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The AMERICAN ARCHITECT AND BUILDING NEWS

Regular Edition

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No 1650

EDITORIAL SUMMARY:

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An Architectural Bull against Tobacco—An Attempt to Encourage
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University, Chicago, Ill.—Doorways to the Ryerson Physical and
the Kent Chemical Laboratories, Chicago University, Chicago, Ill.

ADDITIONAL PLATES (International Edition):

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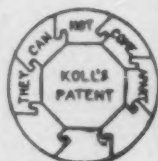
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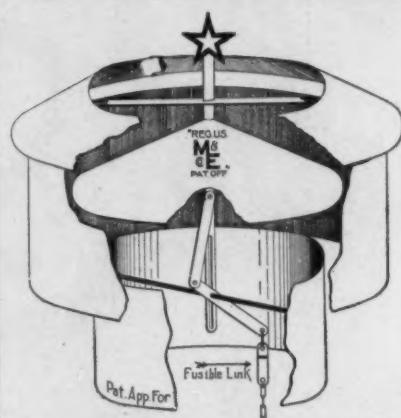
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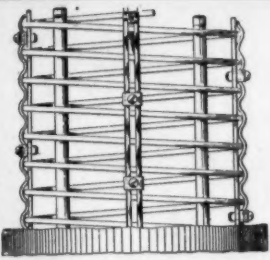
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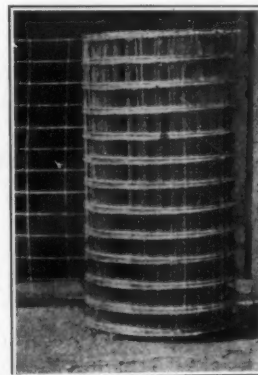
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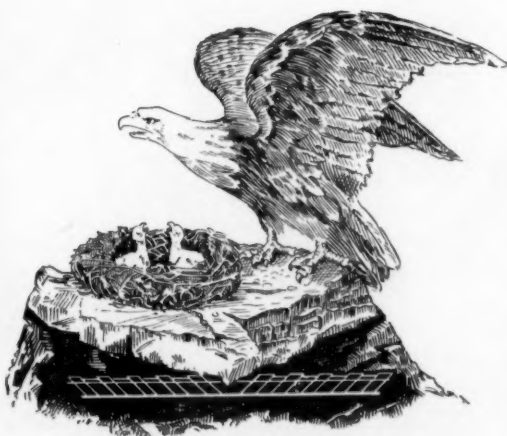
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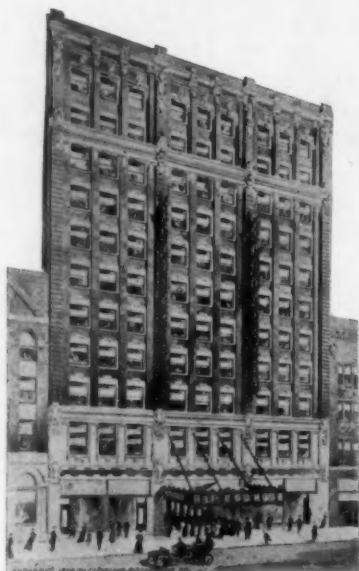
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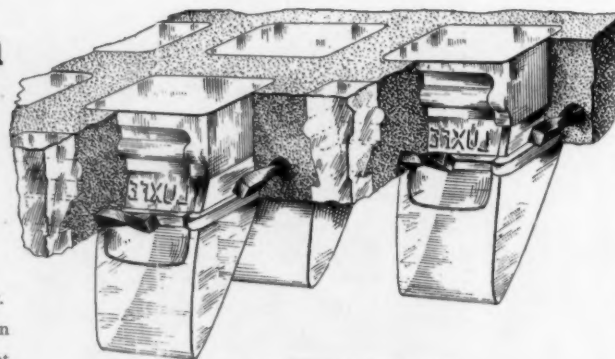
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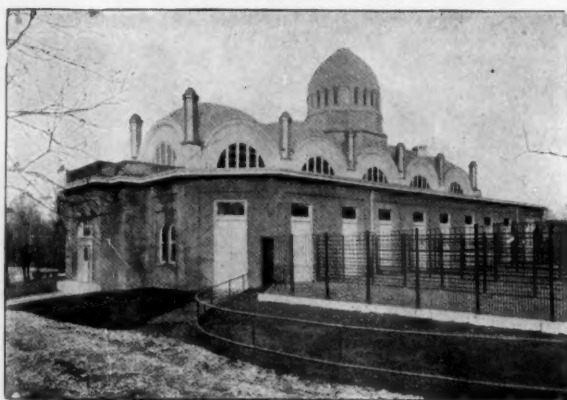
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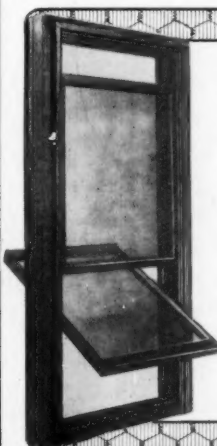
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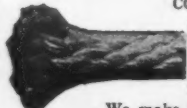
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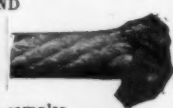
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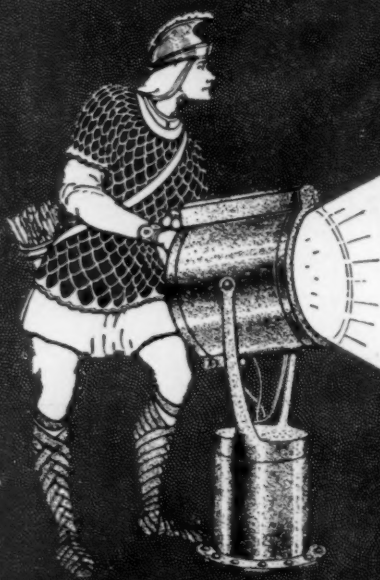
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SOCIETIES, PERSONAL MENTION, ETC.

IT is a great misfortune for American Art that the native modesty of American artists of every kind should have, in recent years, been so bewrayed by the ill-judgment of unbalanced critics and the ordinary penny-a-line writer for the magazines, who shower on each and every artist who possesses even mediocre ability all the adulatory adjectives and adverbs that the English language—and some others—provides. It can, however, safely be said that Augustus Saint Gaudens, who died last week, early in his fifty-ninth year, more nearly than most deserved the praise that has been bestowed on his work during the last twenty-five years, and yet we wonder whether each of his avowed admirers will take the trouble to procure and cherish one of the artist's masterpieces, as it will soon be possible for him to do in the shape of one of the new eagles or double-eagles designed by Saint Gaudens and forming a part of the new coinage now being minted. Born in Dublin, of mixed Irish and French parentage, he was brought to this country as a mere infant, and so was without question a product of American civilization, and to a large degree of American education; for, though he studied in Paris under Jouffroy and later modelled some of his work on the other side, he has not felt the need of expatriating himself for the sake of his art, as so many other artists have. Perhaps for this reason he has arrived at a better understanding of the American types, both physical and characteristic, than most artists have, and consequently his work appeals understandingly to the senses of the common herd with the force of homely familiarity, while the better instructed can appreciate the consummate technical skill that has

known how to catch and solidify those characteristic expressions that are so elusive and yet so identifying.

CONSIDERING the large amount of work for private clients in the way of portrait bas-reliefs, busts, medals, decorative inscriptions and some statues done by Saint Gaudens throughout his life, but mainly in his earlier years, the number of his public statues is on the whole large for so conscientious a worker, and in themselves alone they prove how simply and persistently the sculptor devoted himself to his work. It is New York's fortune to possess several of these public statues, one, among the best as well as earliest of his product, the "Admiral Farragut," on Madison Square, while another, the "General Sherman," on the Plaza, which better deserves in these days of regulated street traffic the name of the "Female Cop," is, like all of the sculptor's equestrian work, unsatisfying. The best that can be said of it is that it is rather better than the "General Logan," at Chicago. As to the monument to Colonel Shaw, in Boston, admirable as in many ways it is, it gains much attention and applause through the mere unusualness of the conception, which combines in a single composition figures in the round, in high-relief and in low-relief; but the horse is not happy, and the allegorical figure floating in the sky above the martial group—representing nobody knows just what or whom—is, in the eyes of many, a distinct blemish. But the artist who could turn the awkward figure of Abraham Lincoln into the very embodiment of dignified American manhood, self-reliant yet conscientious, as at Chicago, the sculptor who could show how grief, too often disordered and blear-eyed, may be poetized, as in the case of the figure in memory of Mrs. Adams in Rock Creek Cemetery, Washington, has made a satisfying reputation that will endure for all time. The sculptor, although his work was hindered by the burning of his studio two or three years ago, left a large amount of work in various stages of execution, some of it so far advanced, as in the cases of the Phillips Brooks statue, the figures for the entrance to the Boston Public Library, and another Lincoln for the Creerer Library at Chicago, that his able assistants will be able to complete and deliver the work.

IN the course of his address on the use of the English language, delivered recently before the Technological Society of Kansas City, an address from which we lately published an extract, Mr. John Lyle Harrington narrates that he knows one contractor "who has grown gray in the business of constructing buildings, who has never completed a contract without a lawsuit, and who has never lost a lawsuit!" As these suits seem to have turned often, if not always, upon the interpretation of the language used in building contracts and specifications, and as the contractor seems never to have been non-suited, his knowledge of English as it should be written is so unusual that he might properly be called to fill the English chair at some Western college or technical school. Everybody knows that "specification English" is *sui generis*, but generally it is sufficiently clear for the purpose

and legally intelligible. If, however, this contractor was often called upon to follow specifications such as the one the following instructions are found in, we do not wonder he had to resort to law in defence of his omissions or his commissions. Says the specification in question, among other things: "All work to be done in a neat and skillful manner, and is to guarantee the construction and workmanship with a bond equal to amount of tender for a term of five years, satisfactory to the proprietors and the architects, to properly carry or support the loads it is designated to carry, namely, its own weight, the weight of the several floors, roof and walls resting thereon, a 10,000 gravity tank and the pressure of any wind which may not be designated a hurricane, and future three stories." This gem is found in a specification for a building to cost one hundred thousand dollars, and was engendered by "an architectural firm of some repute."

THE legislation that has been had in several Western States forbidding, or sometimes only restricting, the use of tobacco, especially in the form of cigarettes, must be classed as sumptuary legislation, and sumptuary legislation has, since the world began, been particularly obnoxious, and in consequence short-lived in its constraining effect. Undeterred by these historic facts, a firm of Philadelphia architects is reported to have undertaken a little sumptuary legislation on its own account, and, for one of the buildings it is about to erect, has framed a law that "no smoking or tobacco-spitting will be allowed during the progress of the work" under pain of "instant dismissal by the architects," and as the area affected and the term are not expressed, our purist contractor could find here a chance for another lawsuit, which an American jury would surely decide in his favor. In the old days, when the chewing of tobacco was the habit of practically every American mechanic, a habit now, happily, nearly obsolete, it was common for architects to caution both contractors and workmen not to spoil upper flooring and standing-finish with tobacco-juice, and friendly cautioning was all that was needful. In these days of prideful trade unions, we should suppose that this edict against tobacco-users, if actually promulgated and enforced, might lead to an annoying series of strikes.

AMONG the very earliest settlers in this country, the Swedes for nearly three hundred years have been esteemed here as holding high rank as desirable citizens among the immigrants that are brought to this country, and, being such good material, it is rather strange that until now more effort has not been made to keep them at home. The inquiry that has just been set afoot by the Swedish Government, who seek to learn by a series of searching questions why it was that the Swedes now resident in this country ever left home, whether they are now satisfied the move was a good one, what in American manners and customs peculiarly appeals to them, and what changes must be made in manners, customs and laws at home before they can be induced to return and take up life in Scandinavia once more, promises to produce some curious and interesting information; but whether it will have the effect the Swedish Government

evidently desire is extremely doubtful. The inquiry would be interesting at any time, but coming just now, after our Department of State has had to issue a new set of rules that define the right to American citizenship of foreign-born persons residing permanently abroad, it has a bearing on a very wide subject. The issuance of the new rules we speak of is due to the fact that certain foreign governments have discovered, through experience, that when their own one-time citizens return to them in the guise of good Americans, to take up the round of life where they were born, they are anything but desirable citizens. And yet, here is Sweden deliberately seeking to beguile back to itself a class of citizens who in other countries have been found undesirable because they have imbibed misunderstandingly what they conceive to be the essence and principles of American citizenship.

THE levelling process of thought and action is going on throughout the world so rapidly, under the operation of natural laws and individual fancy, that one hates to picture it making greater progress through governmental pressure, such as is hinted at in this Swedish investigation. It would be tiresome in the extreme, if we may suppose that this retrograde hegira could ever take place, for the American architect touring in Sweden to be confronted with American skyscrapers, reinforced-concrete packing-boxes on end, Beaux-Arted apartment-houses, department-stores like Roman palaces, school-houses like bad dreams of an Oxford quad, and churches in which the all-important elements are a swimming-tank and a gymnasium. One can endure these things now at home, for there is a chance to get away from them and, in a trip abroad, discover that architecture really may be an art based on purpose and feeling, and not a mere matter of stage scenery that is meant to last only so long as the play can be made to run. If all our immigrants having made their fortune in this country should, after the Chinese fashion, return to their native countries, the political turmoil that would inevitably ensue would be as nothing when compared to that that must take place in the arts.

IT appears that the P'ung-duk Pagoda raped from Seoul by Viscount Tanaka was not intended for that gentleman's private delectation, but has been set up in the Imperial Museum in Ueno Park, Tokio, and so stands precisely on the same footing as the Chinese astronomical instruments now at Potsdam. It appears, too, that the Japanese say it was removed from Seoul because the Koreans did not appreciate it, but allowed relic-hunters to break off and carry away bits of the carving. Hence it stands now in the same category with the Elgin marbles in London. On the other hand, it is said, in contradiction of the story that the pagoda was transferred voluntarily to the Japanese, that when Viscount Tanaka undertook to thank the Emperor of Korea for the gift, the latter informed him that he had made no such gift! Nevertheless, the pagoda has been transported, and the Japanese seem to feel not a little aggrieved that, though they have only followed good Occidental example, they seem to have excited a good deal of ill-natured criticism in different parts of the world.

Reinforced Concrete Building Construction¹—II

MR. LEONARD C. WASON.—The writer has been much surprised at the great amount of factory work that is done at the present time in reinforced concrete. A great many inquiries in regard to such construction have been received and more than half of all his work is of this kind. The most encouraging point is that the initiative has in every case been taken by the manufacturers themselves, who have recognized the merits of concrete and desire to use it. The fact that it is being used for all sorts of mill purposes shows very clearly that it is a question of economy rather than of mere adaptability to some particular type of factory work. It is used in textile mills, where there are light loads and rapidly-moving machinery, which is the hardest type of mill construction to meet in price.

In considering the design for reinforced concrete buildings, the design of contraction-joints in walls will be first taken up. In early buildings, before there was much experience, very little steel was used in walls or floors to resist contraction, and they used to crack. Therefore the practice of using contraction-joints was followed. In early work, fourteen years ago, these were placed at intervals of about 25 ft. As further knowledge was gained, more steel was used and fewer joints, until at the present time there are no limits. The Harvard Stadium, which is 1,430 ft. around, was built with joints that were not expected to open, and only two have opened. A factory now building, 377 ft. long, is tied together from end to end without any joints whatever, the method being to use sufficient steel within its elastic limit to entirely exceed the ultimate tensile strength of the concrete at each section. In this way the steel prevents the concrete from cracking, but the steel has to be placed quite close to the surface to be effective. It is necessary to place it within an inch and a half of the surface to be protected, and the bars must be not more than ten inches apart, otherwise the concrete is liable to crack.

Walls may be considered under two general types, with subdivisions in the design of each. The most economical is to build piers to support the floor, the floor between piers being sufficiently strong to support a curtain-wall. This curtain-wall is filled in after the piers and floors are completed, either with thin monolithic construction or hollow blocks. This curtain-wall is bonded into a groove left in the piers to receive it. The other general type which gives the most durable and substantial construction, but is somewhat more expensive, due to the cost of centering, is to build the entire wall monolithic at one operation, the wall being of uniform thickness and solid throughout, or cored to form air-spaces between windows and where there are no concentrated loads. These cores can be of such size that the shell outside of core is not less than three inches thick. Such walls could be thoroughly tied together horizontally to prevent shrinkage, as above stated.

In the construction of separate footings, the octagonal is preferable to the square. It is very simple to design and build. To center, take four boards, nail together to form a square; nail another of the right length across each corner, and the octagon is obtained. The steel is placed in four directions. Every bar is of the same length and, therefore, all work with the same stress under the center of the pier. It is possible to use quite shallow piers; that is, the depth can be one-third of the projection beyond the edge of the column base, but this is not always wise. A depth equal to one-half the spread is a perfectly safe figure to use; that is, the depth from the bearing of the column base to the average depth of the steel is one-half of the projection of the concrete beyond the edge of column base. There should be at least 3 in. of concrete below the lower layer of bars to properly embed them and protect them from corrosion. If the size of these bars exceeds 0.75 in., the amount of the concrete below should be equal to at least four diameters. Where footings are placed in wet ground, as an extra precaution it is wise to use a mixture of 1:2:4, which is in itself waterproof, although concrete is such a good protector of steel from corrosion that, even in damp places, if a rusty bar is thoroughly embedded, in a month it becomes bright. It is economi-

cal to use a large bearing-plate under the column, as thereby the stress of the cantilever may be reduced and a saving in cost effected which is greater than that added by the extra size of base. Directly under the column the concrete is subject to cubical pressure and can, therefore, be loaded to almost any amount with safety. It is necessary to consider only the compressive stress of that portion projecting beyond column base in order to resist the compression from the cantilever action. In a footing of the character here described the shear in concrete can be practically neglected, because the shearing stress will always be low.

