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The AMERICAN ARCHITECT AND BUILDING NEWS

Regular Edition

Vol. XCI.

JUNE 22, 1907.

No. 1643.

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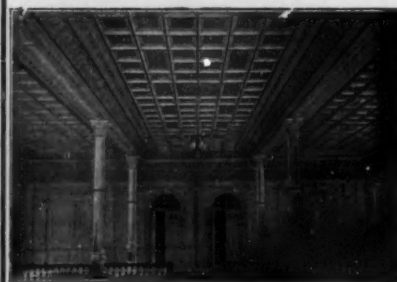
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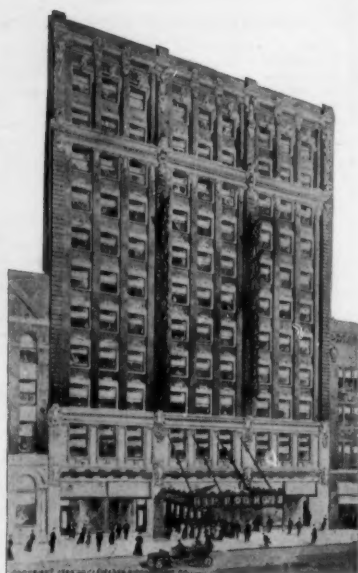
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SOCIETIES.**WASHINGTON, D. C., ARCHITECTURAL CLUB.**

In connection with the work of the architectural department of the George Washington University, the Architectural Club of Washington has this year awarded its annual prize for excellence in design to Reginald Wickliffe Geare.

PORTLAND, ORE., ARCHITECTURAL CLUB.

The annual election was held on May 7 at the Commercial Club, when F. J. Berndt was chosen *President*; H. A. Whitney, *Vice-president*; C. H. Kable, *Treasurer*, and F. J. Webber, *Secretary*. The standing committees were announced as follows: *Municipal Affairs*—E. B. McNaughtan, R. J. Grace, John G. Wilson. *Educational*—H. E. Plummer, Emil Schacht, H. H. Megges. *Scholarship*—E. G. Lawrence, A. E. Doyle, Joseph Jacobberger. *House*—W. F. Tobey, E. Kroner, C. L. Linde.

PERSONALS

COLUMBIA, S. C.—Mr. Charles C. Wilson announces that he has associated, as partners in his practice of engineering and architecture, at Columbia, Mr. E. D. Sompayrac, a graduate in architecture at Cornell University, and for the past ten years chief inspector, insurance department, Southern Railway, and Mr. J. B. Urquhart, a graduate of Virginia Polytechnic Institute, and for the past six years chief draughtsman and designer in this office.

WILMINGTON, N. C.—Messrs. Charles McMillen and Carl B. Cooper, architects, have formed a copartnership for the practice of their profession, under the firm name of McMillen & Cooper.

PENDLETON, ORE.—Notice is given that the partnership heretofore existing between T. F. Howard and F. A. Swingle, under the name of Howard & Swingle, architects, is dissolved by mutual consent. T. F. Howard will collect all bills and pay all debts of the firm at Pendleton, Ore., and F. A. Swingle will collect all bills and pay all debts of the firm at Kennewick, Wash.

PROVIDENCE, R. I.—A suit for \$12,000, under a contract to furnish labor and materials for the erection of a building has been filed in the Superior Court by Thomas H. Doane against Annie E. Simmons and Mary L. Walker. The plaintiff claims that a contract was signed by the parties thereto March 31, 1906, by the terms of which the defendants were to pay the sum of \$11,500 in consideration of the performance by the plaintiff of the obligations specified. He says that certain payments of money for work and materials that the architect certified were necessary have been refused.

SAN FRANCISCO, CAL.—Messrs. G. A. Wright, George Rushforth and B. J. S. Cahill, formerly of 2277 California Street, have removed their offices to 571 California Street.

BROOKLYN, N. Y.—The home of Mr. Isaac E. Ditmars, architect, who lives at

No. 227 Garfield Place, Brooklyn, was entered by burglars on Saturday night, June 9, and wedding gifts, linen and costly liquors worth \$500 stolen. Mr. Ditmars, his wife and daughter were not awakened by the thieves.

