARCHITECTS.

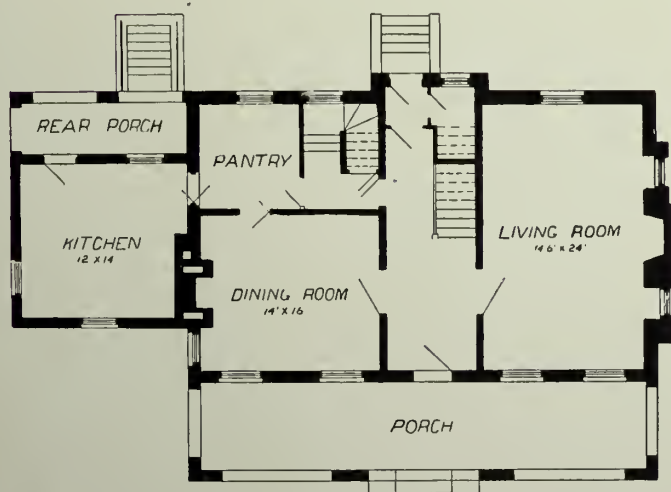




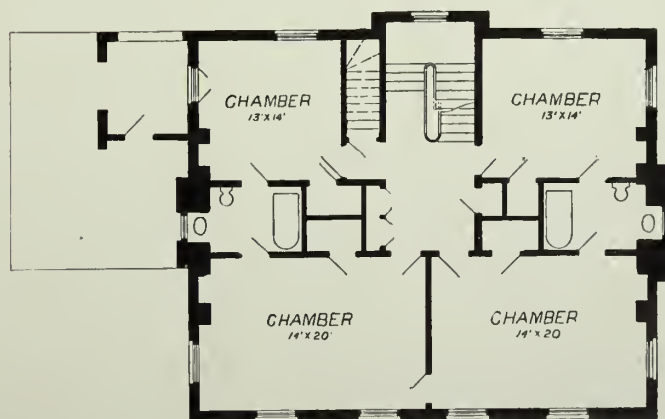
HOUSE FOR JOHN WALKER, ESQ.,

SEWICKLEY, PA.

MACCLURE & SPAHR, ARCHITECTS.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

Annual Convention of the American Institute of Architects.—Report.

THE forty-first convention of the American Institute of Architects was held at Chicago, on November 18, 19 and 20.

It was significant that the convention was held sufficiently near the geographical center of the states to allow of the meeting of representatives of both the East and West, as well as the North and South.

Speechmakers may come and speeches may go, but human nature remains much the same, and architects are, after all, human—and usually good fellows. Whether intentionally or only incidentally, it is toward the promotion of goodfellowship and an acquaintance among architects throughout the country that these conventions can perform their best service. The Easterner, more self-sufficient and reserved, finds himself set next to the breezy and higher vitalized Westerner. The conventionality of the one is somewhat shattered, and in the other, its disregard is somewhat tempered. They exchange refinement and breadth of outlook, and it is indeed a narrow and hopeless individuality that may not find something to respect in all his associates.

The conventions of the Institute are, in some years, fated to produce important changes in the growth of the profession, while on other occasions they might pass almost disregarded, if not unrecorded. It so happens that those in attendance upon this gathering may leave with a feeling that, this year at least, much has been accomplished. Among the many in attendance, it was noticeable too, that the younger element in the profession appeared more to predominate than in the conventions of some few previous years. Whether or not this made for progress is perhaps aside from the issue; it is certain that the able chairmanship of the more important committees having in hand the material to be presented at these meetings, taken together with the more than efficient and satisfactory manner of the presiding officer, Mr. Day, enabled the accomplishment of a great deal of work.

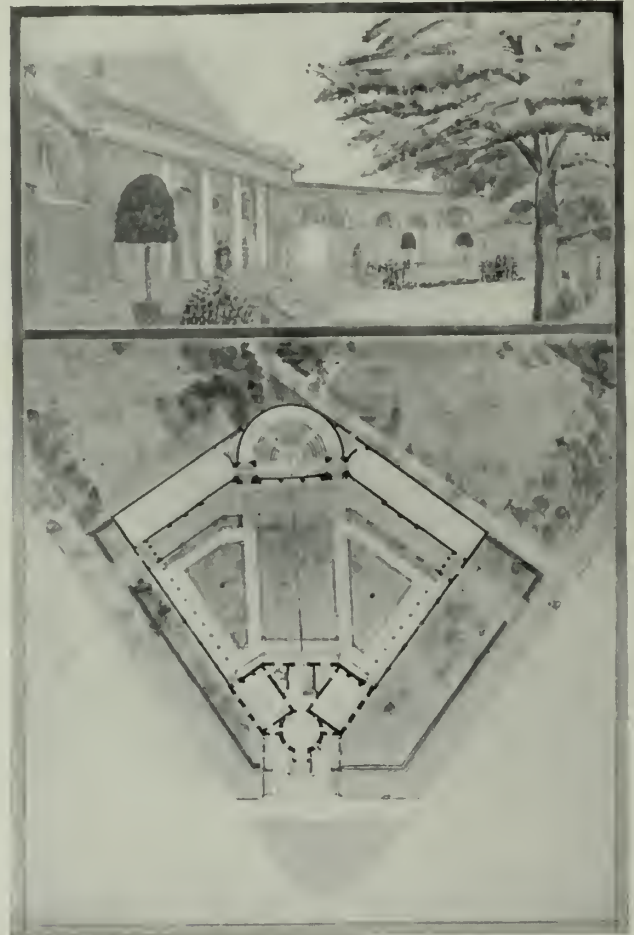
NEW MEMBERS ELECTED.

The formal exercises opening the Convention took place in Fullerton Hall on Monday evening, Nov. 18. The address of welcome to the city was delivered by Edward Y. Brundage, representing His Honor the Mayor of Chicago. This was followed by addresses by the President of the Institute and President Charles L. Hutchinson of the Art Institute of Chicago. Then followed the election of three new honorary members: Messrs. Henri-Paul Nenot, Paris; Otto Wagner, Vienna, and Ernst von Ihne, Berlin; two corresponding members: Messrs. Henry Wilson and Lorado Taft; also seven Fellows of the Institute: Claude F. Bragdon, Cyrus L. Eidlitz, Herbert D. Hale, Benjamin S. Hubbell, H. Van Buren Magonigle, Howard Van D. Shaw and Albert Kelsey.

IMPROVING THE OCTAGON.

At the morning session of the second day, Secretary Glenn Brown's report on the House and Library proved

exceptionally satisfactory, inasmuch as the members were officially notified for the first time that the Octagon in Washington was now fully paid for, and that considerable progress had been made towards its furnishing, while a scheme for the further development of the property was also presented for the consideration of the members. This scheme indicated the remodeling of the old stable buildings situated at the back margin of the lot, and their extension into two halls for exhibitions, with



SUGGESTION FOR THE DEVELOPMENT OF THE OCTAGON.
Glenn Brown and Bradford Prown, Architects.

an auditorium in the center for meetings. This group of buildings being then connected with the old house by colonnades placed in front of each of the side brick-bounding walls of the estate, a most attractive and sympathetic carrying out of the Colonial character of the old building.

ARCHITECTURAL EDUCATION.

Ralph Adams Cram, Chairman of the Committee of Education, reported that steps had been taken by this committee for the institution of interscholastic competitions, and that a committee had already been formed, including the members of his own committee and the professors of architecture at Cornell, Technology, Pennsylvania, Harvard and Columbia. He emphasized the fact that the architect was not a man who could depend upon a narrow education in one specialized line, but must be broad and cultured. He also advocated the adoption of the "atelier system" for the study of architecture. In accomplishment he was able to state that Cornell had al-

ready adopted in full, and Pennsylvania and Harvard in part, the ideals that his committee had been furthering, while a general progress in all the colleges toward their adoption could be recorded.

This committee strongly recommended that the period given to the study of architecture in the various colleges be extended, even advocating that it include seven years, of which time the first year be given to preparation, the next two years to general schooling, next giving perhaps three years to advanced study, and ending with one or two years of travel or study in Paris and other parts of Europe. The Committee also advocated that a memorial be addressed to the Army and Navy Departments, emphasizing the value of instituting courses in architecture and art at West Point and at Annapolis, inasmuch as — especially in the case of army graduates — the execution, superintendence and carrying on of extensive building operations for the Government is a frequent experience in the after life of the army officer.

STANDARD CONTRACTS AND SPECIFICATIONS.

Grosvenor Atterbury reported, as Chairman of the Committee on Contracts and Specifications, progress toward the definition of a standard document that was then in the hands of the printers, preliminary to its dissemination among the various Chapters of the Institute for a criticism from each, in the hopes that by this means they would be enabled to make it of value throughout the country. This had not been accomplished in time to offer any more tangible report at this Convention, but as soon as the material had assumed a definite form, it was to be sent to all the various members of the Institute.

DISCUSSION OF CONCRETE.

Because of the fact that the present Convention expected to have come before it papers largely given to the consideration of concrete, Irving K. Pond chose to devote most of his report, as Chairman of Committee on Applied Arts and Sciences, to an extremely unconventional and drastic series of statements as to the province and possibilities latent in this material. He claimed that the architect should be a sculptor and should study nature to rid himself of the bounds of convention that are too likely to restrict his outlook and the progressive value of his product. New architecture requires new forms and new materials, and commercialism, as the impetus of modern art, should properly express itself in forms and products that might often be rightly considered by themselves, inartistic. In connection with concrete, he urged the importance of faience, terra cotta and brick, for their decorative value, as ornament in detracting from "the brutality of concrete."

COMPETITIONS.

R. Clipston Sturgis gave the findings of his committee on the subject of Competitions, classifying them under three separate headings: First, limited competitions, for which all the competitors were to receive adequate remuneration for their work; second, open competitions, with prizes aggregating a sum of not less than five times the cost of preparing a set of drawings; and third, competitions having both open and limited

features. The Committee recognize that it is impossible to prevent competitions, and that their best endeavors should be towards their standardization and regulation. They, in furtherance of this purpose, advocate that members of the Institute should, in *all* cases, be engaged to draw up the rules governing the submission of drawings and the selection of the premiated designs.

MUNICIPAL IMPROVEMENTS.

The report of the Committee on Municipal Improvements, T. M. Clark, Chairman, stated that a general progress was to be noted throughout the country, although there was no especially notable examples to be brought before the Institute for its consideration. Various cities, including Buffalo, Pittsburg, Washington, Cleveland, Boston, New York City and Chicago were mentioned as having, during the past year, made more or less definite steps toward the eventual securing of municipal improvements of greater or less extent, and attention was called to the fact that during this present gathering, plans by D. H. Burnham, for the development of the North and South connections, and the Boulevard System on the Lake Front of Chicago, were on exhibition in the Art Institute. In the case of two cities, — Berkeley, Cal., and Portland, Me., — the Committee had assisted local architects in preventing mistakes that might otherwise have been made by local authorities in a too hasty adoption of civic improvement plans.

ENDOWMENT FUND.

Cass Gilbert's report on the Endowment Fund recommended the continuing of the Committee, in order to bring up the matter more definitely at a time when they could expect to obtain a more successful result than had been possible during the last year.

INTERNATIONAL CONGRESS.

William S. Eames reported that the next International Congress of Architects would be held at Vienna, during May of 1908, and wished to be authorized to invite the architects of the world to have their next meeting at some place in America, in 1910.

METRIC SYSTEM DISCARDED.

The Committee on the Metric System, through their Chairman, L. De Coppet Berg, advocated that the metric system in its entirety having proved unfeasible, should be abolished and the subject dropped. He made the suggestion that the present foot unit be divided into tenths instead of twelfths, which would merely necessitate the substitution of the engineering scale for that of the carpenter and architect, and mentioned incidentally that the foot measurement in use by England, America and Russia, and their dependencies and colonies was, as a matter of fact, already a standard for a considerable portion of the civilized world.

SIGNING OF BUILDINGS.

The Committee on the Signing of Building and the Use of Institute Initials recommended that the signing of buildings be not compulsory, but that members of the Institute should place their signature on their best buildings, and that individual members should use the initials

of the Institute when their name appeared professionally, as is the custom in England with members of the Royal Institute of British Architects, so increasing the importance of their profession and its standing.

SCHEDULE OF CHARGES.

The Committee on Schedule Charges, of which Edgar V. Seeler is Chairman, had to deal with what proved to be a most important issue of the meetings, and undoubtedly the exceptionally clear report and analysis furnished by this committee went far toward clearing the way for the almost unanimous acceptance of the very important changes in the scale of prices that were later adopted.

STANDARD CODE OF BUILDING LAWS.

The Committee on Building Laws reported progress on a standard code that they hoped would prove available for various cities throughout the country, but realizing that they could not themselves hope to have such a code generally adopted without the assistance of others interested in building, it was suggested that a committee to be composed of three members of the Institute of Architects, three members of the National Board of Fire Underwriters and three members of the National Association of Builders be empowered to gather the necessary material and perform the necessary work relative to the final definition of a building code suitable for such general adoption.

REGISTRATION OF ARCHITECTS.

William B. Ittner reported, as Chairman of the Committee on Registration of Architects, advising that the examination and registration of architects could not best be instituted by the profession, but would preferably come as a general demand from outside its ranks, so avoiding any suspicion or trace of trade unionism, which the general public is only too likely to impute to the Institute. He explained that in Illinois, which had the best law, the initiative had actually been taken by a trade union desiring protection, immediate cause of which action had been the failure of a building causing the death of several of their members. He advised that the Institute first obtain the influence of the building trades and employers, and should not themselves appear in the matter, merely furnishing what information they might be requested to provide. In Illinois the law has been in force about three years, and the state already has upon its rolls about seven hundred licensed architects, there being perhaps two-thirds of that number who were in practice at the time the law was passed, and so obtained certificates without examination. Outside of Illinois, New Jersey and California are the only other states that have any similar act upon their records. In the Province of Quebec in Canada, registration is compulsory, and in Great Britain the Royal Institute of British Architects is the only body having authority to sanction the practice of architecture.

Tuesday evening, in Fullerton Hall, Dr. Allerton S. Cushman read a most carefully prepared paper dealing with the corrosion of steel and the possibilities of its prevention. His conclusions were that steel must either be protected by some solution for surfacing that could be easily applied, or that its preparation by the mills should

be improved to a point where the absolutely even distribution of the various component parts should be such that no electrical action could be superinduced within itself, and consequently the process of corrosion or rusting could not be started.

At the Wednesday morning session a resolution was offered by Mr. Carrère, inviting Mr. McKim to undertake the work in connection with the improvement of the Octagon at Washington. A resolution for the formation of a "Press Committee," or Committee on Publicity, was also passed, the details being left to the Board of Directors.

A. O. Elzner read a paper on the Artistic Treatment of Reinforced Concrete, illustrated by slides of various buildings executed in this material, of which, it must be confessed, the greater majority were more representative of brick as a material than of concrete.

Resolutions were passed tending toward the formation of a nominating committee to contain at least one member representing each Chapter of the Institute, the details being left to the judgment of the Board of Directors. A resolution advocating that the Government pay the long deferred claim of Messrs. Smithmeyer and Peltz, in connection with the work they had performed on the Library of Congress, was passed unanimously.

ARCHITECTS' CHARGES INCREASED.

The real business of the day was concerned with the discussion that was to be expected in connection with the changes in the schedule of charges. After much discussion and the consideration of many separate motions and amendments, the paragraphs given below were finally adopted by the Convention, although the matter of their wording was still left in the hands of the committee that had presented them. The final vote accepted these amendments by 69 to nothing.

PROPOSED REVISION OF THE SCHEDULE OF PRACTICE AND CHARGES AS PRINTED AND SUBMITTED BY THE INSTITUTE'S COMMITTEE.

The American Institute of Architects as a professional body, recognizing that the value of an architect's services varies with his experience, ability, and the locality and character of the work upon which he is employed, does not establish a rate or compensation binding upon its members; but it is the deliberate judgment of the Institute that for full professional services, adequately rendered, an architect should receive as reasonable remuneration therefor, at least the compensation mentioned in the following schedule of charges, and that any variation from the schedule corresponding to a difference in quality and amount of the services rendered may properly be left to individual members or Chapters of the Institute.

The architects' professional services consist of the necessary preliminary conferences and studies, working drawings, specifications, large scale and full-sized detail drawings, and in the general direction and supervision of the work, for which, except as hereinafter mentioned, the minimum charge, based upon the total cost of the work, is as follows:—

On the first	\$10,000	of cost, or any part thereof —	10%
" " second	10,000	" " " " " "	7 "
" " next	30,000	" " " " " "	6 "
" any balance of cost,			5 "

When an operation is conducted under more than one contract, a special fee is charged in addition to the above schedule. For landscape architecture, furniture, monuments, decorative and cabinet work and alterations to existing buildings, the minimum charge is 10 per cent. In many instances this is not remunerative, and it is usual and proper to charge a separate fee in excess thereof.

The foregoing expresses the general sense of the new schedule and it was in this form that it was approved by the Convention. The motion of approval was accompanied by a clause remanding the entire text back to the Committee for final revision and the making of verbal corrections. An amendment in regard to the small residence, expressly providing for the charging of larger fees in that class of work, was also to be incorporated, its exact wording being left to the judgment of the Committee.

One of the incidents of the day was in connection with a resolution brought before the meeting by Mr. Cram and advocated by Mr. Carrère for the institution of a new grade of membership, to be known as Honorary President, this grade to be limited to perhaps three members. In spite of objections raised by Mr. Burnham of Chicago and Mr. Deane of California, the matter was favorably considered and referred to the Board of Directors for final action.

Resolutions in regard to the death during the past year of Augustus St. Gaudens, George L. Heins, of Heins & La Farge of New York City, and George F. Bodley of London, Eng., were passed unanimously. Resolutions of approval of the efforts of the Free Art League to remove the tariff on works of art were passed, and along with resolutions of thanks tendered to the Art Institute, to the Illinois Chapter, and to the various committees, for their kindness, hospitality and efficiency, the business sessions were brought to a close by the reading of C. Howard Walker's paper on "The Artistic Expression of Steel and Concrete." Action was then taken toward making this paper and the papers of Messrs. Pond and Elzner on the same subject, available for circulation to the various Chapters throughout the country, with the slides necessary to illustrate them.

The officers elected for the new year are as follows: President, Cass Gilbert; first vice-president, John M. Donaldson; second vice-president, William A. Boring; secretary and treasurer, Glenn Brown; directors, Frank Miles Day, R. Clipston Sturgis and George Cary; auditor, James G. Hill.

The retiring president received various expressions that could but imperfectly indicate the esteem and recognition that the Institute would fain have rendered him for his exceptional services during his term of office just ended.

The business sessions being concluded, the Convention ended with a banquet given at the Art Institute on Wednesday night. The speakers were Dwight Heald Perkins, Robert W. Hunt, Judge Chas. N. Goodnow and the Rt. Rev. C. P. Anderson of Chicago, Prof. Percy H. Nobbs of McGill University, Montreal, Frank D. Millet, New York.

Editorial Comment and Selected Miscellany

THE WORK OF ST. GAUDENS. — An exhibition of the work of the late Augustus St. Gaudens is to be held in New York in the near future. The Metropolitan Museum of Art, in coöperation with Mrs. St. Gaudens, will assemble in the large sculpture hall of the Museum casts and photographs of casts of the sculptor's work.

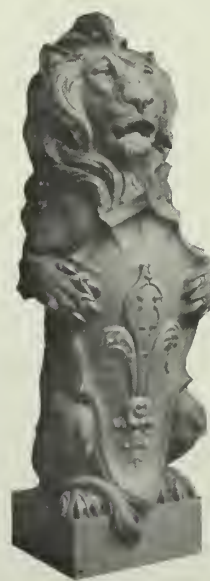
LOUIS SULLIVAN SELECTED. — The shores of the Delaware River in the vicinity of Philadelphia have, in times past, witnessed the changeable fortunes of various summer pleasure parks. Even with frequent steamboat service



DETAIL EXECUTED BY NEW YORK ARCHITECTURAL TERRA COTTA CO.

from the neighboring city, inaccessibility, added to poor management, has been the cause of decline and ultimate abandonment in every case save one. Now comes a new project to convert Petty's Island into a summer park, which shall be modern in every sense of the word. It lies far up the river opposite Cramp's Shipyard, and by reason of its area and water surrounding, possesses large possibilities. It is stated that Louis H. Sullivan of Chicago has been selected by the promoters to embellish the property architecturally and in all details.

IMPROVEMENT OF ATLANTIC CITY. — Whatever overstatement may have been made by the public press regarding Atlantic City's plan for the city beautiful, which assumed added interest from the fact that Carrère & Hastings were to produce it, this much, at least, seems now assured, — that the ocean front will be redeemed and preserved against the encroachment of unsightly piers. All space from the inner side of the boardwalk oceanward is now to be acquired by the city. Ugly and temporary structures obstructing the view of the ocean will be removed. Income from the present piers will provide a sinking fund, which will effect their removal. The beach front thus freed will be beautified by a magnificent esplanade, supported by a seawall and adorned with shelters and music pavilions, free to the public.



DETAIL BY
A. E. WESTOVER,
ARCHITECT.
Conkling-Armstrong
Terra Cotta Co.,
Makers.

BEAUTIFYING PHILADELPHIA. — Mayor Reyburn, the head of the political machine which still dominates Philadelphia, has declared himself for the beautifying of the city. The parkway, which, it will be remembered,



DETAIL BY OWEN MCGLYNN, ARCHITECT.
South Amboy Terra Cotta Co., Makers.

that they shall see it completed during his term; that the great art gallery proposed to surmount an acropolis-like hill at one terminus will soon be a reality, and the outlying parks and the improvement of the Schuylkil River shores, improvements for which the better element of the city has long labored, will be substantially furthered by his administration.

A NEW CAPITAL FOR OKLAHOMA.—Steps have been taken to realize the group plan of public buildings in cities, notably Cleveland, but it is the opportunity of Oklahoma to consider a similar plan in locating the public buildings of a state. The matter is now being agitated. Champions of the united plan of public buildings, linked into a whole by means of avenues and gardens, emphasize the advantages of absolute permanency with relation to surroundings, convenience of maintenance and administration and a consequent saving of \$5,000,000 to the taxpayers of the state. Champions of separated buildings value the sort of pap which may be thrown to various sections of the state by locating a public building therein, and they argue that a division of its property increases the influences of the state government. Those

is to extend from the City Hall to Fairmount Park, is under construction for half its length, as thus far authorized; but the mayor assures progressive citizens



ENTRANCE TO SPAULDING BUILDING, BUFFALO.
McCreary, Wood and Bradney, Architects.
Executed in Terra Cotta by Atlantic Terra Cotta Co.

who live in cities favor, as a rule, the ideal city plan of construction, by which it is proposed to condemn two or three townships within fifty miles of the exact geographical center of the state, for a commission to have control of this land, locating there to best advantage the governmental city. As the law requires that the capital shall remain at Guthrie until 1913, there is ample time for the consideration and perfecting of this interesting scheme.

PROGRESS IN THE WASHINGTON PLAN.—As the time for the convening of the Sixtieth Congress approaches, those interested in the beautifying of Washington may wonder what is being done or will be done toward this end. That forces are steadily at work maintaining the vision of the new city before the eyes of statesmen and others is shown by the following expressions of opinion by representatives on the project of condemning property south of Pennsylvania Avenue:

Representative LeGage Pratt: "I am in hearty sympathy with the proposed improvements of the squares on the south side of Pennsylvania



DETAIL OF UPPER PART OF COLUMBUS SAVINGS AND TRUST CO. BUILDING, COLUMBUS, OHIO.
Frank L. Packard, Architect.
Fire-flashed Terra Cotta by Northwestern Terra Cotta Co.



DETAIL BY MCKIM, MEAD & WHITE, ARCHITECTS.
Brick, Terra Cotta & Tile Co., Makers.



DETAIL BY KEES & COLBURN.
American Terra Cotta Co., Makers.

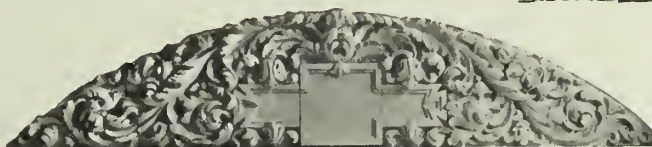
Avenue. . . . Why one of the greatest, grandest and most historic avenues in the world should be so long neglected has been a matter of serious quandary with me. . . . To anticipate the future needs of our National capital, and to do now those things which will insure a proper preparedness for future governmental requirements, to say nothing about the advisability and wisdom of increasing, to the fullest extent possible, its attractiveness; is a present duty and should be performed without hesitation. Let the worn-out and ragged fringe to the majestic avenue be stripped off, and in its place put on a bordering as beautiful as the highest in architectural and landscape arts can supply."



WINDOW DECORATION OF TERRA COTTA.
Executed by Winkle Terra Cotta Co.

Representative Edward L. Hamilton of Michigan: "In my judgment that part of the city south of Pennsylvania Avenue is a standing argument in favor of improvement. The clearing away of present buildings, and the erection of such government buildings as may hereafter be required, upon properly prepared sites, would do more to improve Washington than any other thing I can now think of."

Representative J. F. C. Talbot of Maryland: "I have been for years, and am now, in favor of the Government purchasing the squares on the south side of Pennsylvania Avenue and fronting on that thoroughfare, and erecting on the tract such department buildings as may be needed in the future; or, if it should be deemed best for the beautification of the capital to do so, use the tract for additional park purposes."



DETAIL BY INDIANAPOLIS TERRA COTTA CO.

Representative William Richardson of Alabama: "I believe that Washington ought to be made the most beautiful and attractive capital of any of the nations of the world. I favor the condemnation of the property fronting on the south side of Pennsylvania Avenue for the erection of government buildings. I believe that if this plan is adopted it will not only add more than anything else to the beauty of the city, but that it will facilitate the transaction of public business. . . . I am an advocate for whatever plan or scheme looks to the beautifying of the city. I recognize this to be a patriotic duty."

Representative M. E. Driscoll, New York: "It was a great mistake that in the original location and construction of administrative buildings they were not located close together instead

of being scattered all over the city, as they now are. It may be as well to commence the concentration of those buildings now, and the property south of the avenue is most available for that purpose."

Representative William B. McKinley of Illinois: "It ought to be the most attractive capital in the world, and my judgment is that whatever action Congress takes ought to be along the lines of some intelligent, comprehensive plan, one that will add, not only to the beauty of the city, but will be in the interest of business economy for the government. I hope Congress will give this very careful consideration and that the citizens of Washington will awaken to the importance of more thorough cooperation with the authorities in formulating some business-like plan for the beautification of the city."

LOCATION OF THE GRANT MONUMENT.—The fate of the Mall at Washington designed by the Park Commission to be a noble vista from the Capitol to the mon-

ument is another matter. Persistent self-seeking or ignorant influences threaten the realization of this superb ornament to the city. Certain members of Congress and certain local newspapers deliberately oppose the good results promised by the plan elaborated by experts a few years ago, and which was so admirable as to excite the enthusiasm of the country. This opposition is now focused on the location of the Grant Monument and even suggests a delay in razing the old Pennsylvania Railroad terminal by leasing it to the District militia. The Washington Chapter of the



HOUSE AT CINCINNATI, OHIO.
Werner & Adkins, Architects.
Roofed with American "S" Tile made by Cincinnati Roofing
Tile and Terra Cotta Co.



APARTMENT, CHICAGO.
Henry L. Newhouse, Architect.
Built of No. 110 Dark Brick, made by Hydraulic-Press Brick Co.

American Institute of Architects emphatically denounces interference with the Park Commissioners' plan, or any move relating to what exists or is to exist on or near the Mall which will delay the realization of that plan, and it calls upon the architects and the press of the country at large to exert a steady influence for the realization of the beautiful city as Washington, Jefferson and L'Enfant saw it, and as Messrs. McKim and Burnham have recently portrayed it.