Columns may be built of concrete, or of a combination of steel bars and concrete working together, or as steel columns encased in cement. The use of all-concrete, using a rich mixture to increase the strength, is the best method, this being the cheapest form of reinforcement possible. One part cement to one part of crushed stone, with a working stress of 1-200 lb. per square inch, can be used. Tests made at the Watertown Arsenal indicated that at the end of one month the ultimate compressive strength of such a mixture would be at least 5,000 lb. per square inch, and therefore 1,200 lb. would be perfectly safe. Of course, using this method implies that considerable care must be exercised in mixing and placing. On large work which is being executed rapidly, without this care it might happen that the wrong mixture would be used in a column. This, of course, would be dangerous; but no practical difficulty has been experienced in changing mixtures and seeing that special batches were placed where wanted. Of course, it is necessary to carry a mixture right through the thickness of a floor as well as through the column. This can be easily done by placing vertical boards in the girders and beams meeting at the column, filling the rich mixture inside and the floor mixture outside, afterward drawing out the boards while both mixtures are still wet and are filled to the same level. In columns designed for concrete to sustain the entire load, use vertical steel in the piers only as a safeguard against possible eccentric loading or flexure and to obtain a rigid joint with the floor. If rich mixtures are carried to an extreme, columns might be too small in cross section. It is unwise to make any column 9 or more feet long less than 10 inches square.

When the load is divided between steel of any section and concrete, the stresses are distributed in the proportion of the moduli of elasticity of the two materials. Taking the ratio of the modulus of elasticity of steel to concrete as 10 and the working stress of concrete as 500 lb. per square inch, which corresponds to a mixture of 1:2:4, gives only 5,000 lb. per square inch as the compressive stress in the steel. With richer mixtures the ratio is less while the stress is higher, and the result is but very little different.

After concrete has set for a month it begins to shrink, and continues to for about six months, when it reaches its limit. During the first month the adhesion between the concrete and the steel becomes considerable, although it does not reach its maximum strength. The above-mentioned shrinkage when the concrete is exposed to the air on all sides amounts to 0.015625 in. to 0.03125 in. in length of 12 ft. Taking 0.024 in. as an average shrinkage, this shortening is equivalent to that produced by a stress of 500 lb. per square inch. As this exceeds the tensile stress of concrete, this latter stress, being about 300 lb. per square inch, may be taken as a force-producing compression in the steel, and by the reaction of the steel producing tension or reducing compression, as the case may be, in the concrete. It is on account of this reaction of the steel producing tension in the concrete that the tensile stress is used rather than the larger force, which would produce a shortening equivalent to 500 lb. per square inch. This tensile stress multiplied by the ratio of the moduli of elasticity would permit an additional stress in the steel of 3,000 lb. per square inch, and when combined with the load a total stress of 8,000 lb. per square inch, and in the concrete an apparent stress of 800 lb. may be used, which in reality, however, is only the 500 first mentioned.

In the actual construction of a building the concrete has about a month to set before any considerable portion of its ultimate load is brought upon it, no matter how rapidly the structure may be erected; and, as a well-designed structure should carry its maximum load when a month old, the above allowance of stress is legitimate and safe.

¹An informal discussion before the Boston Society of Civil Engineers at its meetings held September 19 and October 5, 1906, published in the "Journal" of the Association of Engineering Societies for June, 1907, here continued from page 37, No. 1649.

The adhesive bond between steel and concrete is at least equal to the tensile stress. In some experiments it has been found to be very much greater. This is sufficient to transmit from the concrete to the steel, in the thickness of a floor, the increment of stress the steel must take through the story below. Thus the concrete is not overloaded in transmitting the stress from a floor to the steel in the column below. The bars should be faced and set on top of each other, being held in position by a sleeve. When bars are lapped, as is sometimes done, at the top of the splice, the concrete must take more than its proportion of the load coming upon the column in order to transmit to the lower bars in the length of the splice that portion which they are expected to sustain. Through the length of the splice the concrete is receiving more than its allowable working stress. This method of design is in somewhat common use, but it is not a safe method unless the concrete can carry a large part of the total load, and when it can the steel is of little value.

By increasing the size of the footing so that its cross-sectional area is more than equivalent to the area that would be required if plain concrete were used to carry the entire load of column, and by making it deep enough to absorb by adhesion the load carried by the steel, a bearing-plate may be omitted at the bottom, but this style of footing is expensive. It is always better to use a base plate of sufficient size to distribute the load from the steel bars over the footing. It can then be made shallow, as is usual, and economy results. In the Ingals Building, in Cincinnati, the columns in basement were about 34 in. by 45 in. in section. Near the center were two bars 4 in. in diameter and four bars 3.125 in. in diameter to assist in carrying the compressive load. Near each of the outer and inner faces were five 1-in. square twisted steel bars to resist possible flexure and to make a rigid bond between column and floors, in order to resist flexure due to wind pressure. The load to be sustained was 1,550,000 lb. A cast-iron base-plate was used having a planed seat for each of the six large bars and enlarged to a bearing area on the footing of 4 ft. 10 in. by 4 ft. 7 in. This base-plate weighed over a ton. It is better to have a few big bars near the center than many small ones near the surface when they are designed solely to carry a compressive load.

By actual tests, conducted with care at various testing laboratories, it has been demonstrated that the steel does not sustain as large a load as might be expected from the above discussion. In a large enough number of cases to form an average, the columns carried but slightly more load than plain columns of the same dimensions and identical mixture. These tests indicated that the reinforced columns were not enough stronger to justify their use from an economical standpoint.

The combination of structural steel and concrete can be illustrated by describing one actual design. In a seven-story warehouse the roof and upper three stories were carried by concrete alone. In order to avoid too large a size, a structural steel column was used from this point to the ground. Two stories were carried by the steel work entirely. The two lower stories were carried entirely by the fireproofing of the steel, which in this case was made a little heavier than would be necessary for mere fireproofing purposes. Let it be emphasized that the two lower stories were entirely independent of the steel column within. This result was obtained by using countersunk head rivets to produce as smooth a surface as possible, and by covering the steel with a jacket which was sufficient to prevent any bond between it and the surrounding concrete, and to permit either to compress independently of the other. In construction the steel columns were first erected, the casing concrete of basement was put on, first floor cast, the jacket continued and the second floor cast. In the third and fourth stories the covering was for fire-protection exclusively, and, so far as the design was concerned, could have been omitted until the building was nearing completion. This method reduced the amount of steel required, because the two lower stories were supported independently, while the concrete jacket was but little larger than would have been used any way for fire-protection. A net saving thus resulted without an unreasonable size of column in the lower stories.

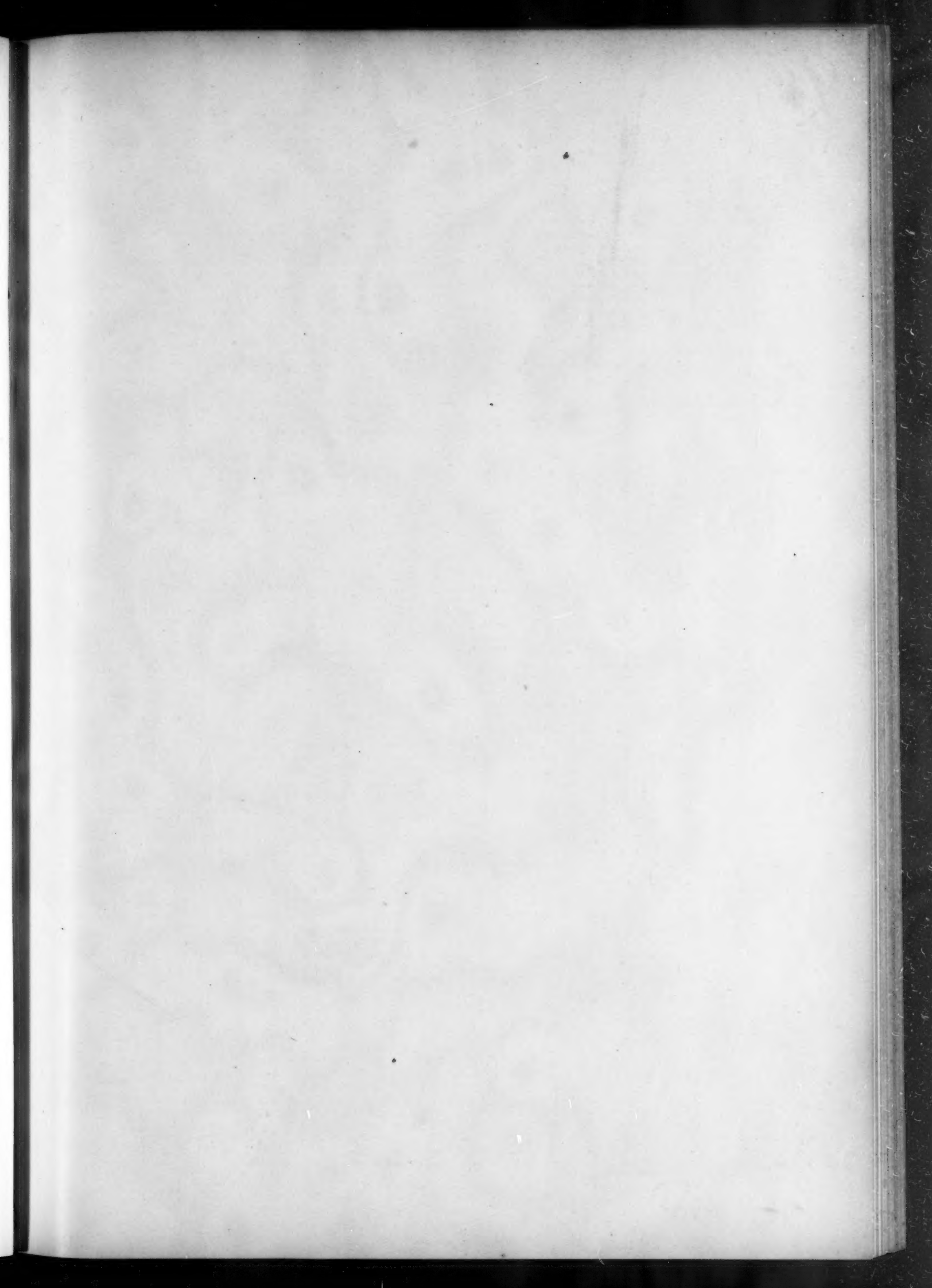
Hooped concrete columns are of little value, and should never be relied upon in ordinary designs. In order to get the value of the hoops the concrete must be compressed a considerable amount in order to cause a measurable lateral expansion, and when it has been thus compressed the safe working stress has been greatly exceeded, which is not a wise thing to do. Hooping should only be used as an added factor-of-safety to provide against occasional unusual heavy loads, which last for a short time only, in places where a large column cannot be used.

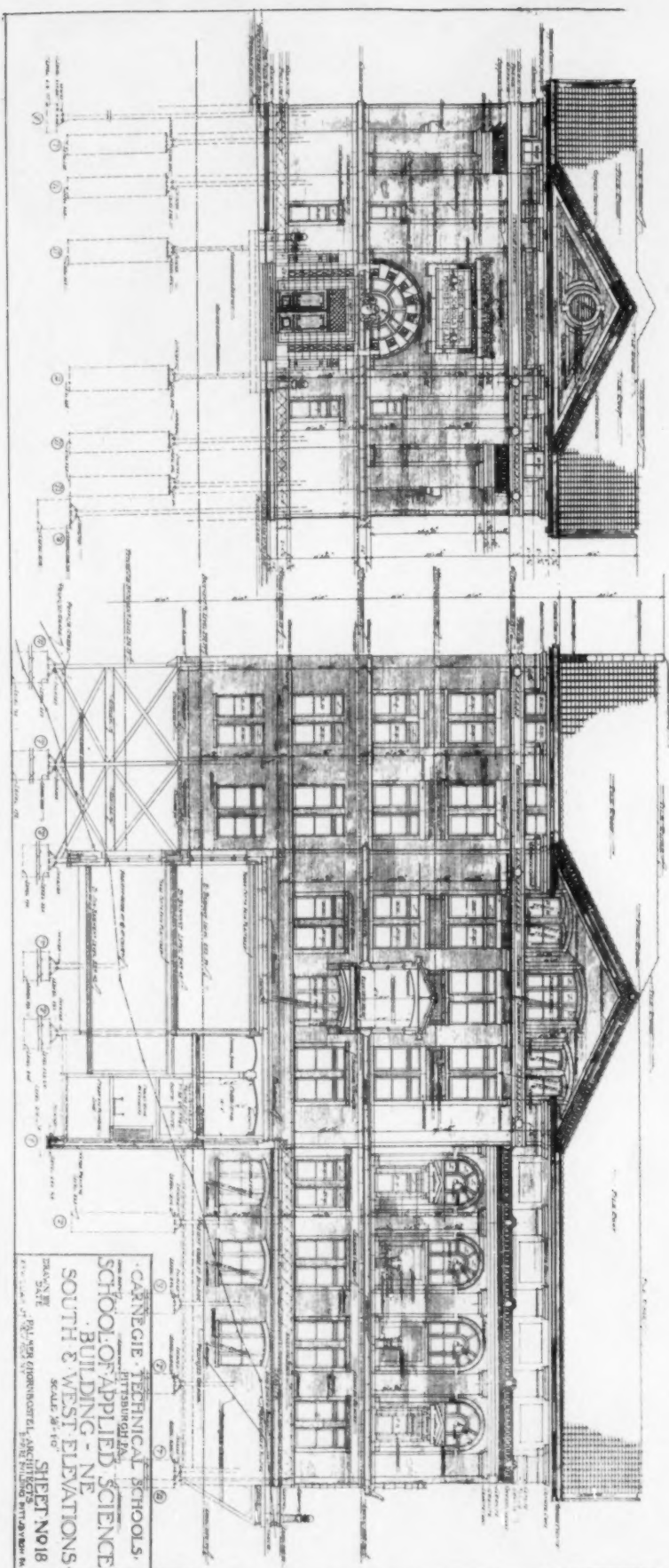
In regard to beams, so much has been written in the technical press that it is very little use to say more. There are, however, a few points worth considering, more particularly on the practical than on the theoretical side, because the theoretical side has been pretty well covered. From a practical point of view stirrups are quite useful. In ordinary construction work workmen sometimes fill in all the beams first and then fill in the panel cross-wise later, starting at one side and working to the other, so that by the time they have reached the end the concrete in the beam has begun to set. As the work is figured so that the panel acts in compression with the beam, there are liable to be serious results. Therefore, the stirrups are very useful to bind beam and panel together. The stirrups used in American practice to a large extent are useless, because they do not extend out into the panel. They should have a projection into the panel of at least a foot. Then the beam and panel are well bonded together. Experienced designers use them partly for that purpose, especially near the center of the span. If the whole floor is cast as a unit, of course stirrups are not necessary as a tie between beam and panel; but this is not always a convenient thing to do.

Once, years ago, the writer made a very careful study of long-span floor design to get the relation of spacing of beams to panels for the maximum economy, taking into consideration the cost of materials and the cost of labor as it then existed. That study led to the selection of 3-foot centers for the maximum economy. If the spacing is increased, weight is added to the beam and to the panel; and if it is reduced, the cost of centers is increased without a compensating saving on concrete and steel. This was the spacing which gave under those conditions the maximum of economy. This study has not been revised, but it is the writer's opinion that under present conditions, with the high price of lumber, which makes the beam floor much more expensive to center than the slab, and the higher price of carpenter labor, the spacing would be increased from 3 to about 4 feet for maximum economy. The practical considerations of mill design often require a different spacing. For instance, concrete floors are frequently held to the old form of mill frame construction—that is, beams 8 or 10 feet on centers and a flat slab between. This is less economical, but it is often necessary, and the difference in economy from the cheapest design is not very great.

A method of beam reinforcement which is coming into quite general use, and ought to become more general, is that of knowing exactly where and how the steel is set. If it is put in loose, it is likely to be misplaced while filling in the concrete; but if rigidly made up into units and anchored at their ends to other units or the wooden form, they are held exactly where they belong until the concrete is filled in; therefore the construction really agrees with the design. The recent type of construction of bent-up bars, crossing one another or fastened together over the columns, has forced into use one variation in design, namely, the joints between various days' work. Years ago they used to be made directly over columns. The beams and girders which met on the column were made double, and each half was cast on different days. But now there is such a network of steel there that it is almost impossible to put up wooden forms to stop off the concrete, and therefore the custom has come into use of making joints in the middle of spans. This is much easier to do from a practical standpoint, and from the theoretical standpoint does not weaken the construction in the least, because the tension of the concrete is neglected in the design. Better work is obtained from ordinary laborers with joints in the center of the spans than with split beams. After the concrete is thoroughly set there will be a shrinkage which pulls it away from these joints, and if they are over a column this shrinkage has sometimes split the column. To avoid this the plan was adopted years ago of using a steel plate, also hoops, to allow the beams to slip without splitting the column. This is now avoided by making the joints in the center of the span. However, this change requires considerable reinforcement of the top surface of panel over beams and girders, at right angles to them, in order to avoid tension cracks along their top surfaces. There is one point in designing that ought to be emphasized until its use is universal, namely, that all work ought to be designed on the basis of the working stress, instead of the ultimate stress with a factor-of-safety.