ATLANTA, GA.—Mr. Hardy Padgett, for many years connected with the advertising department of *The Constitution*, has resigned his position and will in future be connected with the firm of B. R. Padgett & Son, architects and contractors. The name of the new firm will be B. R. Padgett & Sons.

ST. LOUIS, MO.—H. Clay Pierce is the defendant in a suit filed in the Circuit Court by Messrs. Eames & T. C. Young, architects, who charge that he owes them a balance on a mausoleum which they were to erect in Bellefontaine cemetery. They allege that the price was to be \$2,500, but that he only paid them \$1,700, and when they were half through stopped the work without giving them any reason and they sue for the \$750 still due and also \$289.80 for extras. Another count in the petition alleges that Pierce owes them \$554.08 for plans for the alteration of his house at 40 Vandeventer Place.

MIDDLETOWN, N. Y.—Messrs. Frank J. Lindsey & Son, architects, with offices at 42 North Street, have placed their business in charge of E. R. Valkenburg, an inspector from the State Architect's office, who has been in charge of the construction of the new buildings at the Middletown State Hospital, and will continue the busi-



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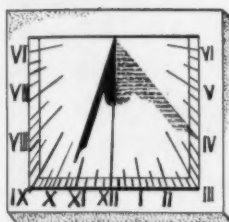
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INDEX"
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New York, March 23, 1907

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NOTE—The Union Bank Building was the only one in the flooded district which was absolutely free and untrammelled. It ran its elevators and electrical machinery in the ordinary way, while next door, a modern skyscraper, The Commonwealth Trust Co., had eleven feet of water in its basement.

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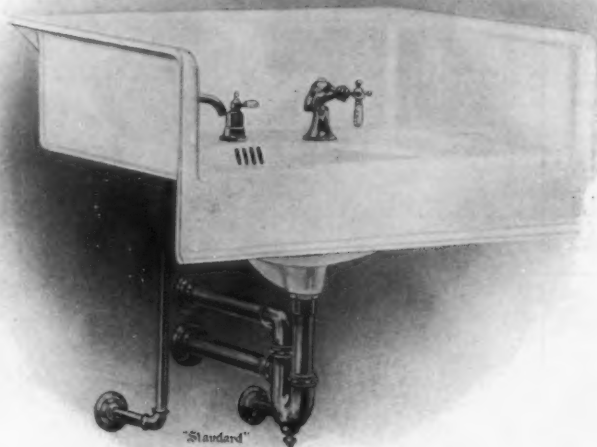
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ness at the office now occupied by Lindsey & Son. While in Los Angeles, recently, Mr. Lindsey became so favorably impressed with the city that he decided to locate there and has opened an office.

PITTSFIELD, MASS.—Mr. Oliver L. Butler, of the firm of Wilson & Butler, architects, has gone to Garrison-on-the-Hudson, N. Y., where he will be located for at least a year and a half.

NOTES AND CLIPPINGS.

OLD BUILDING MATERIALS.—In the rebuilding of San Francisco methods of economical levelling and construction have been practised to a greater degree, probably, than at any other time and place. A typical instance, says the *Engineering Record*, is the work done on the Crocker Building, standing at the corner of Post and Market Streets. This structure, which is ten stories in height, with a frontage of about 200 feet, escaped any serious damage from the earthquake, but was gutted by fire. The frame of the building being intact, nothing more was necessary than a reconstruction of its interior, and the contractors hit upon the profitable plan of utilizing for concrete mixture all bricks, tiling, stonework and flooring which had to be removed. Suitable apparatus was therefore installed, and as fast as the work of tearing down made this material available it went directly to a Gates breaker fed from bins supplied by chutes from various sections of the building. After being crushed to the desired firmness the product of the

breaker passed to a mixer, and as the concrete issued from the latter it was taken by a system of elevators and conveyors to all parts of the building where needed. The significant feature of this process lies in the fact that from the moment the material was taken from the walls and floors until the time it again became a part of the structure, there was not the slightest break or loss in its handling.