FIREPROOFING THE PENNSYLVANIA TERMINAL. — The new terminal station in New York City for the Pennsylvania Railroad, through which it is estimated four hundred thousand people will pass daily, will be protected from fire by porous terra cotta in the form of hollow blocks, contracts for which have just been closed. The material will be used to cover the gigantic steel frame of the building, and for the partitions and roof, as well as for lining the outside walls. If all the blocks used in this work should be built into a wall ten feet high, it would stretch a distance of twelve miles.

IN GENERAL.

At the annual meeting of the Brooklyn Chapter, A. I. A., officers were elected for the ensuing year as follows: — President, Henry Clay Carrell; Vice-President, Charles T. Mott; Surveyor, Alexander Mackintosh; Treasurer, Henry Fouchaux; Secretary, Walter E. Parfitt; Corresponding Secretary, Walter L. Cassin.

James Ford Clapp, Rotch Travelling Scholar, 1902-1904, announces that he is now established for the practice of architecture at 20 Beacon Street, Boston. His work will be done in association with C. H. Blackall, architect.

Coleman S. Mills and Walter M. Van Kirk, architects, have formed a copartnership under the firm name of Mills & Van Kirk, offices Harrison Building, Philadelphia.

The principal buildings of the Harlem Hospital were designed by Horgan & Slattery, architects, and not by J. H. Freedlander, as stated in Mr. Githen's article, treating of the Block Plan, published in *THE BRICKBUILDER* for October.

In *THE BRICKBUILDER* for October there was illustrated the central portion of Randolph Street Front of the New Cook County Courthouse, Chicago. The interesting feature of this work is that the filling between the granite columns is of bronze colored terra cotta, the spandrels being so carefully jointed that the entire filling looks like one piece of oxidized bronze. The cornice, also of terra cotta, is interesting, from the fact that it exactly resembles the natural granite and was made to match the stone below. This will undoubtedly be a revelation to those people of Chicago who have studied the building at close range. The work was executed by the Northwestern Terra Cotta Company.

The commission on revision of the building code in New York City has unanimously agreed upon a provision that after January 1 next no new building for hotel or office use be permitted to rise above two hundred and fifty feet.

The fourth exhibition of the Pittsburg Architectural Club, comprising current European and American architecture and the allied arts, opened in the galleries of the Carnegie Institute, on Friday, November 15, and will continue through Thursday, December 9. The Fine Arts Committee of the Institute has granted the entire third floor, including seven spacious galleries, to the Club, for the period from November 8 to December 9, but delay in receipt

of the foreign exhibits prevented the Club opening at the appointed date. The collection presented by the Club is claimed to be the most broadly representative



DETAIL BY GEORGE F. PELHAM, ARCHITECT.
New Jersey Terra Cotta Co., Makers.



STATE ARMORY AT SYRACUSE, N. Y.
George L. Heins, Architect.
Built of "Shawnee," Norman, Iron Spot, Brick, made by Ohio Mining and Manufacturing Co.

one ever shown in America. About fifteen hundred exhibits have been received. They represent the current or recent work of many eminent architects in America, France, Germany, England, Austria and Holland.

NEW BOOKS.

AIR CURRENTS AND THE LAWS OF VENTILATION.—Lectures on the Physics of the Ventilation of Buildings, delivered in the University of Cambridge in the Lent term, 1903, by W. N. Shaw, Sc. D., F. R. S. Honorary Fellow of Emmanuel College, Director of the Meteorological Office. At the University Press, Cambridge, England. New York: G. P. Putnam's Sons.

CYCLOPEDIA OF ARCHITECTURE, CARPENTRY AND BUILDING. A general reference work covering the field of the building industry and its allied arts and trades. Prepared by a staff of practical experts of the highest professional standing. Ten volumes. Illustrated with over 3,000 engravings and about 400 special plates. Red half-morocco, gilt stamped, marbled edges. Indexed. List of plates. Published by the American School of Correspondence, Chicago, Ill. List price, \$60.00. Introductory price, \$19.80.

The work has many unique features. It ranges from the masonry wall or steel frame to carpentry and interior decoration, from the plumbing and draining to heating and ventilation, from the foundation to the roof and cornice, from the drawing of the plans to the awarding of the contract and the acceptance of the completed structure. It is a practical work for practical men. It has been



HOUSE AT WASHINGTON, D. C.

Wood, Donn & Deming, Architects.

Roofed with Tile made by Edwin Bennett's Roofing Tile Works.



HOSPITAL FOR HORSES, ST. LOUIS FIRE DEPT.

James A. Smith, Architect.

Terra Cotta made by St. Louis Terra Cotta Co.

the endeavor to secure men of wide practical experience to prepare the various chapters and treat each subject from the standpoint of what the man "on the job" wants to know. It covers the entire field pertaining to building, and in addition has a great deal of material on the artistic side of the building profession. In each volume there is a frontispiece which is a reproduction of a rendering in colors. These renderings were selected by a jury of architects, and combine good examples in design with good examples in rendering. There are also a large number of designs of moderate-

priced houses reproduced in order to bring to the attention of carpenters and builders in the smaller towns the work of architects who are leaders in their profession. The practical problems in construction have been selected under the direction of W. T. Rutan, of Shepley, Rutan & Coolidge, and represent what he considers as covering some of the most important every-day office problems. At the end of Vol. X is a list of the architects and their work that is reproduced. The books are intended to serve not only draftsmen, carpenters and men interested in the building profession, but also prospective builders, giving such people the benefit of a large number of attractive designs and much information that ordinarily the house-builder acquires only at a great deal of expense to himself.

FIFTH AVENUE LOFTS—Fine north light. One block from Madison Square, New York. Corner building. Address, Room 70, 2 Wall St. Telephone, 927 Rector.

WANTED—An Englishman aged 24, with five years' experience as draughtsman in England, three in London with F. R. I. B. A., wishes to make engagement with architect practising in the States at a salary of \$40.00 per month first year, and \$50.00 per month for the remaining term. Address "Englishman," care of THE BRICKBUILDER.



HOUSE AT CHICAGO, ILL.

E. A. Mayo, Architect.

Roofed with 8-inch Conosera Tile, made by Ludowici-Celadon Co

Competition for a Theater Building

First Prize, \$500

Second Prize, \$200

Third Prize, \$100

COMPETITION CLOSES JANUARY 15, 1908

PROGRAMME.

THE problem is a Theater Building. The location may be assumed in any city or large town of the United States. The site is at the corner of two streets of equal importance. The lot is perfectly level, has a frontage on one street of 100 feet and a depth on the other street of 150 feet to a 15-foot alley at the rear.

The following is offered by way of suggestion:

Depth of stage, 35 feet to curtain line. Projection of stage beyond curtain line, 3 feet. Proscenium opening not less than 36 feet wide, and not over 40 feet high. Width may be increased and height may be decreased to suit design. Auditorium to seat about 1,200 and to have but one balcony.

The sight lines should be so laid out in plan that every seat shall command an unobstructed view of at least three-fourths of the depth of the stage, measured on a center line. The lines of the balcony should be sufficiently raised so that each seat on the floor shall have an unobstructed view to a height of 20 feet on the curtain line.

On the first floor, in addition to the auditorium, provision should be made for the foyer, lobby, ladies' retiring suite, coat room, ticket office and manager's office opening therefrom, and such other features as may seem desirable to the designer.

On the balcony floor there should be a foyer, which may be treated in a monumental manner if desired, also lavatories for men and women, and such other features as may seem desirable to the designer.

It is assumed that a smoking-room and lavatories will be provided in the basement, but plan of this need not be shown. Details of stage arrangement and dressing-rooms may also be omitted.

There should be separate exits and stairways at least 5 feet wide on each side of the balcony, which exits may lead into the foyer of the first story.

There must be an exterior balcony of terra cotta, or loggia, with access thereto from the balcony level. This should be treated as a feature of the design, and may be carried all around the building if desired.

It is not the intention that the exterior should be treated in the style of the Paris Opera House, nor that the design should be out of reason with the commercial requirements of an ordinary theater. The portion devoted to the stage should be carried up to a height of not less than 80 feet above the street; otherwise the height need be governed only by sight lines and by questions of design. It is not necessary to consider daylight illumination for the interior, and openings in the outside wall need be considered only as means of egress.

The exterior of the building and the lobby are to be designed entirely in Architectural Terra Cotta, employing colored terra cotta in at least portions of the walls. The color scheme is to be indicated either by a key or a series of notes printed on the same sheet with front elevation and plans at a size which will permit of two-thirds reduction.

The following points will be considered in judging the designs:

- A. Frank and logical expression of the prescribed material.
- B. Rational and logical treatment of the exterior.
- C. Excellence of plan.

In awarding the prizes the intelligence shown in the constructive use of terra cotta and the development or modification of style, by reason of the material, will be taken largely into consideration.

It must be borne in mind that one of the chief objects of this competition is to encourage the study of the use of Architectural Terra Cotta. There is no limitation of cost, but the designs must be suitable for the character of the building and for the material in which it is to be executed.

The details should indicate in a general manner the jointing of the terra cotta and the sizes of the blocks.

DRAWINGS REQUIRED.

On one sheet at the top, the shorter elevation, drawn at a scale of 8 feet to the inch. At the bottom, the first and balcony floor plans drawn at a scale of 16 feet to the inch, and the color key or notes between the elevation and plans.

On a second sheet at the top, the longitudinal section, drawn at a scale of 16 feet to the inch; immediately below, the longer elevation, drawn at a scale of 16 feet to the inch, and below that, half-inch scale details of the most interesting features of the design.

The size of the sheet (there are to be but two) shall be exactly 22 inches by 30 inches. Strong border lines are to be drawn on both sheets, one inch from edges, giving a space inside the border lines 20 inches by 28 inches. The sheets are not to be mounted.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales to be on all drawings.

Every set of drawings is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

The drawings are to be delivered flat at the office of THE BRICKBUILDER, 85 Water Street, Boston, Mass., charges prepaid, on or before January 15, 1908.

Drawings submitted in this Competition must be at owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others. Those who wish their drawings returned may have them by enclosing in the sealed envelopes containing their names ten cents in stamps.

The designs will be judged by three well-known members of the architectural profession.

For the design placed first in this competition there will be given a prize of \$500.

For the design placed second a prize of \$200.

For the design placed third a prize of 100.

We are enabled to offer prizes of the above-mentioned amounts largely through the liberality of the terra cotta manufacturers who are represented in the advertising columns of THE BRICKBUILDER.

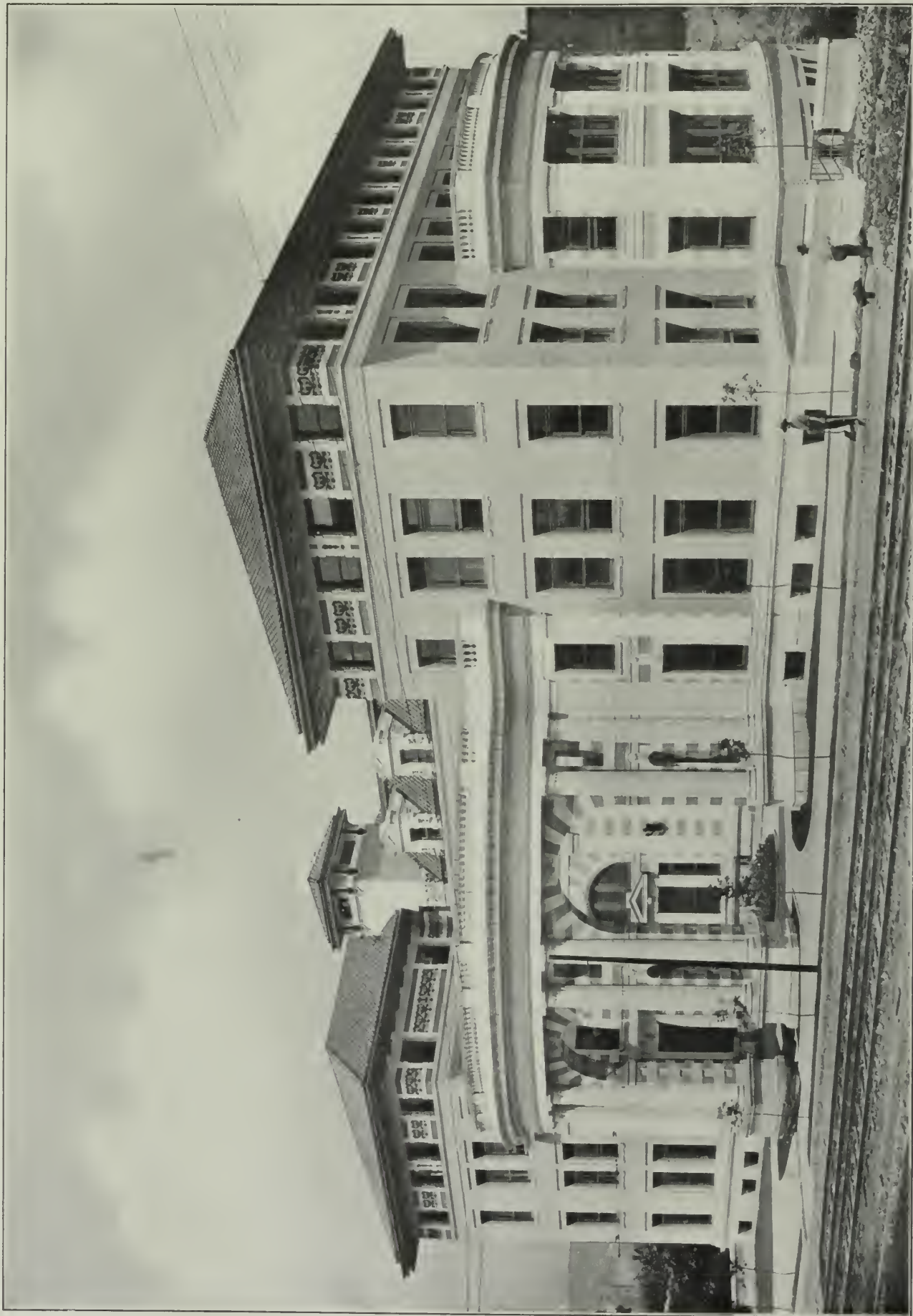
This competition is open to every one.



RODEF SHOLEM SYNAGOGUE, PITTSBURG, PA.

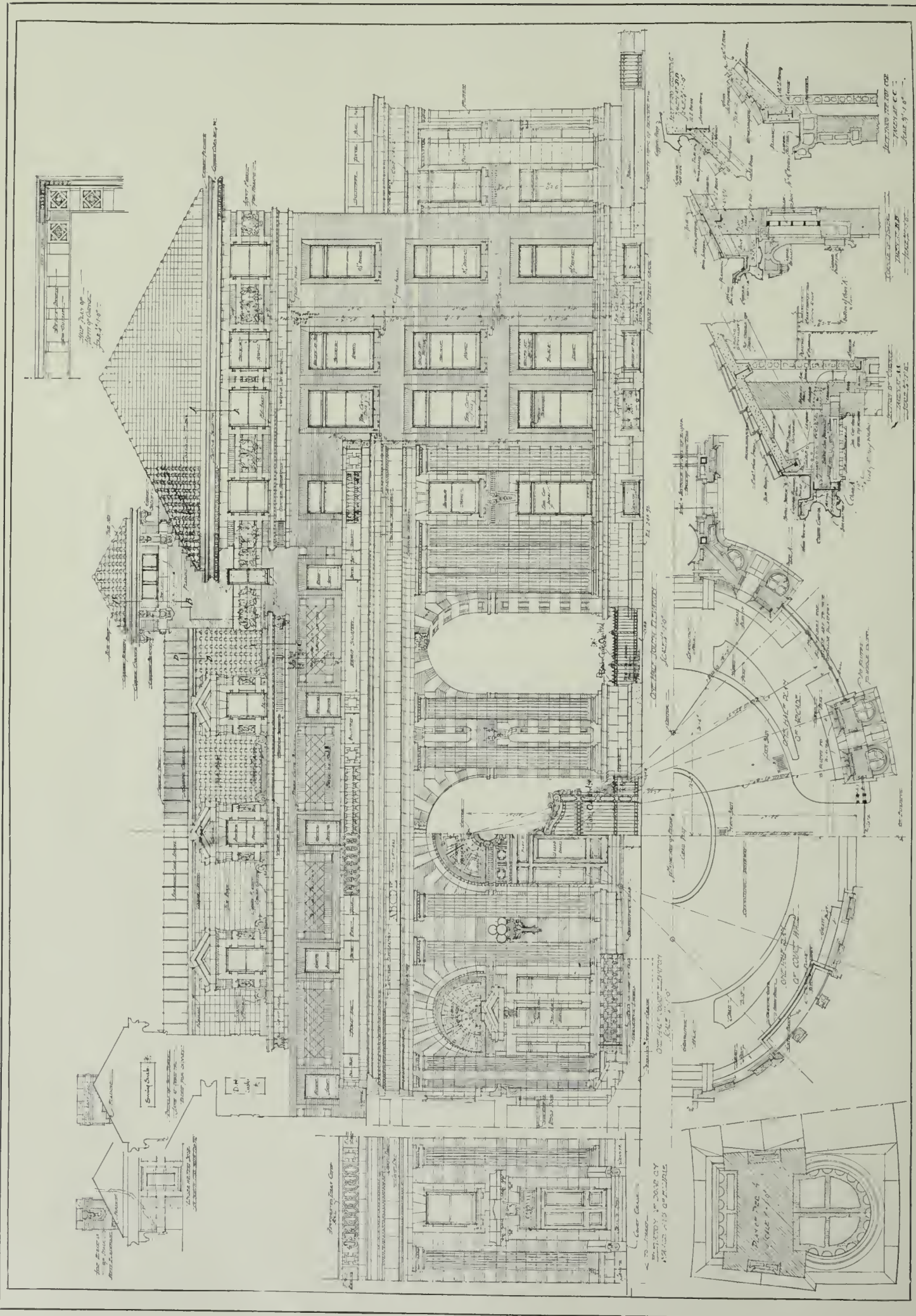
PALMER & HORNPOSTEL, ARCHITECTS.

ELEVATION, DETAILS AND PLAN ILLUSTRATED IN THE BRICKBUILDER FOR MARCH, 1907.

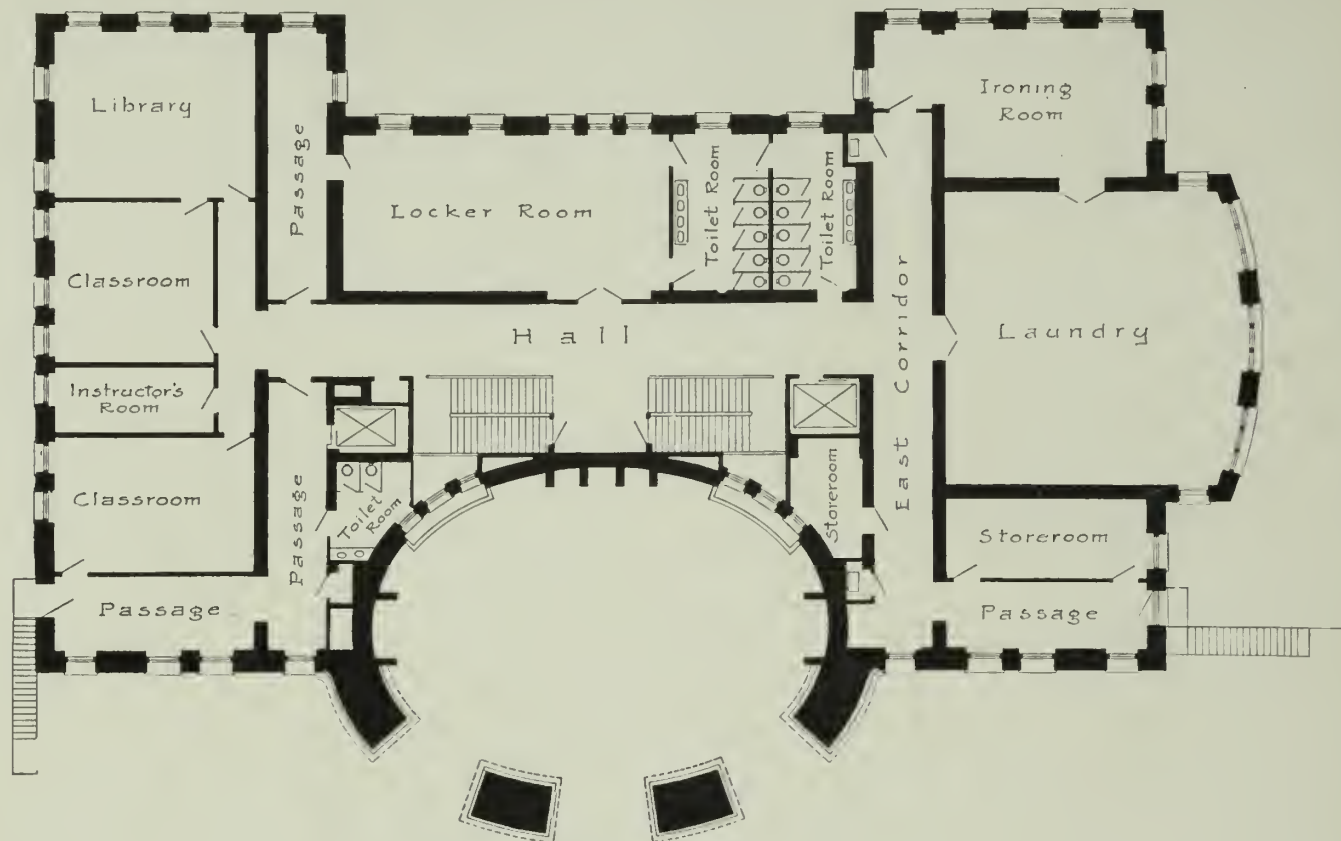


MARGARET MORRISON CARNEGIE TECHNICAL SCHOOL FOR WOMEN. PITTSBURG, PA.

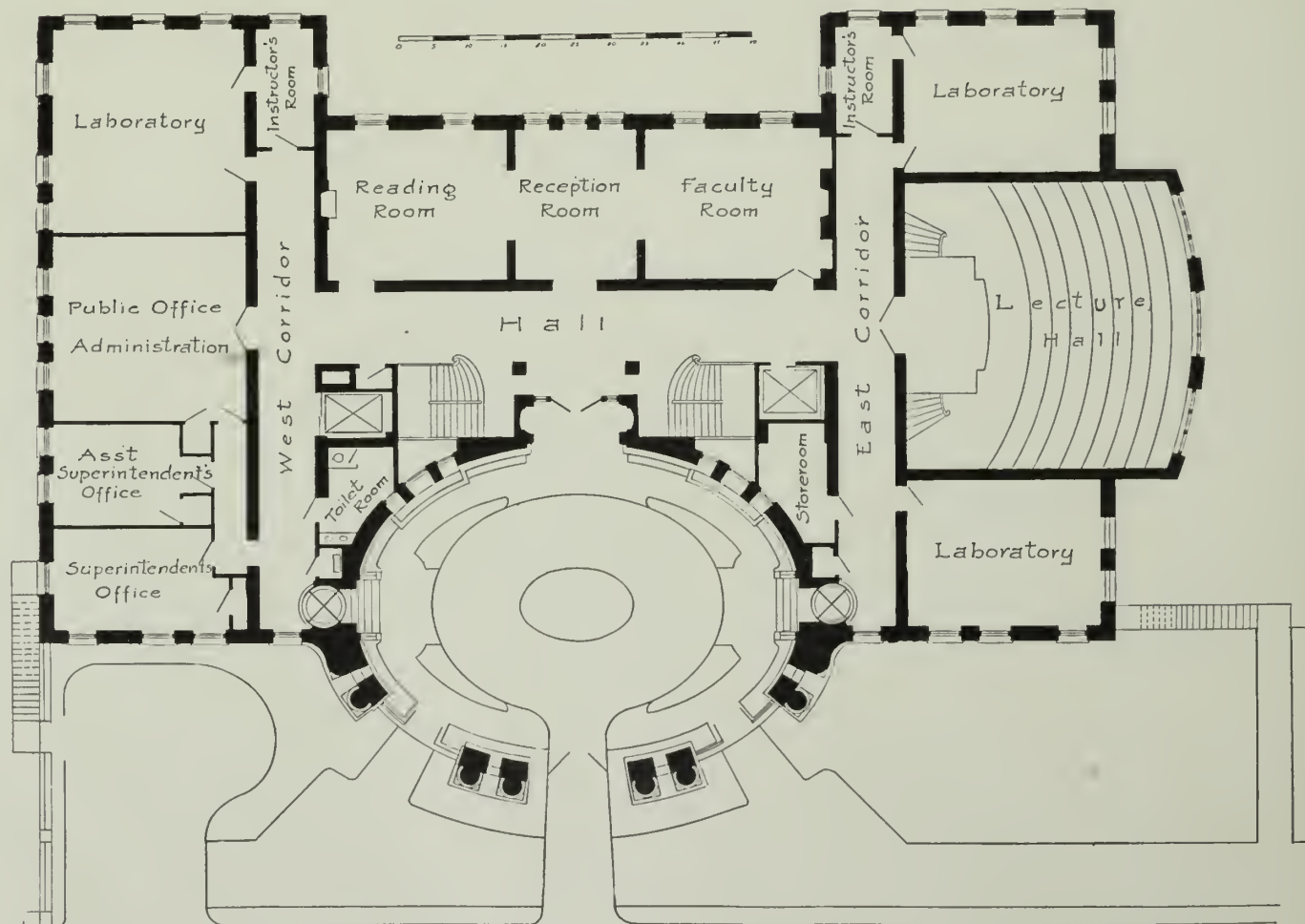
PALMER & HORNBOSTEL, ARCHITECTS.



MARGARET MORRISON CARNEGIE TECHNICAL SCHOOL FOR WOMEN, PITTSBURGH, PA.
PALMER & HORNBOSTEL, ARCHT.



BASEMENT FLOOR PLAN



FIRST FLOOR PLAN
PLANS.

MARGARET MORRISON CARNEGIE TECHNICAL SCHOOL FOR WOMEN, PITTSBURG. PA

PALMER & HORNOSTEL, ARCHITECTS.