Some of the types of construction discussed are claimed to be covered by patents. Some are valid, while others, doubtless, are not. The so-called continuous girder, where bars bend up and run across support to unite with others from adjoining span, is probably a valid patent. Many have been using it without consideration of patentees, and if it is done wilfully those doing so



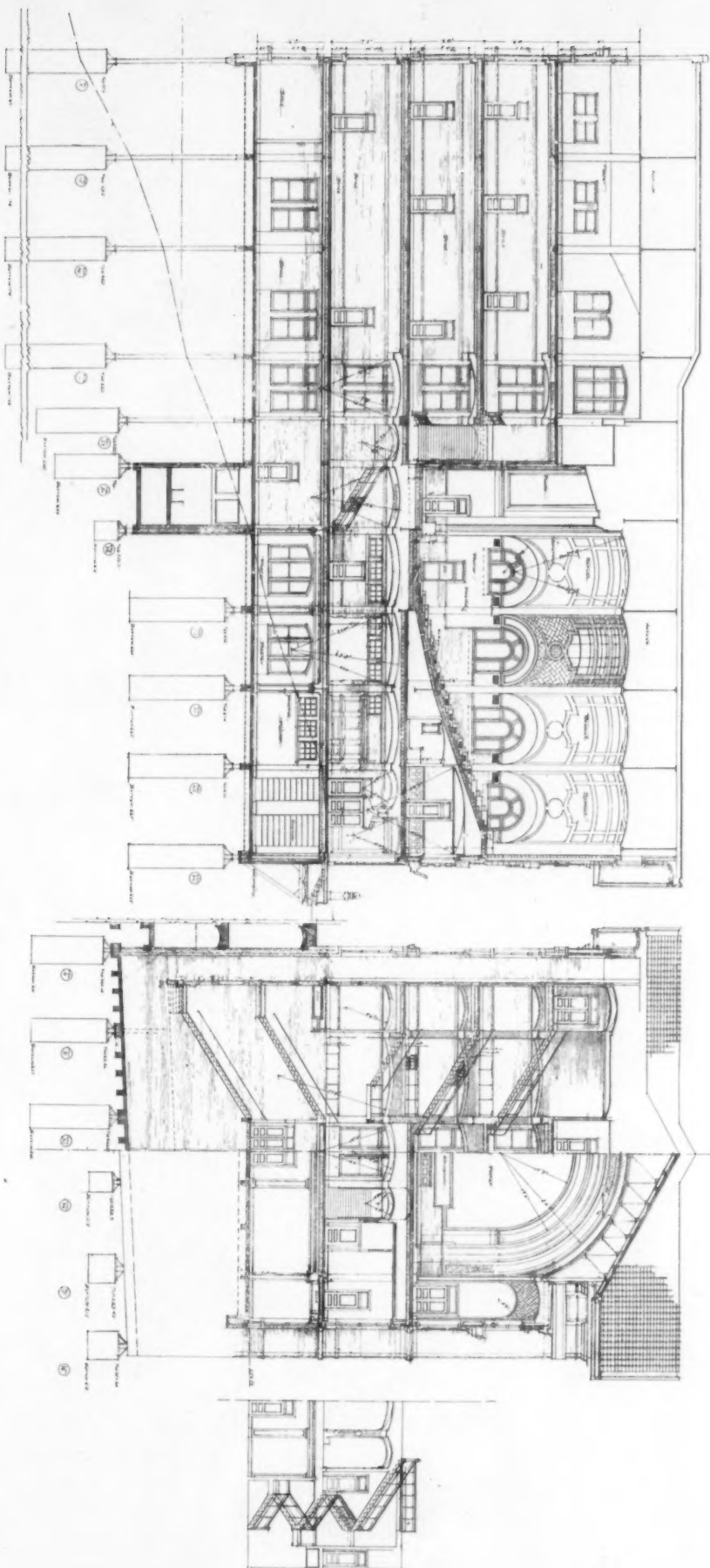


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Regular Edition.

BUILDING "N. E."; CARNEGIE TECHNICAL SCHOOLS, PITTSBURGH, PA.
Palmer & Hornbostel, Architects.

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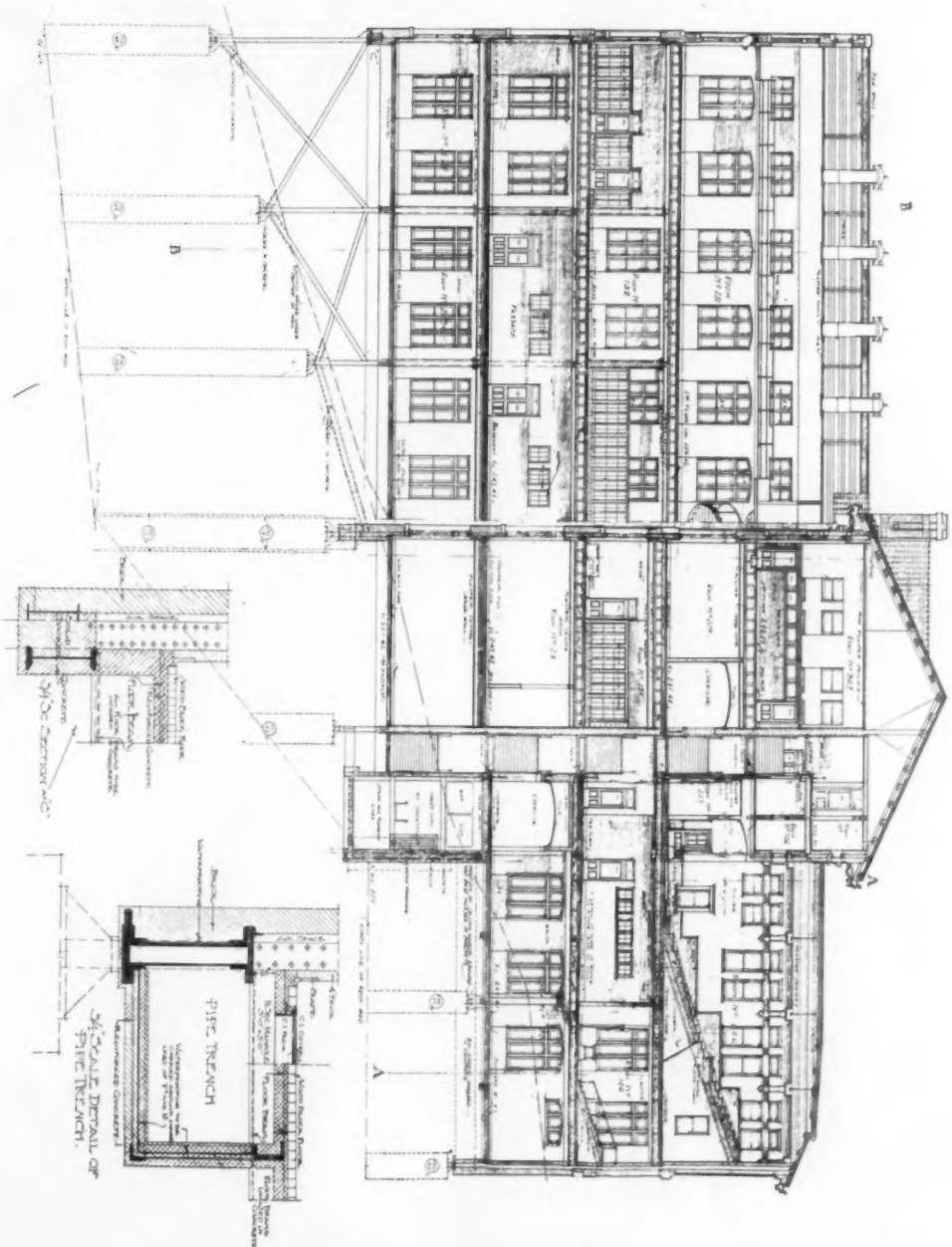
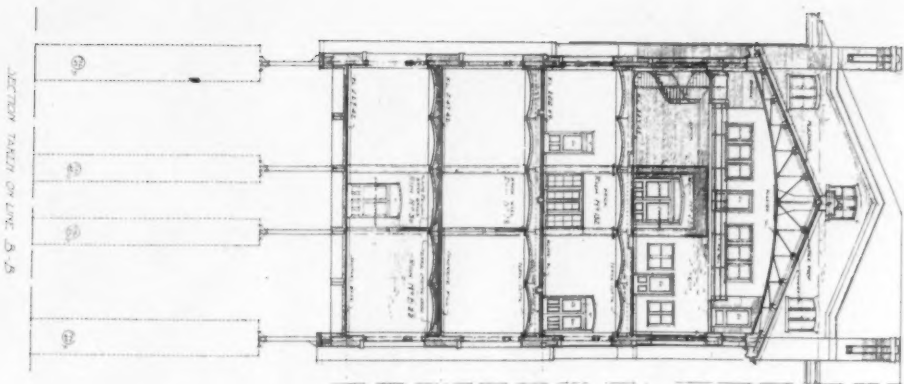
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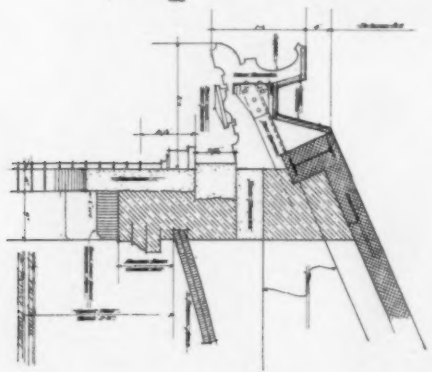
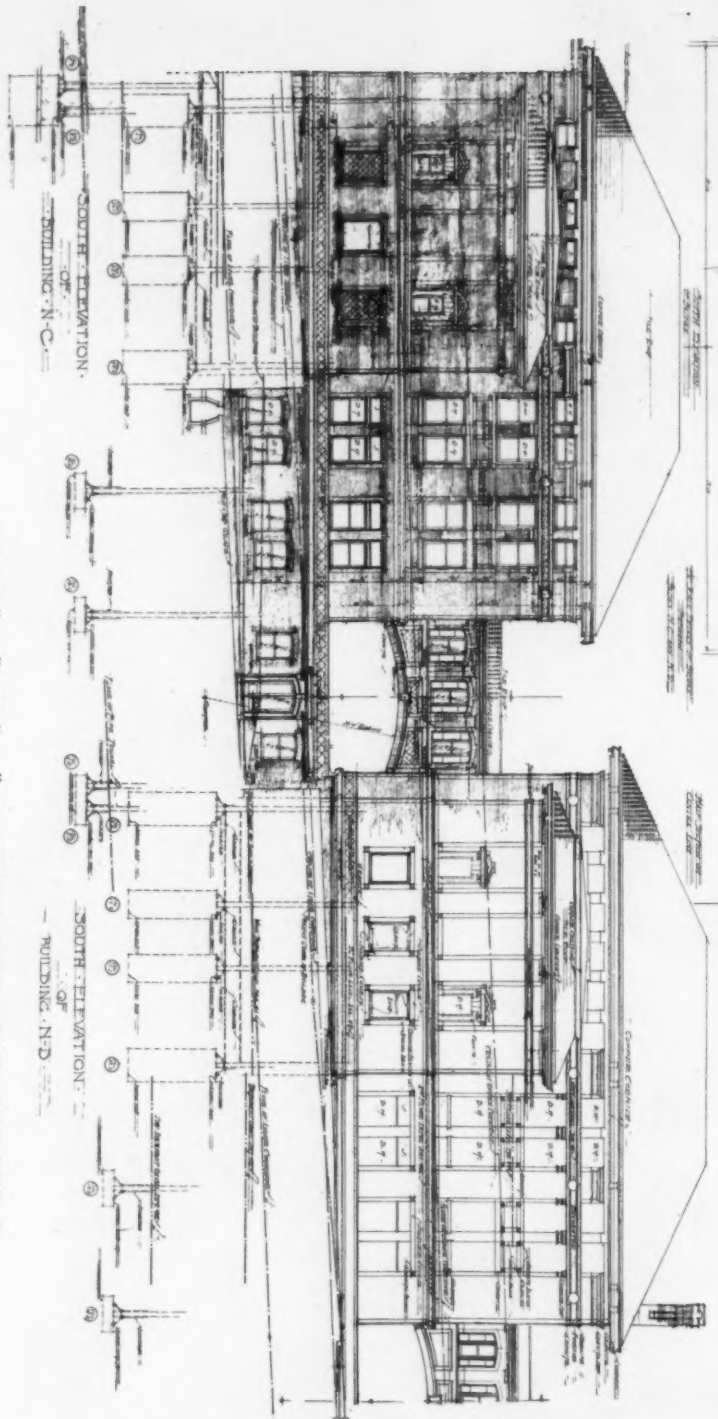
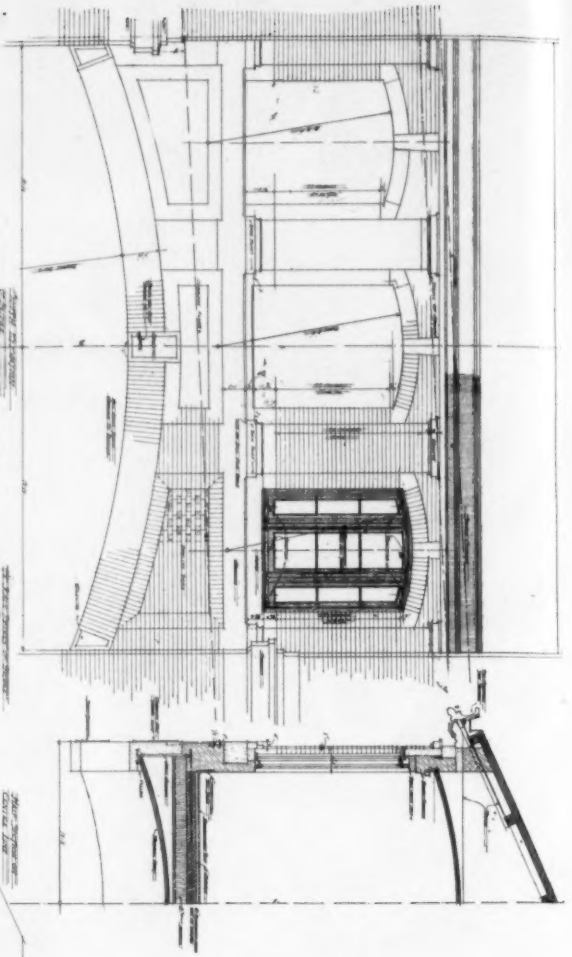
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CARNEGIE TECHNICAL SCHOOLS
PITTSBURGH, PA.
SCHOOL OF APPLIED SCIENCE
BUILDINGS, NC-ND
SOUTH ELEVATION
SCALE 1/8" = 1'-0"
SHEET NO. 10
DRAWN BY PALMER & HORNPOSTEL, ARCHITECTS
DATE 1907
63 WILSON ST. PITTSBURGH, PA.

INDICATION OF	DETAILS
1	CHIMNEY
2	BRICK
3	CONCRETE
4	TRUSS ROOF
5	RAILROAD
6	STREET
7	WATER

BUILDINGS "N. C." AND "N. D."; CARNEGIE TECHNICAL SCHOOLS, PITTSBURGH, PA.

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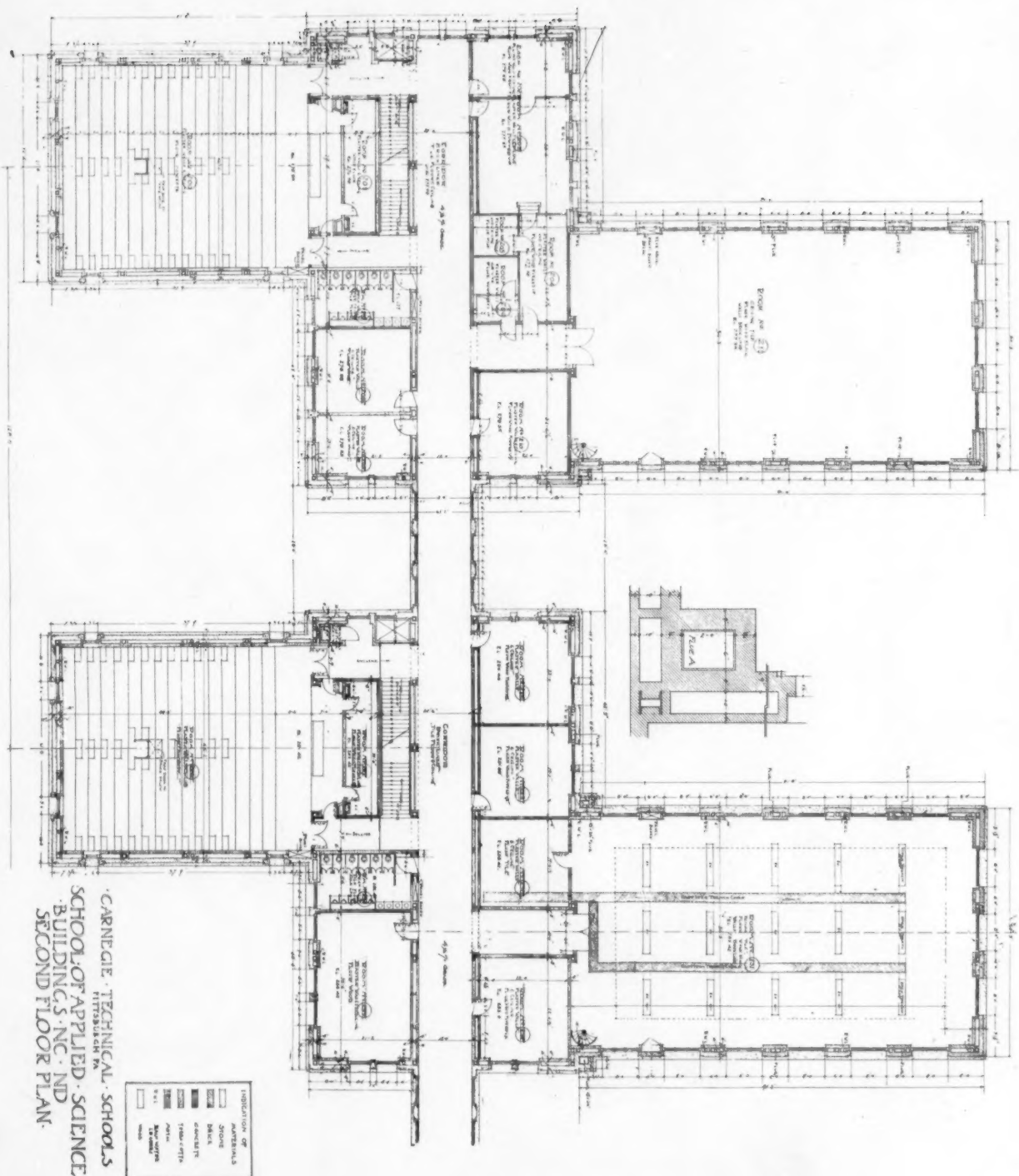
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PLANS OF BUILDINGS "N. C." AND "N. D.": CARNEGIE TECHNICAL SCHOOLS, PITTSBURGH, PA.