An installation similar to this, but of relatively greater importance because on a larger scale, was made by Allis-Chalmers Company at Chicago, when the old Cook County court-house was dismantled. This temporary crushing plant, purchased by the contractors in charge of the work, J. A. McMahon & Co., of Chicago, consisted of two breakers, an elevator and a revolving screen, all driven by electric motors. There was a breaker for doing the first crushing and one for handling rejections. The two were set together on the same level and discharged into an elevator measuring 49 feet between centers which conveyed the material to a dust-jacketed iron frame screen having 1½-inch perforations. The stone was reduced to 1¼-inch size for concrete and the dust sold for use with it in place of sand. The oversize material was discharged on a belt conveyor, which carried it back to where it was fed into the smaller breaker. The plant was located in the center of the building, where it was easy of access for handling the stone as fast as the building was torn down. The crushed product was discharged into bins placed directly under the screen, from

which it could be readily loaded into wagons. The contractors found this plant a profitable one, as they were able to sell the crushed rock right in the center of Chicago; in fact, toward the close they did not remove any of the material from the premises, but disposed of it to the firm putting up new structure.

AN UNUSUAL ROUNDHOUSE.—Squaring the circle is an operation which expert mathematicians have deemed impossible. But that opinion may need revision. An English railroad company has just built for its locomotives a rectangular roundhouse.—*N. Y. Tribune*.

THE STANDLEY DAM NEAR DENVER.—According to plans perfected by the local contracting firm of J. G. White & Co. and Chicago and Denver financiers, there is to be constructed near Denver the biggest dam in the world. It will not be as long as the Nile dam at Assouan, nor will it be as high as some others, but it will excel all constructed or under construction in area presented to the water. It is intended to irrigate more than 100,000 acres of land. The dam will be known as the Standley dam, taking its name from Joseph Standley, a Denver banker, and one of the earliest projectors of the enterprise. It will be built at a point nine miles northwest of Denver, and will confine the flow of five rivers. It will have a length of a mile and a quarter, a height of 150 feet, and 5,000,000 cubic feet of material will be required for

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its construction. Engineers estimate that it will impound 10,000,000,000 cubic feet of water. The dam will be constructed by J. C. White & Co. at an estimated cost of \$4,000,000. The work is to be completed in three years.—*Exchange*.

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.—The directors of the First National Bank are reported to have adopted plans, prepared by Marcus T. Reynolds, for a six-story marble office building, to be erected on State Street.

ALEXANDRIA, LA.—George R. Mann, of Little Rock, Ark., is reported to be preparing plans for the Hotel Bentley, at Alexandria, to cost about \$500,000.

ATLANTA, GA.—Dr. Rolfe Hunt, president of the Atlanta Bible School, is reported to have decided to engage an architect to prepare plans for an addition to the present school on Cooper Street.

Fulton County will vote on the issuance of \$300,000 of bonds to erect the proposed courthouse, the total cost of which will be \$400,000. Address, County Commissioners.

AUBURN, ALA.—The Alabama Polytechnic Institute has appointed a committee, consisting of Governor B. B. Comer, Montgomery, Ala., R. F. Ligon, N. D. Denson and others, to arrange for proposed erection of four buildings—library, dining-hall, hospital and president's mansion. The Legislature has appropriated \$226,000 for this purpose, of which amount it is understood between \$75,000 and \$100,000 will be expended during the present year.

AURORA, ILL.—The Chicago, Burlington & Quincy Railroad (W. L. Breckenridge, engineer), Chicago, Ill., it is reported, will make improvements here to cost about \$2,000,000, including a new passenger station.

AUSTIN, TEX.—W. W. Crutchfield, general secretary, University of Texas Y. M. C. A., writes that it is proposed to raise a fund of \$75,000 to be used for the erection of a Y. M. C. A. building. No plans yet prepared.

BALTIMORE.—St. Mary's Industrial School, Wilkens Avenue, has awarded contract to J. J. O'Connor, 415 East Lexington Street, for the construction of a new school building; four stories, 65x90 feet, stone exterior, structural iron and steel, lighting and heating system; cost, \$50,000. Francis E. Tormey, architect, Wilson Building, 301 North Charles Street.