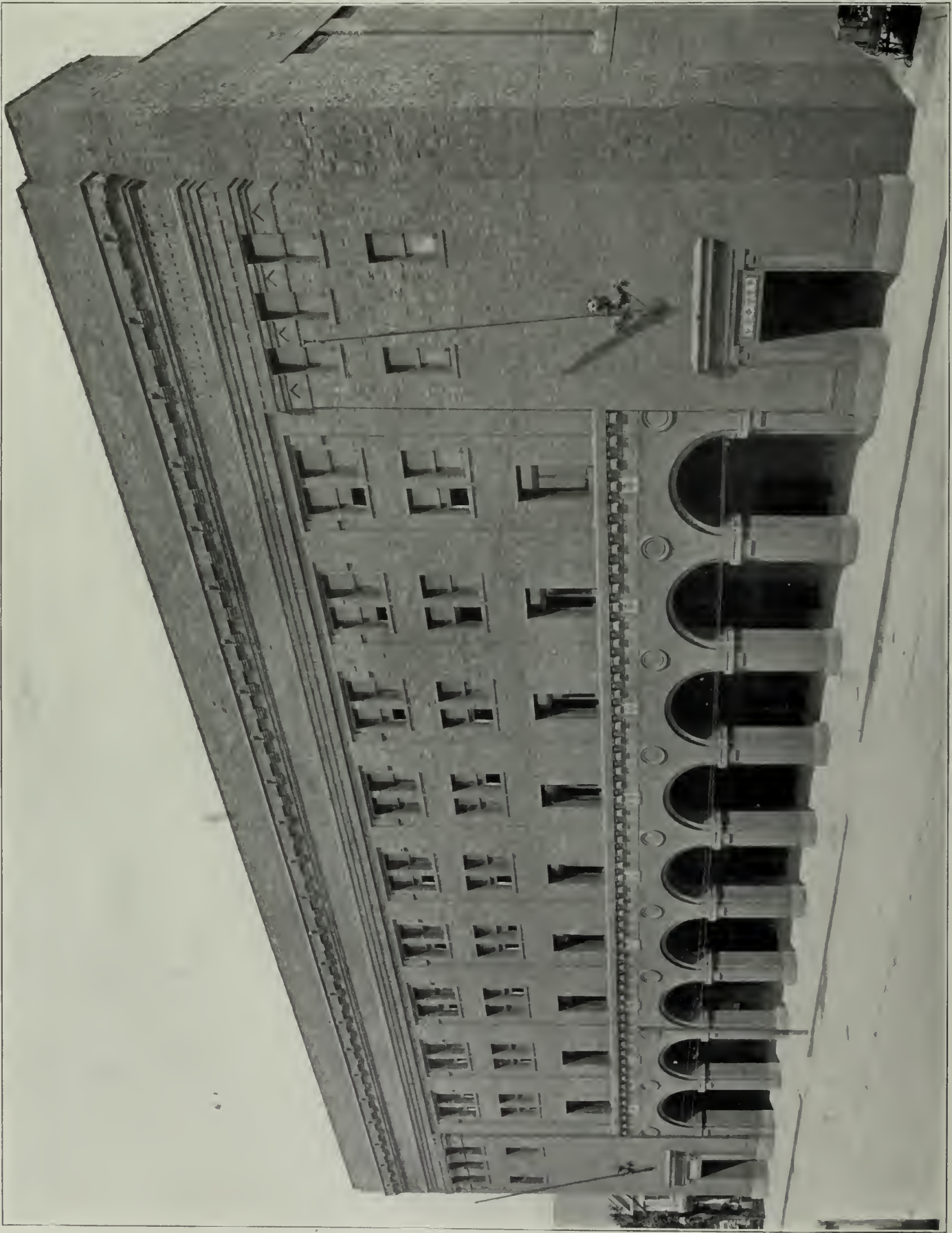
HOUSE AND STABLE AT SEWICKLEY, PA

HISS & WEEKES, ARCHITECTS FOR HOUSE.

HOPKINS & BURNETT, ARCHITECTS FOR STABLE.



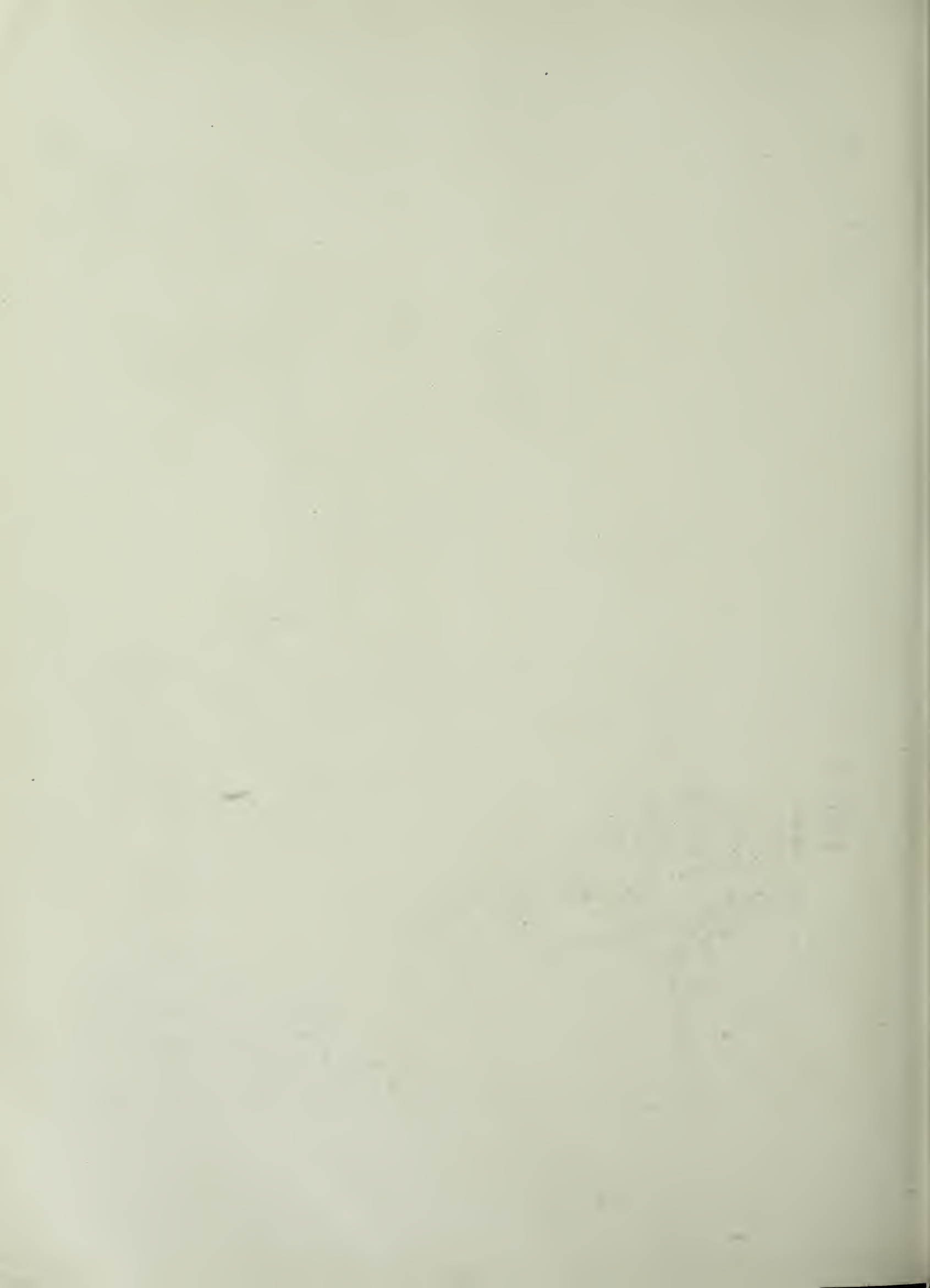
HOUSE AT SEWICKLEY, PA.
HISS & WEEKES, ARCHITECTS

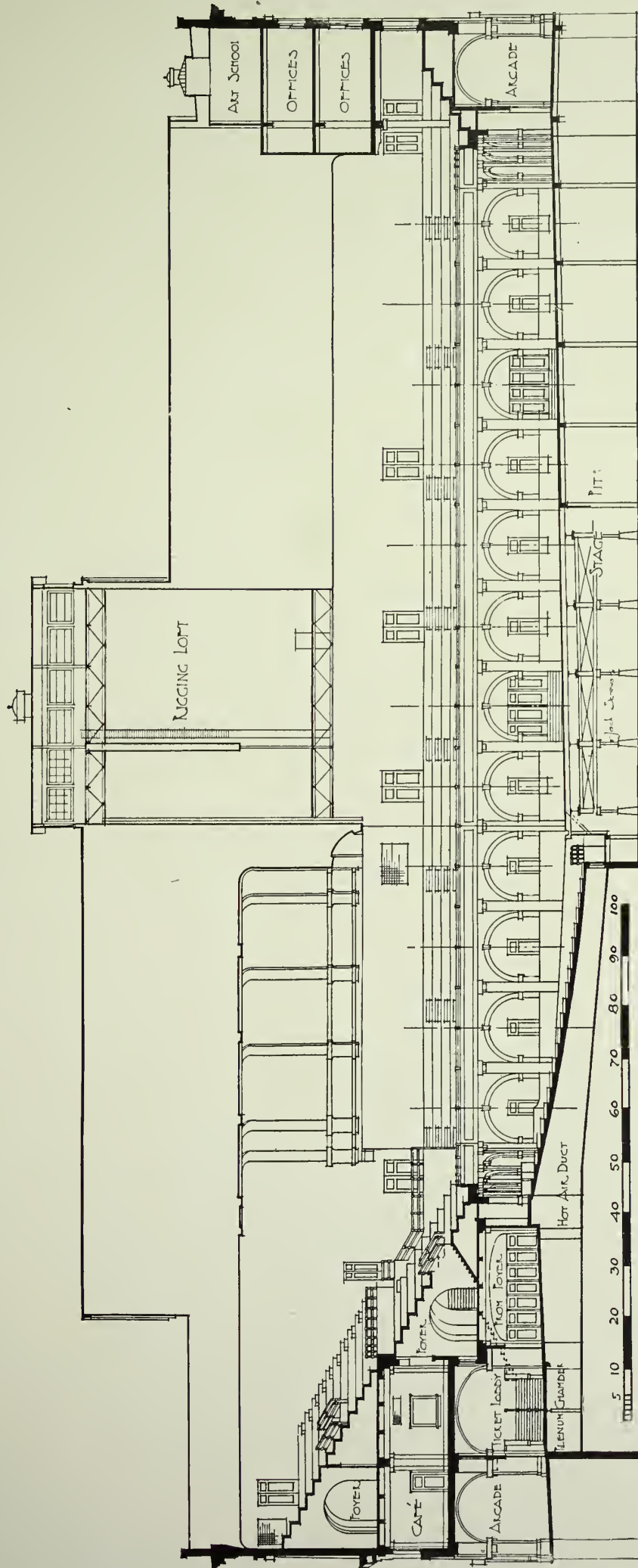


FOURTH STREET FACADE.
THE AUDITORIUM, ST. PAUL, MINN
REED & STEM, ARCHITECTS.



FIFTH STREET FACADE.
THE AUDITORIUM, ST. PAUL, MINN.
REED & STEM, ARCHITECTS.





LONGITUDINAL SECTION.
THE AUDITORIUM, ST. PAUL, MINN.
REED & STEM, ARCHITECTS.





WEST SIDE FRONT.



THE GARDEN FRONT.

HOUSE FOR OSCAR JOHNSON, ESQ., PORTLAND PLACE, ST LOUIS.

THEO C. LINK, ARCHITECT.





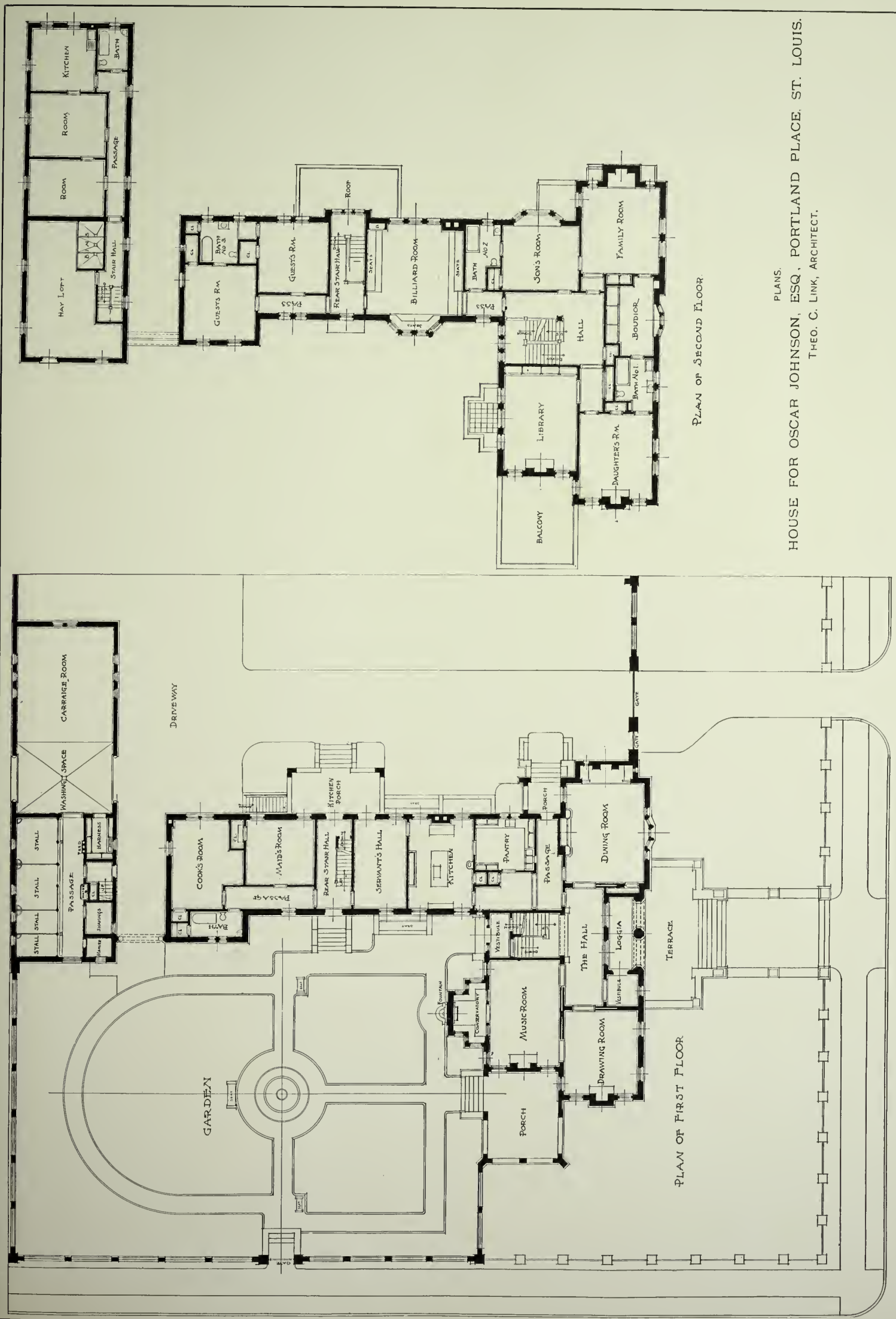
LAKE AVENUE FRONT.



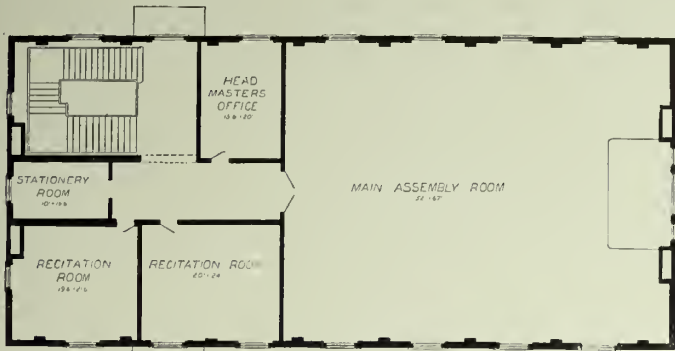
MAIN FRONT FROM NORTHWEST.

HOUSE FOR OSCAR JOHNSON, ESQ., PORTLAND PLACE, ST. LOUIS.
THEO. C. LINK, ARCHITECT.

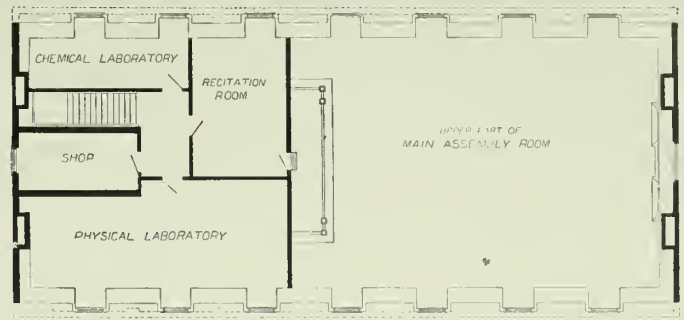




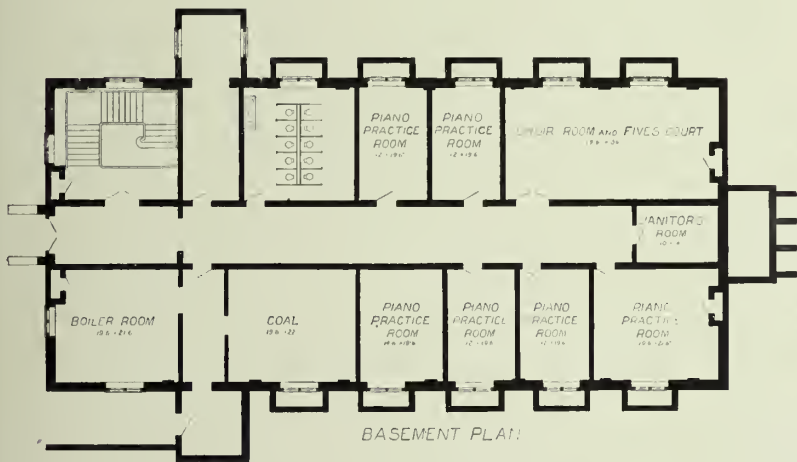




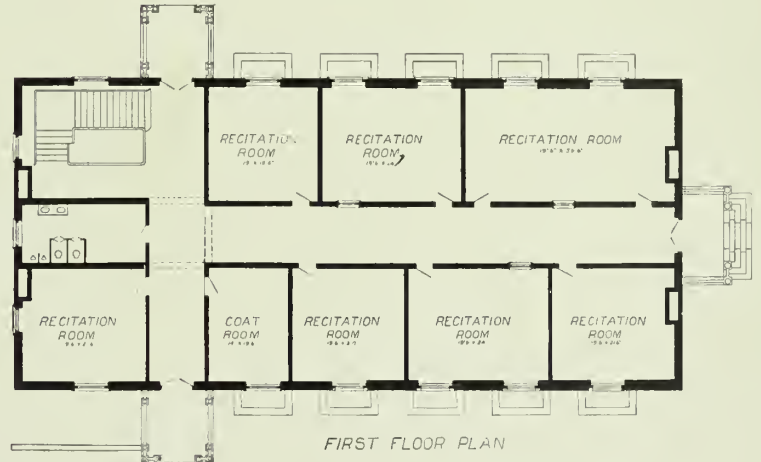
SECOND FLOOR PLAN



THIRD FLOOR PLAN



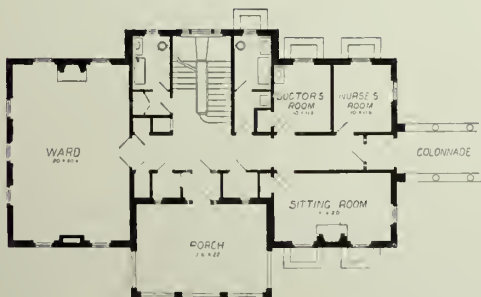
BASEMENT PLAN



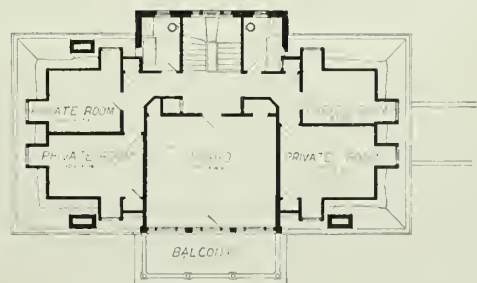
FIRST FLOOR PLAN

PLANS.

PRIVATE SCHOOL, POMFRET CONN
ERNEST FLAGG, ARCHITECT.



FIRST FLOOR PLAN



SECOND FLOOR PLAN

PLANS.

SMALL HOSPITAL CONNECTED WITH PRIVATE SCHOOL, POMFRET CONN.
ERNEST FLAGG, ARCHITECT.

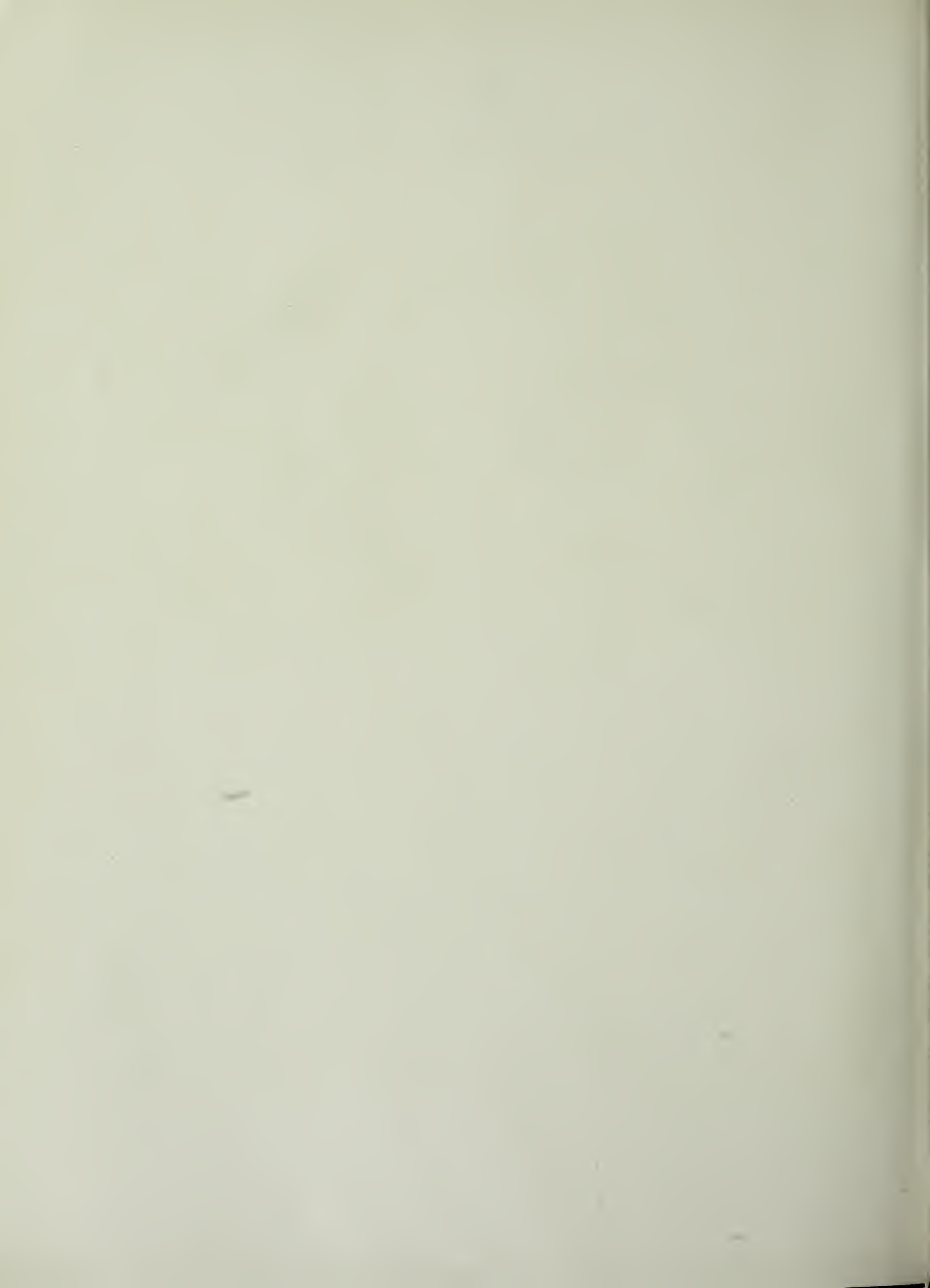




PRIVATE SCHOOL, POMFRET, CONN.
ERNEST FLAGG, ARCHITECT.



SMALL HOSPITAL CONNECTED WITH PRIVATE SCHOOL AT POMFRET, CONN.
ERNEST FLAGG, ARCHITECT



THE BRICKBUILDER

VOLUME XVI

DECEMBER 1907

NUMBER 12

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Architectural Faience	II	Clay Chemicals	IV
“ Terra Cotta	II and III	Fireproofing	IV
Brick	III	Roofing Tile	IV

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CONTENTS

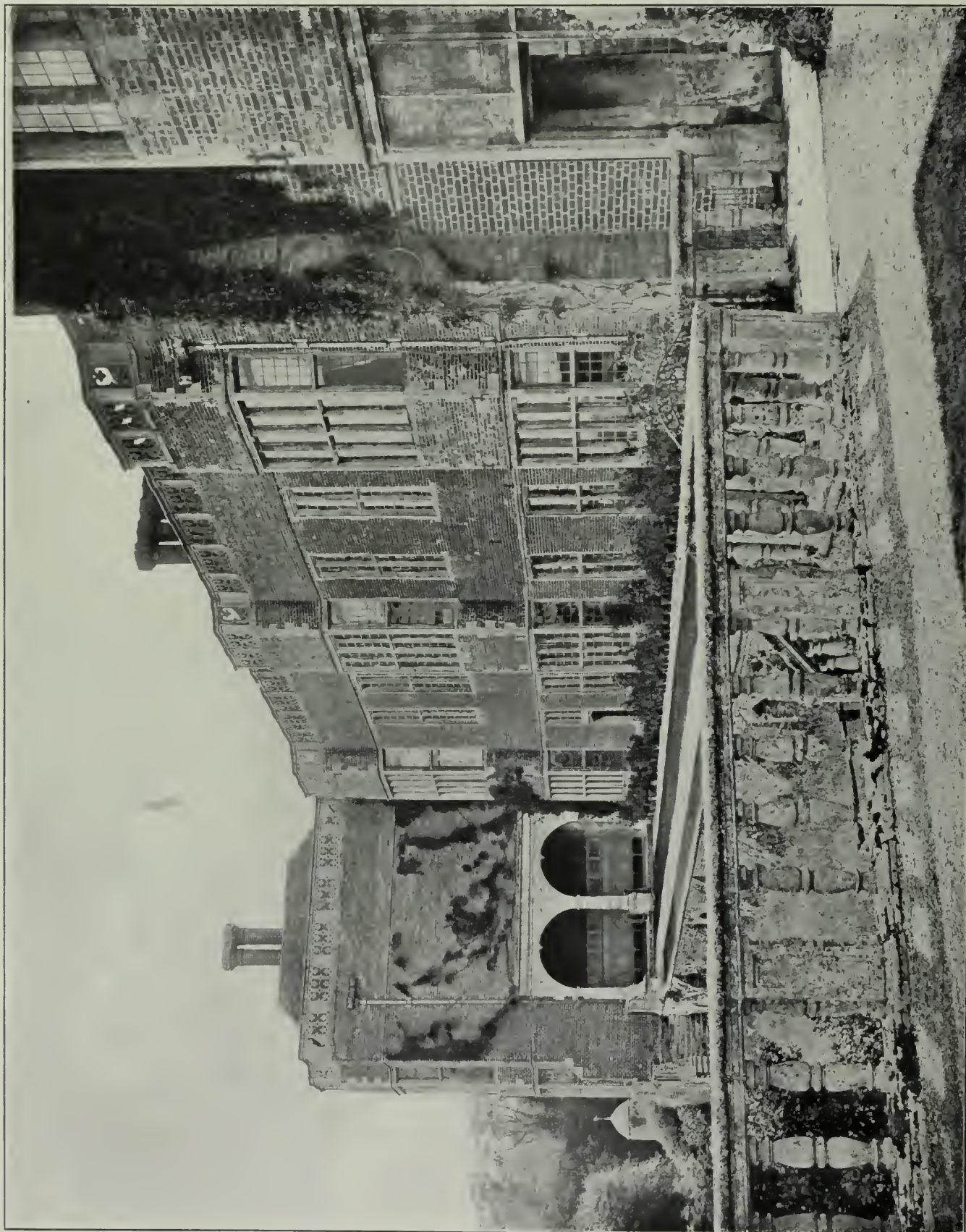
PLATE ILLUSTRATIONS

FROM WORK BY

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LETTERPRESS

	PAGE
BRAMSHILL, TERRACE FRONT, HAMPSHIRE, ENGLAND.....	Frontispiece
EDITORIALS	215
THE AMERICAN THEATER—I.....	Clarence H. Blackall 216
THE GROUP PLAN—V. UNIVERSITIES, COLLEGES AND SCHOOLS..	Alfred Morton Githens 219
BRICKWORK DETAILS—I.....	Halsey Wainwright Parker 226
HOUSE AT ARDMORE, PA.....	Horace Wells Sellers, Architect, Illustration 231
EDITORIAL COMMENT AND SELECTED MISCELLANY	232



BRAMSHILL, TERRACE FRONT, HAMPSHIRE, ENGLAND.