Palmer & Hornbostel, Architects.

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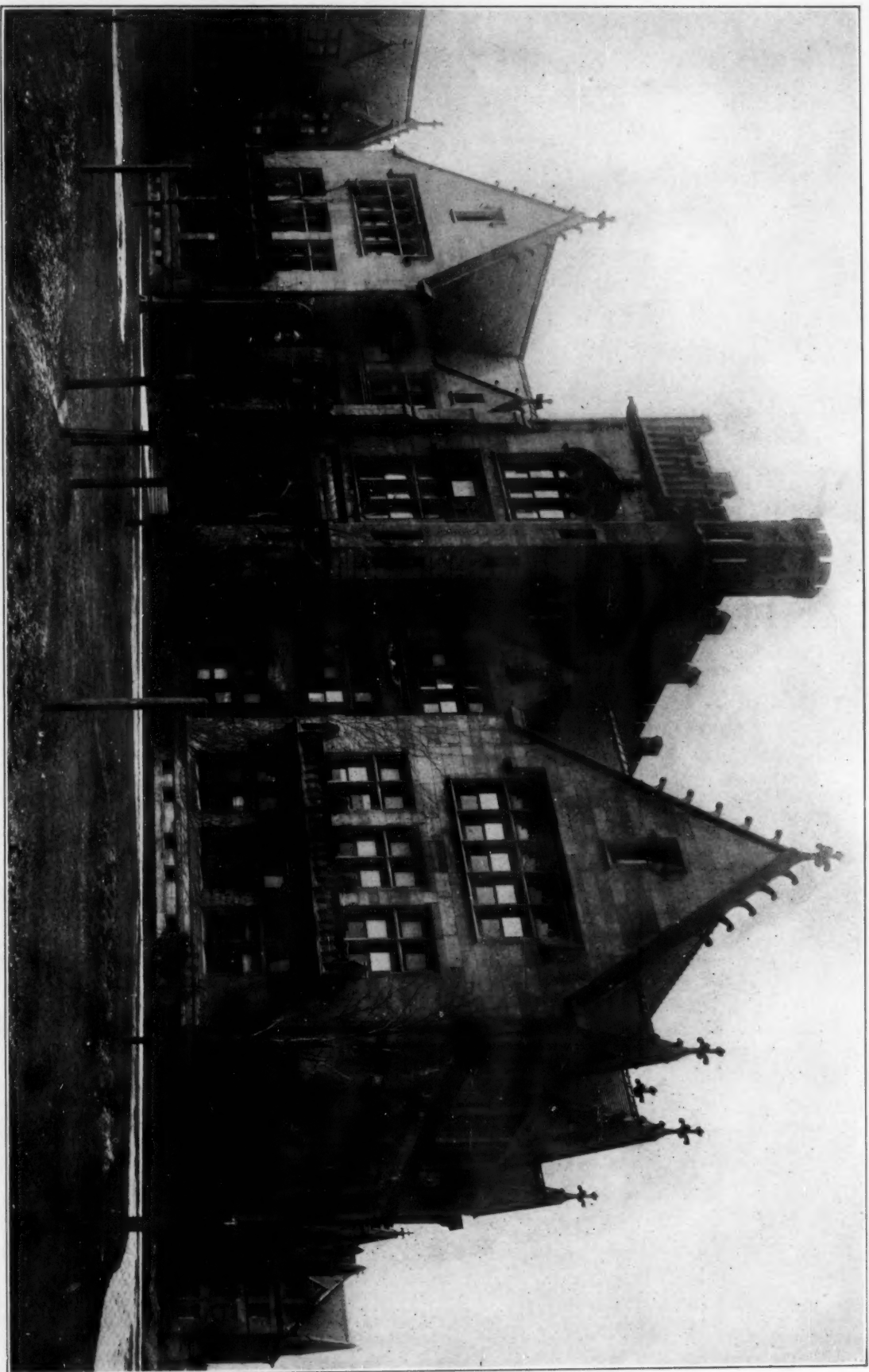
DOORWAYS TO RYEASON PHYSICAL LABORATORY AND KENT CHEMICAL LABORATORY: CHICAGO UNIVERSITY, CHICAGO, ILL.

Henry Ives Cobb, Architect.

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RYERSON PHYSICAL LABORATORY: UNIVERSITY OF CHICAGO, CHICAGO, ILL.

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are likely to come to grief sooner or later. Also, there are some patents on the so-called girder frame which have to be considered. But as a general thing all patents recently issued are so narrow in their claims, and are so easy to avoid, that the desired result can be obtained without infringing on anybody else's rights.

Concrete placed around steel reinforcement of necessity has to be mixed considerably wetter than is necessary when placed in large masses. The right amount of water for reinforced concrete is that at which the concrete just quakes when tamped or spaded. At this consistency it will flow properly around the bars. If more water is used, the stone can settle through the mortar somewhat, as through water; thus the concrete would become of uneven density. By laboratory tests it has been found that the concrete which just quakes differs but little from the maximum strength obtained with the best consistency in plain concrete, which is a plastic concrete that does not quake. Extremely wet concrete, which flows nearly as freely as water, never develops as great strength as plastic concrete.

MR. JOSEPH R. WORCESTER.—I should like to say one or two words on the general subject of the use of reinforced concrete for mill construction. There are some difficulties about it that must necessarily be met face to face. The principal one, I think, is in the size of the columns. I think there is a general feeling among architects and owners that reinforced-concrete columns ought to be built as small as steel columns, and the owners and architects have been forcing contractors to use every possible device for reducing the size of columns, and the contractors have allowed the reduction to go farther than is really safe in many instances. I think we must recognize the fact that we cannot build a reinforced-concrete column as small as a steel column and that if we are going to use such a column we have got to give it more space. This does not amount to much in a low building, of course, but in a high building the loss in space amounts to a great deal.

Personally, I do not approve of either of the methods of reducing the size of columns advocated by the two previous speakers. I think the objections each has raised against the system of the other are very well taken, and I should say you cannot properly reduce the size either by enriching the mixture to the extent that Mr. Wason advocates or by using the hooping which Mr. Hogue is in favor of. I think Mr. Wason's point against hooping is exactly right. If you put your coil of wire into the form and then put in your concrete, the tendency of the concrete if anything is to shrink away from the wire. It certainly is not going to enlarge and bring the wire into tension, and in order to get the wire into effective action some motion has to take place in the concrete within the wire. The Watertown Arsenal tests have shown that this motion is accompanied by deformation of the column, and I have understood from Mr. Howard that in his opinion the concrete is considerably disintegrated inside the hooping before the hooping has come into play. On the other hand, Mr. Hogue has said that with a rich mixture it is pretty hard to take care of the joints at the floor levels, and I believe he is right. Mr. Wason says it can be done, but I don't believe it can be done very safely. If you stop off your column under the floor girder, then the floor mixture bears directly on the rich mixture. That will overload the floor mixture, which is not so rich. If you carry the column mixture up through the floor there is danger of a crack, pretty nearly vertical, between the mixture in the beam and that in the column. There is, therefore, a point of weakness either way. So that it seems to me that we must start with the idea that we are going to have a pretty good-sized column, and unless we are going to have plenty of room for this, we must regard it as an objection to the construction.

Another point of difficulty in using concrete is the exterior of the building if it is made of this material. So far as I am aware, the last word has not been said as to the best method of finishing an outside wall of concrete. Nothing has been said about it by the previous speakers, and I don't propose to advocate any method of treatment, because I don't know which is the best. There is a great liability to cracks in any concrete finish, and it is doubtful whether the durability of the outside finishes used thus far has been fully demonstrated. I don't say this too positively, but I think we must learn a great deal more with regard to exterior finishes.

One other objection to concrete construction is that the loads upon footings in a reinforced-concrete building are heavier than in the case of wooden framing, and where the foundations

are soft a good deal more expense is involved than in the case of wooden framing. This, perhaps, is not a serious point, but it has to be considered.

Now, a word as to the mill building Mr. Hogue has illustrated. It is apparently his intention to start the wall at the ground level. This does not seem safe on account of the fact that frost is liable to work in under and disturb the floor. This danger may be obviated by carrying the wall down below frost level, but it is not good practice to lay the first floor right on the fill unless it is remarkably good material, because it will settle and then you will have cracks. It is better to have some cellar, with posts, and to have the lowest floor self-supporting.

With regard to details, I wish Mr. Hogue had given us more information as to what he uses in his own practice. He has raised a lot of questions for others to answer, but it would have been of great advantage to us if he had given us the benefit of his own answers to these questions. Possibly we should not agree with him, but we would certainly like to know what his opinions are in regard to these matters.

His method of figuring footings may be scientifically correct, but I must plead guilty to a much simpler way of figuring these parts myself, a way which may not be correct, but if it is not I should like to be made aware of it. Where I have a square footing I take half the resistance of the earth on each set of rods. I assume that the rods in one direction take half the upward pressure and that the rods in the other direction take the other half. I assume that we have two central cross-sections at right angles to each other, each of which is virtually an inverted T. That is, in figuring this cross-section, I assume that the only value of compression we have in the concrete is the width of the top of the trapezoidal cross-section. I think that if you figure your two sets of rods in that way and take half the pressure on each, you get safe results, so far as I am aware. I think we must always take into account the shearing force which Mr. Hogue referred to. My practice is to allow 100 lb. to the square inch on the area obtained by multiplying height by perimeter, and not to consider the diagonal tension as we would in a beam.

With regard to the spacing of rods in the stem of beams, Mr. Hogue said that horizontally he spaced them from 2.5 to 3 diameters from center to center. There is quite a difference between 2.5 and 3. I am rather in favor of 3 myself, for the reason that the shearing area above the rods in that case is about equal to the circumference of the rod, and you have about the same unit in shear which you have in adhesion, which I think is about right. There is quite a pressure brought upon engineers sometimes to allow a closer spacing, even down to 2 diameters from center to center. That seems to me a dangerous practice. As far as the spacing vertically, which Mr. Hogue referred to, goes, I can't see any great objection to the practice of the Hennebique Company of putting two rods one over the other in contact. I would like to know if this is really unsound from theoretical reasons. I haven't been able to see them myself.

So far as lapping the rods at the end is concerned, I cannot see why it is not all right to lap far enough so that the strain in one rod may be transferred to the rod in the opposite direction by adhesion, and if you consider 40 diameters of the rod sufficient to develop its strength, it seems to me that a lap of 40 diameters is enough to transfer the strength from one rod to another close by.

I will say one word more in answer to Mr. Hogue's questions in regard to continuous beams. There are several objections to considering beams as continuous and to methods in use for making them continuous. In the first place, if you have real continuous construction, you want to have more tensional strength at the top of the beam over the support than at the bottom of the beam at the center. That, of course, means that you have more compression at the bottom over the support than at the top at the center of the span, and where you use T-construction, as we do almost altogether, this means that you cannot use as much steel, by a good deal, as we like without overstraining your beam in compression. Mr. Hogue suggests that that can be relieved by the use of bracketing, but on the top of your bracket, between the bracket and the beam, you are almost sure to have a joint, because you fill up to the bottom of the beam and lay the beam afterwards, and you have a weak spot there for transference of shear into the bracket. Then, again, it seems to me that it is not good engineering practice to assume that your beam is fixed over a support when it is only so fixed either by stiffness in the column or by the live load in the adjoining span. You have very little stiffness in the column and you can't count on the live load in the adjoining span. It seems to me that it is better

practice to figure your beams as if they were supported at the ends. While I do not believe in figuring on the continuity, it is, nevertheless, necessary to reinforce to some extent at the top over the supports, and that is a thing that cannot be emphasized too much. If you allow any sort of concrete construction to go over an approximately fixed support without being reinforced at the top over the supports, you will have cracks in the surface

where they will be very conspicuous. This reinforcing at the top may be thrown in as added security.

Mr. Wason referred to joints which he makes in the centers of his beams as "contraction joints." I don't see how they can be "contraction" joints where your reinforcement runs through, as they must at the bottom of the beam. They are really set joints, but I do not see how they can be contraction joints.

The Architect's Coadjutors

IT is so unusual for the successful architect to acknowledge, to himself or to others, the reality and magnitude of the debt he owes to his co-laborers—whether unacknowledged "ghosts" or recognized employees—that it is particularly pleasant to find Mr. John Belcher, A. R. A., the recipient of this year's Royal Gold Medal, acknowledging his indebtedness in a very simple and handsome way in his reply to the presentation speech. In part he said:

I am overwhelmed with confusion when I call to mind—and it is so easy to call to mind—the names of many great architects, both at home and abroad, who are far more deserving of this great distinction than I am. As regards many, if not most, of these I am able to console myself with the thought that they are younger than I am, and I may hope to have many an opportunity of being here to see such honored with the Blue Ribbon of the profession. But even so, allowing the consideration that this Gold Medal is awarded annually to have its full weight, the sense of my own defects and limitations is strong upon me; but the way in which the President has made the best of the material at his disposal leads me to hope that you may give me credit for some at least of the virtues and good works he has ascribed to me. You have encouraged me to believe, Mr. President—and I am sincerely grateful for the encouragement—that if my work has not been large or extensive in area, at least its quality is appreciated, and that it has been fruitful of suggestion to younger members of the profession who are devoting themselves to carrying on that elastic form of Renaissance work which is now becoming so popular. I have always aspired to do really good work, and particularly work which should embrace and include in its scope the sister arts of sculpture and painting, and you almost persuade me, Mr. President, that I have not labored in vain. If, indeed, I have achieved success in this respect, let me acknowledge at once my indebtedness to my association with so many great sculptors; such, for instance, as my old friend Mr. Hamo Thornycroft, also Mr. Harry Bates, Mr. Geo. Frampton, Mr. Goscombe John, Mr. Drury, Mr. Pomeroy, Mr. Bertram Mackennal and others, all of whom at one time or other have lent their aid in giving expression and artistic embellishment to my buildings. But let me assure you also that I have been most fortunate in the men who have been associated with me in the carrying out of my work—men of ability and enthusiasm, responsive to the call of art in its highest forms, kindred spirits with whom I have spent many happy hours and passed through some thrilling experiences of the kind familiar, no doubt, to all who work in an architect's office. Amongst the earliest of my friends was Mr. James Walter James, whose remarkable powers of organization proved invaluable in the introduction and ordering of business methods in my office. Then came Mr. (now Professor) Beresford Pite, of whose strong personality and versatile genius there is but little need to remind you. I think it was while he was still with me that he won the Soane Medallion with his celebrated design of a Mediæval West End club. Since then he has surpassed us all in the beauty of his Renaissance designs, and is, too, a distinguished exponent of the pure and refined methods of Greek architecture. Professor Harry Wilson, of South Kensington, now distinguished not only in architecture, but as a painter, sculptor and worker in metals, was also with me for a time, leaving me, in the first instance, to join my old and sincere friend Sedding. Professor Reilly, of Liverpool, was not long in my office, but long enough, I hope and believe, to have enjoyed some of the work we had in hand then. Besides these three professors there are many others I could name who have won distinction, such as Needham Wilson (Institute Medallist 1884 and Soane Medallist 1886); Thomas Phillips Figgis; Hubert Corlette (Owen Jones Student 1896 and Institute Medallist