The Maryland Storage Company, E. Clay Timanus, president, 51 South Gay Street, has awarded contract to Hopkins-Barnett Company, Calvert Building, for the construction of a storage warehouse at the corner of York and Johnson Streets; six stories, 100x200 feet, reinforced concrete throughout, concrete piling, slag roof, elec-

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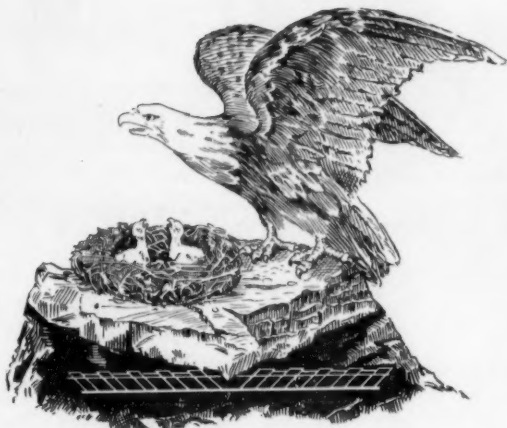
tric wiring and fixtures, four elevators, gravity conveyors; cost, about \$200,000; William H. Emory, architect, Professional Building, 330 North Charles Street.

Reports state that the Terminal Warehouse Co., Davis and Pleasant Streets, has purchased additional land on North Front Street and will erect a four-story fireproof warehouse, to cost about \$200,000; Owens & Sisco, architects.

BELOIT, WIS.—Architect J. C. Llewellyn, First National Bank Building, 164 Dearborn Street, it is said, has been engaged to prepare plans for remodeling and additions to a high school building here for the Board of Education. Three wings will be built in connection with the present building, which will be remodeled and modernized. They will be three story, of pressed brick and stone, have composition roofs, hardwood finish, steam heat, wiring for electric light, marble and tile work, structural iron work, the improvements to cost \$100,000. Mr. Llewellyn's plans were selected in competition, Saturday, June 8.

BRISTOL, VA.-TENN.—It is reported that the directors of the Interstate Hotel Co. have decided to erect a \$100,000 hotel and \$50,000 opera house by superintendence. T.

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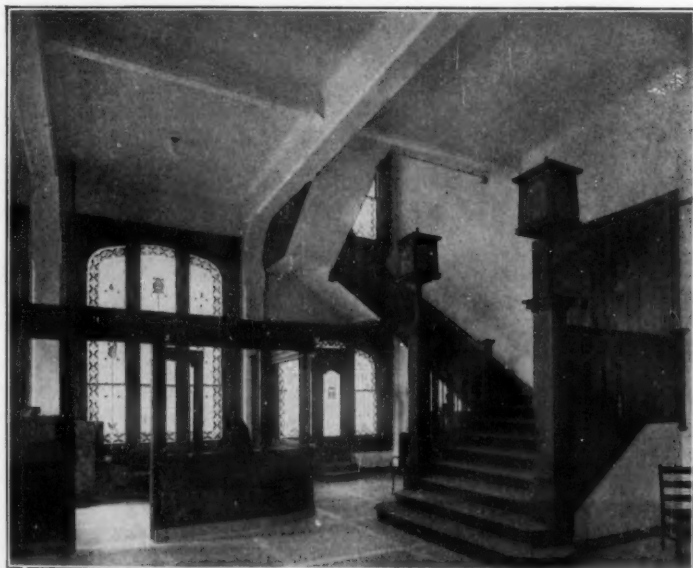
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BROOKLYN, N. Y.—Plans have been filed for the erection of a five-story tenement at Wallabout Street and Bedford Avenue for the Edgar Improvement Co.; cost, \$140,000. R. T. Rassmussen, architect, 30 Graham Avenue.

It is said that plans are being prepared by the members of the Reformed Jewish Faith for a synagogue, on either the Eastern Parkway or the Boulevard, to be known as the Temple Emanuel of Brooklyn. Cost, \$50,000.

CAMDEN, N. J.—It is said that a Y. M. C. A. building will probably be erected here, to cost about \$250,000.

CHATTANOOGA, TENN.—A Y. M. C. A. building will be erected here to cost about \$100,000. J. Fred Ferger is chairman and Truman L. McGill is secretary of the building committee. R. H. Hunt, Eighth and Broad Streets, is the architect.