THE BRICKBUILDER

VOL. 16 NO. 12

DEVOTED TO THE INTERESTS OF ARCHITECTURE IN MATERIALS OF CLAY

DECEMBER 1907

THE OUTLOOK.

THIS is the time when a study of the conditions likely to affect building during the next season may often be made with advantage, and inferences drawn from this study as to the prospects of architects and builders for the year. It may be said at once that the outlook, so far as architects are concerned, seems to us decidedly favorable. No one needs to be told that speculators in stocks on margin have suffered during the last three months through a sudden loss of confidence in banking institutions; but this movement, although it has affected the community in general through the increase in the rates of interest, has not been accompanied by any material disturbance of mercantile or industrial conditions, and does not seem likely to have such a result. As compared with the disasters of fourteen or fifteen years ago, when two-thirds of the railway mileage of the country was operated by receivers, under insolvency proceedings; when crops in portions of the West had failed for several successive years, and small armies of unemployed roamed about the country under the leadership of crazy demagogues, the present agitation can hardly be anything but short-lived.

When it passes away there will be, we think, a notable increase in building operations throughout the country. It is well known that stock-market prosperity usually has an unfavorable effect on building. "You can't get any one to do any building now," a New York merchant once said to us at a time of great speculative activity, "every one is in Wall Street buying stocks." Naturally, when railroad stocks are paying 8 per cent on their cost, the humble 4 per cent of a conservative real estate investment ceases to seem attractive; but when the ratio of railway and industrial earnings falls to 3 or 4 per cent, real estate investments, with their solidity, their assured income, and their practical certainty of appreciation in value, begin to renew their charms. At the present time savings banks and trust companies, attracted by the high rates of interest on railway notes and bonds, and wishing to keep their investments in a form in which the money will be quickly available in case of sudden demand, are not inclined to lend money on mortgage, even at high interest, and this has, for a year or two, done much to check the building with borrowed money which furnishes architects with a considerable portion of their employment. With the return to normal conditions which is certainly before us, aided, probably, by disgust for Wall

Street methods and by the great volume of money which is being accumulated and will soon seek investment, there is every reason to believe that real estate mortgages, at moderate rates, will soon regain favor; and hundreds of well-considered projects for hotels, theaters, concert halls, apartment houses and mercantile buildings, which have been held in suspense on account of the difficulty of financing them, will be carried out.

In general the country is now very much under-built. Apart from the superior attractions of other investments, the public has for several years believed that the cost of building, and particularly of labor, was unreasonably high; and multitudes of people have abandoned or postponed building operations on that account. The result of these influences has been that new buildings are everywhere needed. Dwelling-house rents in most of our cities have risen greatly, and houses are with difficulty found, even at the advanced prices. The demand for handsome and modern stores also almost everywhere exceeds the supply; church building, which had almost ceased for some years, is now in process of rapid revival; while clubhouses, theaters and other places of amusement are urgently called for. Meanwhile prices of materials and labor seem decidedly to be on their way downward. Portland cement, it is understood, will be reduced in price next month; lead, copper and zinc, and materials made from them, are at the lowest price for a long time; iron is somewhat lower, and lumber, although we face the speedy extinction of our forests, is lower than it was a few months ago. It is not likely that the drop will be very great, and a slow recovery in prices is rather to be looked for; but, on the whole, the year 1908 promises to be, so far as cost of material is concerned, particularly favorable for building. In regard to labor, while union wage-schedules are generally reduced only after loud screams on the part of the walking delegates, it is well known that, in the building trades, at least, the official schedules are maintained principally for exhibition to public functionaries who have contracts to give out, actual current wages being often on a very different basis. Just now, with thousands of skilled workmen walking the streets, the principle that the most advantageous scale of wages is that which brings the largest total annual income, by securing employment as nearly constant as possible, is particularly applicable; and if building mechanics will keep it in mind, the next year may see them and their families more comfortable and happy than they have been for many seasons.

The American Theater.—I.

BY CLARENCE H. BLACKALL.

THE American theater presents a problem in design and arrangement which is unique, in that it has grown out of business conditions, almost uninfluenced by sentiment or matters of pure art, and has attained its growth through an almost total disregard of what might be called academic or theatrical traditions. It has been influenced only slightly by the social or governmental features which have had such marked influence in the development of theaters abroad. We never have had anything approaching a government playhouse. Few theaters have ever been in any sense endowed, only rarely is the theater owned by those who are most interested in the management of the plays which are

find acceptance abroad, but foreign influences have never been able to offset, to any marked extent, the stern practical requirements as they are viewed by our stage managements. Consequently we have in the theater a distinctly American development, and anyone familiar with usage here and abroad would have no trouble to distinguish at a glance the theaters of purely American plan, even though our systems have been, in a few isolated cases, adapted for use in European cities.

The most striking difference between the European and the American theater is in the disposition of the portions occupied by the public. It has been said that we take our pleasures very seriously. This is certainly manifested in our theaters. The principal thing is the show, and so long as the public is accommodated in a well-heated, well-ventilated hall, with every seat giving a



SIDE VIEW OF AUDITORIUM AND STAGE.
THE GREEK THEATER, UNIVERSITY OF CALIFORNIA.
John Galen Howard, Architect.

produced, and up to a very few years ago business considerations were so paramount that anything like an artistic development was perforce relegated to an inferior position.

With a few striking exceptions none of our older theaters were designed by architects who could lay any claim to eminence in their profession. Theater building was until quite recently a specialty of practitioners who had grown up from stage carpenters and scene painters, who were thoroughly posted in the practical details of stage equipment and management, but with whom the question of taste and a well-ordered architectural design was of secondary importance. In consequence the American theater is peculiar in many respects, as to arrangement, management, stage setting and the accommodation of the public. Attempts have often been made, especially in more recent years, to adapt bodily in American work the plan and arrangement which

good view of the stage, it matters little whether there is any opportunity for social display or whether the audience can see itself. Consequently the horseshoe plan, which is well-nigh universal abroad, and which permits the audience to have an excellent view of itself and generally only a fair view of the stage, has never found favor here. Also, the use of loges and boxes, which is the rule in the principal theaters of Europe, has always proved a failure with us, though it has been repeatedly tried. Our audiences go to the theater to see the play, and anything which lessens the commercial value of the auditorium as a means of accommodating the people in the best manner finds scant consideration and is usually cut out from our plans. Only in rare instances does the public approve of rows of boxes, and then only for the presentation of grand opera.

Another point of difference between our theaters and those abroad is in the accommodation of the audiences

between the acts. A European opera house will empty itself almost entirely between the acts, the audience flocking to the promenades and foyers. In our theaters ladies rarely leave their seats during the performance, and only a slight proportion of the men make use of the foyers. These two considerations of themselves make a profound difference in the plans of our theaters as compared with what obtains abroad.

But although our theaters have so much individuality in their design and arrangement, it would not be quite correct to say that they are not tied in any way to forms or traditions across the water. The theater is as old as humanity, and in all ages and with all people there have been what corresponds with theatrical performances. In

Indeed, it has been said that open-air theaters have seldom been built as such.

Strictly speaking, there are no theaters in this country which present an academic plan, and, indeed, from a purely architectural standpoint, few of our theaters can offer a plan which is of any special interest except in so far as they hit the exact business conditions. As we have no government subsidies for our theaters — and the theater must pay in order to live — a theater which does not return a good interest on the money invested, promptly closes its doors. The arrangement of corridors, the focussing of points of interest, the alignment of axes, which are so marked in the plans of the best of the European theaters and are so dear to the heart of the



AN OPEN AIR THEATER IMPROVISED WITHIN THE HARVARD STADIUM FOR THE PRODUCTION OF A GREEK PLAY.

essence the problem consists of rows of seats arranged in front of a raised platform upon which the actors can show themselves, and in its broad lines the problem is a perfectly simple one now, just as it was in the days of the old Greek theater. The open-air theater, which has been built at Berkeley on the grounds of the University of California, follows very closely the lines of the old Greek theater and has been most charmingly worked out in detail by John Galen Howard, the architect. A great deal of interest has also been displayed in open-air plays, such as have been given by the Ben Greet companies, but these have really not affected at all the planning of our theaters. They are exceptional types and used for special purposes and have rarely been commercial successes.

academically trained architect, are conspicuous by their absence in our work. It may be stated as a general proposition that no theater can pay which costs, with the land, over one million dollars, and but few theaters outside of New York ever pay if the cost runs over six hundred thousand. Consequently it is very rare to find a theater which is a building by itself. It is usually an annex of an office building or a hotel, or is tucked in away behind commercial structures so that the load which the theater must carry in order to earn interest on its cost is helped out by stores and offices. Also, our building laws have borne more heavily upon theaters than upon any other class of construction. The tendency, moreover, is each year to make the legal

conditions more exacting, until now it requires careful financing and the utmost attention to economical details, to construct a theater which shall prove a paying investment. Of course there are sometimes conjunctions of an extremely successful play and clever management which earn fabulous sums and make it possible to maintain theaters costing a good deal over a million, but they are the exception, and in the long run, year after year, a theater cannot be depended on to earn for the owner of the property over thirty-five thousand dollars a year net.

The ownership of theaters has changed a great deal within the last ten years. Formerly, individual ownership was the rule, and the owners of theaters simply rented their houses to traveling companies or maintained stock companies of their own. That condition is almost entirely changed with the advent of the syndicate control. Nearly all the theaters of the country are now operated by one of three or four syndicates owning their own plays, managing their own companies, and in many cases, owning or leasing complete chains of theaters all around the country. When the first comprehensive theatrical syndicate was brought to public notice by Klaw & Erlanger of New York, there was a general apprehension expressed that the result of such amalgamation of interests would be the stifling of art, the throttling of aesthetic development, and that the theater as an artistic function in the community was seriously threatened. Certainly nothing of this sort has taken place as far as relates to the fine arts and architecture. On the contrary, the system of syndicate control has been, on the whole, a decided advantage. It has served to standardize the requirements, to systematize the construction of stage, and to give opportunities for architectural display such as were impossible in the old days when limited capital and inexperienced architects were set to the task of building a theater. The problems involved, it will be seen in the course of this series of articles, are neither complicated nor unknown. They have been worked out so absolutely from the business standpoint that theater conditions to-day are essentially the same from Portland, Me., to Los Angeles, or from St. Paul to New Orleans, and the American type which we shall endeavor to illustrate is a perfectly distinct, coherent and well-established development.

Exact information regarding the methods and the desires of the theatrical syndicates is not easy to obtain, and more difficult still to predict, as conditions change from year to year; but roughly speaking there are now operating in this country four groups of syndicates. First, the trust, which is especially designated as the theatrical syndicate, operating from New York through Messrs. Klaw & Erlanger, controlling the majority of the desirable theaters in New York City and throughout the country, and sending out what are known as combination companies or stars associated with a high class of talent, including also musical comedies; in fact, the cream of the attractions which appeal most strongly to the public and which draw large audiences. The theaters which are especially adapted to such purposes are somewhat loosely, but not altogether incorrectly, termed combination houses, and are generally similar in approxi-

mate size and arrangement. The New Amsterdam in New York the Colonial in Boston and the Illinois in Chicago are illustrations of this type. Second, there is a large and influential syndicate controlling the majority of the so-called vaudeville houses. This syndicate owns or operates chains of theaters throughout the country, makes its bookings from New York for terms of one or two years in advance, and practically controls the leading attractions. The theaters through which it operates are usually somewhat smaller than those of the first group, and the requirements of stage are less extensive than for the combination houses. The Keith theaters are the best representations of this type. Third, there is a syndicate which apparently has a monopoly of the so-called burlesque attractions. The theaters, of which there are many in the aggregate, are usually old. The plays do not appeal to a very high class of audience, and only rarely are there any features about the architectural arrangement of burlesque houses which are worth noting in this connection. As far as arrangements are concerned the requirements of the stage would be the same as for a vaudeville house.

There is a fourth group of theaters, of which there are only a very few as compared with the great number of the others. These are the smaller theaters intended for light drama, comedies, etc., or what would be termed in stage parlance, the legitimate. Daly's in New York, though an older theater, is a very good illustration of this type. The stage can be very much smaller than for a combination house, and the extent of the wings, flies, etc., reduced to an even greater degree; and on the other hand the combination in the foyers, coat rooms and generally in the front of the house would be more than would be needed for a vaudeville house. These theaters are generally operated independently of any syndicate. Mr. Belasco's theaters, though occasionally affiliated with one of the syndicates, are to be included in this category.

There is yet another class of theaters of the hippodrome type, represented by the New York Hippodrome, a new development which has come within a few years, and which, in some respects, is revolutionary in its arrangements.

All these types have peculiarities of their own, but the essential differences are in the sizes of the stage and the methods of business control. They will not be treated separately in this connection, as the same general conditions of planning and construction apply to each, except that the hippodrome type will be described by itself.

In analyzing and describing the subject we will take up the different divisions of the theater, considering them first from the purely practical standpoint.

Such a thing as an opera house in the European sense is hardly found at all in America. It was the fashion a few years ago to style every ambitious theater in a small county town a "Grand Opera House," but the name meant absolutely nothing, and even the Metropolitan in New York follows practically the same lines that will be considered in designing a theater. Consequently no distinction of type will be made in this article.

Considerations of design in connection with theater construction will be treated as a separate chapter.

The Group Plan.—V.

UNIVERSITIES, COLLEGES AND SCHOOLS.

BY ALFRED MORTON GITHENS.

THERE is no distinct type of American college, university or school. Whereas the French have confined themselves to a Lycée type, more or less elaborated, and the English follow the Oxford and Cambridge traditions, in America we have not only followed both of these, but, proceeding further, have attempted far more pretentious and monumental architecture. The French seem to consider the College as unfit subject for extreme glorification, that the higher architectural forms belong rather to the Fine Arts, palaces and churches. We Americans are architectural libertines and have no restraining traditions; therefore such grandiose schemes as were proposed for the University of California caused no æsthetic outcry.

The first college group in this country seems to have been the University of Virginia. Thomas Jefferson, in his democratic way, ignored college precedent and took his inspiration, perhaps, from the domes and colonnades of Sir Christopher Wren's Hospital at Greenwich. Instead of the conventional chapel, he placed the library in the commanding position and approached it through long porticos in front of the dormitories and lecture rooms. The recent addition of three academic buildings at the lower end of the campus in no way detracts from the original scheme, although they make of it a *closed composition*; and logically so, since it is the center of a life of its own, and communication with the life without is not so constant as to require important entrances; a singularly interesting expression of an architectural problem. Grand entrances are usually insisted upon, but why should they be? Any country college is a community of its own; the less communication with the outside world the more college spirit is fostered.

This "self-contained plan," if we may call it that, is shown again in the successful competitive drawings for the New York Juvenile Asylum, a type, moreover, of the *unsymmetrical composition on two axes*, with the athletic field at the crossing, the major axis projected by the telescoping lines of cottages leading to the chapel and the lesser prolonged across the lake, up the slope, to the conservatory and girl's school. The entrances are at the corners of the athletic field.

In the War College at Washington, a central approach is fitting, as there is constant communication between this group of buildings and the city. Again the long formal court or *avenue* occurs, and still again in the

proposed Canton Christian College and the finally adopted plan for the New University of California.

A "Campus" of some sort seems the natural center for an American Scholastic group, but the long campus, the *avenue*, is by no means predominant among them. The Johns Hopkins group is arranged as an *unsymmetrical composition on two axes*, but the campus is there. A variant is seen in the imaginary American School at Paris, where the art museum separates the entrance court from the long campus proper; this becomes an athletic field, though it is impractical because surrounding grand stands are impossible. Benard did not realize this necessity, so his arrangement of the California athletic field has been completely changed.

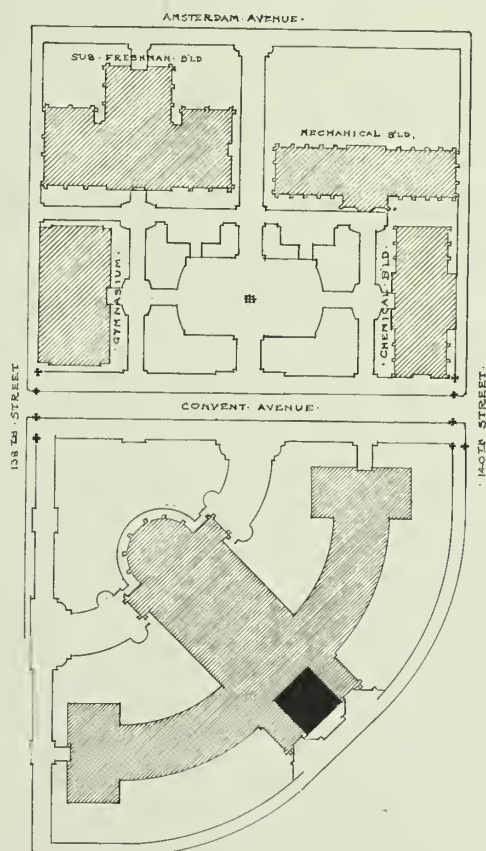
The campus reappears in the Sweet Briar Institute, here treated as a series of terraced gardens. The Lawrenceville School exemplifies the campus pure and simple, with separate buildings arranged irregularly around it. That of the Leland Stanford University has been so subdivided that its character has been completely lost.

Most of the best-known American universities have been in towns or cities, and intersected to such an extent by streets that a unity of composition has been impossible. Such was proved by the competition for the George Washington University at Washington. Columbia and Barnard colleges are fortunate in having a more ample area, though even here a campus is impossible. Each of these was designed as a whole, and possesses, therefore, complete unity of composition. Less fortunate were the other great Eastern universities. These have grown up haphazard; each building was placed where it seemed most convenient or would best be seen; buildings by different architects were erected of different scale and character and of incongruous styles. Admirable as the separate buildings often are, there is no unity of effect in the ensemble, no group plan. A museum suggesting the early architecture of Lombardy,

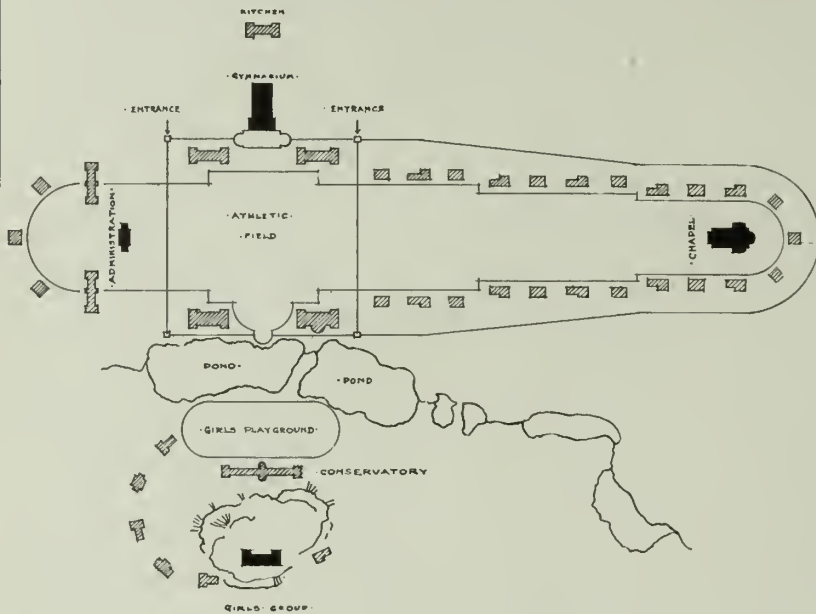
placed close to a gymnasium of Tudor English, or a Louis XVI dining hall, facing the tower of a dormitory in severest perpendicular Gothic are anomalies often seen in these old institutions.

These Tudor buildings show the introduction of a new element in American college architecture, an element steadily gaining in favor, an adoption of the English collegiate tradition of Oxford and Cambridge. It might be interesting to examine a typical English college and inquire into the principles that governed its arrangement.

The campus is distinctly an American feature; the English college is built around square courts or quadrangles, sometimes arcaded like cloisters. The quiet, domestic architecture of the chambers, or dormitories as we



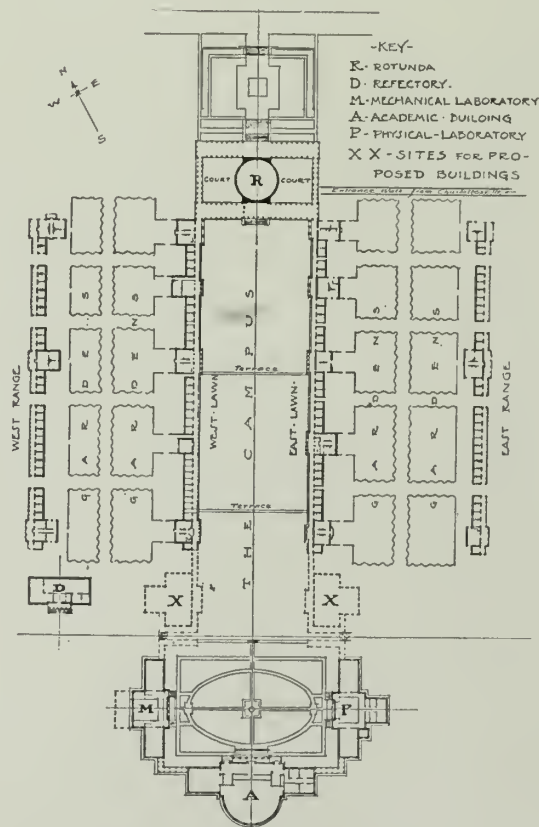
COLLEGE OF THE CITY OF NEW YORK.
George B. Post & Sons, Architects.
Plan as built; on the curved edge of a hill
overlooking the city.



NEW YORK JUVENILE ASYLUM.

York & Sawyer, Architects.

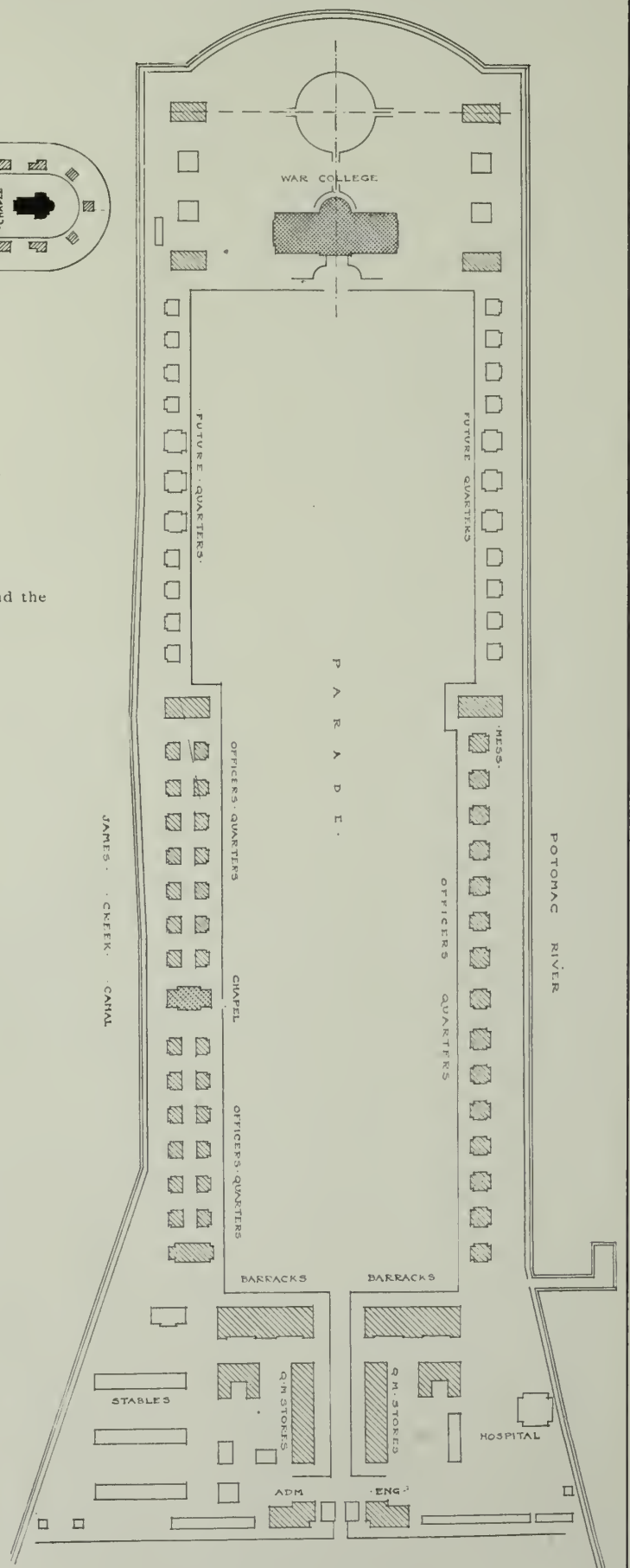
Successful competitive plan. Characteristics of the Avenue and the Unsymmetrical Composition on two axes.



PLAN OF THE UNIVERSITY OF VIRGINIA

UNIVERSITY OF VIRGINIA.

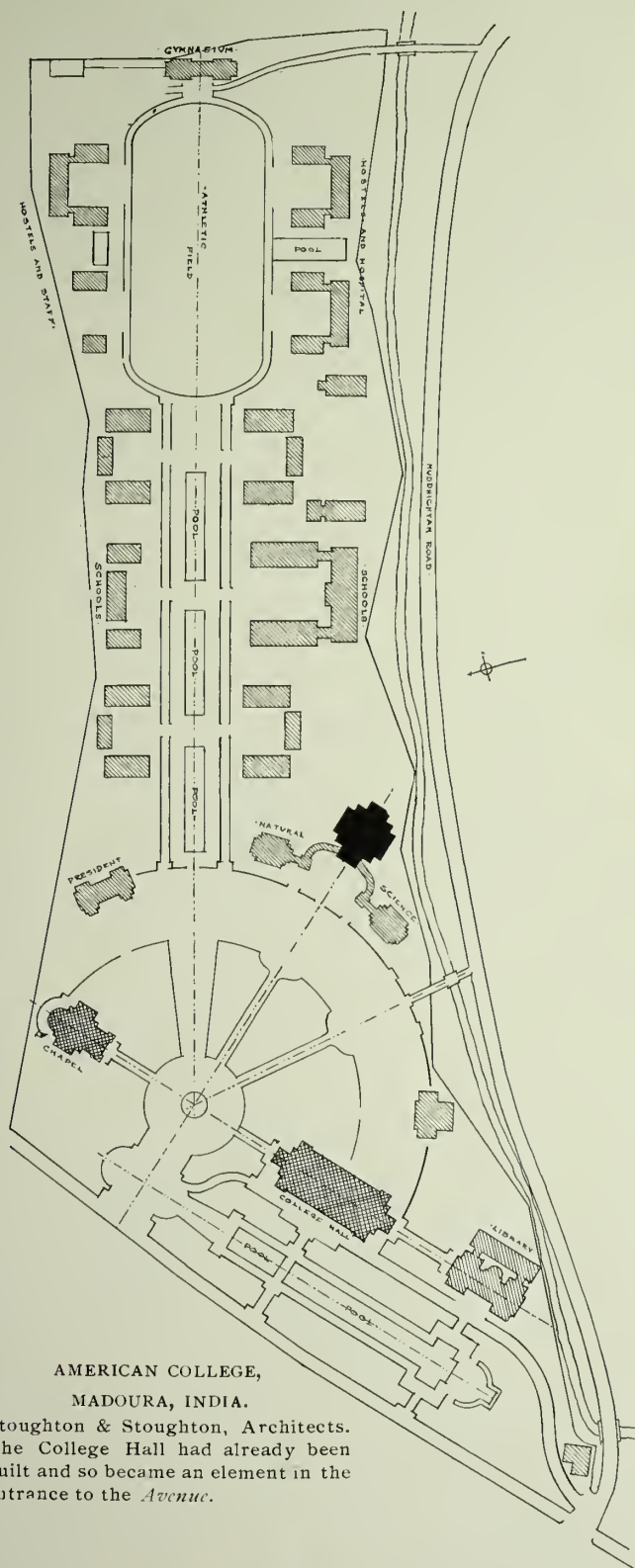
Thomas Jefferson; McKim, Mead & White, Architects.
Plan as at present except that the outer ranges of dormitories are not built. A Closed Avenue.