1899); also Messrs. James Fulton, James Charles Cook, James Scott, Balfour Paul, Lionel Detmar, Curtis Green, Herbert Ibberson, George Malcolm and others. Many of my pupils also have done credit to their sojourn in my office. Messrs. Philip Johnston, Alexander Hennell (Tite Prizeman), William Chadwick (now in South Africa), T. H. Russell and Maberly Smith and others. Then there is my present loyal and efficient staff, every member of which I appreciate; and last of all, one who is a host in himself, my trusty friend and partner, John James Joass (Pugin Student 1892, and Owen Jones Prizeman 1895). I may say we are so thoroughly in sympathy that my burdens are lightened by his efficient aid. These have all been real friends and true fellow-workers, and one of the happiest occasions in my life was when recently all the members of my staff, both past and present, met to entertain me at dinner during my term of office as President of this Institute—a token of their esteem and affection which was, as you may easily imagine, most gratifying to me. An architect may well count himself happy when he is loyally supported by men who know and lend themselves to his methods, even when they regard them as peculiarities, or even weaknesses. The last-named, the weaknesses, are especially open to the quantity-surveyor, and I esteem myself fortunate in the services in this capacity of so able and so conscientious a man as Mr. Glead, with whom my younger brother, Mr. Arthur Belcher, having very wisely devoted himself to this lucrative branch of the profession, is in partnership. Then there are the builders, to whom I am greatly indebted for the careful attention paid to my wishes and directions, notably Messrs. Colls & Sons, who have carried out so many of my city buildings in the perfect manner for which they are justly noted. Amongst the hosts of individual workers, craftsmen and others whose skill has been so faithfully employed in my service, I must mention by name my old friend Mr. Brindley, if only to acknowledge how much I have learned from him. We all know Mr. Brindley as one of the greatest of living authorities on the different kinds of marble and their right use, but I know also how true is his love of art generally, and how good his judgment in all that pertains to his craft. It is of great consequence to an architect that his associates should be such as can interpret and carry out his work sympathetically and intelligently. The architect has been likened to a general directing the operations of an army of workers; but to my thinking a happier and more suggestive comparison is that of the conductor of an orchestra leading and directing the executants in the interpretation of a work of his own composition. I prefer this because, as I understand the art of war, even in these scientific days the vast majority of the units engaged are mere machines, whereas the architect, like the conductor of the orchestra, has to do with many minds. The various musical instruments in their sensitiveness and capacity of expression are responsive to the mind of the performer, and the musician has not only to understand the powers and limitations of each that he may build up his harmonies correctly, but if he would himself conduct the orchestra there must be mutual confidence and a sympathetic understanding between him and the executants. Only thus will he be able to secure a proper balance and proportion, a right tone or color, and such subordination of one part to another as will constitute the whole a perfect work of art. The executants, of course, must one and all be of the very best. A single incapable or ineffective unit may spell disaster to an army; the disaster is certain and inevitable if there be a single weak or faulty performer in the rendering of a musical composition. The architect may well address his subordinates in the words which Pericles is said to have used to Phidias and other artists at Athens: "O ye who expect me to undertake great works, zealously prepare yourselves and har-

bor no inert self-confidence. None whose hands are not experienced and on whom Athene has not looked kindly will ever be employed by me." It is obvious also that the more frequently the same men work together, the more thoroughly will they understand one another and adapt themselves each to his part in its relation to the whole. The several workers will acquire confidence in the architect and an intelligent insight into his thoughts and purposes as expressed in his designs. He, on his part, gaining confidence in them, will be able to allow a certain amount of freedom of expression to the craftsmen under him, and thus give them a fair opportunity for the exhibition of their powers. Now, more than ever, we want "men, not machines." The architect will not use his fellow-workers as an organist uses the stops of an organ; for the organ is a single instrument controlled by one mind, whereas the architect has to deal with a full orchestra of minds, all working together to one end, viz., the interpretation and expression of the architect's designs. The more perfect and sensitive this combination is the more closely will the accomplishment of the work approximate to the ideal. The organ, wonderful and perfect as the king of musical instruments, is not a true type of the architect's work, but of the painter's, the various stops being employed, like the pigments of the artist, to obtain color effects. As regards the work of the painter and the sculptor, I have always contended and struggled for the collaboration of these with the architect, even in the days when such an idea was regarded as quite utopian. "I am glad I have lived to see the arts drawing closer together and even now working in unity. It is the architect who is (or should be) in a position to bring about this combination, which in its completeness is the most powerful that can be attained. The building which shelters and provides scope for the art of the painter and sculptor is the work of the architect, and it is his to furnish the opportunities and the settings and to determine the subjects of the joint work. In all cases the artists should work together *ab initio*—in the case of a building under the leadership of the architect; in the case of a monument under that of the sculptor; and in the case of a gallery or other place for the exhibition of his art under that of the painter. This is quite a different thing from the mere (and sometimes casual) providing space or place for the independent exhibition of works of art. The true collaboration of the arts leads to far higher and nobler results than the haphazard kind of arrangement that has so long prevailed, and I trust that the day is not far distant when the students of the various arts will be more completely organized and associated than they are at present, and will be set to work out problems together, and together accomplish noble works in which they can join hands and hearts.

The Illicit Commision

JUST as there are few men who could tell a good story with the zest and expression that the late W. L. B. Jenney knew so well how to work into his anecdotes, so it is true that his breezy personality affords abundant food for the story-teller. Knowing the man and his way of acting and speaking, we are quite sure that the following anecdotes are in no way apocryphal:

Jenney despised worse than anything the grafter, and his manner of dealing with the type of man was effective. Architects have peculiar intimacy with graft because they constantly are running into contact with crooked contractors and builders, and too frequently architects disgrace their profession by dividing with dishonest contractors the fruits of robbery achieved through crooked bidding or favoritism.

Jenney never countenanced this way of doing business. One day, writes S. N. Hughes in the *Chicago Tribune*, Jenney was in his private office when a man who wanted to provide certain materials for a building then under construction came in and approached John Ewen, then a "cub" in Jenney's office, with a flagrant bribe offer. He offered Mr. Ewen \$50 if his material was used.

Mr. Ewen was seized with an inspiration. Instead of throwing the man out of the office, he said: "Mr. Jenney always handles that end of the business. Go in and see him." Then he awaited the explosion.

The man innocently approached Mr. Jenney and made the proposition.

"Sit down a moment," said Jenney quietly. A moment later he looked up and said: "Young man, are you new in the business?"

"Yes, sir. I'm just starting. I want to get in right. My stuff is good, and I want a chance."

"Well," said Mr. Jenney, "there are two ways to do business. If you want to do the best kind of business, with the best firms, don't do as you have done to-day. I have no doubt that is the way to do business with some firms. If you are after that class of business, that is the proper way to get it. But if you want the best business, don't approach any one as you have me. I'll give you the contract at your figures. If you can afford to give me \$50, you can afford to knock \$50 off the price to the owner. Let's reduce your figures \$50 and give the builder the benefit."

The man agreed. He learned his lesson well, and he did business with Mr. Jenney for years. When Mr. Jenney died this man testified that it was that one business lesson that made him realize that the only way to do business is to do it straight.

When Mr. Jenney dismissed the man that day after signing agreements he stepped out smiling to Ewen and remarked: "Thought you'd have some fun with me, eh?"

Another and severer lesson he administered to a big contractor downtown. This man was prominent socially, financially and in religious circles, and through Jenney he got the contract for a skyscraper down town. One day, while the building was in course of construction, he entered Mr. Jenney's office and handed him a check.

"What's this for?" asked Mr. Jenney.

"It's the usual 10 per cent. of the first payment—your share," he added, significantly.

Mr. Jenney took the check, chatted for a time with the man, and finally went out into the workroom.

"What is the amount of that contract?" he asked Mr. Mundie, his partner.

Mundie told him.

Jenney figured for a moment, muttered, "Yes, the amount is correct," and then returned to his private office and indorsed the check over to the owner of the building.

Nothing more was heard of the matter until the end of the month, when the crooked contractor received from his bank a check indorsed both by Mr. Jenney and the owner of the building.

There was nothing for him to do but to take his medicine. He appeared in Jenney's office, probably expecting to be flayed for his tactics, but nothing of that sort happened. Mr. Jenney remarked:

"I am extremely glad to know that you can afford to make the lowest bid on a building, and give the owner 10 per cent. back and still make money on it, but don't you think it would be more business-like just to subtract 10 per cent. from the total contract price and save all this red tape of sending the check to me and having me indorse it over to the owner?"

The contractor humbly admitted that it was.

There was not a word of condemnation or reproof and only a few who learned of it from the owner ever knew of the occurrence.

Mr. Jenney did not cast out that contractor, but continued to do business with him. And when Mr. Jenney built his own home he gave a contract for part of the material to this man—and the man skinned him.

The Habri Bond for Brickwork

THE majority of engineers and some builders frequently leave the question of bond in brickwork to the unhampered choice of the working mason. Such casual proceeding is seldom attended with any serious risk in case of walls whose thickness is the length of a single brick, for here the bricklayer will be pretty certain to adopt either the Flemish or the English bond, both of which are unobjectionable in the majority of cases; though the latter is distinctly the sounder arrangement. When, however, as is the case in the majority of works which engage an engineer's attention, the thickness much exceeds that of a single brick, consequences of such neglect in detail are frequently deplorable. We have seen large masses of brickwork—notably in lock walls—consisting of nothing but headers; if we except those stretchers which appear on the exposed face of the wall and which of course occupy but a minute fraction of the wall's cross section. Such a structure, if we ignore the adhesion of the mortar, has but little more longitudinal strength than has a huge fagot of short sticks without that string which is usually provided by the woodcutter.

It is scarcely surprising, therefore, that the majority of such walls develop transverse cracks even when they are exposed to nothing more in the way of bending-moment than is incidental to ordinarily careless construction.

The main desiderata of a good bond are three: (1) The bricks should overlap in each direction an aggregate extent which is approximately proportional to the bending-moment or shearing-stress to which the wall may be exposed in that plane. (2) The bond should not necessitate the cutting of bricks. (3) It should be applicable to walls of all thicknesses and yet sufficiently simple to be easily learned by the ordinary bricklayer. The "Habri" bond preeminently satisfies all these requirements: the first two demonstrably; and, concerning the last, we have never met a mason who did not readily comprehend the system as soon as it had been illustrated in his presence by the piling of a few dry bricks.

In the Habri bond every course, in a wall of indefinite thickness, is essentially identical with every other course; and consists of a cycle of three rows of bricks: two rows of stretchers followed by one row of headers. This arrangement in each course is, however, shifted half a brick in a direction at right angles to the rows, as compared with the course upon which it rests: the direction of the shift remaining constant throughout the wall's height. When, under the above clause of this rule, a row of headers would be divided by the plane of a face of the wall, a row of half bricks is *not* inserted but a row of stretchers substituted.

In the case of a wall half-a-brick thick, this bond necessarily reduces—as do all other bonds—to a wall consisting of stretchers only. When the wall is one brick thick we have one course of headers only, followed by three courses of stretchers only: the arrangement being here identical with common English bond, which is undoubtedly the soundest arrangement in a one brick wall under ordinary circumstances.

It is, however, in walls exceeding one brick in thickness that the value of our systematic rule becomes evident. Starting from the face an arch abutment of indefinite thickness would have in its first course one row of headers followed by two rows of stretchers; and so on. The second course would show one row of stretchers followed by one row of headers and then two rows of stretchers: the last three rows being repeated indefinitely. The third course would consist of two rows of stretchers followed by one row of headers; and so on. The fourth course would have three rows of stretchers next the face followed by the usual cycle of one row of headers and two rows of stretchers. This completes the cycle of courses, the fifth course being identical with the first not only in arrangement, but also in horizontal position. In the case of a wall under a vertical load, the *direction* in which the half-brick step by which each course has its arrangement shifted as compared with that of its predecessor, is made, has no importance, though of course it should remain unaltered throughout the wall. When, however, the wall is exposed to an inclined thrust it is preferable to make the shifts as you ascend in the same direction as the thrust. Thus in an arch abutment the shifts are made from the face; in a revetment wall towards it.

The name "Habri" is that of a distributary channel upon which the bond was first employed some twenty years ago.—*Indian Engineering*.

ILLUSTRATIONS

SOME OF THE BUILDINGS OF THE CARNEGIE TECHNICAL SCHOOLS, PITTSBURGH, PA. MESSRS. PALMER & HORNBOSTEL, ARCHITECTS, NEW YORK, N. Y.: SIX PLATES.

THE RYERSON PHYSICAL LABORATORY: CHICAGO UNIVERSITY, CHICAGO, ILL. MR. HENRY IVES COBB, ARCHITECT, NEW YORK, N. Y.

DOORWAYS TO THE RYERSON PHYSICAL AND THE KENT CHEMICAL LABORATORIES: CHICAGO UNIVERSITY, CHICAGO, ILL. MR. HENRY IVES COBB, ARCHITECT, NEW YORK, N. Y.

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ENTRANCE TO THE MITCHELL TOWER OF THE REYNOLDS CLUB: CHICAGO UNIVERSITY, CHICAGO, ILL. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, CHICAGO, ILL.

NOTES AND CLIPPINGS

FOUNDATIONS BY MECHANICAL COMPRESSION.—A method of forming massive foundation piles, employed for some time past in France, is that introduced by the "Société de Fondations par Compression Mécanique du Sol," of Paris. The process is

specially intended for unstable and readily compressible soils, and may be briefly described as follows: A conical weight or ram, about 9 feet long by 2 feet 9 inches diameter, is slung from a triangular steel tower and allowed to drop point downwards into the ground rapidly, forming a deep cylindrical hole, into which pieces of rock are dropped, followed by smaller stones or rough concrete, each layer being well tamped by a ram of ogival form, the effects of this being to widen the original hole, especially near the base, and to consolidate the materials into a firm foundation pile or pier. An improved type of apparatus recently devised for handling the rams consists of a circular platform carrying the hoisting tower, a steam winch, and a steam boiler. The platform can be rotated through a complete circle, and at the top of the tower is a jib, these features permitting the ram to be operated over an area of considerable radius, without shifting the machine bodily. In situations where a firm stratum cannot be reached at practicable depth below the surface, the piles formed by the aid of this process are still capable of offering very considerable resistance owing to their large bearing surfaces. In water-logged soil, if the sides of the hole rammed in the first instance are not capable of holding up water, clay is introduced and spread over the sides of the hole by the action of the ram, and so forms an impermeable lining. In addition to its use for the foundations of heavy buildings, the method can be applied with advantage to foundation-work for bridges and other engineering structures.—*The Builder*.

ST. NICOLAS, GHENT.—An interesting restoration of this church is in progress, at the present moment, involving the removal of the plaster and whitewash, and showing the stonework underneath, with brick vaulting between the ribs. Of late years the wretched hovels round the church have been removed, revealing interesting work, and, of course, making the church safer from the danger of fire. The apse and chapels can now be seen and studied from close to; the gable over the south porch has been cleared right down to the ground, and the western aisle-fronts have been denuded of the shops that used to be there. Inside, as in the case of the restoration of Notre Dame, Bruges, a triforium has been discovered over the nave arches, on the removal of the plaster. It is to be hoped that the Commission Royale des Monuments will not allow the windows of the tower to be "restored" out of recognition by the insertion of a totally different style of tracery—an idea that was proposed, some years ago, but subsequently vetoed. Probably some strengthening works of the tower will be required, in which case we may expect to see the arches reinforced much in the same way as at Canterbury. Whether this will be done with a view to re-erecting the spire that used to crown the tower, or not, remains to be seen.

STA. SOFIA, SALONIKA.—A French antiquary was recently given permission to remove the whitewash from the great mosaic in the dome of Sta. Sofia, Salonika. The scraping has been successfully carried out, and the picture, the Ascension, is now to be seen in all its original freshness. The coloring is chiefly cobalt, pale blue and gray blue, and the faces are Byzantine in feature. The earth is studded with green and gold cubes, as also the flowers which grow up between the separate figures. Sta. Sofia was built in the Xth century and in the XVIth century turned into a mosque by the Turks, who allowed the Greeks forty days in which to build themselves another church, thereby limiting both size and splendor. In 1890 Sta. Sofia was partially burned down, and has not since been used.—*The Builder*.

NOTRE DAME DES CHAMPS, PARIS.—The Church of Notre Dame des Champs, near the Mont Parnasse railway station in Paris, is about to be removed in order to obtain a site for a postoffice.

MOZAIC WORK AT THESSALONICA.—Splendid churches built in the first centuries of the Christian era are now the Turkish mosques, but they are much less disfigured and disguised than are the churches of Constantinople. The round church of St. George, built probably about 400, is the most beautiful example of Byzantine mosaic in existence. The work is exceedingly fine; the cube used is smaller than that used in St. Mark's in Venice, or at Monreale, the smaller size giving a refined and beautiful effect, difficult to describe on paper. A ruined ambo from this church is now in the Imperial Museum in Constantinople, a superb mosaic indeed. The church of Holy Mary, now the Mosque of Eski Djouma, is very large and magnificent, gleaming with marbles and glittering with mosaics.—*Glasgow Herald*.

CURRENT NEWS SECTION

SOCIETIES.

PITTSBURGH ARCHITECTURAL CLUB'S FOURTH EXHIBITION.

The Pittsburgh Architectural Club is getting ready to hold its fourth architectural exhibition in the beautiful new fireproof art galleries of the Carnegie Institute, during the month of November, 1907, and expects to have one of the largest national exhibitions ever held in this country. The special features will be:

1. The foreign section, consisting of drawings of almost all European countries, especially from France, England, Germany and Austria. From the latter two countries we expect a number of most interesting interiors.

2. It is intended to devote one gallery entirely to the new movement of architecture of exteriors and interiors as so far developed in the United States.

3. We will have a department for drawings from the leading technical schools and colleges.

4. We intend to have a section devoted to sculpture and liberal arts, but in liberal arts we will limit this principally to original drawings.

The officers of the club this year are: President, Richard Kiehnel, of the firm of Kiehnel & Elliott, architects; Vice-President, D. A. Crone, architect; secretary, Stanley Roush; treasurer, James Macqueen; chairman of entertainment, Architect Thomas Herron.