Reports state that the Y. M. C. A. has asked for plans and specifications from several architects, to be submitted August 1, for a building to be erected at a cost of \$100,000. The building will probably be 110x120 feet, five stories, ordinary fireproof construction, electric and gas lighting; J. Fred Ferger, chairman.

CHICAGO, ILL.—Edward S. Hunter will construct a ten-story fireproof building at the corner of Madison and Market Streets, to cost \$250,000. Plans for the building are being prepared by C. A. Eckstrom, architect, Tacoma Building. The building will

front 62 feet on Madison Street and 100 feet on Market Street. It will be constructed of pressed brick, the interior being of steel construction.

The Council City Hall Commission, on June 5, commissioned Holabird & Roche, 1618 Monadnock Building, to prepare plans for the proposed \$4,500,000 city building.

The H. M. Hooker Company, according to reports, will erect at 118 to 128 West Washington Street a pressed brick warehouse, to cost \$200,000.

Contracts will soon be let for the new hotel which is to be built for the Illinois Life Insurance Company, from plans and specifications by Architects Holabird & Roche, 100 Jackson Boulevard. The new building will be ten stories high and will cover an area of 170x160 feet. It will be of fireproof construction, have six elevators, telephone system, and its own light and power plant, and the cost will be about \$2,500,000. The work on the structure may be started this fall.

Jenny, Mundie & Jensen, 171 La Salle Street, is reported to have prepared plans for a ten-story mercantile building for Hirsh, Wickwire & Co., to cost about \$400,000.

It is reported that the E. J. Lehmann estate intends erecting a mercantile building at 206 Randolph Street, to be of brick and stone and cost about \$100,000.

Treat & Alschuler are reported to have prepared plans for an eight-story, 75x90-foot factory, to be erected on Washington and Desplaines Streets, to cost \$150,000.

The H. M. Hooker Co., 59 West Rand Street, Chicago, will construct a warehouse at 118 to 128 West Washington Street. It will front 150 feet, with a depth of 184 feet. It will be constructed of pressed brick and stone, and will cost \$200,000.

Jacob L. Kesner is said to be having plans prepared for a large building at 371 Fifth Avenue. The building will be eight stories and basement; the exterior will be of pressed brick, with stone or terra cotta trimmings, and the interior of mill construction, and will be provided with three electric elevators. Plans are now being completed by H. R. Wilson, 218 La Salle Street. Construction will be commenced immediately, as the building is to be completed and ready for occupancy January 1. It will cost \$125,000 to \$150,000.

Holabird & Roche, 1618 Monadnock Building, are reported to have prepared plans for a 22-story hotel, to be erected at La Salle and Madison Streets at a cost of about \$6,000,000.

CINCINNATI, O.—Bids will be received by the Board of Education until July 8 for the erection of a high school, estimated to cost \$500,000. Dr. J. M. Withrow, chairman of Building Committee.

Architect Joseph Tuttle, Camp Washington, Ohio, is preparing plans for a six-story storage warehouse for Karp Brothers; estimated cost, \$50,000.

Bids are asked until noon, July 8, by the Board of Education for constructing a high school building; estimated cost, \$500,000.

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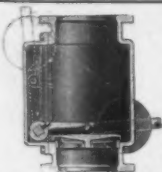
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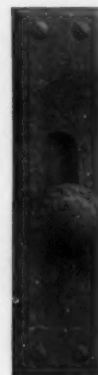


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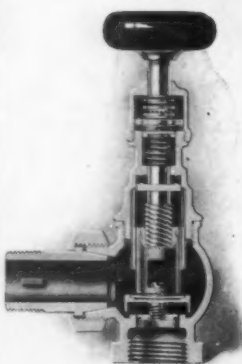


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IT is not unlikely that a good many persons of a certain temperament find it regrettable that this country seems seriously to have entered on an epoch of cathedral building, and, on reflection, we incline to share their point of view through rather mixed considerations. In the first place, it seems to us that every modern cathedral church, whether successful or unsuccessful architecturally, whether built in this country or in Europe, in a very real degree belittles the dignity and degrades the character of the churches that have come down to us from the grand cathedral-building epoch. Those masterpieces of art are universally acknowledged to have been possibilities only through the self-sacrifice and reverent enthusiasm of the men who designed and built them, and it is the knowledge of these conditions, legendary though they may be, that lends to one's impressions a human poignancy that blends with the higher emotions which a temple of God, however modest and unbeautiful, always evokes. As it is very generally known that very little self-sacrifice, and still less reverent enthusiasm, is built into the walls of a modern cathedral, those who have this understanding will be likely to disbelieve that the old cathedrals were builded in any other frame of mind, and so will deny to them one of their most living and impressive characteristics, and this will be a loss.