WAR COLLEGE, WASHINGTON.

McKim, Mead & White, Architects.

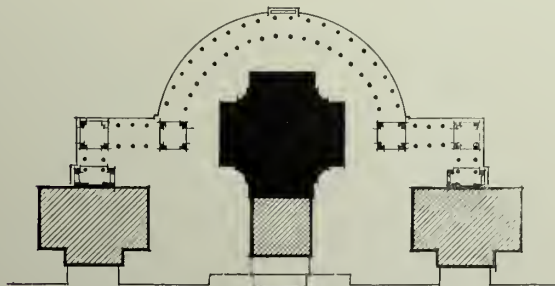
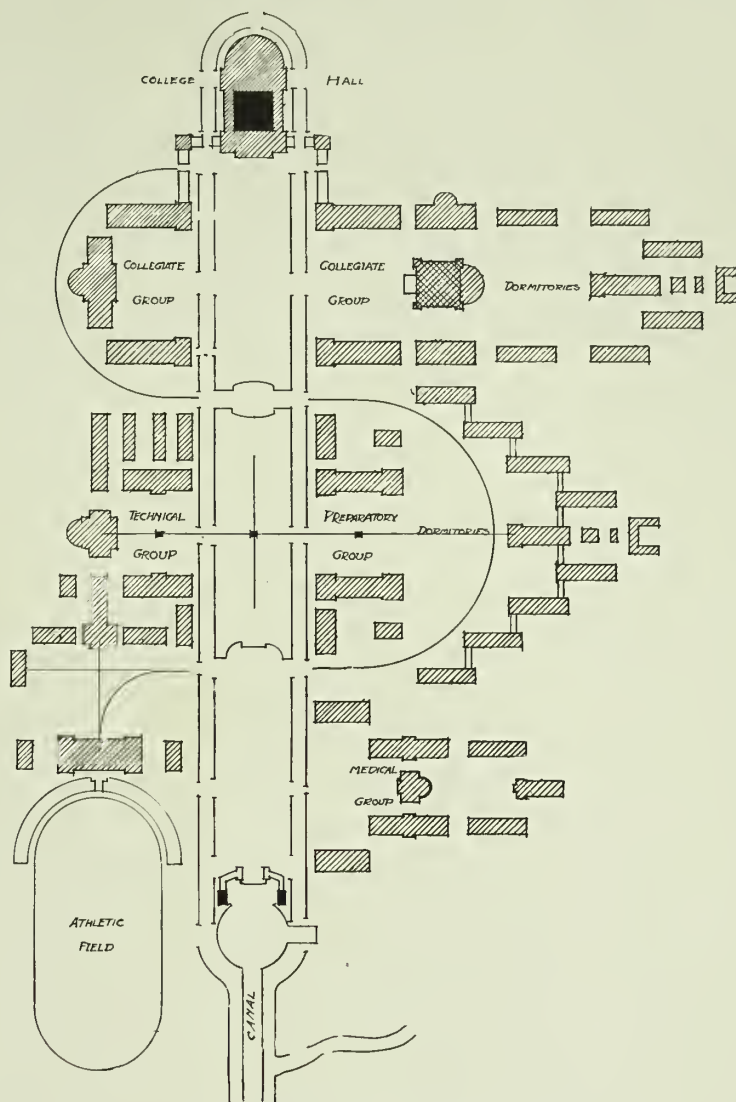
On a mole projecting into the Potomac River. A Closed Avenue.



AMERICAN COLLEGE,

MADOURA, INDIA.

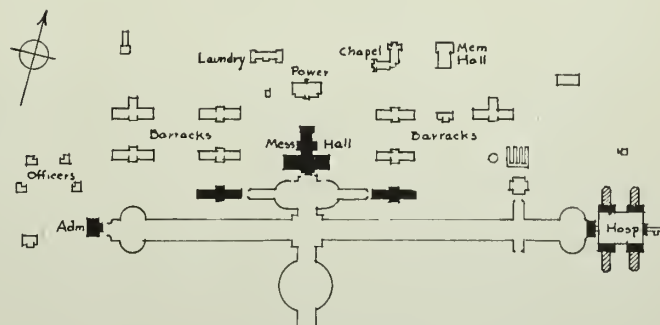
Stoughton & Stoughton, Architects.
The College Hall had already been built and so became an element in the entrance to the Avenue.

CENTRAL GROUP, NEW YORK UNIVERSITY.
McKim, Mead & White, Architects.

CANTON CHRISTIAN COLLEGE, CHINA.

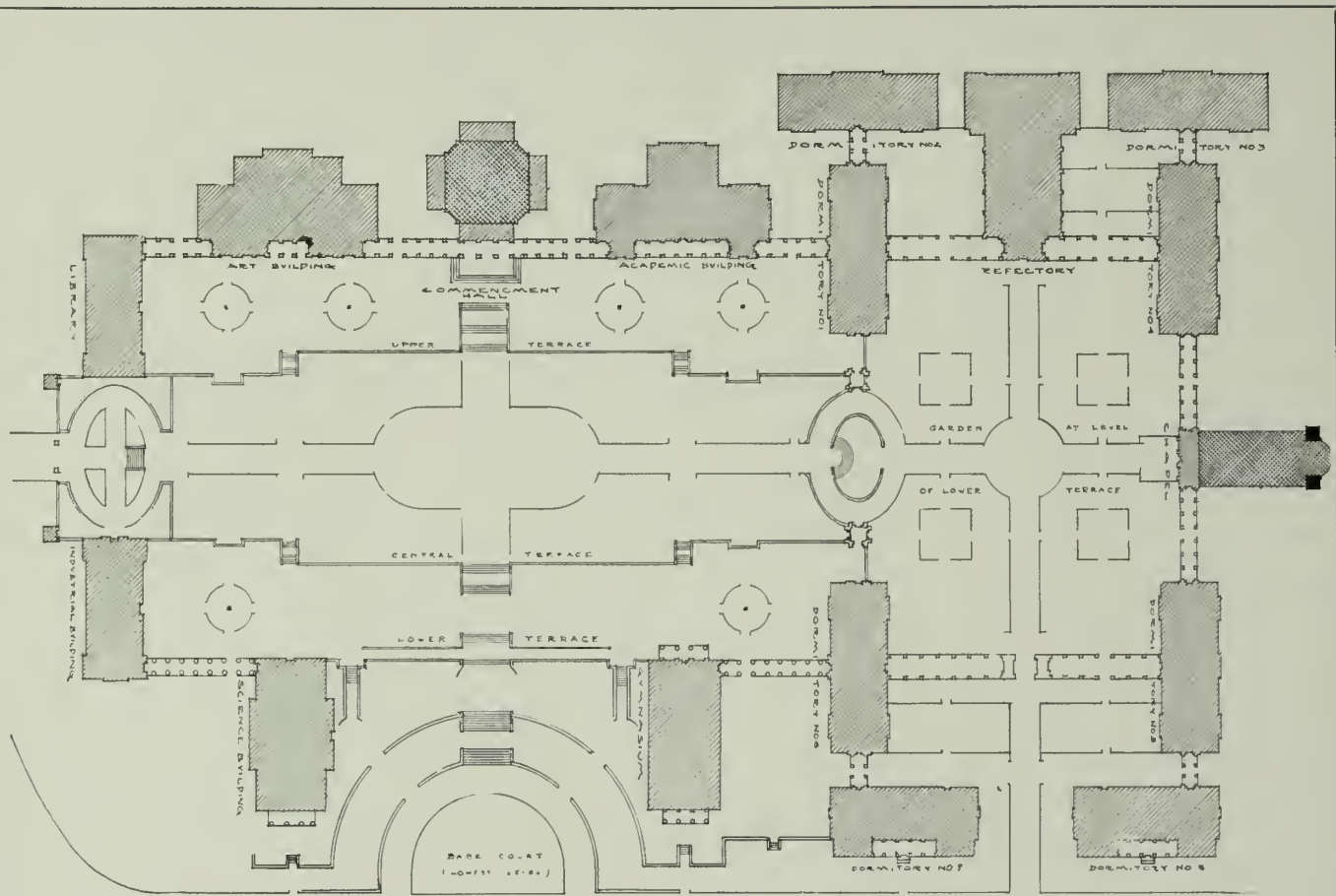
Stoughton & Stoughton, Architects.

Composed about a *Closed Avenue*; buildings one room deep with surrounding porches for protection against a tropical sun; longer axis of each, east and west to take advantage of the prevailing south wind. Principal approaches are by boat from the canals and river, hence the importance of the water gate.

HOME FOR DISABLED VOLUNTEER SOLDIERS,
JEFFERSON CITY, TENN.

J. H. Freedlander, Architect.

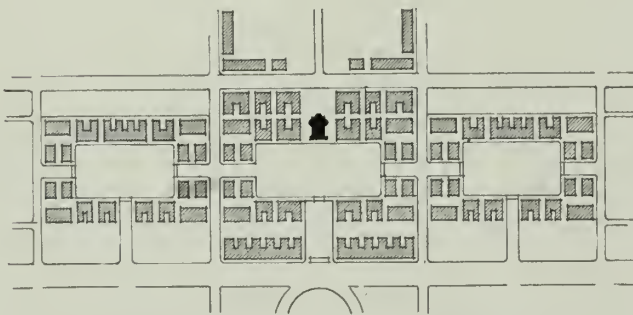
The more important buildings composed as a *Line* or an *Open Avenue* the others not essential to the composition.



SWEET BRIAR INSTITUTE.

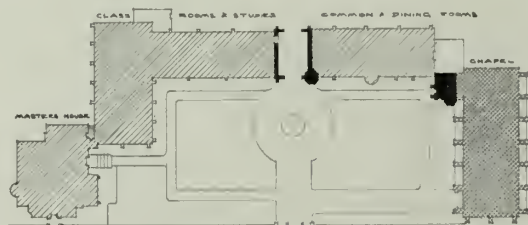
Cram, Goodhue & Ferguson, Architects.

A formal treatment of irregular and hilly ground, combining several types of composition.



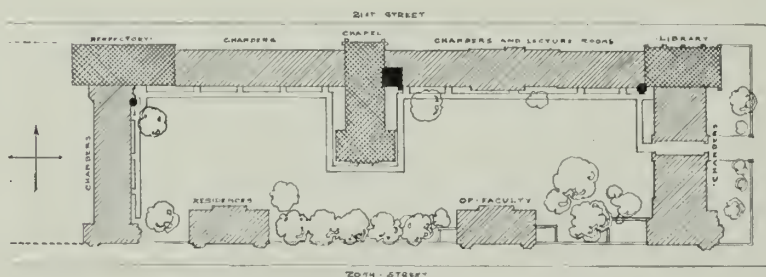
LELAND STANFORD, JUNIOR, UNIVERSITY.

Shepley, Rutan & Coolidge, Architects.



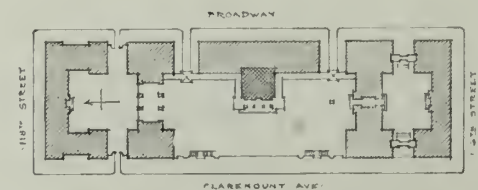
MANSFIELD COLLEGE, OXFORD.

Basil Champneys, Architect.

An *Open Court* with buildings in juxtaposition according to English collegiate tradition.

GENERAL THEOLOGICAL SEMINARY, NEW YORK.

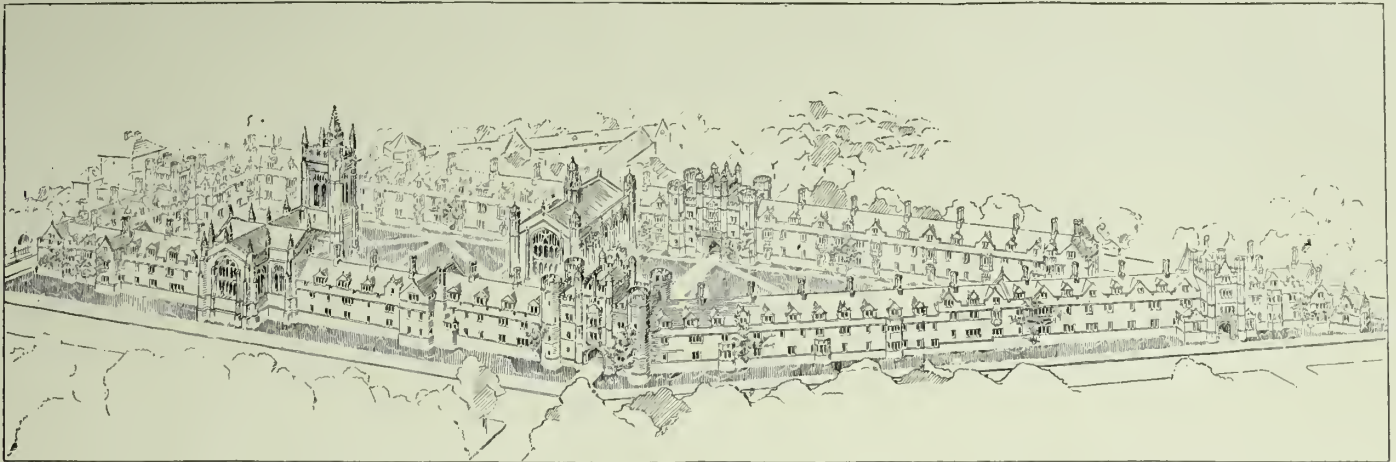
Charles C. Haight, Architect.

An *Open Court* facing south for warmth and sunlight; juxtaposition and contrasted height and character of the building as in English tradition.

BARNARD COLLEGE, NEW YORK.

Charles A. Rich, Architect.

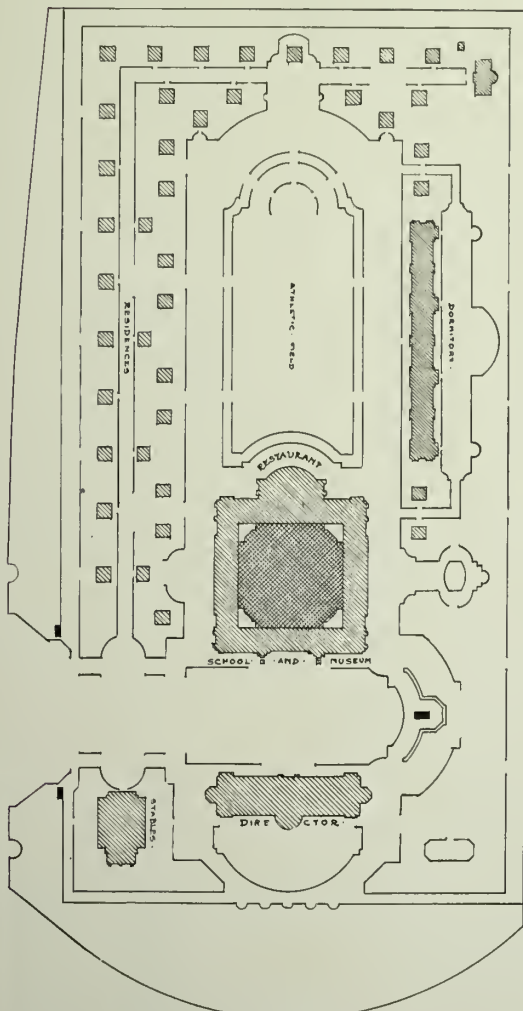
Proposed development as an *Open Court* facing the Hudson, and two *Closed Courts*, connected through open arcades in the separating blocks.



PRELIMINARY SKETCH FOR DORMITORIES, UNIVERSITY OF PENNSYLVANIA.

Cope & Stewardson, Architects.

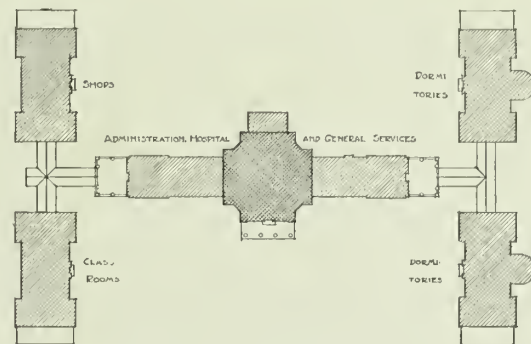
A direct adaptation of the English Quadrangle, contrast of height and character of enclosing buildings.



AN AMERICAN SCHOOL AT PARIS, PRIX DE ROME, 1901.

Hulst, Architect.

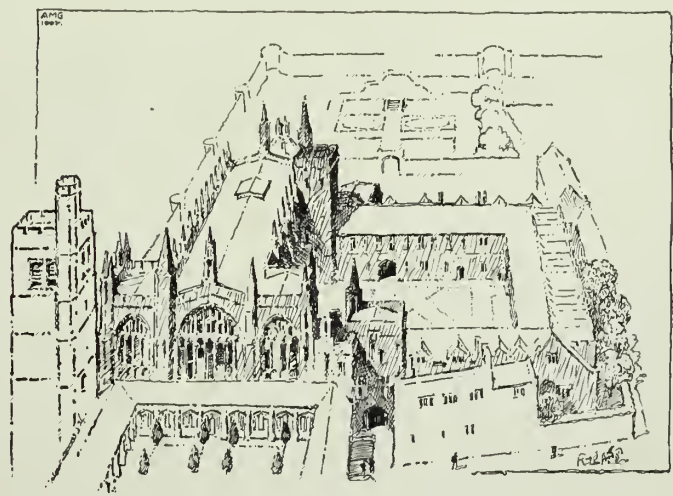
The Museum and Director's residence preponderating, there is no resemblance to the usual French type of buildings for instruction.



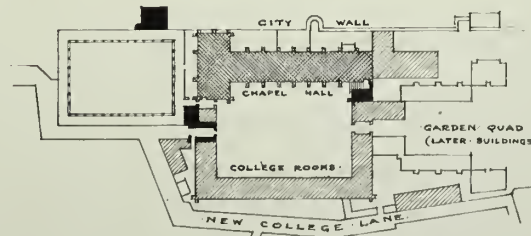
WIDENER MEMORIAL SCHOOL.

Horace Trumbauer, Architect.

Characteristics of the *Pyramidal Composition*.



BIRD'S-EYE VIEW



BLOCK PLAN.

NEW COLLEGE, OXFORD.

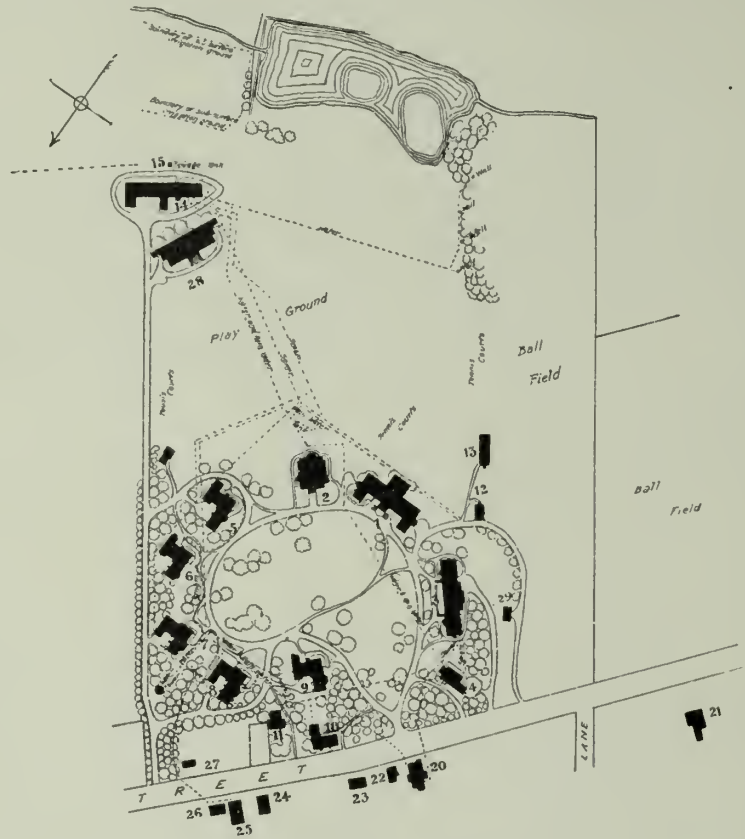
As originally constructed, a typical English Mediæval College.



JOHNS-HOPKINS UNIVERSITY.

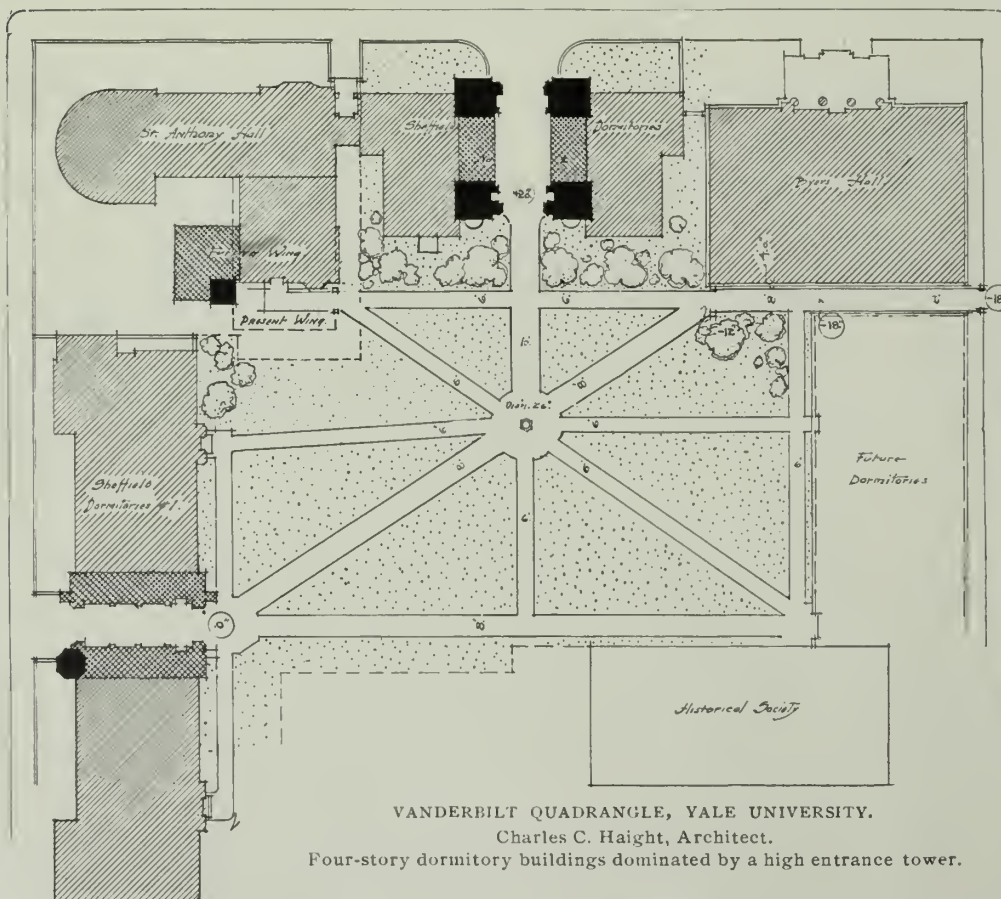
Parker & Thomas, Architects.

Successful competitive plan. Incorporating old Mansion "Homewood" by introducing a diagonal axis in the *Unsymmetrical Composition on two axes*.



LAWRENCEVILLE SCHOOL

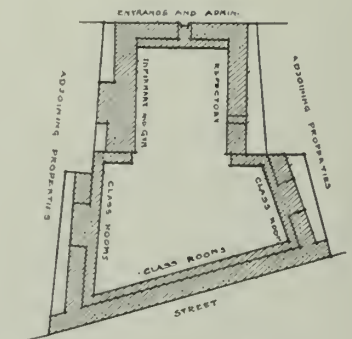
Peabody & Stearns, Architects.



VANDERBILT QUADRANGLE, YALE UNIVERSITY.

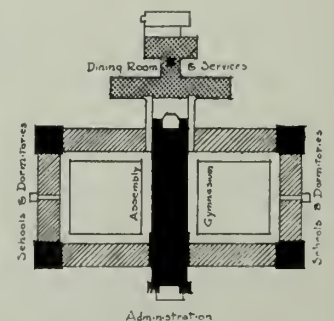
Charles C. Haight, Architect.

Four-story dormitory buildings dominated by a high entrance tower.



COLLEGE OF ST. GERMAIN-EN-LAYE, CHARET.

A typical "Lycee" plan.



SCHOOL FOR THE BLIND,

OVERBROOK, PA.

Cope & Stewardson, Architects.
Following the tradition of the Italian or Spanish Cloistered Monasteries.

call them, accentuates the dignity of the semi-public buildings dispersed among them and lends picturesque variety to the skyline.

In a paper read before the Royal Institute of British Architects, Mr. Basil Champneys described the mediæval English college as a "grouping into one, two or more quadrangles of rather low buildings (in the original colleges they are never more than two floors and an attic), from which the special and more important features, the chapel, the hall and the library stand out as salient features. The lodgings of the president, warden, principal, master, or whatever he may happen to be called, were usually included in the general grouping, and are seldom distinctive features of the older colleges. It was usual to mark the main entrance (often, too, the side entrances or entrances to a further quadrangle) by towers, — a reminiscence, no doubt, of defensive architecture." Depreciating the modern tendency to make the chambers three stories in height, he says: "Of course where ground is limited, a new factor is introduced; but in college buildings this is rarely the case, and there is seldom any valid excuse for departing from the old type. In fact, the old system of college planning, in my opinion, still holds its own and needs but few modifications to bring it up to date."

He describes a mediæval college and selects New College at Oxford, "which in its ancient form showed a complete design carried out at one time. In order to realize William of Wyckham's idea, it is necessary to remove in imagination, certain later additions. . . . The chief of these is that of a story to the main quadrangle. This raises the buildings to the same level as the gateway tower, which originally surmounted them, and also decreases the predominance of the chapel and hall. William of Wyckham was a great churchman, and his intention was to make the chapel the chief feature of his main quadrangle. The great height and scale still preserve its relative importance, though its predominance over the residential portion of the quadrangle is considerably reduced by the added story. The dining hall is built in continuation of the chapel, and originally the two were under a continuous roof. . . . The floor of the dining hall is raised several feet above the ground, while the chapel floor is on the ground level, so that the internal height of the hall, though lofty, is greatly less than that of the chapel. The approach to the hall is by a staircase opening from the main quadrangle, under a tower rising considerably above the hall and chapel. . . ."

Another writer, speaking of Trinity College, Cambridge, describes the "quiet simplicity of the low ranges of college rooms which make up two of its sides, and which modestly permit the greater heights of the gates of the chapel and of the hall to assert themselves."

Here there is war between the two styles—Classic and Gothic. Designed on totally different principles, Classic or Monumental seeks the greatest single effect, and as

a rule, the] simpler the composition the more successful. Axes are determined, compositions balanced around them. Opposed to this is the Gothic or Picturesque. In the latter, variety rather than simplicity is sought; masses and sky-lines are irregular, seemingly haphazard, though in reality their harmony is studied, but each court is considered by itself and the communications between them are irregular. Surprise is sought rather than classic calm and logic; in short, a *natural*, as opposed to a *scholarly*, plan. Mediæval architects reserved their symmetry as a precious quality of their grandest building, the great cathedral interiors.

It has been claimed that the irregularity of Gothic structures is entirely due to their having been built at different periods; but New College was all constructed at one time and is asymmetrical. Again, in the Palais de Justice at Rouen, though the plan is more or less balanced, the builder saw to it that the gables and roof lines should be otherwise.