The names of the exhibition committee you will find on this letterhead; besides this, however, Mr. Edward B. Lee, architect, acts as my personal representative for the collection of drawings in the East.

The club is just now sending advance notices out to the leading architects, announcing this exhibition, and will, after receiving answers, send a special representative to the principal cities in the Eastern and Central States, and this way actually procure the very best available material.

The club has been very fortunate to procure, through Mr. John W. Beatty, Director of Fine Arts, the art galleries in the beautiful new Carnegie Institute for our exhibition, and have to make our financial corner safe; also secured Mr. M. A. Vinson as advertising manager for the art catalogue.

To meet with complete success, however, we need the support of all interested, and it would be appreciated if you would announce this exhibition in *THE AMERICAN ARCHITECT*, mentioning that it is, of course, impossible for us to invite all interested personally, and that any one who may desire to exhibit to communicate with the committee.

RICHARD KIEHNEL,
Chairman.

WASHINGTON ARCHITECTURAL CLUB.

Mr. John J. Earley entertained with a smoker the members of the Washington Architectural Club at his new modeling studio at 2131 G Street Northwest on

July 10. The occasion was the housewarming of his new studio.

The members of the Club displayed particular interest in two casts just completed for the architects of the National Museum Building. These were a scale model of the rotunda of the new building now being erected in the Mall and the other was a full-sized cast of one of the capitals for the columns of the same building: this is an exact copy of the capitals of the temple of Jupiter Stator.

MONTREAL BUILDERS' EXCHANGE.

A feature of the exhibition to be held in Montreal during the week beginning August 20 is a day at the exhibition of the Dominion Architects' Association, who will hold their annual convention in Montreal at the same time as the exhibition. There will likely be over three hundred prominent architects there from all parts of Canada.

PERSONALS.

MONMOUTH, ILL.—Mr. G. B. Davis, architect, has moved his offices, and for the summer will maintain temporary offices on the college campus just north of the new Carnegie Building which is now in process of erection.

BROOKLYN, N. Y.—Professor Wm. H. Goodyear, of the Brooklyn Institute, has received the following communication from the Royal Academy of Fine Arts, Venice:

At its session of April 14, this Academy, on motion of its President, has voted your election as Accademico di Onore (Honorary Academician)

Your many services to Italy and especially to Venice, through your highly important publications and industrious studies on our church of St. Mark, make this fraternal proceeding an act of duty on the part of this Academy, which is now rejoiced to count you among its members.

I congratulate myself on being officially charged with the duty of sending you this advice, together with the related diploma and.

I remain with assurances of high esteem,
The Secretary,
DOM. D. FADIGO.

BOSTON, MASS.—The copartnership lately existing between Arthur G. Everett and Samuel W. Mead, practising architecture under the name of Everett & Mead, has, by mutual consent, been dissolved.

DALLAS, TEX.—Messrs. Lang & Witchell, architects, will soon have a building all their own for their offices, having purchased from Henry Hamilton 25x100 feet of ground on the north side of Commerce Street. It is stated that a handsome building will be erected on the site and will be occupied by the firm which now has offices in the Wilson Building.

LOS ANGELES, CAL.—The following named architects have received diplomas

from the Secretary of State, and are now practicing under the provisions of the law governing architecture in California: L. A. Parker, Henry Hyde Dwight, Hugh L. Boxall, Los Angeles; B. Cooper Corbett, Pasadena; E. L. Mayberry, Long Beach; W. H. Parker, Glendale; Edward Quayle, Frank E. Mead and James A. Crane, San Diego.

CATALOGUES

Two of the most recent publications of the Trussed Concrete Steel Co., Detroit, Mich., are of exceptional interest. One of these is a little bulletin of a dozen pages called "What Reinforced Concrete Is." It discusses very sensibly the behavior of reinforced concrete when subjected to the stresses that occur in a loaded beam, and indicates the best way to distribute the more expensive constituent—the steel—in order to get the desired strength as economically as possible.

The same company's "Handbook of Instructions" is full of valuable hints for any one upon whom devolves the superintendence of reinforced concrete work. The instructions given for erecting forms and centering, cleaning, protection from weather changes, mixing and placing of concrete, special inspection and removal of forms and centering are so thorough that it is safe to say that if such rules had always been carefully followed many or most of the failures of reinforced concrete buildings would have been avoided.

The National Lead Company's new pamphlet called "Good Plumbing; Hints for the House-Builder and House-Buyer," is a 30-page illustrated essay which aims to make the reader familiar with all the advantages arising from the use of lead pipe in plumbing work.

Domestic water supply for houses not on the line of any water-works pipe line is the subject of the latest catalogue of the Rider-Ericsson Engine Company. The Ericsson engines for lighter service and the Rider engines for use when greater capacity is required are old-time standard appliances which have proved their economy and durability, and, something more important still, that they can be operated by persons quite devoid of mechanical knowledge or skill.

The Burt Manufacturing Co., Akron, O., are doubtless widely known as makers of oil filters and exhaust heads. During the past few years they have become prominent in the building field on account of their ingenious type of ventilator. Their catalogue shows that the special feature of the Burt ventilator is its damper. This consists of a metal cylinder, which slides up or down in the upper part of the air shaft. Because of its form it leaves the air shaft unobstructed and, for the same reason, it may be tightly closed without interfering with the passage of light in case the ventilator is equipped with a glass top so as to serve as a skylight.

BUILDING NEWS.

(The editors greatly desire to receive information from the smaller and outlying towns as well as from the larger cities.)

ALBANY, N. Y.—It is reported that sealed proposals will be received by Dr. Andrew S. Draper, State Commissioner of Education, August 15, for the construction of the New York State Normal College. G. L. Heins, State Architect.

AMHERST, MASS.—The plans for the \$100,000 Carnegie laboratory building, to be erected at Amherst College, are reported to be nearly completed, and will soon be ready to submit to contractors for bids.

ATLANTA, GA.—Plans and specifications are being completed for erection of proposed post-office and court house, for which \$1,000,000 has been appropriated. Structure will be built either of granite or Georgia marble, with interior trimmings of marble. Bids will soon be received. James Knox Taylor, Treasury Department, Washington, D. C., Supervising Architect.

AVONDALE, O.—Plans are being prepared for a synagogue at Reading Road and Ridgeway Avenue, Avondale, for the Sh'erth Israel congregation. Cost, \$75,000.

BELOIT, WIS.—Plans are being considered by the First Congregational Church members for remodeling the present building, at a cost of \$10,000, or building a new church, at a cost of \$75,000.

BERKELEY, CAL.—Joseph J. Matson is considering plans for the erection of a large apartment house at Telegraph Avenue and Ward Street, to cost between \$40,000 and \$50,000.

BERNARDSVILLE, N. J.—We learn from the daily press that Architects Lord & Hewlett, Manhattan, have plans ready for the erection of a new church edifice for St. Bernard's Chapel, at Bernardsville, N. J.

BESSEMER, MICH.—Charlton & Kuenzlie, of Marquette, are stated to have been engaged to prepare plans for an almshouse to be erected for Gogebic County at a cost of \$25,000.

BIRMINGHAM, ALA.—The erection of a wing at the St. Vincent Hospital to cost about \$50,000 is reported under consideration.

BROOKLYN, N. Y.—We learn from daily papers that the Masonic fraternity of Brooklyn will build a new temple. The site is at the corner of Lafayette and Clermont Avenues. Lord & Hewlett are the architects, and their plan calls for a completely fireproof structure of the most modern character.

Oscar Lowinson, 18-20 East Forty-second Street, is preparing plans for a six-story tenement for Messrs. Aronwitz, Segman & Bernordek, 238 East Twenty-sixth Street, to be erected at 278-282 Henry Street, to cost \$48,000.

J. R. Savage, 44 Union Hall Street, Jamaica, L. I., is preparing plans for a two-story brick freight depot, 105x425 feet, for the Long Island R. R. Co., 128 Broadway, Manhattan, to be erected on Hanson Place, south side, 213.6 feet east of Ashland Place, to cost \$90,000.

Duplex Realty Co., 953 Fulton Street, will build a six-story high-class apartment house, 100x79 feet, on Gates Avenue, southwest corner St. James Place, to cost

\$170,000. J. T. Tonner, 953 Fulton Street, will be the architect.

BUTTE, MONT.—Local papers state that Architect E. W. Houghton, 414 Collins Building, of Seattle, Wash., has prepared plans for a theater to be erected here for Dick Sutton. Cost, \$40,000.

CANANDAIGUA, N. Y.—Everett E. Coykendall, Chairman of Supervisors, appointed Alfred D. Gates, of West Bloomfield, on the committee to secure plans and specifications for remodeling and rebuilding the county building and court house.

CARNEGIE, PA.—A \$50,000 brick and stone amusement hall and arcade, it is stated, is to be built at Carnegie for the Carnegie Arcade & Amusement Co. Dushane & Lewis, of Carnegie, are the contractors.

CATONSVILLE, MD.—It is stated that a \$30,000 high school is to be erected here on Frederick Avenue.

CHICAGO, ILL.—The Seventh Church of Christ, Scientist, will have a new edifice, to cost \$100,000, plans for which are being prepared by S. S. Beman. The church has bought from Benjamin F. Bush a strip of vacant land 150x150 on the west side of Kenmore Avenue, 150 feet north of Berwyn Avenue, for \$12,000. The new building will be erected on this site.

It is stated that the American Bottle Company, 609 First National Bank Building, has had plans prepared for a factory to be built at Streator, Ill. It will cover 425x258 feet, the main part to be one-story and the middle part to be equal in height to a three-story building, have concrete foundation, corrugated galvanized iron sidings, cement roof, reinforced concrete floors, structural iron work, steam heat, electric light, and cost \$170,000.

Ernest F. Hansell, 5645 West Lake Street, will build a twenty-four apartment building at the southeast corner of Midway Park and Austin Avenue. It will be three-story, 205x38 feet, have pressed brick and stone fronts, composition roof, oak, birch and white enamel finish, steam heat, marble, tile and mosaic work, wiring for electric light, and cost \$65,000.

Architect C. A. Eckstrom, Tacoma Building, 131 La Salle Street, is about to let contracts for a store and manufacturing building to be built at the northeast corner of Michigan Avenue and Twenty-first Street for A. Stanford White, represented by the Oliver Company, real estate dealers, 108 Dearborn Street, who will have charge of the building. It will be three-story, 75x161 feet, of fireproof reinforced concrete construction, have pressed brick, iron and plate glass fronts, composition roof, steam heat, electric light, and cost \$60,000.

Architect C. A. Eckstrom, Tacoma Building, 131 La Salle Street, has prepared plans for a storage warehouse to be built on the north pier, between the Michigan slip and the Chicago & Northwestern tracks. The Chicago Canal and Dock Company is the owner. It will be seven-story, 120x270 feet, of mill construction, have pressed brick exterior, composition roof, maple floors, and is estimated to cost \$300,000. It will be connected with the Illinois tunnel.

State Architect W. Carby's Zimmerman, Steinway Hall Building, 17 Van Buren Street, is making preliminary sketches for a dormitory to be built at Charleston, Ill., for the State Normal School, to cost \$100,-

000. The same architect is making sketches for an auditorium building to be built at Normal, Ill., in connection with the State Normal school, to cost \$100,000. The same architect is preparing preliminary sketches for a model school building to be built at Carbondale, Ill., to cost \$50,000.

The Raymond Lead Company, 51 to 59 West Lake Street, has purchased a tract of land, 526x125 feet, at the southwest corner of Lexington Street and Washtenaw Avenue, and parts of two other lots in the same block, and will improve it by the erection of a large plant to cover practically the entire ground. It is estimated to cost \$500,000 to \$750,000.

Architect William F. Gubbins, 685 Ogden Avenue, is preparing plans for a building, to contain a church, school rooms, an assembly and an entertainment hall, to be built at Western Avenue and Congress Street. It will be three-story, 70x144 feet, have concrete foundation, superstructure partly of steel construction, pressed brick and stone fronts, composition roof, marble and mosaic entrance, oak finish, concrete and maple floors, steam heat, combination gas and electric light fixtures, school and church furniture, and cost \$75,000. The plans will be ready about August 5 and the architects will receive bids.

Architects Holabird & Roche, Monadnock Block, will let contracts shortly for a publishing house to be built on Plymouth Place, between Van Buren and Harrison Streets, for the Western Newspaper Union, 65 to 71 Plymouth Court. It will be ten-story, 100x100 feet, of steel construction, have terra-cotta front, composition roof, and cost about \$300,000.

Architects Postle & Hahler, Marquette Building, 204 Dearborn Street, are preparing plans for a church to be built in Lake View for the First Presbyterian Church of Lake View. Rev. Frances M. Carson, pastor, 730 Pine Grove Avenue. It will be one-story and basement, of pressed brick and stone, have slate or gravel roof, hardwood finish, steam heat, and cost \$20,000. The same architects have prepared plans for a factory to be built at St. Paul, Minn., for the Waldorf Box Board Company, 827 Ashland Street, of that town. It will be four-story, of reinforced concrete construction, with exterior of brick and stone, steam heat, electric light, and is estimated to cost about \$350,000. The owners are letting the contracts.

CHICOPEE, MASS.—Messrs. Reiley & Steinback, 481 Fifth Avenue, New York, will receive estimates for a church which they are planning to be erected at Chicopee, Mass., for the Catholic congregation, to cost about \$80,000. Rev. S. Chelusnick, Chicopee, is pastor.

CINCINNATI, O.—Press reports state that the Samuel C. Tatum Co., Water and John Streets, has secured a permit to erect a \$32,000 plant on Colerain Avenue, between Monmouth and Michigan Streets. The main structure will be brick and steel, five stories high. Bids for construction will be received in a few days.

The Cincinnati Soap Co. will erect a plant for the manufacture of soap. The officers of the company are now considering the size, location and construction of the building, and hope to submit their plans to a local architect at once.

CLEVELAND, O.—It is reported that the City Council has passed an ordinance appropriating \$60,000 for the erection of a contagious disease hospital.

Six Cleveland Odd Fellow lodges have completed arrangements for the erection of a handsome \$100,000 temple at Euclid Avenue and East Sixty-fifth Street. The new temple will be five stories high, 61 feet wide, fronting on Euclid Avenue, and extending back 150 feet. It will be of brick with stone trimmings. Plans for the structure have been completed by Architect H. T. Jeffery and work will be commenced at once.

CLINTON, IA.—John Morrell & Son, architects, have completed plans for the Scottish Rite Cathedral for the Masonic Temple Association. It will be four-story, 95x90, press brick, Bedford stone, steam heat, boilers, dumbwaiter, passenger and freight elevators, electric lights and motor, fire escape, gas fixtures, iron beams, stairs, mosaic work, marble, metal lath, plumbing, refrigerator, terra cotta, vaults and ventilators. Cost, \$100,000. The architects will receive bids until August 1.

COLUMBUS, O.—Richard, McCarthy & Bulford, Ruggery Building, are said to be preparing plans for the store which the F. & R. Lazarus Co. will erect this fall at High and Town Streets. The building will be five stories high, structural steel construction and completed will cost about \$250,000. It is reported that contracts for the building will be let before October 1, as it is said to be the desire of the company to begin the erection of the new building on that date.

We learn from a correspondent that Howard, Irish & Merriam, architects, are preparing plans for a new Eagles home. Building will be erected at corner of Town and Pearl Streets, and will cost \$65,000.

CRANFORD, N. J.—Messrs. Korr & Poggi, associate architects, are taking estimates on the new Christian Science Church, which it is expected will cost about \$30,000.

DALLAS, TEX.—Sawyer Bros. will build a warehouse. Plans for the structure are now being drawn by Lang & Winchel, and actual work is expected to begin very soon. The warehouse will be built between Young and Wood Streets, just east of Boydras. It will be 115x230 feet in size and will have six full stories and a basement. There will be over 185,000 square feet of floor space.

Local papers state that John Deere Plow Co. has received building permit for its proposed warehouse; 100x100 feet, brick and steel construction, three stories, cost \$39,000; O. A. Akerman, architect, Moline, Ill.

DANBURY, CONN.—First Congregational Church proposes erecting a \$75,000 edifice. Rev. Harry Chamberlain Meserve, pastor.

DAYTON, O.—Plans will be prepared for C. G. McMillen, care Colonial Hotel, Canton, O., for a four or five-story hotel, 56x70 feet, at Dayton. Cost, \$60,000.

DECATUR, ILL.—Diel & Ginzler, of Lincoln, have been engaged to prepare plans for the building which the Pythian lodges propose erecting in this city and for which there is \$125,000 appropriated.

DETROIT, MICH.—Plans are being prepared by Architects Edward A. Walsh & Son, Whitney Building, for a four-story block to contain bank, for the Grand River Market Company, Dr. D. H. O'Bonnell, manager.

DEVILS LAKE, N. D.—Plans have been received by Colonel Kelly for the proposed opera house to be erected here. J. A. Burrichter, of Reno, Nev., is interested. Cost, \$30,000.

DULUTH, MINN.—Plans are being prepared for the erection of the Endion M. E. Church. Cost, \$35,000. Rev. J. N. Powell, pastor.

DURHAM, N. H.—Bids will be received until August 12 (readvertisement) by the Bldg. Com. Bd. Trus. (John G. Gallant, Chmn.) New Hampshire College, for erecting a dormitory at said college.

It is stated that the local Y. M. C. A. is preparing to consider proposals for erection of its proposed building; plans previously accepted from Hill C. Linthicum; building to cost \$30,000.