FURTHER, the soul of man, in these times of ours, is to be reached mainly by the spoken word; it can be affected, subdued, chastened, perhaps, by the pleasurable sensations that reach the brain through the eye; but it cannot be informed in morals, ethics and religion save

through the spoken word, and a word spoken unless it can be heard is wasted. Now, the new Cathedral of SS. Peter and Paul, at Washington, the design for which by Mr. G. F. Bodley and Mr. Henry Vaughan has just been approved by the Chapter and Council of the Diocese, is to seat a congregation of five thousand persons—provided such numbers ever present themselves—and we venture to think that, in a church which measures 476 by 132 feet, externally, while the interior height of the nave is 93 feet, the spoken word will be quite inaudible to a large part of the audience seated in the double-aisled nave. Such a result, of course, implies a great waste and, when one reflects that for the five million dollars this cathedral is to cost five hundred mission-chapels could be built, it seems impossible to believe that the churchmen are altogether right in their undertaking.

AS nearly as we can make out, the cathedral-promoters are carried away by a sort of *post hoc propter hoc* belief, in a very mistaken fashion. In their desire to stem the current of modern materialism and irreligion, they seem suddenly to have turned their eyes to the cathedrals of the old world and then imagined that they recognized in them not an effect, but a cause: they seem to have understood that it was because cathedrals existed that people were fervent of faith, not that through and because of the existence of an abiding and abounding faith the men of those times were able to create those impressive monuments. Although such reasoning surely is inverted, we all may hope that a satisfying, if not far-reaching, reformation may attend their efforts. Meanwhile it must be conceded that as a part of the municipal scenery, as one of the items of a community's wealth, as a landmark along the pathway of art, a cathedral building may be fairly held to be worth its cost, whether in fourteenth-century guise it seems to ape the work of the men who created the style or whether, like the Westminster Cathedral, it seems to explain more clearly the humanities of the day that gives it birth. Even then, some will be found pondering the question, is the modern cathedral really erected to the glory of God, or of the bishop, or of the architect?

A FEW years ago, because of disputation over the matter, the American Institute of Architects examined the evidence accessible and decided that as between Messrs. Bradford L. Gilbert, L. S. Buffinton and W. L. B. Jenney, all architects of standing, the latter had the better claim to be considered the originator of the modern method of steel-skeleton construction for high buildings. There is some reason for believing that the dismantling of the old shot-tower in "the Swamp" district in New York City that is now going on may, as the structure was erected in 1856, prove that the method was in its essentials employed before Colonel Jenney built the Home Life Insurance Building in Chicago. But Colonel Jenney passed away in Los Angeles on Saturday last still in the belief that his claim to original authorship was undisturbed. As an official sketch of Mr. Jenney's pro-

¹See "American Architect" for May 20, 1905.

fessional career was published by the Illinois Chapter A. I. A. at the time ill health caused him to abandon his practice and seek new strength in California, we will not here recapitulate its incidents. Mr. Jenney was markedly an American of the New England Yankee type, and the mixture he presented of shrewdness, humor, alertness of mind and body, and hard-headed good sense made him a notable and somewhat picturesque figure at the meetings of the American Institute of Architects, which he attended with unfailing regularity.