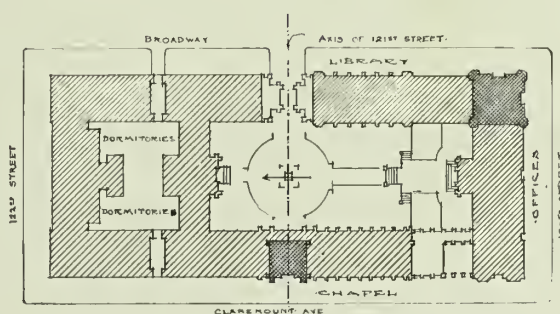
Perhaps the first group in America following Gothic tradition was the old Columbia College, destroyed to make way for the New York Central Railroad. The General Theological Seminary followed it, and again we see its spirit in the Vanderbilt Quadrangle at Yale. Mr. Haight seems to have been the first to introduce the Gothic collegiate style in this country. Now it has a strong foothold.

It won a signal victory over the Classic in the competition for the Washington University at St. Louis, and again for the Military Academy at West Point. The same style was required in the competition for the Union Theological Seminary, though the conditions imposed in that case precluded anything in the true spirit of the old Gothic. The College of the City of New York is another

instance. The new dormitories of the University of Pennsylvania give a notable example of the variety in sky-line due to the contrasted height of the entrance towers, refectory and chapel with the lower chambers.

Each school of architecture has its strong adherents and strong opponents. Neither camp can see any good in the other and the bitter war goes on. So far, compromises have proved hopelessly inferior to a complete expression of either school. Other styles have been tried, such as the Monastic Italian or Spanish, as found in the Blind School at Overbrook, Philadelphia, or the Mission style of the Leland Stanford University; but it seems doubtful that these will have an influence on future work. After all, they are but subdued forms of the Classic.

There is a quality in the English scholastic architecture that endears it to the men who see it daily. The students feel it; though ignorant of its nature, they speak of it in a way they seldom do of Classic. Yet there is something shocking to an architect in making a totally irregular plan, and if designed otherwise, the Gothic so used is hard and cold to the last degree. Can these warring elements be reconciled and the best of each retained? Most difficult, it seems, the old command, "*Cherchez la vérité!*"



UNION THEOLOGICAL SEMINARY, NEW YORK.

Allen & Collens, Architects.

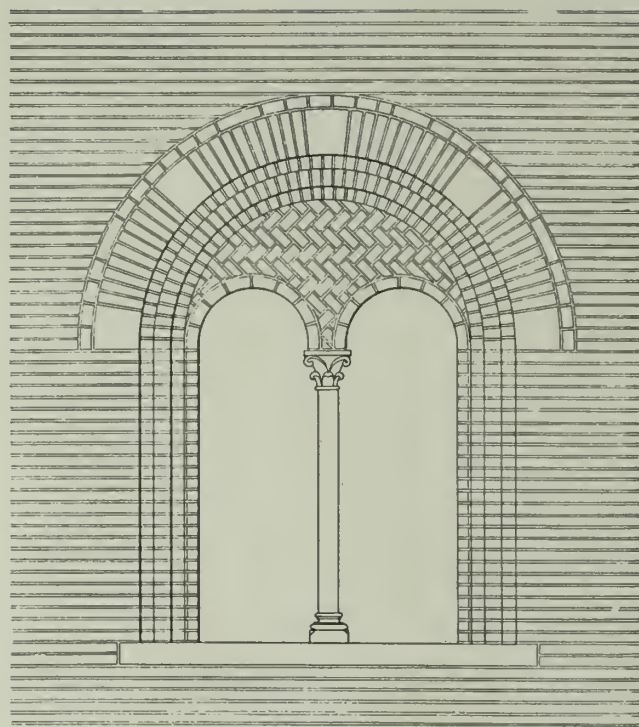
Successful competitive plan. Classic balance combined with quadrangles and juxtaposed buildings of a Gothic plan; 121st Street acknowledged as an axis.

Brickwork Details.—I.

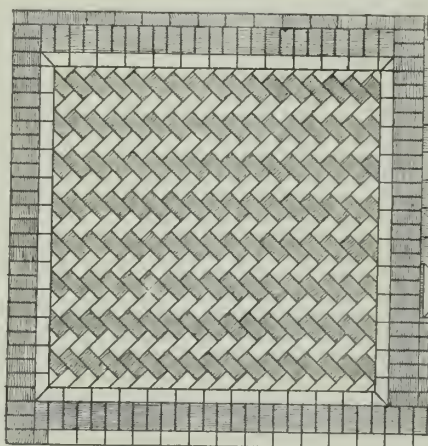
BY HALSEY WAINWRIGHT PARKER.

THE ornamental possibilities of brickwork are in its texture, the pattern of its bond and the shadows which it produces.

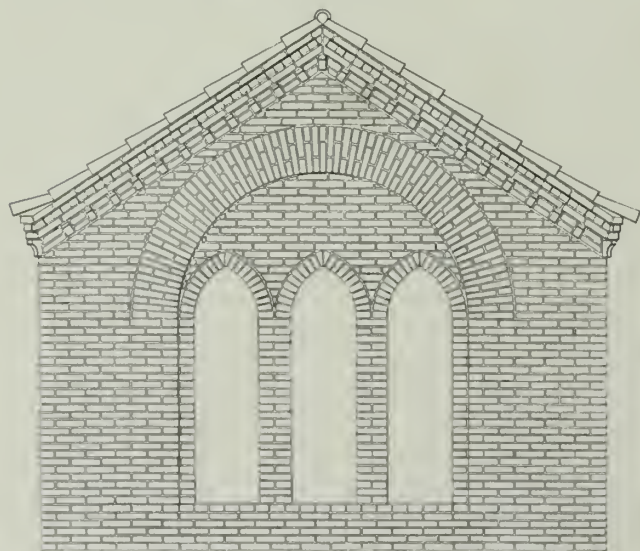
The texture is produced by the surface of the brick and by the contrasts of the bricks and their joints. The patterns are necessarily texture patterns, relieved by occasional or repeated grouped units of special design. The shadows are necessarily either of slight depth, for the possible projection of brick courses is not great, or the repeated shadows of individual bricks. The capacity of brickwork to create ornamental forms, unless the bricks are molded, is somewhat limited, but the limitations create a series of individual designs, thoroughly expressive of the material, and which foster invention and ingenuity. For this reason if for no other, a study of ornamental brickwork deserves careful consideration, and is productive of a thoroughly characteristic and individual class of design. The usual brick is approximately a multiple of two in its dimensions, that it, it is $2 \times 4 \times 6$. Its exposed surfaces, therefore, are rectangles 2×4 , 2×8 and 4×8 , and its patterns are made up of these rectangles. Roman bricks of less thickness and greater length merely elongate the patterns and introduce a more marked stratification, and used with ordinary brick create valuable contrasts. Bricks of different tones or colors, or with glazes, supply more vehement contrast and make possible patterns of larger repeats, and therefore, larger scale. But surface brickwork may be considered as a mosaic based upon the crossing of horizontal and vertical lines, the units of the mosaic being of somewhat large scale. The patterns resultant from such a system of mosaic are rudimentary geometric patterns, similar to those woven fabrics of broad strands, and there is



A WINDOW AT MONZA.



ITALIAN PATTERN OF BRICK.



TOP ON A SMALL CAMPANILE, SIENA.

scarcely a woven pattern based upon rectangles which may not be easily translated into surface brickwork. The variety of these patterns is infinite, from the simplest chequers, through striped and zoned patterns, and frets, herringbone patterns and parapet patterns, labyrinth patterns, rectangular interlaces to more complex forms of which the perimeters are expressed in stepped lines.

Diagonal and even curved lines may be expressed in steps, and the multiplicity of patterns may be greatly increased by the simple method of beveling the end of some of the bricks. It is surprising that so

little advantage has been taken of the possibilities of surface pattern designs, probably from the fact that brick masons are taught merely the usual bonds, and that because of this reason it costs more to lay up patterns in brick than it does to produce repeated ornament by other methods. The bonds are those of stretchers with joints broken in each course and with courses of headers every sixth or seventh course, or alternate courses of headers and stretchers, or the Flemish bond of alternate headers and stretchers in each course, or the ordinary stretcher course alternated with the Flemish course, or the Flemish course alternated with headers.

Each gives a different texture. The texture is also varied by the widths of the joints, as is also the color of the wall. If the vertical joint is made wider than the horizontal the effect is spotty and not agreeable, but with the horizontal made wider than the vertical a marked stratification of the wall is secured, giving an impression of greater stability. Variation may be obtained by courses of brick set on edge either as headers

or stretchers or in Flemish bond, and by the introduction of courses of other brick, such as Roman brick, where desired. The object of such expedients is not only to produce variation in the wall but to create scale in the building. Similar results can be obtained by varying the widths of joints in different courses, and by coloring the mortar in different courses or in the vertical joints. It is important, however, to lay stress upon the horizontal stratification of the brickwork rather than upon the short and broken vertical joints. It is not unusual to produce the effects of quoins and of trims around openings by changing the tone and color of the mortar at those points, though this is apt to coarsen the quality of the façade.

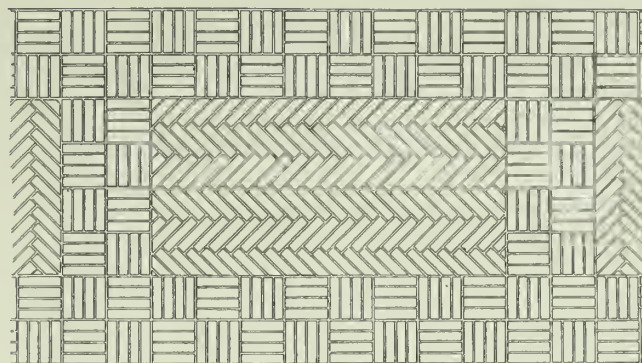
PROJECTING PLAIN COURSES.

The projection of courses of brick or of individual brick to vary the textures of walls is an expedient which has been used since the time of the Romans. The so-called House of Crescencius, near the Temple of Vesta, in Rome, is an extremely interesting example, as are buildings in Saragossa and elsewhere in Spain. The occasional use of a projecting header repeated at regular intervals is characteristic of certain types of Spanish brickwork, but is seldom pleasing. Projecting courses giving shadow stratifications and forming belt courses are of great value in creating bands which tend to lower the apparent height of walls and establish stability, and



WINDOW FROM BANCA DI SAN GEORGIO, GENOA.

also to increase scale. Recessed courses are not as satisfactory, as they apparently weaken the wall. Raking out the horizontal joints affords long horizontal lines of shadow which enrich the tone of the wall, and great variety may be obtained by the various widths and depths to which joints may be sunk and in coloring the mortar. The projecting courses can be carried around panels forming panel moldings, and



ITALIAN PATTERN OF BRICK.

stepped series of such courses around panels produce vigorous shadows. Projecting heading courses can not only project farther from the wall than stretchers, but appear to be stronger, so that in projecting bands of three courses or more, it is better to have the outside courses headers rather than stretchers.

HERRINGBONE OR ZIGZAG COURSES.

Projecting zigzag courses give the effect of a crude rope molding and usually need to be associated with a straight course, at least upon their upper edge, otherwise they appear weak.

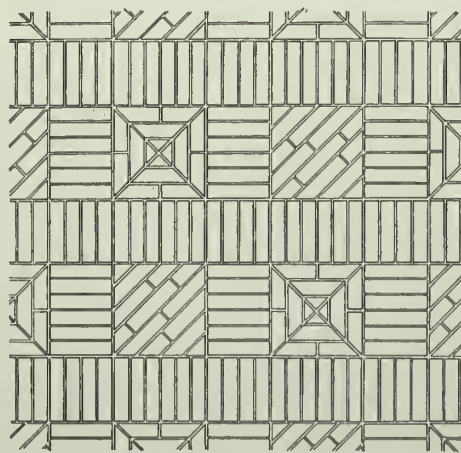
DENTILLED COURSES.

These courses, which consist of alternations of wall surface and projections at

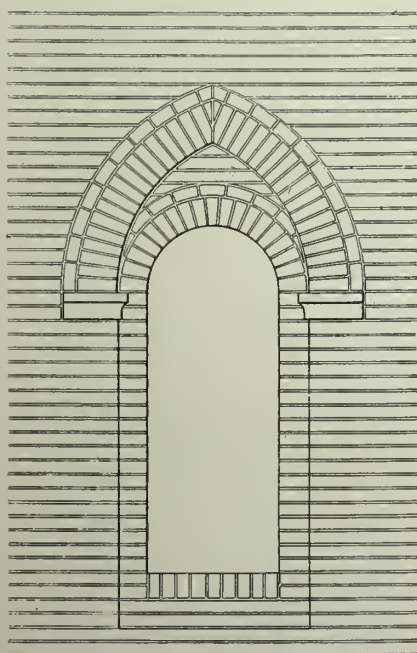
regular intervals, are practically small corbel courses and should not be too large in scale. They gain in richness by recessing between the projections, by stepping the projections both on front and on sides, and by the introduction of bricks laid diagonally on the wall. Corbels of large size constructed of brick lose the quality of brickwork, which is that of broad, plain surfaces ornamented by the shadows of small forms grouped into patterns.

DIAGONAL COURSES.

These courses of brick laid diagonally on the walls, either recessed or projecting, produce



ITALIAN PATTERN OF BRICK.



A WINDOW AT LUCCA.



THE CARVEL HOUSE, ANNAPOLIS, MD.

Walls laid all headers except at quoins. Brick ground in flat arches.



THE HARWOOD HOUSE, ANNAPOLIS, MD.

Flemish Bond with half headers at quoins. Mortar colored in belt course.

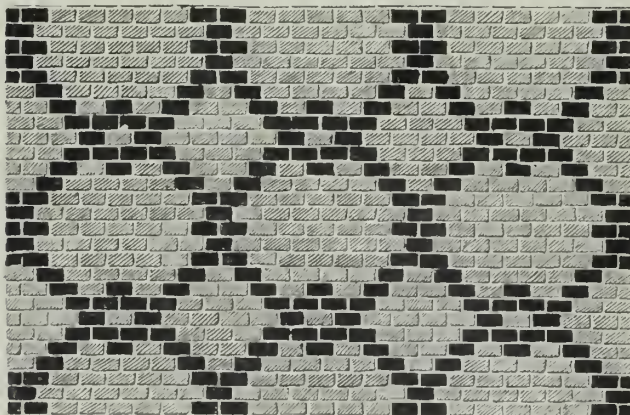
shadows lighter in tone and of more delicate scale than where the projecting bricks are paneled with, or at right angles to, the plan of the wall. In most cases they are best with a projecting straight course above them which cast triangular shadows between the diagonal projections. They assist simple bands and borders by giving lines of darker tone than the wall and lighter than the projections, and thus afford a valuable half tone. They may, of course, be varied by the introductions of straight recesses or projections and by various amounts of projection in the diagonal bricks. If repeated in successive courses over each other, each brick laid over the one below, they form vertical V-cut flutes; if alternated, they form a rich texture pattern.

PANELING IN BRICKWORK.

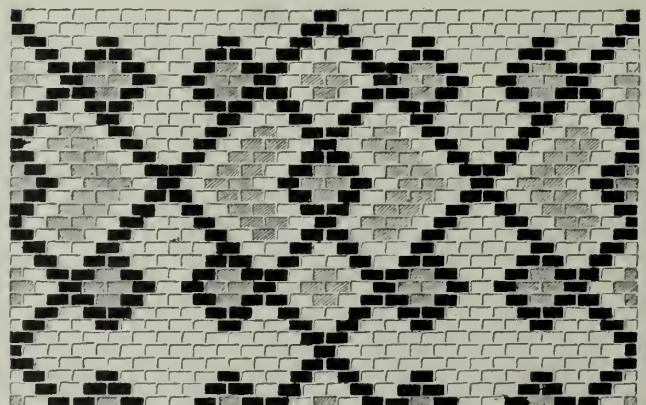
Panels in brickwork, as in woodwork, are indicative of thin walls, curtain walls framed, and the faces of the panels are best somewhat back of the face of the pilasters,

piers, stiles or rails which contain them. If the brick borders are recessed back of the piers and the panel face brought forward, the effect is crude and heavy. If the borders project and the face of the pier and panel are the same, the borders seem applied and not an integral part of the structure. All the variations of projecting or of recessed courses can be used as frames around panels successfully. Extremely rich friezes can be made with double and treble recessed panels. Each recessing, however, of brickwork should be slight, seldom over two inches.

Brickwork at corners of more than a right angle (unless the bricks are ground), and the corners of octagonal or of hexagonal piers or of splayed surfaces will not be completely filled by the ends of the bricks, and a series of alternating shadows will appear on the line of the angle defining the angle by a darker tone. This is often very effective in appearance. Similar spaces of shadow may be obtained upon surface work by broaden-



DIAPER PATTERN, SIMPLEST OF BRICK DESIGN.



DIAPER PATTERN FORMED BY DIFFERENT TONES OR COLORS.

ing and recessing the vertical joints, but this can easily be overdone, producing an effect of weakness and disintegration of the wall and should be confined to curtain walls or to panels.

BRICK ARCHES.

Brick arches are of several varieties, *i. e.*, the full centered arch, the segmental arch, and the so-called flat arch or constructed lintel. The ornamental effect of the full centered brick arch is gained either by successive rings of brick or by the divergence of the joints, or by both. It is obvious that an arch of small radius cannot have broad arch surface without one of three things happening. Either the bricks must be ground, or the arch be built of rings in which the radiating joints break joints in the successive courses, or the radiating joints must be much broader at the extravolt than at the intravolt. The limit of face width in which the radiating joints are continuous in a four-foot opening is about two stretchers or sixteen inches; in larger spans it is somewhat more. But brick arches are much more effective with long radial joints than with short, and therefore, unless the bricks are



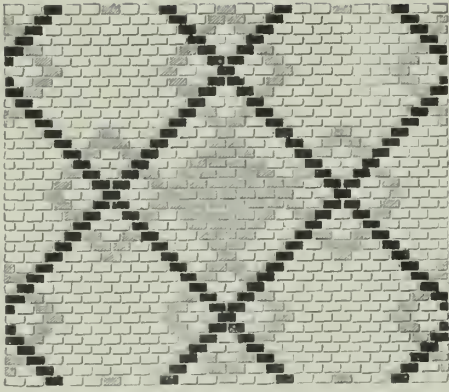
THE BRYCE HOUSE, ANNAPOLIS, MD.
Walls laid all headers.

ground, broad arches are laid up in successive arch rings, divided from each other by change of surface planes or by rows of headers. Successive arches receding in plan, one within another, create vigorous and rich shadows around the opening. Both the outer and inner edges of brick arches can be ornamented, the outer edge by projection, the inner by alternation of light and shade. The main label moldings can be treated with any of the designs used for narrow belt courses, but the outside edge should be firm and strong. The tympana of arches are especially adapted for elaborate patterns. The patterns which can be used upon the faces of arches are few, as the surfaces are limited in area, but simple checkers, zigzags and stepped patterns may easily be evolved, and the soffites of large arches offer an opportunity for various types of paneling or coffring in brick, as well as for striped patterns. The contrasts obtained by alternate voussoirs of different brick assists in the scale of the work when large forms are desired. The segmental arch is merely a portion of a full arch of large radius and can receive the same treatment as the full

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THE PATRICK HENRY SCHOOL, ST. LOUIS.
William B. Ittner, Architect.

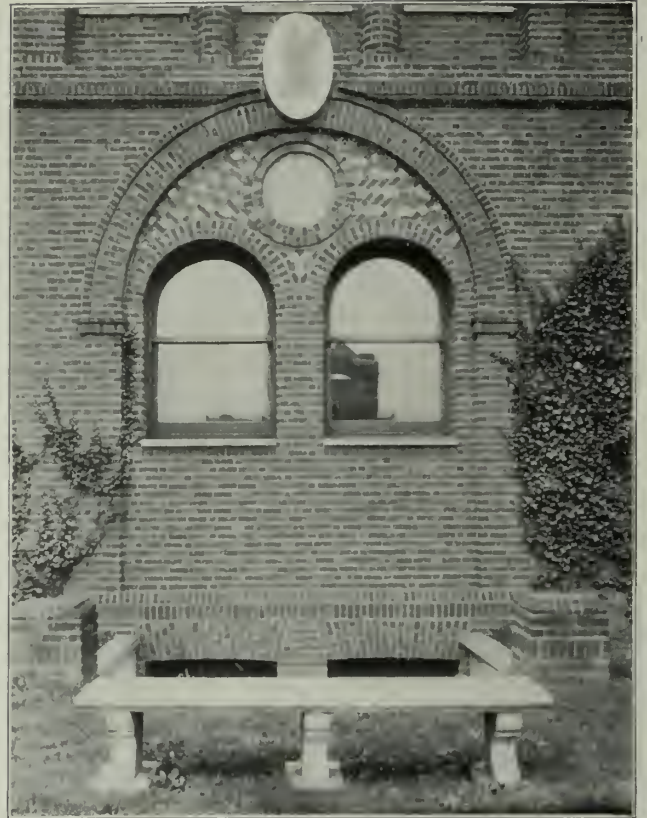


EASILY EXECUTED DIAPER PATTERN.

the effect of the arches and are structurally unnecessary. Admirable effects in brickwork can be obtained by the introduction of discharging arches in the surfaces of the walls, as is manifest in a number of the façades in Bologna. In several cases in Spain the walls are covered with a large scale pattern of successive discharging arches producing a very effective surface.

Pointed arches require cutting of the brick at the apex of the arch. Very beautiful pointed arches are to

centered arch, but the flat arch requires an undisturbed face, as it is never too strong in effect, and is best when the bricks are ground. The introduction of brick projecting skewbacks and keystones is to be deplored, for they coarsen



THE MUSEUM, UNIVERSITY OF PENNSYLVANIA.

Cope & Stewardson, Frank Miles Day & Brother and Wilson Eyre, Associate Architects.

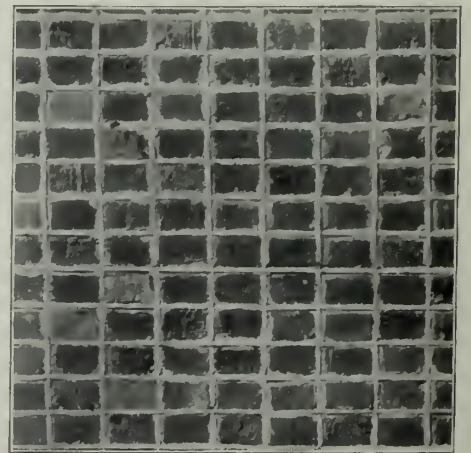
Double stretchers joined with red mortar. Other joints very wide, and of coarse buff mortar.

be found in Italian brickwork at Siena, Pavia, Milan, Bologna, Fano, Pesaro and elsewhere.

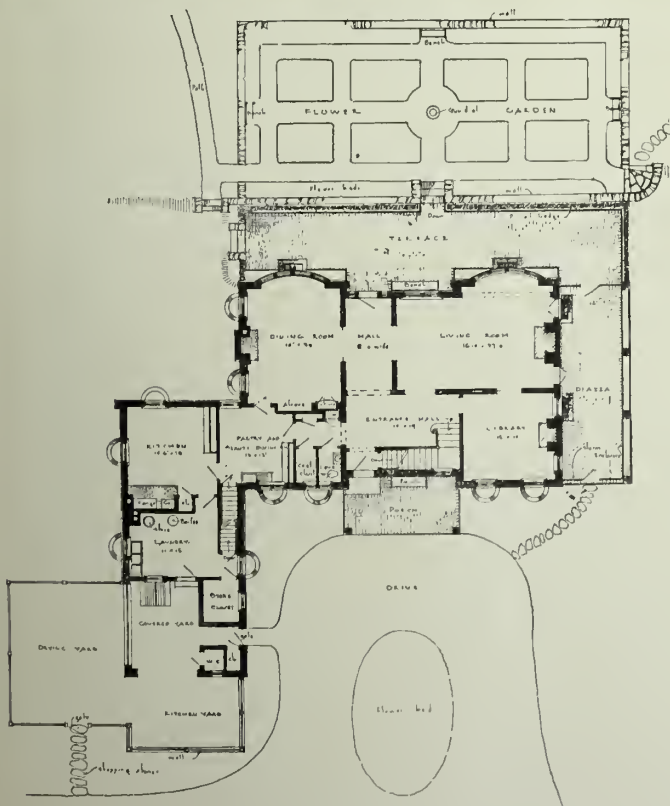


ST. JUDE'S CHURCH, BROOKLYN.
Lord & Hewlett, Architects.
A very interesting composition.

BRUTON PARISH CHURCH, the oldest church in point of continuous use of the Anglican communion in the United States, is a brick structure, and the most imposing edifice in the old town of Williamsburg, Virginia. The triennial convention of the Protestant Episcopal Church in the United States, in session in Richmond in October, was an occasion for turning over the pages of history. From the old country from which the founders of the church came, a Bible was presented by King Edward, and President Roosevelt gave the church a lectern. At the ceremonies attending the acceptance of these gifts a bronze bas-relief in memory of Robert Hunt, minister of the Jamestown Colony in 1607, was exposed to view for the first time.



BRICKWORK IN THE COLONY CLUB, NEW YORK
McKim, Mead & White, Architects.
Walls laid all headers.



HOUSE AT ARDMORE, PA.

Horace Wells Sellers, Architect.

Editorial Comment and Selected Miscellany

PRECEDENT AND PRACTICE.

IN measuring the architectural achievements of this country and comparing them with the work accomplished in foreign countries, it is very easy to overlook one fact. Though the United States is still classed as architecturally a new country, the problems with which we have here had to deal are no newer to us than they are to the Englishman, the Frenchman or the German. Indeed, just in proportion as this country has offered a freer field, and one less hampered by tradition, have the new problems here been met earlier, been solved in a more practical manner and been more quickly crystallized in definite planes than has been the case abroad. Especially is this noticeable in England, where there is at present considerable building along the lines of commercial architecture, and the way in which the problems are being handled shows how new and unsolved they appear to the English architect. The conditions, both practical and artistic, involved in the design and construction of almost any kind of commercial structure, or even a public building, such as a library, town hall or theater, are essentially new to the world in that they have been so profoundly modified within a generation, by the introduction of electricity, steel, etc., as to be almost fundamentally different from anything which the English architect had before to guide him. They are working



STABLE, 139¹/₂ WEST 52D STREET, NEW YORK CITY.
Carrère & Hastings, Architects.



STABLES, 248 WEST 47TH STREET, NEW YORK CITY.
Bruce Price, Architect.

out solutions with little but academic traditions as a guide. We have already worked out many of them with almost no traditions, but with plenty of hard practical experience, and so far we have rather the best results. The place to study an office building, a bank, a library or a hotel, is in the United States, where they have been brought to the highest pitch of practical efficiency, combined with a measure of artistic success which surely is fully as appropriate as the kind of art one usually finds associated with such structures abroad. While the absence here of tradition, other than what we find in our architectural books, has left our designs often crude and ungrammatical, the very traditions which are so prized by our English cousins have been a handicap to the kind of practical growth and fitness which are essential to ideal solutions. Besides, some problems, such as the office building, for instance, were worked out here to an exact finish long ago, whereas in England they are still in the stage of experiment.

There is also a difference in treatment of mere design which has counted for a good deal. Academically considered, a big building calls for big parts and big detail. But it would be so manifestly absurd to make the detail on a forty-story building eight times as large as the detail of a five-story building, that we, in this country, gave it up long ago and agreed on scale rather than dimension, and also accepted the paradox, that, in order to look in scale, to seem right, the size of detail in relation to size of

building must vary inversely as the height, and that the more stories there are the smaller the detail can be, since it counts less as detail, and can only be appreciated when examined close to, under which condition smallness of parts is desirable. This fact seems to be little understood by either the English or the French architects, and this accounts for the repeated artistic failures of large commercial buildings abroad even when designed by architects whose ability in other lines is unquestioned. The new problems are old to us, but to them they are almost wholly unsolved.