EAST CHICAGO, IND.—The City Council has ordered plans for the erection of a new City Hall. Estimated cost, \$50,000.

EASTON, PA.—It is stated that plans will be prepared by Architect A. A. Ritcher, New Shenk Building, Lebanon, Pa., for a seven-story bank and office building, 32x158 feet, at Fourth and Northampton Streets, Easton, for the New Northampton National Bank. Cost, \$180,000.

ELMIRA, N. Y.—It is now authoritatively stated in the local papers that a hotel and theater building will soon be erected at a cost of \$450,000. Architect's name to be announced later.

EUGENE, ORE.—W. M. Renshaw is reported interested in a stock company being organized for the purpose of erecting a \$50,000 hotel.

FALL RIVER, MASS.—Plans of L. H. De-stremps & Son, architects, have been accepted for a twelve-room school building to replace the old Westall Building. Proposals will soon be called for.

FARGO, N. D.—Bids are asked by John G. Beusch, City Auditor, until August 5, for the construction of a brick City Hall and fire station.

FARNHURST, PA.—Press reports state that plans were prepared for a Delaware State Insane Asylum by Architect James G. Doak, 1420 Chestnut Street, Philadelphia, Pa. Cost, \$200,000.

FT. MYER, VA.—Bids will be received by Capt. B. B. Hyer, Constr. Q. M., U. S. A., until August 15, for alterations and additions to officers' quarters No. 1, Signal Corps Post, Ft. Myer.

FT. WAYNE, IND.—Plans are being prepared by Architect Charles R. Weatherhogg, Hamilton Bank Building, for a nine-story hotel for the Fort Wayne Hotel Company. Cost, \$300,000.

GALVESTON, TEX.—A hotel will be erected in this city at a cost of \$250,000. Address the secretary of the Business League for information.

GRAND JUNCTION, COL.—Bids are asked by J. B. Boyer, architect, Grand Junction, Col., until noon, August 12, for all labor and materials required by the plans and specifications, for the erection and completion of a three-story basement and roof garden brick, stone and concrete Elks' Temple to be erected at Grand Junction.

GREENSBURG, PA.—Architects Topp & Blair, 307 Empire Building, Pittsburgh, have prepared plans and will receive bids for a two-story building, 60x110 feet, at Greensburg, Pa., for the Westmoreland Realty Co. Estimated cost, \$45,000.

HARRISBURG, PA.—It is stated that plans will be received until September 30 by W. L. Gorges for a Masonic Temple to be erected at a cost of \$90,000.

HARTFORD, CONN.—Bids will be received until August 12 by the Com. of Washington School Dist. (Alex. Angus, Chmn., Hartford National Bank) for \$100,000 school district bonds.

HOT SPRINGS, ARK.—Children's Home and Girls' Protective Association, Rev. R. P. Lucado, president, will, it is reported, erect building to cost \$40,000.

HOUGHTON, MICH.—Plans are being prepared by Architects Charlton & Kuenzli, Marquette, for the library and museum building for the State College of Mines. Cost, \$75,000.

INDIANAPOLIS, IND.—Local papers state that plans have been prepared by Architects Henry C. Brubaker Company, 1212-1213 State Life Building, for a ten-story bank and office building for Samuel Richards. Cost, \$200,000.

Plans have been prepared by D. A. Bohlen & Son for a new academy building for the Sisters of St. Agnes. Building will be 100x148 feet, of brown glazed brick and terra-cotta, roofed with red tile.

IRON RIVER, MICH.—Plans are being prepared by Architects Foeller & Schober, Paul Fox Block, Green Bay, Wis., for a bank building at Iron River for the First National Bank, E. S. Coe, president. Cost, \$30,000.

JEFFERSONVILLE, KY.—Clark & Loomis, architects, Louisville, have been engaged to prepare plans for the new building for the Citizens' Bank & Trust Co.

JERSEY CITY, N. J.—At its special meeting the Board of Education appointed S. Edson Gage and Donald G. Anderson architects to draw plans and specifications for the proposed new No. 10 school.

It is stated that plans for the tuberculosis hospital have been completed, and it is reported that bids for the construction will be asked by the Board of Freeholders soon. Probable cost, \$30,000.

KANKAKEE, ILL.—The County Board, it is stated, has under consideration the erection of a court house at a cost of \$225,000. Address County Auditor.

KANSAS CITY, MO.—The Board of Public Works instructed Root & Siemens, architects, to prepare plans for the new fire station to be erected at Fourteenth and Penn Streets. The present building is to be razed.

Among the building permits issued one day the past week were the following: The building at the southeast corner of Tenth and Baltimore for the New England National Bank. It is to cost \$120,000 and will be of steel and stone.

The Aragon Investment Company will put up a two-story brick at 722-24 Walnut to cost \$50,000.

D. Ricksecker is reported to have decided to erect a brick store building at Walnut and Ninth Streets, to cost about \$100,000.

A permit has been issued for a six-story building to be erected by J. S. Lillis at Eleventh and Walnut Streets, at a cost of \$62,000.

The members of the Kansas City County Club, it is reported, are planning improvements to cost about \$40,000, which will include the remodeling of the club house at a cost of about \$25,000.

KEWANEE, ILL.—V. Jobst, of Peoria, it is stated, has secured the contract to erect a business block for the Star-Courier to cost \$60,000.

KNOXVILLE, TENN.—Mechanics' Bank & Trust Co., Bird M. Robinson, New York, N. Y., president, will erect fireproof bank building.

Mrs. George W. Baxter is having plans prepared for erection of business building; four stories; brick; cost, \$30,000.

Plans are being drawn by Barber & Klutz, architects, of this city, for the erection of a large office building and warehouse for the International Harvester Company. This building will be constructed on the lot opposite the Baker-Himel Park on Asylum and Ramsey Streets. It is to be of brick, four stories. The dimensions are 130x80 feet. The structure will be of slow burning construction, and very heavily built, the floors carrying heavy loads of 300 pounds to the square foot.

LA CROSSE, WIS.—The Legislature has appropriated \$200,000 for a State Normal School, to be erected here. Van Ruyn & De Gelleke, architects, Milwaukee, are working on the plans.

LANCASTER, KY.—George Hitchings, Equitable Building, Louisville, has prepared plans for a hotel for the Kengarean Hotel Co., Lancaster. To be three and one-half stories, 60x60 feet, brick construction with stone foundation, modern plumbing, steam heat, electric light fixtures, plate and luxur prism glass, water closets, baths, metal roof, etc.

LEVY, ARK.—It is reported that plans are being prepared for an orphanage to be erected by the Roman Catholic Church at a cost of \$100,000. Address Bishop of the Diocese of Little Rock.

LEWISTOWN, MONT.—It is reported that the contract recently awarded for erecting the court house has been rescinded. It is stated that the plans are to be revised and new bids asked. Appropriation, \$100,000.

LINTON, IND.—A site is reported given to the Y. M. C. A. on which it is proposed erecting a \$20,000 building.

LOUISVILLE, KY.—Plans are being prepared by Maury-Hillerich, Board of Trade Building, for a business building on Fourth Street, between Walnut and Chestnut Streets, for John H. Sale. To be ten stories, 50x204 feet. Cost, \$350,000.

It is stated that Fred Erhart, Norton Building, has plans for an apartment house to be erected on Eastern Parkway, west of Baxter Avenue. To be six stories, 145x50 feet, of brick and concrete construction, with twelve apartments, modern plumbing, furnace heat, electric light fixtures, tiling, cabinet mantels, etc.; \$60,000.

Local papers state that plans for the addition to the Girls' High School have been accepted by the building committee of the School Board. To be of brick construction with plumbing, electric light fixtures, etc.; \$60,000.

LYME.—The church at Old Lyme, which was recently destroyed by fire, is to be rebuilt at a probable cost of \$50,000. Edw. M. Chapman, pastor.

MACON, GA.—Mercer University has adopted plans by Lockwood Bros., Columbus, Ga., for erection of proposed library building; probably gray stone or marble finish; storerooms, three stories high, accommodating about 100,000 volumes; cost,

\$40,000; Mr. Jameson, president.

MARIETTA, O.—Bids are being taken by W. J. Speer, Chairman of the Building Committee of the German National Bank, of Marietta, O., for an eight-story fireproof bank and office structure for that institution, to cost about \$100,000.

MARQUETTE, MICH.—Local press reports state that bids will be received until August 22 by the Bd. Educ. (Cyrile Houle, Secy.) for erecting a high school, also for plumbing and sewerage for same. Specifications may be had from the Secy. on deposit of \$10. J. D. Chubb, architect, Chicago, Ill.

MELROSE, MASS.—The Board of Aldermen has voted to appropriate \$75,000 to build a twelve-room addition to the present high school.

MEMPHIS, TENN.—Hanker & Cairnes, architects, Scimitar Building, it is stated, have plans prepared for an apartment house, at Central Avenue and Belvidere Boulevard, for the Belvidere Improvement Co., H. W. Brennan, promoter, 45 Southern Express Building. Building to be seven stories high, of brick and stone, and will contain 300 rooms, also roof garden. Cost, \$250,000.

Local papers report that Alsop & Woods, architects, are preparing plans for three new school houses to be erected for occupancy next spring. These buildings will be practically duplicates and are expected to cost \$200,000 each.

MIDDLEBURY, CONN.—Plans for the new Westover School in Middlebury are ready for figures. The buildings will cost in the neighborhood of \$100,000. Miss Mary R. Hillard, of St. Margaret's School, has the matter in charge.

MT. AIRY, GA.—C. Gresham will build hotel lately mentioned; of brick; 48x220 feet; electric lighting; semi-fireproof; cost, \$100,000; no bids wanted as yet; architects, Hunter & Vaughan, Charlotte, N. C.

NASHVILLE, TENN.—Local papers state that excavation and foundation construction has begun by Contractors Foster & Creighton for proposed Roman Catholic Cathedral previously reported; contracts for superstructure have not been awarded. Architects Thompson, Asmus & Norton are in charge; cathedral to be of Roman architecture; gray brick trimmed with stone; tiled roof and tower; 90x160 feet, etc.

NEW ORLEANS, LA.—A site on Independence Street is reported to have been decided upon on which the Government will erect an immigration station at a cost of about \$70,000.

NEW YORK, N. Y.—It is stated that plans have been filed by McKim, Mead & White, architects, 160 Fifth Avenue, for enlarging the Metropolitan Museum of Art in Central Park at Eighty-second Street. The additions will be two and three stories high, one annexed to the museum library on the south 116x183 feet; the second to be added to the exhibition halls on the north side, 54x119, and the third to be 15 feet frontage and 21 feet deep at the east of the Hall of Sculpture. The three additions are to cost \$450,000.

It is reported in the daily papers that the Children's Aid Society will build a new hotel for boys, at a cost of more than \$100,000. The plans which have been prepared by Parish & Schroeder are for a building 47x95 feet, of brick and limestone. Hotel will be erected on the corner of 127th Street

and Lexington Avenue, and is the first hotel of this description to be erected in Greater New York.

Gov. Hughes has signed a bill providing for the erection of a municipal office building at the Manhattan terminal of the Brooklyn Bridge. The measure entitles the Commissioner of Bridges to employ an architect to draw plans for this building.

OKLAHOMA CITY, OKLA.—Plans are being prepared by Architect G. W. Van Meter, old Post Office Building, for a six-story and basement office building to be erected by the firm of Levy Brothers, at a cost of at least \$125,000.

The Odd Fellows, it is reported, are planning the erection of a \$40,000 building. Jas. Lowrie is a member of the committee having the matter in charge.

OMAHA, NEB.—The Improved Order of Redmen, it is stated, is considering the erection of a building here to cost about \$50,000.

Building Inspector Withnell issued a building permit for the construction of the new building for the Young Women's Christian Association. The cost of the building, as listed in the permit, is \$100,000.

The Commissioners of Douglas County are reported to have received tentative plans from John Latenzner, Bee Building, for a court house to cost about \$1,000,000.

PENSACOLA, FLA.—Bids will be opened October 1 for construction of bank building recently noted for American National Bank; to be 60x90 feet; ten stories; brick and terra-cotta; fireproof construction; cost, \$225,000.

PEORIA, ILL.—Local papers state that the plans and specifications for the large warehouse of the Bull Bros. Co., to be erected at the corner of Water and Jefferson Streets, have been completed. The building will be 80x124 feet, and will be practically five stories in height, the structure showing four stories and a half basement on the Water Street front, and on the river will be full five stories high. Paving brick will be used for the basement and first floor, and the top three stories to be of the best cream brick.

PHILADELPHIA, PA.—Rankin, Kellogg & Crane, architects, have finished plans and estimates have been invited by Colonel F. L. Denny, marine corps quartermaster, for the extension to the Marine Quartermaster's store and office building at Broad and Washington Avenues. The building will be five stories high, with a basement, 105x92 feet in dimensions, of granite, brick and terra-cotta.

Local papers state that a church will be erected at South River, N. J., for the congregation of St. Mary of Ostrabam. Henry D. Dagit, architect, of this city, made plans which provide for a one-story building, measuring 52x120 feet. It will be built of brick and stone, and contain church and Sunday school.

The Curtis Publishing Co., publishers of *The Ladies' Home Journal*, 425 Arch Street, have commissioned Architect Edgar V. Seeler and Engineers Frank C. Roberts & Co., Real Estate Trust Building, to prepare plans for an immense publishing establishment to occupy an entire city block, bounded by Sixth and Seventh Streets and Walnut and Sansom Streets. Building will probably be erected of concrete and brick

and be ten or twelve stories. It will cost over \$1,000,000.

Plans are being prepared by Brockie & Hastings, 328 Chestnut Street, for replacing the building of the University of Pennsylvania Hospital on Spruce Street, between Thirty-fourth and Thirty-sixth Streets. Cost, \$300,000.

PINE BEACH, VA.—Princess Anne Investment Co. is considering erection of fireproof hotel to cost \$100,000; C. A. Neff, president, Norfolk, Va.

PIQUA, O.—Howard, Inscho & Merriam, architects, of Columbus, O., have prepared plans for a clubhouse for the Piqua Club, which will cost \$40,000.

PITTSBURG, PA.—Pittsburg made a unique record last week. Not a single permit for building was granted during the six days ending July 20. This has not occurred before in more than ten years, and emphasizes very forcibly the fact that continued tight money and the high prices of materials have combined to curtail building operations very seriously in the steel city. The first six months of 1907 showed a falling off of 41 per cent., which was largely accounted for by the fact that the total of real estate dealings in Pittsburg for that period was \$2,000,000 a month short of that of 1906 to July 1. The slump in building is evident all over the city, but is most conspicuous downtown. In the heart of the city there is only one building of importance under way, a fifteen-story mercantile structure, whereas for the last four years there have been from six to twenty buildings going ahead downtown whose cost ran from \$200,000 to \$800,000 each. Not more than one-fourth the usual amount of house building is going on in the city and suburbs, and the records show that structures costing from \$10,000 to \$50,000 are few and far between in comparison with the activity that has prevailed since 1900. Allegheny is making a much better showing in general and her record several months of this year has shown a fair gain over 1906.

The First National Bank of Pittsburg is perfecting plans for what will be the finest strictly bank home in Pennsylvania. It will be at Fifth Avenue and Wood Street, 120x80 feet. Architects Rutan & Russell designed the structure, which will be a one-story building with spacious mezzanine floor and elaborate decorations.

Frank Thornburg, who five years ago laid out what is now the most unique and artistic suburb in Greater Pittsburg, is having plans prepared for a street of bungalows. The street will be three-fourths of a mile long and will wind through a dense forest most of the way. It will be named Smith College Road. It is expected that the bungalows will cost about \$10,000 each and that the first of them will be ready for occupancy by September 1.

The Henry W. Oliver estate, Henry L. Wass, manager, Wood Street and Oliver Avenue, Pittsburg, Pa., is having plans prepared for an eight-story brick and steel bank and store building at Liberty, near Oliver Avenue, to cost about \$250,000.

Carlton Strong, architect, Bellefield dwellings, is drawing plans for an office building to be erected by the Jones & Laughlin Steel Co. at Third Avenue and Try Street.

Geo. S. Orth & Bros., 341 Sixth Avenue, have prepared plans and will receive bids

until August 15 for a church, 75x100 feet, on Beechwood Boulevard, to be known as the Mary E. Brown Memorial M. E. Church. Estimated cost, \$50,000.

PONCE, PORTO RICO.—The School Board is to erect three graded school buildings at a cost of about \$50,000.

QUINCY, MASS.—Bids are asked until 3 P.M., September 4, by James Knox Taylor, Supervising Architect, Washington, D. C., for construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the United States post-office and customhouse at Quincy.

READING, PA.—The Reading Mill Work Company, 440 Court Street, is having plans prepared for a large planing mill and wood-working plant. Estimated cost, \$60,000.

REDDING, CAL.—It is reported that the Board of Supervisors intend erecting a Hall of Records at a cost of \$40,000.

REDLANDS, CAL.—It is stated that Myron Hunt and Elmer Grey, of Los Angeles, have been engaged to prepare plans for improvements to be made to the Casa Loma Hotel at Redlands at a cost of \$50,000.

ROSENBERG, TEX.—Fort Bend County has voted \$75,000 of bonds for erection of the proposed Courthouse. Address County Commissioners.

SACRAMENTO, CAL.—D. H. Burnham & Co., architects, Chicago, have in course of preparation plans for the new passenger station for the Western Pacific Railway. This building, which will occupy the entire block bounded by J. K., Nineteenth and Twentieth Streets, will be of reinforced concrete construction.