MAYOR McCLELLAN, of New York, having full knowledge of the painfully ineffective methods practised by the Street-cleaning Department in that city, has expressed the wish for ten thousand dollars with which to pay a commission, consisting of Messrs. H. de B. Parsons, S. S. Whinery and R. Hering, to report on an improved method of cleaning the streets and disposing of the city's waste. Excellent and effective as were the methods devised by Colonel Waring a dozen years ago, they never were perfected as he hoped to perfect them, and many of them have fallen into desuetude. Moreover, the city has grown considerably since his time, and by adding to itself other towns has forced on the Department a street mileage and area many times greater than it at first had to grapple with. The work to be done is enormous in amount and inevitably costly, but a good deal of alleviation can be secured by simple preventive laws and more efficient policing. Building operations, particularly the teams employed in them, contribute to the detritus that has to be removed by the Department a greater amount than does any other industry, and those who conduct them are using, or misusing, the common property of all in an unfair way and should be obliged to make compensation in some manner. For instance, wherever excavation is going on, the contractor and owner should be obliged to keep the street for one block on each side of the site in immaculate condition and, as teams follow practically beaten routes to the dumps, the collective teaming contractors of the city should be made to maintain along the entire route an additional street-cleaner for every municipal "white wing" regularly employed on the streets affected. Owners of carts with loose tail-boards and drivers of loads improperly trimmed should be persistently fined, until a cleanliness of traffic has been secured as automatic in action as the flow of traffic has now become.

EVERYONE knows that for many years the Passaic River, which receives the sewage of Newark, Paterson, Passaic and others towns, has been a sanitary disgrace to the State of New Jersey. Recently, after years of fruitless discussion, these communities have completed their plans for building a great trunk-sewer which should serve the affected districts, discharging its collected and unpurified contents into New York Bay near Robbins Reef. As soon as this intention became known, the Merchants' Association of New York filed protests with the Passaic Valley Sewerage Commission and gave notice of appeal against this pollution of inland waters to the States of New York and New

Jersey and to the national government as well. Seeing that New York City discharges into the Hudson River and the harbor a vastly greater amount of sewage than can the New Jersey communities, the action of the protestants seems supererogatory and dog-in-the-mangerish. But the discussion has brought to light the interesting fact that, some forty years ago, the States of New York and New Jersey entered into a formal treaty by which the latter conceded to the former certain of the riparian rights and all of the duty of policing the shores and waters of the Hudson River and New York Bay. Evidently, then, New York is in excellent position to do an unneighborly act, if it is found to be best for her interests. Sanitarians will hope that the final outcome of the issue now joined will be the establishment by all communities concerned of proper purification-works.

WE hope that the report of the Audit Company of New York to the Pennsylvania Capitol Investigation Commission, which was submitted last week, may not prove too voluminous a document to reprint in full: it should afford very curious and interesting reading. Apparently there is evidence, in the way of drawings and documents, which seems to show that it was the intention of the manipulators to go on improving and furnishing the Capitol and grounds until the State had expended \$32,000,000 for their benefit. It is difficult to decide which item of overcharge displays the greater ingenuousness, but perhaps the merits of the "per foot" rule are brought home in the most convincing way, when it is known that for 3,054 chairs—or the free air between their legs—the State paid \$323,666.50.

A NEW application of the recommendation that there should be restored to Cæsar the things belonging to that gentleman has been made by Mr. C. C. Hoyer Millar, in connection with St. Paul's Cathedral. It is generally accepted as proved that the settling of that building that has taken place in the past and is still going on is due to the withdrawal of water in and below the site by the drainage and tunneling operations that have taken place in the neighborhood, and where a site is clayey such withdrawal of moisture is sure to cause settlements. Now, the cathedral foundations rest upon a six-foot layer of pot earth which overlies a deeper bed of loose sand, the London blue clay coming next below. Mr. Millar points out that not only the bed of pot earth has been drained from below, but that, owing to the paving of the streets and the building over of the neighboring territory, it has been deprived of the moisture that should naturally reach it from above through the percolation of the rainfall. He, therefore, proposes to restore the natural bearing qualities of the subjacent strata by artificially introducing over and through them the needed moisture. This he proposes to do by sinking at intervals, about the perimeter of the building and to a depth of forty feet, six-inch perforated pipes, closed at the bottom, from the lateral openings in which water may seep out into the now too-dry pot-earth and sand. The suggestion seems to have much logical value and it is not too costly an experiment to try here, as well as in other similar cases.