THE opening of the largest railway terminus in the country cannot but have an important effect on the physiognomy of the city witnessing it. At the national Capital there will be a less speedy shifting in scenes and corresponding change in real estate values than elsewhere. The new Union Station thus far has given little sign that it will radically change its immediate section of the city, for this section has already been a center of passenger traffic served by the old Baltimore & Ohio Station. One certain effect of the improvement,

however, will be a change in the avenues leading from the station to the present business center of the city. A general northward and westward movement is noted by a rise of real estate values in Washington, and this will be followed by building improvements. There are those who predict that G and H streets, west of Seventh, and also portions of Massachusetts and New York avenues, will, in the near future, be turned into active business thoroughfares. The neighborhood of Sixth and Pennsylvania avenues, where the



STABLE, 144 EAST 40TH STREET, NEW YORK CITY.
Donn Barber, Architect.

Pennsylvania Railroad Station formerly was, and where famous old hotels still remain, has little to fear by a loss of prestige. The Metropolitan and National hotels were doing a flourishing business before a railroad entering Washington at that point was ever dreamed of. Nor can the neighborhood suffer, lying midway, as it does, between the Capitol and the White House, upon one of the finest avenues in the country, which avenue is sure to witness radical improvements within the next decade.

MUCH vehement speech and column-writing is being expended at Washington in protest against changes in the Mall. "An entering wedge toward the imitation of Versailles, . . . to reproduce the barren dreams of a decadent king," one of the local newspapers calls a first step toward remaking the Mall in conformity with the



STABLE, 213 WEST 58TH STREET, NEW YORK CITY.
York & Sawyer, Architects.

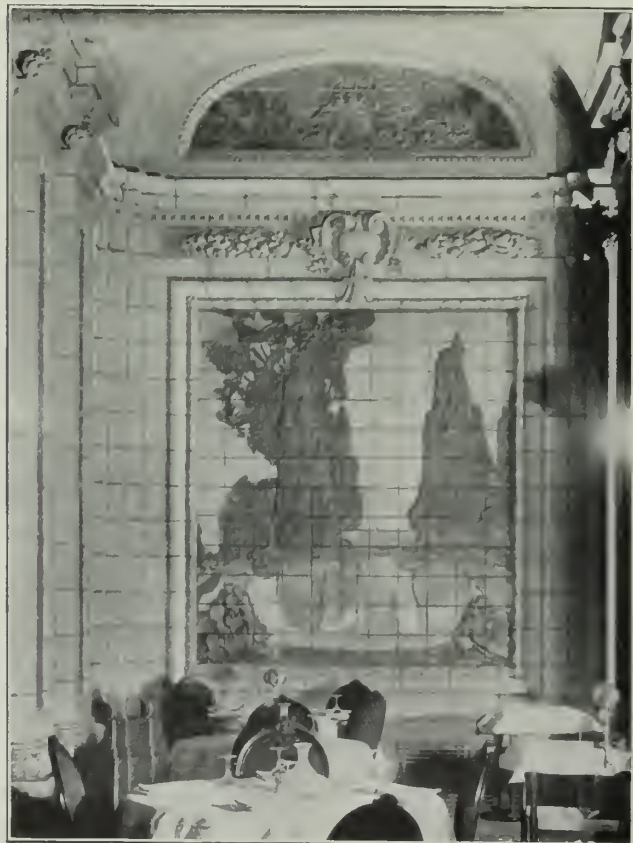


INTERIOR STABLE, 213 WEST 58TH STREET, NEW YORK CITY.
York & Sawyer, Architects.
Guastavino Tile Ceiling.

Park Commission's plan for the improvement of Washington. However unsympathetic the average American may be with Versailles, however decadent its master, the only question at issue is, was his Versailles beautiful and is it so to-day? For our own part we have never heard a negative answer to this. That the essential character of Versailles' beauty is appropriate to Washington is conceded by those who know architecture, who have studied the beauty of cities and who know the French and American localities. With the acceptance of the Park Commission's plans, doubts upon the vital part of it, the Mall improvement, must remain settled.

OPPPOSITION to the Mall improvement now is stirred by the fact that some historic trees must be sacrificed, and there is great appreciation expressed for the work of F. L. Olmsted who laid out the west terraces of the Capitol in 1872. If Mr. Olmsted were living to-day, doubtless he would be the first to recommend the removal of certain trees necessary to a great permanent improvement. Historic sentiment should not thwart the realization of a Washington that all visitors will admire and future generations will love. The wise woodman spares the tree only if its place is not needed for something better.

THAT so important a thoroughfare, extending southward from Grand Central Station and comprising Park Avenue and Fourth Avenue, New York, should



FAIENCE DECORATION IN PANELS, DINING-ROOM, HOTEL SINTON, CINCINNATI.

Frank M. Andrews, Architect.

Executed by Rookwood Pottery Company, from design by John Dee Wareham.



RAILWAY STATION, SIOUX CITY, IOWA.

Roofed with French A Tile made by Ludowici-Celadon Co.

have been so little improved by building operations on a large scale is a curious eddy in the current of building activity in New York. The presence of the Subway stations and the improvement of the New York Central Terminus are now apparently producing a change. A new office building is nearby at Park Avenue and 41st Street, and but a few weeks ago it was reported that Alfred G. Vanderbilt's architects had filed plans for a twenty-one story office building to occupy the entire block on Park Avenue, between 33d and 34th streets. It is to be in the Italian Renaissance style, and façades are to be brick trimmed with limestone, for the first six stories, and terra cotta and brick above. The first floor is to contain stores, the next four floors will consist of lofts and the remainder of the building of offices.

SILK USED TO DEFLECT SOUND. — The acoustic difficulties of Dr. Parkhurst's church in New York, designed by the late Stanford White, have led to a novel experiment. From the center of the dome a ring has been suspended, and from this a net of silk has been drawn, extending to the surrounding cornice. The object of this is to prevent the sound waves from rising into the dome and there dissipating themselves, a tendency with which every acoustic problem has primarily to deal.

Wire has often been tried, but there is danger in its resonance. The silk web, or "buffer of sound," as it has been termed in the Madison Square Church, is being watched with interest, and there is much speculation as to its remedial effect.



DETAIL BY NEW JERSEY TERRA COTTA CO.



DETAIL BY SOUTH AMBOY
TERRA COTTA CO.

MR. CARNEGIE BLESSES SPRINGFIELD. — Andrew Carnegie has donated \$50,000 to the City Library Association of Springfield, Mass., for the establishment of branch libraries. This gift follows closely upon the \$175,000 received from the same donor for a new central library building to replace the present structure on State Street.

AN ARCHITECTURAL TREASURE TO BE SAVED. — The beautiful old brick building known as the "Philipse Manor" now in use as the City Hall of Yonkers, New York, is likely to be preserved for posterity by the anonymous gift of \$50,000. Provision is made for The

American Scenic and Historic Preservation Society to have custody of the building. The old hall dates from 1682, and it is the most interesting architectural relic of the Hudson Valley. It was the seat of Frederick Philipse, Lord of the Manor of Philipseborough (now Yonkers), one of the five great English manors which succeeded the Dutch patroonships on the Hudson River after the conquest in 1665. During the English regime it was the



LOWER STORIES, HOME CLUB, NEW YORK CITY.
Tracy & Swartwout, Architects.
Built of brick made by Sayre & Fisher Co.

center of important social and political influences, and it is believed that Washington once paid court to the daughter of the house, Mary Philipse.

FIRE LOSSES. — The estimated loss by fire in the United States and Canada during July was \$18,240,150.00. During the seven months ending with that time the total loss increased 27½ per cent over the corresponding period of 1905, reaching a total of \$135,000,000.00, notwithstanding the fact that there was no serious conflagration during the first part of this year. Not all our contrivances for fireproof construction, for the handling of conflagration, for the diminution of the fire risk, have seemed to effect any reduction in fire loss, for the total loss has increased in a much larger proportion than the increase in the valuation of property. And this disastrous condition will be perpetuated just as long as individual greed is allowed to build as it pleases without regard to its neighbor, and until the time comes when fireproof construction shall be applied rigidly to whole sections rather than to isolated buildings.

IN GENERAL.

The following named architectural firms are now in competition for the new Post Office Building for New York



DETAIL BY NEWHALL &
BLEVINS.
Conkling-Armstrong Terra
Cotta Co., Makers.



CRESCENT ATHLETIC CLUB, BROOKLYN.
Frank Freeman, Architect.
Architectural Terra Cotta made by Atlantic Terra Cotta Co.



GARGOYLE EXECUTED IN FAIENCE
BY HARTFORD FAIENCE CO.

City: Carrère & Hastings; Cass Gilbert; Heins & LaFarge; McKim, Mead & White; Kenneth Murchison; Geo. B. Post & Sons; Whitfield & King. The judges are Messrs. Henry F. Hornbostel, Frank Miles Day, Edmund M. Wheelwright and James Knox Taylor. The competition closes March 25.

Ernest Farnum Lewis of Providence, R. I., is the winner of the first Traveling Scholarship in Architecture given by the American Institute of Architects. The Scholarship was founded this year and will be awarded annually. The competition is open to the graduates of all the architectural schools of the country. The winner of the competition is allowed \$1,000 per year for three years, which time is to be spent at the American Academy in Rome, and in European travel. Mr. Lewis was graduated from the architectural department of the Massachusetts Institute of Technology last spring. He is twenty-four years of age.

The Architectural League of New York will hold its twenty-third annual exhibition in the building of the American Fine Arts Society, 215 West 57th Street, from February 2 to 22 inclusive. The last day for the reception of exhibits is January 17. The annual dinner of the League will be held on Friday evening, January 31, at 7 o'clock. Exhibits will be discharged February 24.

The Syllabus, just issued by the Washington Architectural Club, is interesting as denoting an unusual amount of activity on the part of the members, individually and collectively. The annual report shows a large gain in membership, with an increasing interest in the work of the Club on the part of the members.

The Architectural League of America has established an Individual Membership for persons who are not members of the various clubs of the League, but who are interested in the study and promotion of architecture and

the allied arts and professions. Such persons shall be entitled to membership in the League with all the privileges pertaining thereto, except voting at the annual convention. They may participate in all conventions with the privilege of the floor. They are also eligible to compete for the Traveling Scholarship offered by the League, for Fellowships offered by several Universities, and shall receive *The Annual*, the official organ published and edited by the League, at the club rate of one dollar. The annual dues are two dollars. Further information and applications for membership can be secured by communicating with H. S. McAllister, Permanent Secretary, 729 15th Street, N. W., Washington, D. C.

The Committee on competitions and Awards of the Architectural League of New York proposes as the subject for the League competitions for the year 1907-1908 An Out-of-Door Swimming Pool and Pavilion. The three annual prizes offered by the League, together with a Special Prize, will this year be awarded for designs submitted under one and the same programme. This year's problem will thus not only present an opportunity for the work of architects, sculptors and mural painters who may choose to compete individually by submitting sketches respectively for the architectural, sculptural or mural portions of the programme, but



DETAIL BY H. C. KOCH & SON, ARCHITECTS.
Northwestern Terra Cotta Co., Makers.

will, it is hoped, induce the submission of complete schemes in which an architect, a sculptor and a mural painter will collaborate in competition for the Special Prize (\$300) offered this year for the best solution by such a combined effort.

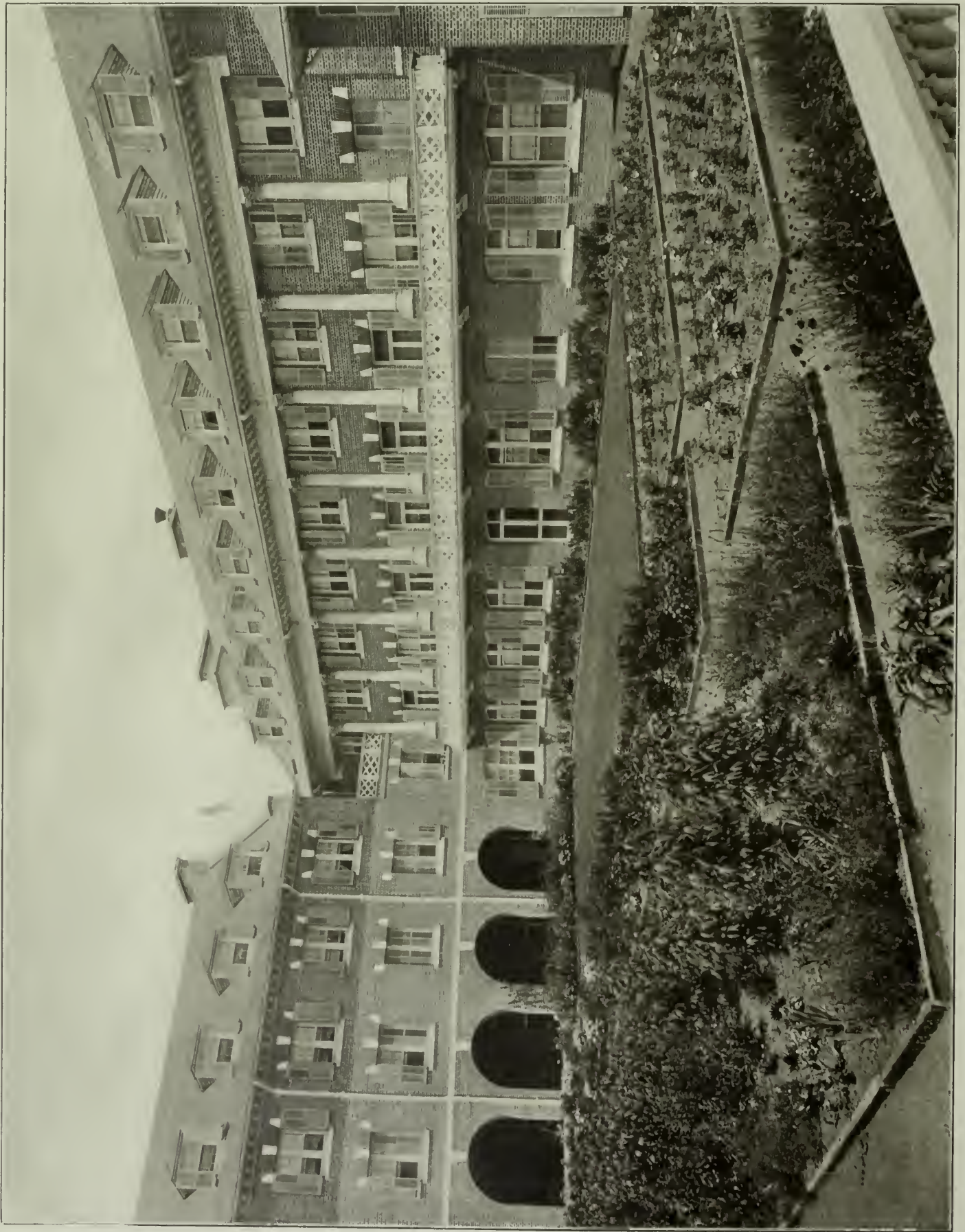
The architectural terra cotta used in the synagogue and the Margaret Morrison Technical School for Women, both located in Pittsburg, and the work of Palmer & Hornbostel, was executed by the Atlantic Terra Cotta Company. These buildings were illustrated in *THE BRICKBUILDER* for November,

Harry L. Dazey has opened an office in the Wilson Building, Dallas, Texas. Manufacturers' catalogues and samples desired.

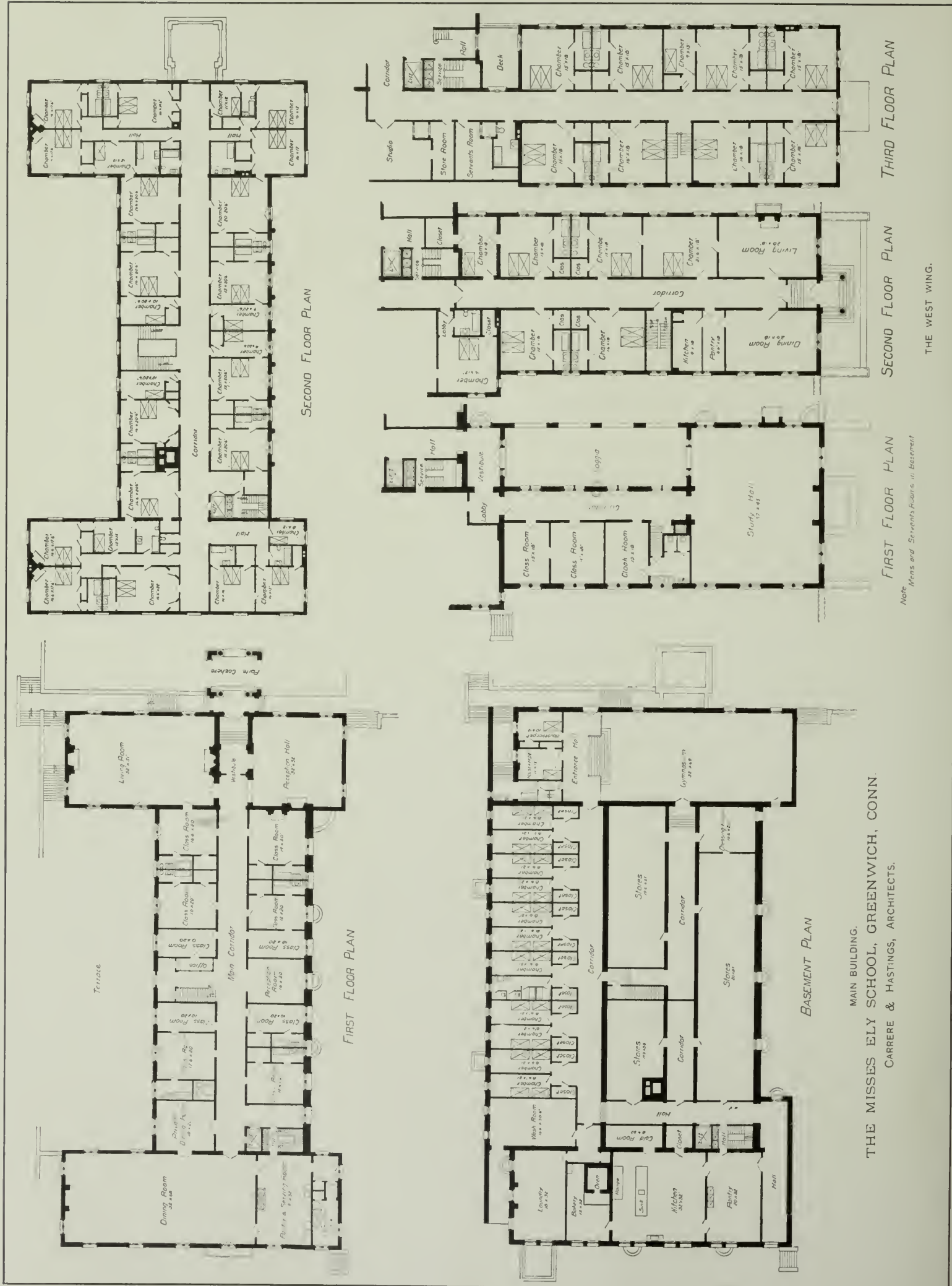
G. A. Edelsvard and E. W. Sankey, architects, have formed a copartnership for the practice of architecture. Offices, Peoples' Savings Bank Building, Seattle, Wash.



APARTMENTS, PRAIRIE AVENUE, CHICAGO.
William H. Pruyn, Jr., & Co., Architects.
Built of Brazil Gray Brick made by Hydraulic-Press Brick Co.



MAIN BUILDING AND WEST WING.
THE MISSES ELY SCHOOL, GREENWICH, CONN.
CARRERE & HASTINGS, ARCHITECTS.





FROM THE ENTRANCE AVENUE.



FROM THE RECREATION GROUNDS.
THE MISSES ELY SCHOOL, GREENWICH, CONN.
CARRÉ & HASTINGS, ARCHITECTS.



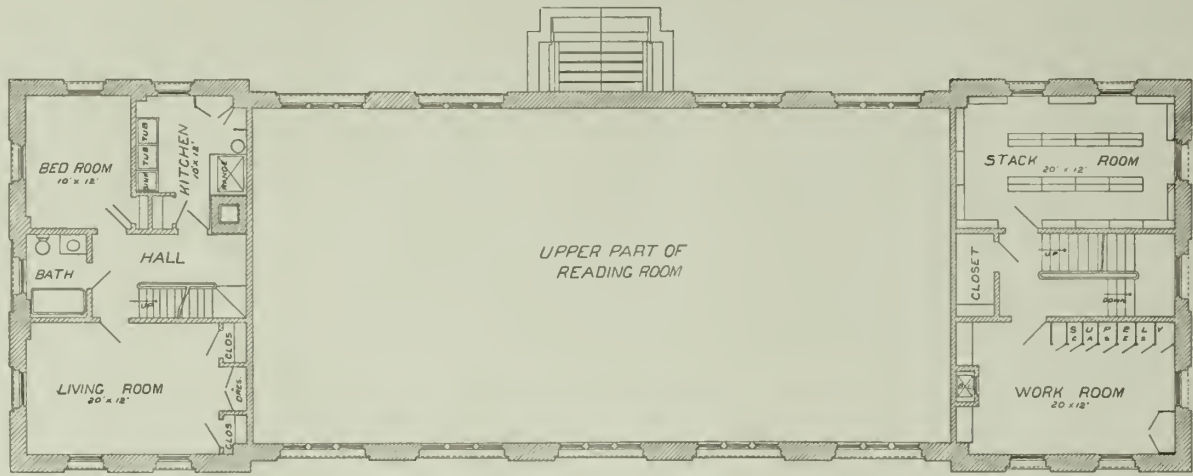
STREET FACADE.



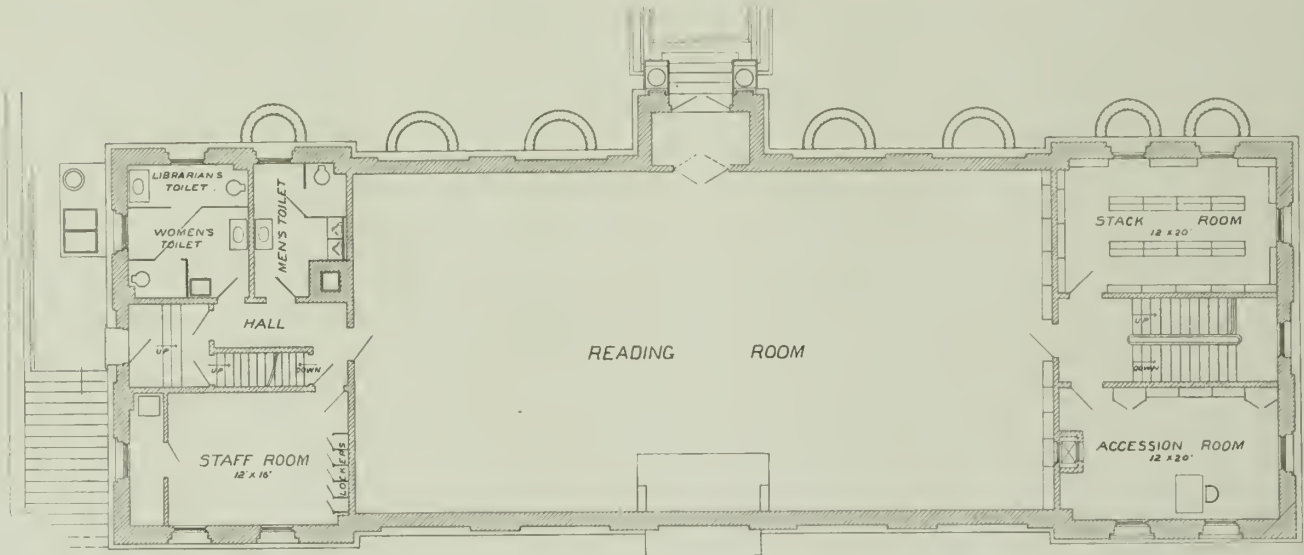
TERRACE FACADE.

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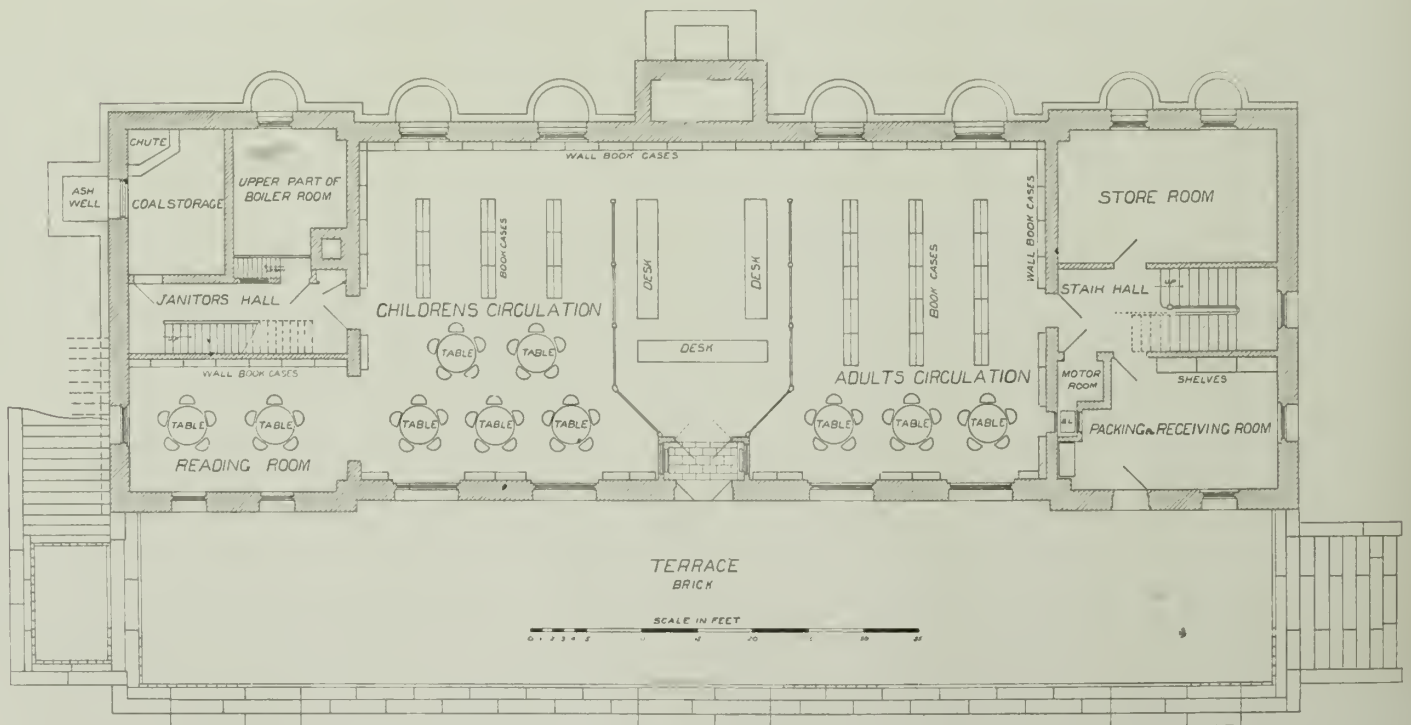
CARRÈRE & HASTINGS, ARCHITECTS



FIRST FLOOR MEZZ



FIRST FLOOR PLAN



GROUND FLOOR PLAN

ST. GEORGE, STATEN ISLAND, BRANCH OF NEW YORK PUBLIC LIBRARY.

CARRERE & HASTINGS, ARCHITECTS.



GENERAL VIEW OF PORTION NOW COMPLETED.
BLOCK PLAN SHOWN ON PAGE 222.