ST. LOUIS, MO.—The Etrick Realty Company is having plans prepared for the erection of a large apartment house at Taylor and Laclede Avenues. It is to be three stories high and the cost will be approximately \$125,000.

Plans are being perfected by G. C. Goodlett for an apartment building on the west side of Clara Avenue, a block south of Delmar, opposite the west end of Washington Terrace, to cost from \$75,000 to \$100,000.

A building permit has been issued to the Board of Education for a five-story warehouse on School Street, in the rear of the Central High School on Grand Avenue. The building will cost \$109,000. It will be of reinforced concrete and fireproof. The exterior and interior will be plain. It will be equipped with elevators. The building is to be L-shaped, 171x155x136x145 feet. It will contain a workshop and a bookbindery. William B. Ittner is Comr. of Education.

ST. PAUL, MINN.—Local papers state plans have been prepared by Architect A. F. Gauger, Scandinavian-American Block Building, for the erection of the Hope Norwegian Lutheran Church on University Avenue, southeast Minneapolis. Cost, \$45,000. Bids will be received until August 12.

SALEM, MASS.—It is stated that Kilman & Hopkins, of Boston, are the architects for the high school which it is proposed erecting at a cost of \$350,000.

SALINA, KAN.—Preliminary plans are being prepared by Architect Charles Crawford, 117 South Seventh Street, for a four-story hotel addition for Witner & Stephens. Cost, \$35,000.

Members of the Building Committee, Sa-

lina, Kan., W. H. Ringle, T. B. Vallets, L. A. Will and Amos Godfrey, City Clerk, want sketch plans in competition for a brick and stone City Hall and jail to cost in the neighborhood of \$40,000.

SAN ANTONIO, TEX.—A ten-story steel frame office building will be erected on a lot at the southwest corner of Houston and Lasayo Streets, by the Woods National Bank, of this city. Cost, \$150,000.

SAN FRANCISCO, CAL.—We learn from local papers that Boardman & Tompkins have applied for a permit to erect a five-story steel and brick store and loft building at the southeast corner of California and Front Streets, to cost \$100,000.

Construction work on the Coleson Building, at the corner of Stockton and Geary Streets, is about to begin. The building will have frontage on both streets, 92.6 feet on Geary and 58.6 feet on Stockton. The foundations are of concrete. The walls are to be brick, and the building will be fireproof. The owner is the Coleson Co. The cost will be about \$125,000.

The Y. M. C. A., of this city, has purchased a lot at the corner of Golden Gate Avenue and Leavenworth Street, and will erect a Class A building there. Work will begin as soon as the necessary arrangements can be made. The building will occupy all of the ground, and will be eight or nine stories in height. H. J. McCoy is Gen. Secy.

A building is being planned by John C. Pelton, architect, 1767 Geary Street, for J. M. Rothchild, which will adjoin the Newman & Levinson Building, on Geary Street, 137 feet west of Stockton Street. It will be a six-story Class A structure, covering a lot 55x137.6. The facade up to the three lower stories will be of terra-cotta, and in the floors above Roman brick will be used.

The Holmes Investment Co. has made application to erect a Class A building on the north side of Post Street, 60 feet east of Kearny Street. The estimated cost is \$275,000.

Application has been made by D. O. Mills for a permit to erect a ten-story office building of steel and concrete construction adjoining the Mills Building in Bush Street, near Montgomery Street, at a cost of \$340,000.

SAN JUAN, PORTO RICO.—The Insular Government has made appropriations for a capitol building to cost \$300,000, and a penitentiary to cost \$120,000. Competitive designs will soon be asked for. Address Commissioner of the Interior, San Juan, P. R.

The local school board is having plans prepared for a High School building to cost about \$50,000.

SCHENECTADY, N. Y.—The Schenectady Illuminating Company and the Mohawk Gas Company have completed plans for their new office building, which will be located in Clinton Street, and for the gas house that will be built in Villa Road. Estimated cost, \$100,000.

SHREVEPORT, LA.—It is stated that J. B. Slattery obtained from the city a permit for the erection of a three-story reinforced concrete building to occupy a site in Texas Street, opposite the court house. The building will cost at least \$75,000. Mr. Slattery has engaged a building superintendent and sub-contracts for the different parts of the work will be awarded and they will be

executed under the direction of the superintendent.

SPOKANE, WASH.—A. W. Doland, secretary and treasurer of the Spokane Drug Company, announces that a six-story modern warehouse and office building, to cost \$75,000, will be erected on a site at Wall Street and Second Avenue, for which \$37,500 was paid a few days ago. It will be connected with the basement by a tunnel under the alley. Overhead bridges will also be constructed. The offices and salesrooms will be moved from the present location to the Second Avenue part of the property. The reason for this is that the raising of the Northern Pacific tracks in front of the property will darken the offices as to make them inconvenient for such purposes.

W. H. Pruyn, Jr., & Co., architects, of Chicago, have prepared plans for twenty-four-apartment building to be erected in Spokane for the Wellington Investment Company. It will be three stories, 100x130 feet, of pressed brick structure, with stone trimmings. The interior finish will be mahogany, oak and birch woods, with oak flooring; tiled fireplaces with mantels. The architect's estimate as to the cost of the building is \$120,000, exclusive of the cost of the site.

The Pacific Coast Elevator Company will build a large grain warehouse at Pullman, Wash., south of Spokane, to replace the elevator destroyed by fire. Stockyards are to be built at the lower end of the warehouse yard. Other warehouses will be erected as soon as the insurance is adjusted.

H. M. Shafer, principal of the State Normal School at Cheney, near here, announces that contracts will be awarded October 10 for the buildings to cost \$60,000 to be erected this season.

Arthur W. Cowley has completed plans for a three-story apartment house, 100x142 feet, at Sixth Avenue and Stevens Street, to cost \$80,000. The house will contain twenty-four apartments. The interior finish will be oak and mahogany.

Announcement is made that the Chamberlain Real Estate & Improvement Company will build ten houses in Sherbrook Street, Sherwood addition, to cost between \$75,000 and \$100,000. Stone piers will be built on both sides of the street, which will be graded and oiled, and there will be cement walks and curbs. The site commands a view of the Fort Wright military reservation, west of the city.

The Colonial Building Company, of Spokane, has been organized with a capital of \$50,000 by Charles H. Ludberg, Charley Johnson, Dan Danielson and Albin Pehrson.

The congregation of the Orthodox Jewish synagogue will erect a structure at Adams Street and Fourth Avenue. Plans have been made and money raised. The building will cost \$20,000. Judge Munter is chairman of the Building Committee.

G. Laslett has been awarded a contract to erect an administration building and gymnasium on the high school grounds at a cost of \$39,200. The building is to be completed February 1.

The Washington Grain & Milling Company is arranging to build warehouses at Mount Hope, West Fairfield, Waverly and Fairbanks. Seven warehouses will be opened at Rosalia, Cashup, Steptoe, Blackwell and Colfax.

Plans have been prepared for a new building 15x80 feet, to be erected for the Spokane & Eastern Trust Co. Cost, \$150,000.

SPRINGFIELD, ILL.—The Taylorville Utility Company, which was recently organized, will build its electric light, heating and ice plant this fall. It will take \$125,000 to build the plant.

SPRINGFIELD, MASS.—It is reported that the Hibernians will erect a building to cost about \$50,000.

STEBENVILLE, O.—Funds are being secured for a \$50,000 Y. M. C. A. building in Steubenville, O. No building committee has been appointed and no architect chosen. The president of the association can be addressed.

STORRS, CONN.—Competitive plans will be received until August 31 by Thos. D. Bradstreet, State Compt., Hartford, for a Horticultural Hall and greenhouse at Conn. Agricultural College, Storrs. Appropriation, \$50,000.

SYRACUSE, N. Y.—Bids are now being asked at Syracuse University for the contract for the building of the new gymnasium. The contract will be awarded soon.

Plans are being prepared for a parish for St. Anthony of Padua. F. J. Quinn is pastor. Cost, \$80,000.

TERRE HAUTE, IND.—It is reported that plans are being prepared and bids for the construction of an addition to the jail to include a private water works system, a heating plant and a laundry will soon be asked by the County Commissioners. Estimated cost, \$75,000.

THIEF RIVER FALLS, MINN.—Jos. Bell DeRemer, of Grand Forks, N. D., is reported preparing plans for a \$75,000 two-story brick and stone department store which will be erected here for Rasmus Oen.

TOLLEY, N. D.—Bids will be received until August 9 by D. C. Hair, Clerk of the School Board, at the First National Bank, for erecting a four-room brick school. William Zimmerman, architect, Scofield Block, Minot.

TOPEKA, KANS.—Plans have been prepared by Architects Chandler & Nielson for a hotel addition for the Knights and Ladies of Security, care of W. B. Kirkpatrick. Cost, \$60,000.

TRENTON, N. J.—Spencer Roberts, 26 South Fifteenth Street, Philadelphia, Pa., has completed plans for the City Hall at Trenton. Estimated cost is \$800,000. Bids will be advertised for about August 15.

UTICA, N. Y.—Plans are being prepared by Barnett, Haynes & Barnett, Frisco Building, St. Louis, Mo., for a three-story \$300,000 convent at Utica.

VIROQUA, WIS.—Plans have been prepared by Architects A. E. Parkinson & B. Dockendorf, La Crosse, for a two-story bank building at Viroqua, for H. P. Proker. Cost, \$35,000.

WASHINGTON, D. C.—It is reported that A. R. Townsend, The New Berne, Twelfth Street and Massachusetts Avenue N. W., will erect twelve three-story brick and stone dwellings with modern conveniences on Garfield Street, between Woodley Lane and Cathedral Avenue, to cost \$60,000; Hunter & Bell, architects, 1010 F Street N. W.

WATERBURY, CONN.—Local papers state that the Polish Catholic Church congregation will erect a parochial school here to cost \$45,000. Architect not yet selected.

WATERTOWN, N. Y.—Bids will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., September 3, for the construction, complete, of U. S. Post Office at Watertown.

WEST ALBANY, N. Y.—Bids are being received by the New York Central for the construction of a big erection shop at West Albany, of brick and steel, 430 feet long by 125 feet wide, and to cost \$500,000. W. J. Wilgus is Superintendent Grand Central depot.

WHEELING, W. VA.—The Wheeling Enamelled Iron Company will make improvements to its plant. Estimated cost, \$60,000.

WICHITA, KAN.—The Atchison, Topeka & Santa Fe Ry. Co. will expend about \$200,000 in erecting a passenger station here. J. E. Hurley is General Manager, Topeka.

WILKINSBURG, PA.—Architect F. G. Scheibler, Jr., Carl Building, Wilkinsburg, Pa., has plans for a brick natatorium and amusement hall to be built for a company of Wilkinsburg business men headed by S. Ament, care of Wilkinsburg Real Estate & Trust Company. It will cost about \$25,000.

WILLIAMSTOWN.—The Board of Governors of Williams College are reported as having plans prepared for a brick and stone dormitory to be erected this year.

WINNFIELD, LA.—Winnfield High School has accepted plans for erection of building to cost \$75,000 accommodating 1,000 persons; bonds have been voted.

YAUCO, PORTO RICO.—The School Board is having plans prepared for a graded school building to cost \$18,000. All School Board work is under the direction of the Commissioner of Education, San Juan, Porto Rico.

YORK CITY, PA.—Local papers state that a new school house is soon to be erected on the northeast corner of West and King Streets. Building to have twelve rooms. Architect to be selected at the August meeting of the School Board.

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., August 5th, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 17th day of September, 1907, and then opened, for the repairs to stonework, miscellaneous repairs, alterations and painting at the U. S. Mint Building, San Francisco, California, in accordance with the drawings and specification, copies of which may be had at the office of the Superintendent of Construction and Repairs, 403 Post Office Building, San Francisco, California, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1650-1651)

Treasury Department, Office of the Supervising Architect, Washington, D. C., July 31, 1907.—Sealed Proposals will be received at this office until 2 o'clock p. m. on the 16th day of September, 1907, and then opened, for the construction (except elevators), of the U. S. Marine Hospital, at Buffalo, N. Y., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the Custodian of the Site at Buffalo, N. Y., at the discretion of the Supervising Architect. John Knox Taylor, Supervising Architect. (1650-1651)

Treasury Department, Office of the Supervising Architect, Washington, D. C., July 31, 1907.—Sealed Proposals will be received at this office until 2 o'clock p. m. on the 16th day of September, 1907, and then opened, for the construction (except elevators), of the U. S. Marine Hospital, at Pittsburgh, Pa., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the Custodian of the Site, at Pittsburgh, Pa., at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect. (1650-1651)

(Proposals continued on p. xiii.)

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PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., August 5, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 23d day of September, 1907, and then opened, for the construction (except elevator), of an extension, remodeling, etc., to the U. S. Post Office and Court House at Cedar Rapids, Iowa, in accordance with drawings and specifications, copies of which may be had at the office of the Custodian at Cedar Rapids, Iowa, or at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1650-1651)

Treasury Department, Office of the Supervising Architect, Washington, D. C., August 5, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 19th day of September, 1907, and then opened, for the construction complete of the U. S. Post Office at Muscatine, Iowa, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Muscatine, Iowa, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1650-1651)

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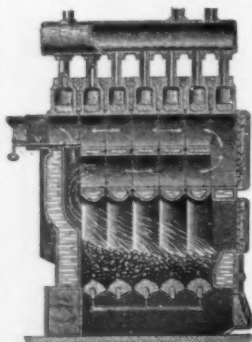
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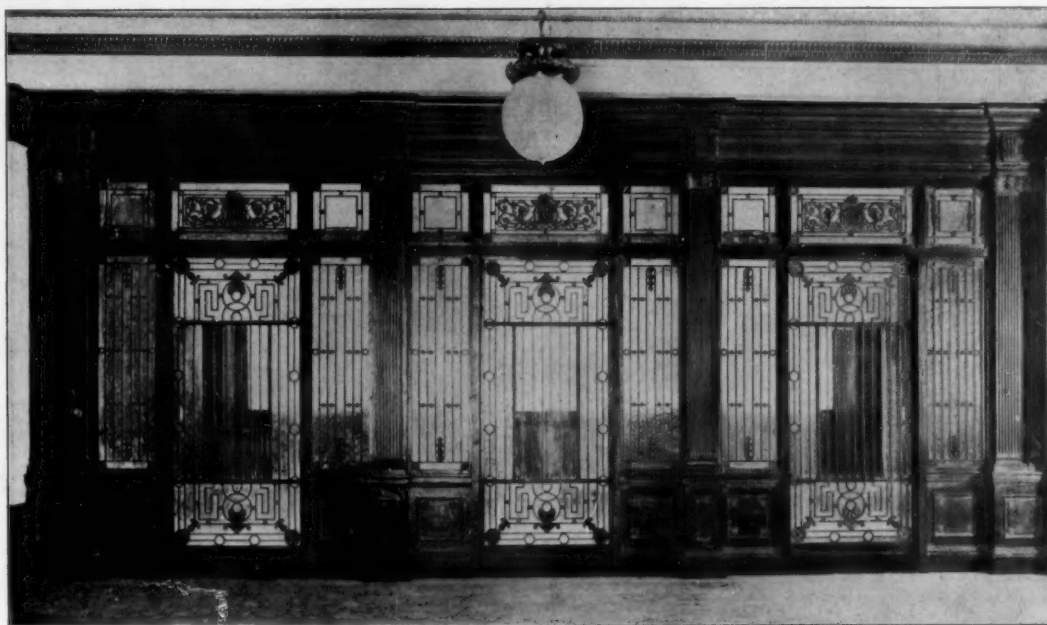
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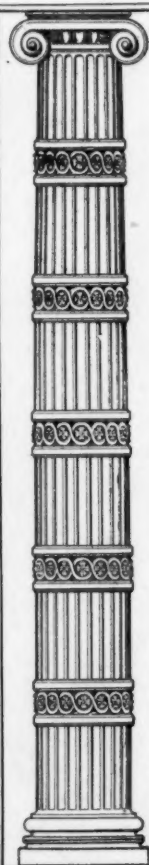
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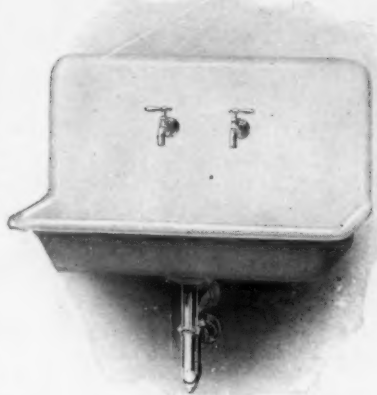
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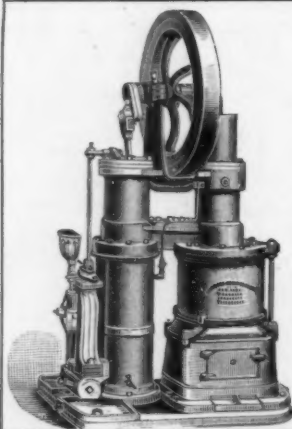


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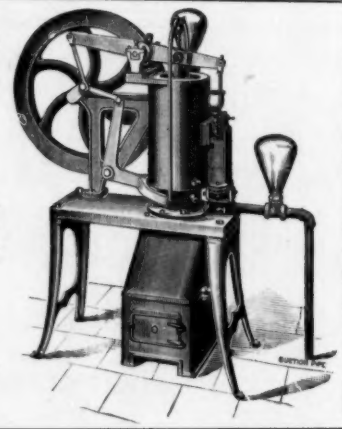
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