ACADEMIC BUILDING.
SWEET BRIAR INSTITUTE, SWEET BRIAR, VA.
CRAM, GOODHUE & FERGUSON, ARCHITECTS.



A PAVILION AT CORNER OF TERRACE.



REFECTORY BUILDING.

SWEET BRIAR INSTITUTE, SWEET BRIAR, VA.

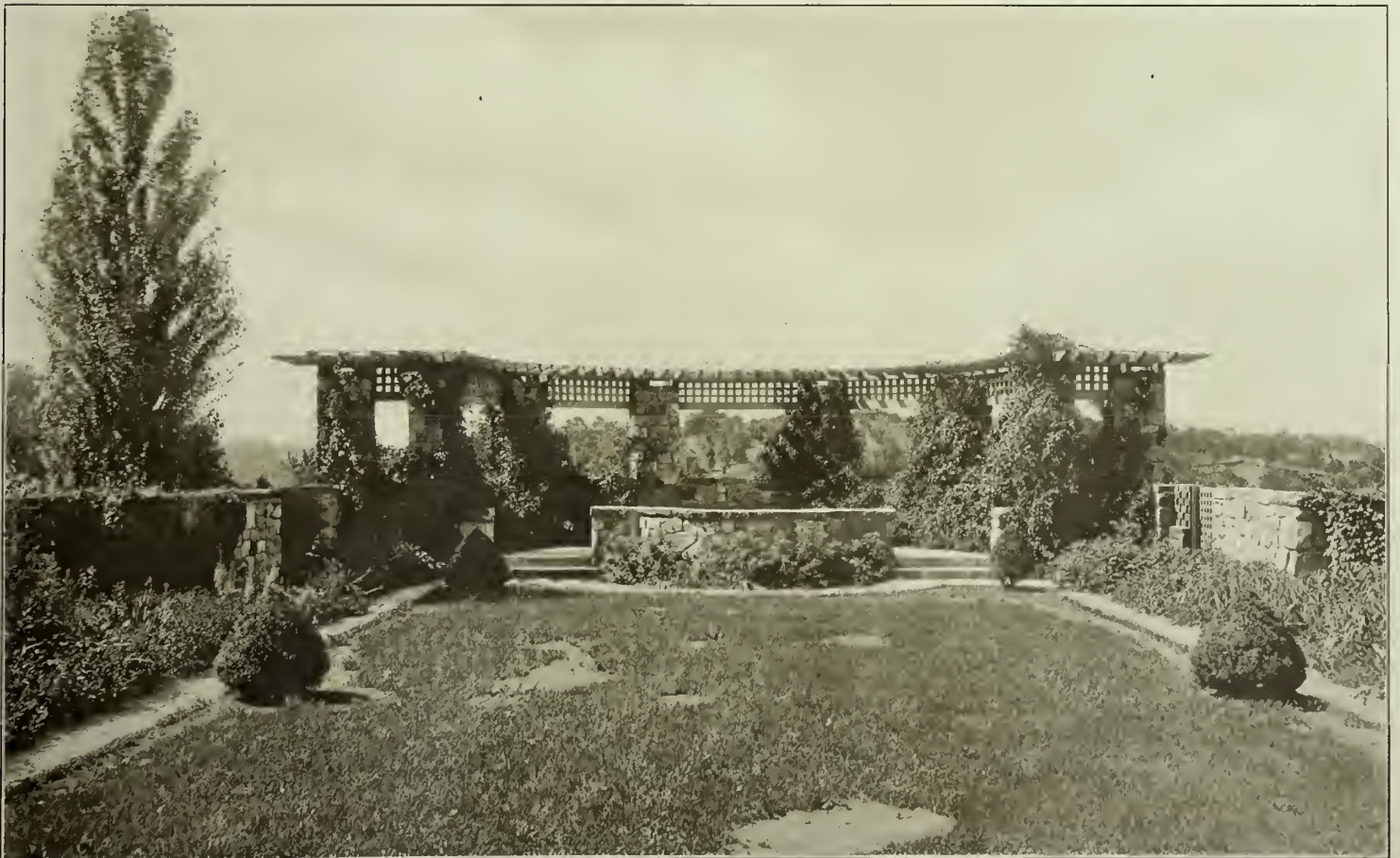
CRAM, GOODHUE & FERGUSON, ARCHITECTS.



VIEW FROM THE GARDEN.
HOUSE AT RIDGEFIELD, CONN.
GROSVENOR ATTERBURY, ARCHITECT.



ENTRANCE FRONT.



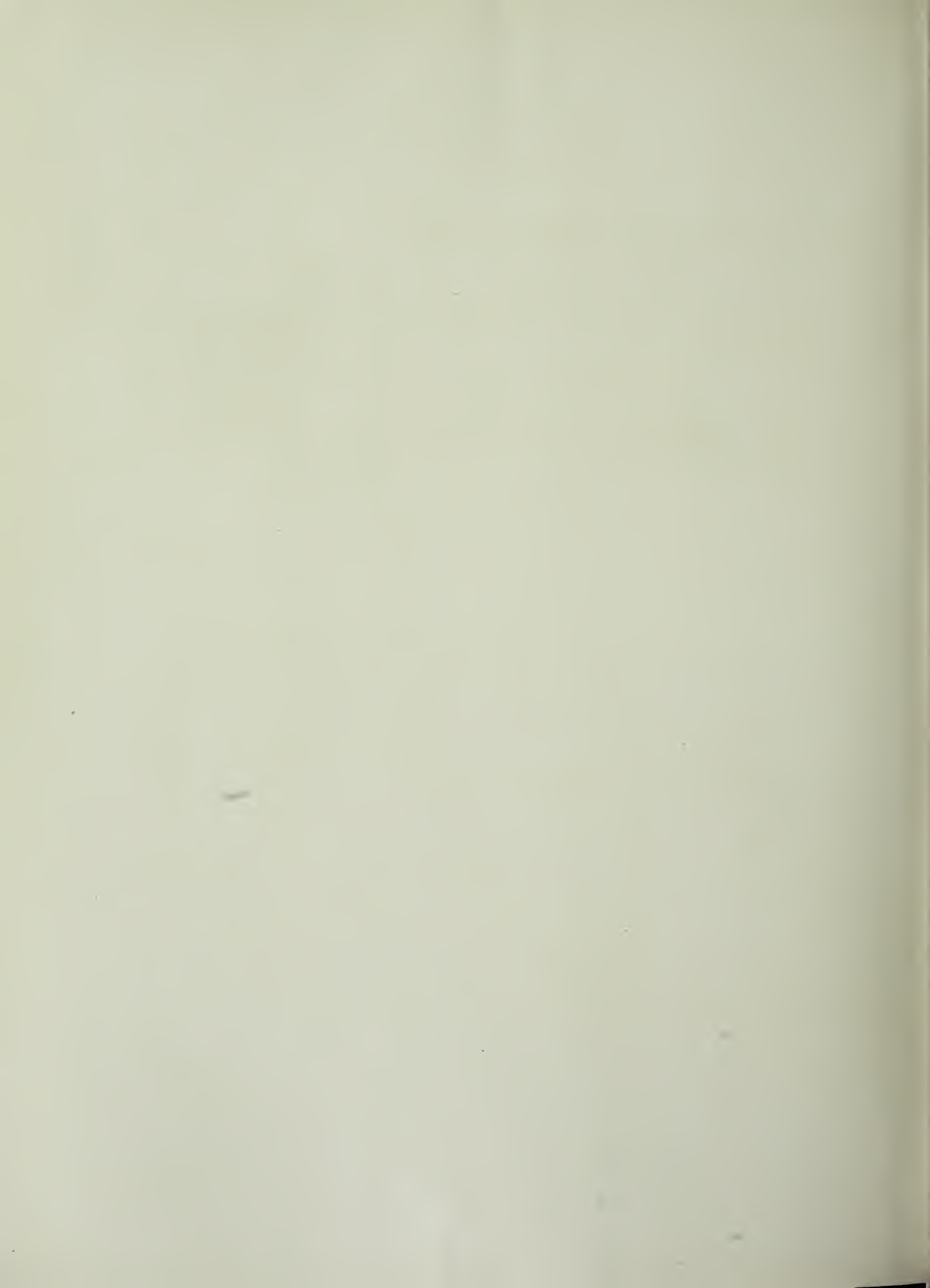
PERGOLA AT END OF GARDEN.
HOUSE AT RIDGEFIELD, CONN.
GROSVENOR ATTERBURY, ARCHITECT.



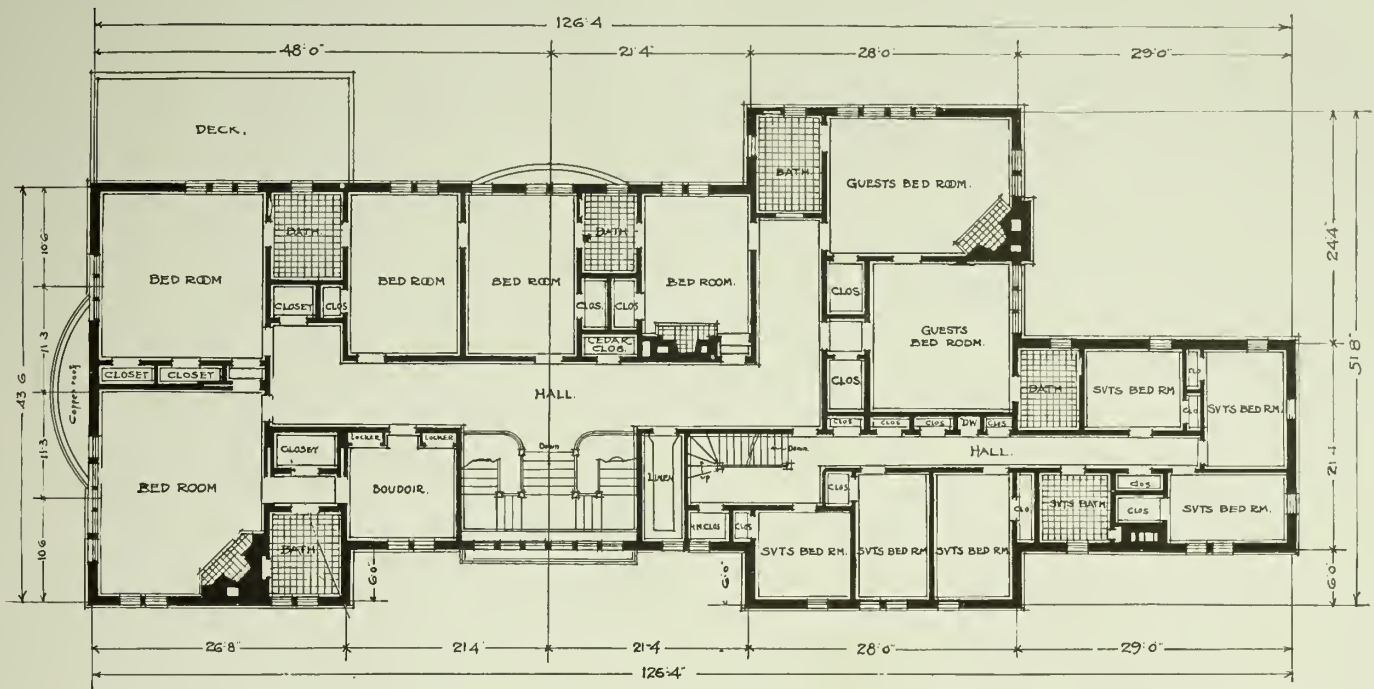


DETAILS, HOUSE AT RIDGEFIELD, CONN.
GROSVENOR ATTERBURY, ARCHITECT.





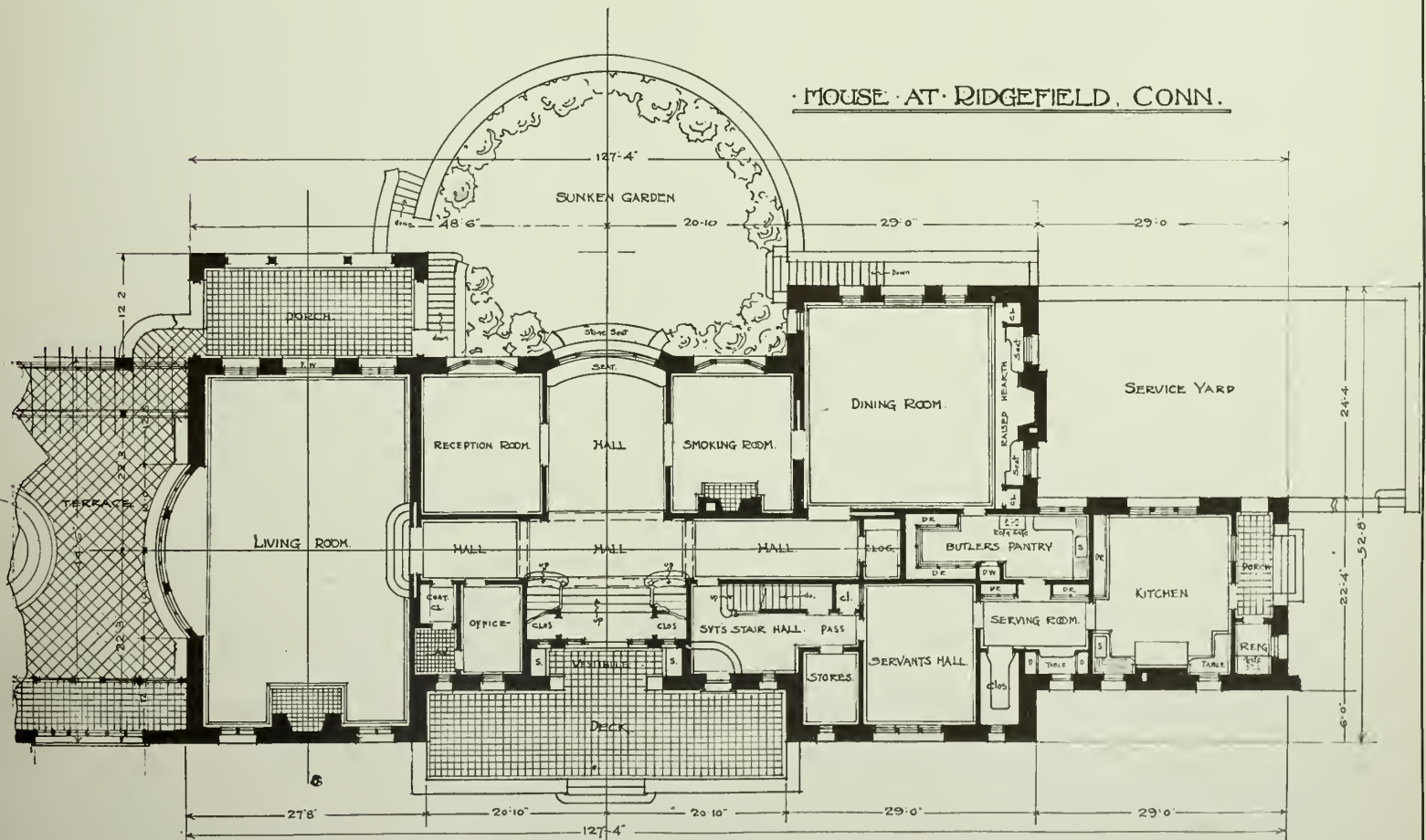
· HOUSE · AT · RIDGEFIELD · CONN. ·



SECOND FLOOR PLAN.

GROSVENOR ATTERBURY. FAIA;
ARCHITECT
20 WEST 43RD ST. N.Y.

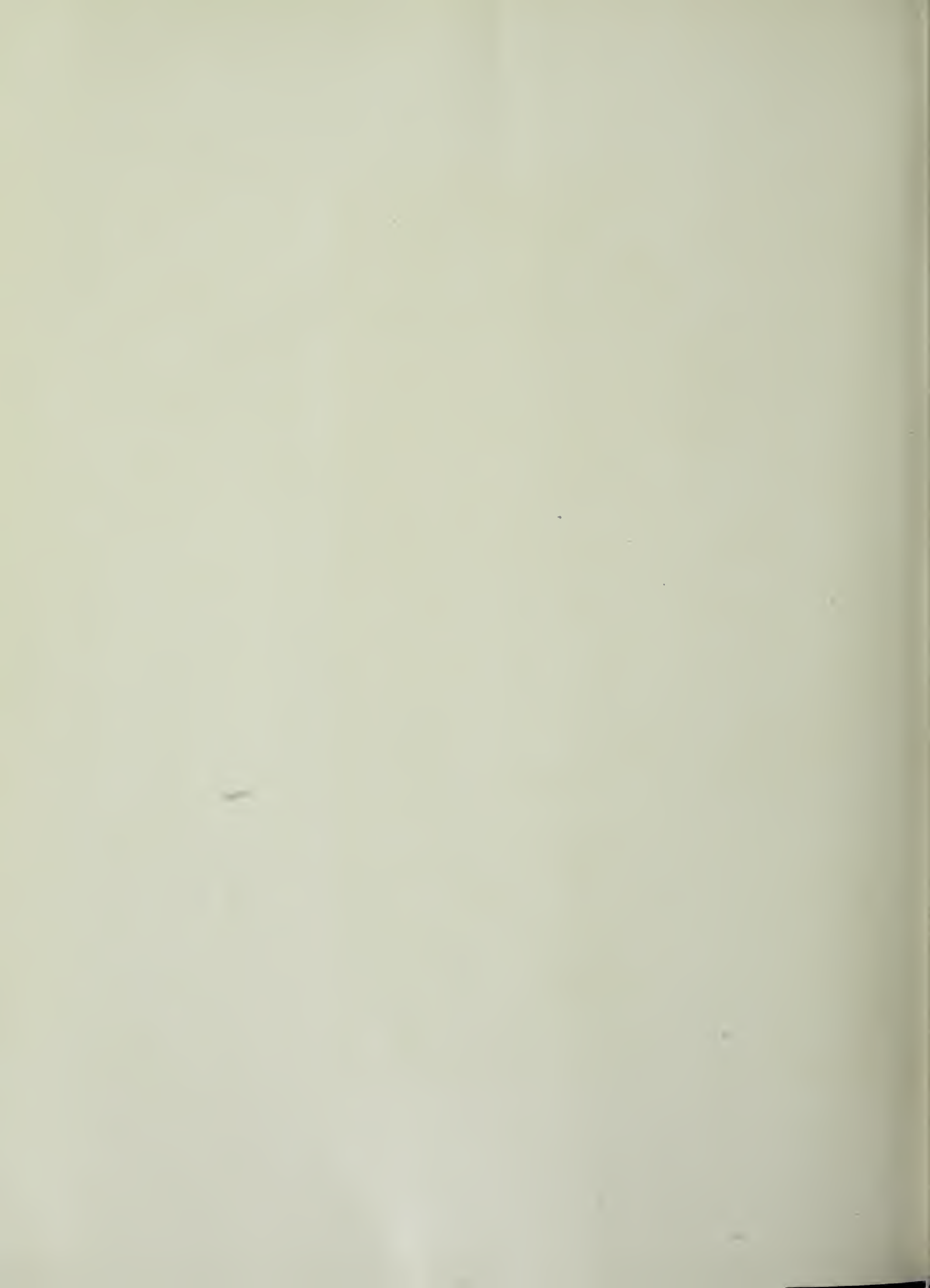
· MOUSE · AT · RIDGEFIELD, CONN. ·

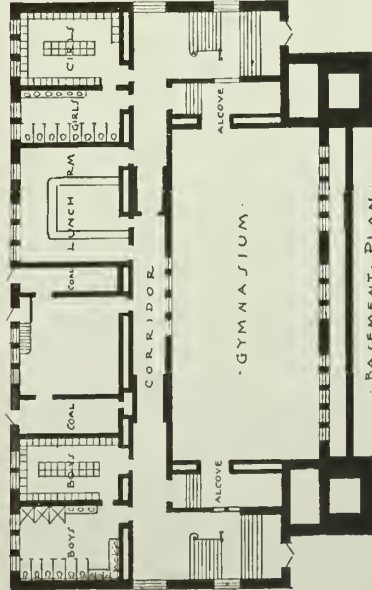
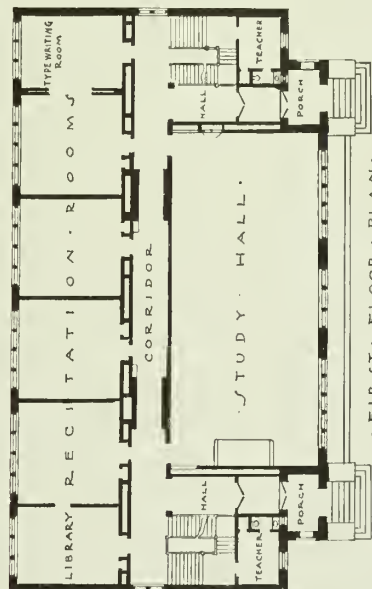
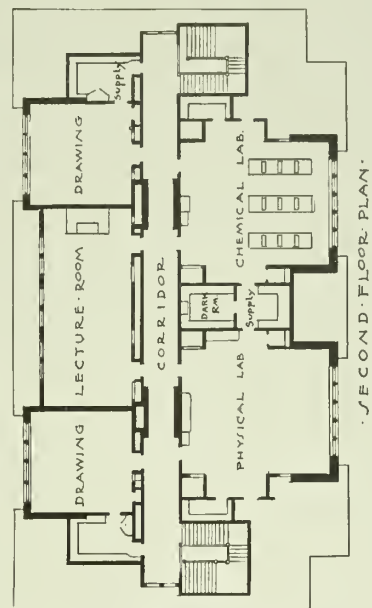


FIRST FLOOR PLAN.

GROSVENOR ATTERBURY F.A.I.A.
ARCHITECT.
20 WEST 43RD ST. N.Y.

HOUSE AT RIDGEFIELD, CONN.
GROSVENOR ATTERBURY, ARCHITECT.





HIGH SCHOOL AT WHITINSVILLE, MASS.
PEABODY & STEARNS, ARCHITECTS.



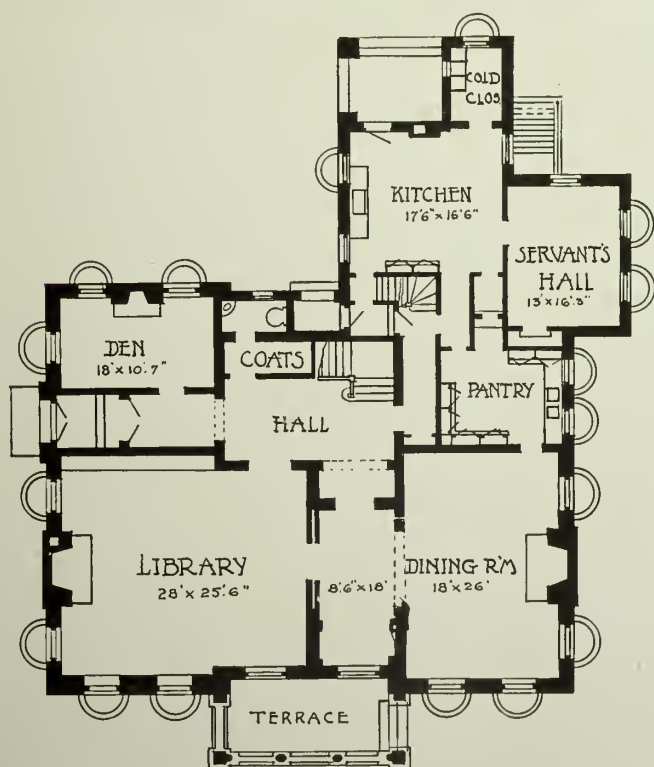


WALL ENCLOSING STABLE COURT.

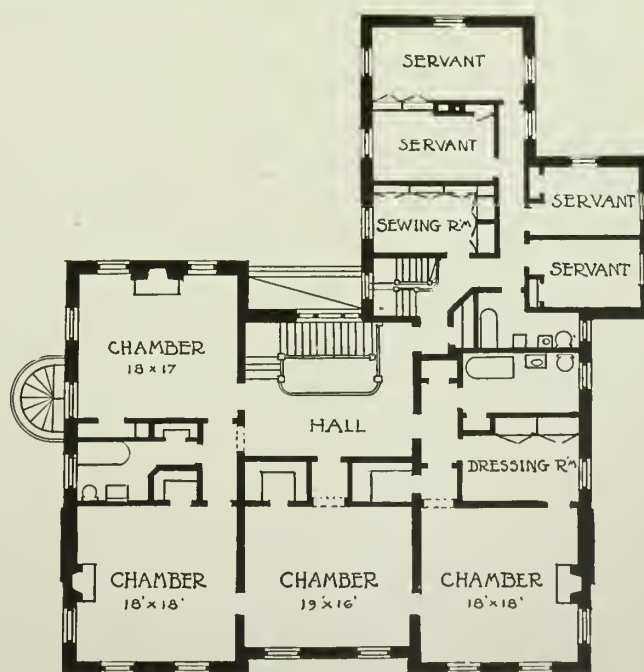


STABLE FOR DAVID K CATLIN, ESQ., ST LOUIS, MO
COPE & STEWARDSON, ARCHITECTS



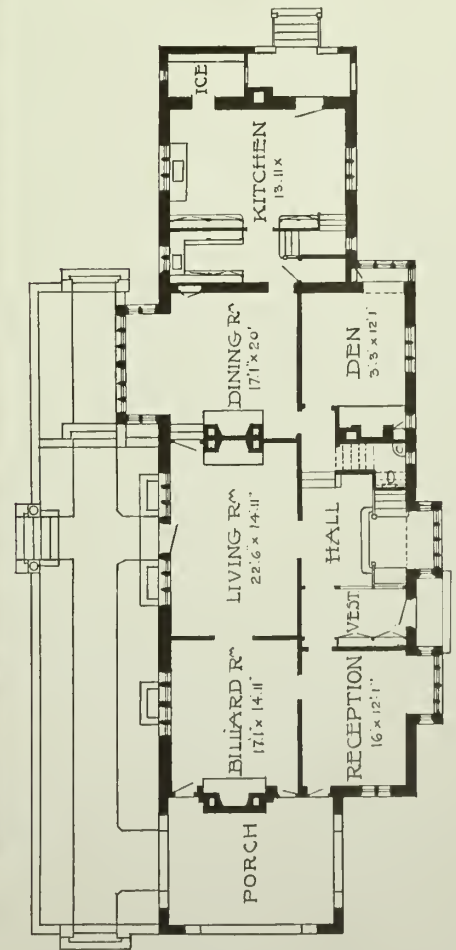


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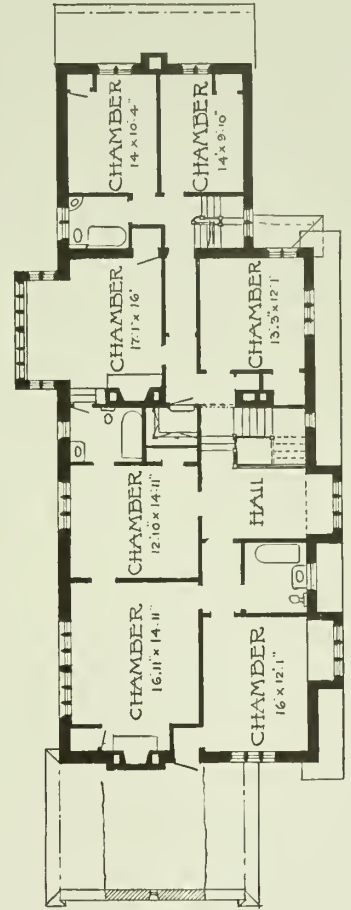


SECOND FLOOR PLAN





FIRST FLOOR PLAN



SECOND FLOOR PLAN

HOUSE FOR JACOB E. HEYL, ESQ., WYNNWOOD, PA.
FRANK MILES DAY & BROTHER, ARCHITECTS.





HOUSE FOR JACOB E. HEYL, ESQ., WYNEWOOD, PA.
FRANK MILES DAY & BROTHER, ARCHITECTS.