R. I. B. A. REPORT ON REINFORCED-CONCRETE.

A PROVISIONAL report of the committee consisting of Sir Henry Tanner, Messrs. Walmisley, Dunn, Max Clarke, Searles-Wood, Watson, Dru Drury, Greenwood, F. May, Collins, Cockrill, Colonel Mayne, Major Paul, Colonel Winn, Professor Unwin, Messrs. Colson and Marsh was presented at the meeting of the Royal Institute of British Architects, May 27, as follows:

1. REINFORCED-CONCRETE is used so much in building and engineering construction that a general agreement on the essential requirements of good work is desirable. The proposals which follow are intended to embody these essentials, and to apply generally to all systems of reinforcement. Good workmanship and materials are essential in reinforced-concrete. With these and good design structures of this kind appear to be trustworthy. It is essential that the workmen employed should be skilled in this class of construction. Very careful superintendence is required during the execution of the work in regard to—

(a) The quality, testing and mixing of the materials.
(b) The sizes and positions of the reinforcements.
(c) The construction and removal of centering.
(d) The laying of the material in place and the thorough punning of the concrete to insure solidity and freedom from voids. If the metal skeleton is properly coated with cement, and the concrete is solid and free from voids, there is no reason to fear decay of the reinforcement in concrete of stone, gravel, cinder, coke-breeze, etc., made with clean fresh water.

2. The by-laws regulating building in this country require external walls to be in brick or stone, or concrete of certain specified thicknesses. In some places it is in the power of the local authorities to permit a reduced thickness of concrete when it is strengthened by metal; in other districts no such power has been retained. We are of the opinion that all by-laws should be so altered as to expressly include reinforced-concrete amongst the recognized forms of construction. A section should be added to the by-laws declaring that when it is desired to erect buildings in reinforced-concrete complete drawings showing all details of construction and the sizes and positions of reinforcing bars, a specification of the materials to be used and proportions of the concrete, and the necessary calculations of strength based on the rules contained in this report, signed by the person or persons responsible for the design and execution of the work, shall be submitted to and approved by the local authority.

3. *Fire Resistance.*—(a) Floors, walls and other constructions in steel and concrete formed of incombustible materials prevent the spread of fire in varying degrees according to the composition of the concrete, the thickness of the parts and the amount of cover given to the metal.

(b) Experiment and actual experience of fires show that concrete in which limestone is used for the aggregate is disintegrated, crumbles and loses coherence when subjected to very fierce fires, and that concretes of gravel or sandstones also suffer, but in a rather less degree.¹ The metal reinforcement in such cases generally retains the metal in position, but the strength of the part is so much diminished that it must be renewed.

Concrete in which coke-breeze, cinders or slag forms the aggregate is only superficially injured, does not lose its strength, and in general may be repaired. Concrete of broken brick suffers more than cinder concrete and less than gravel or stone concrete.

(c) The material to be used in any given case should be governed by the amount of fire-resistance required as well as by the cheapness of, or the facility of procuring, the aggregate.

(d) Rigidly attached web members, loose stirrups, bent-up rods, or similar means of connecting the metal in the lower or tension sides of beams or floor slabs (which sides suffer most injury in case of fire) with the upper or compression sides of beams or slabs not usually injured, are very desirable.

(e) For main beams a covering of 1½ inch to 2 inches of concrete over the metal reinforcement appears from experience in actual fires to afford ample protection to the structural parts. In floor slabs the cover required may be reduced to 1 inch.

All angles should be rounded or splayed to prevent spalling off under heat.

(f) More perfect protection to the structure is required under very high temperature, and in the most severe conditions it is desirable to cover the concrete structure with fire-resisting plastering which may be easily renewed.

¹The smaller the aggregate the less the injury.

Columns may be covered with coke-breeze concrete, terra-cotta, or other fire-resisting facing.

MATERIALS.

4. *Cement.*—Only Portland cement complying with the requirements of the specification adopted by the British Engineering Standards Committee should be employed; in general the slow-setting quality should be used. Every lot of cement delivered should be tested, and in addition the tests for soundness and time of setting, which can be made without expensive apparatus, should be applied frequently during construction. The cement should be delivered on the work in bags or barrels bearing the maker's name and the weight of the cement contained.

5. *Sand.*—The sand should be composed of hard grains of various sizes up to particles which will pass a ¼-inch square mesh, but of which at least 75 per cent. should pass ⅜-inch square mesh. Fine sand alone is not so suitable, but the finer the sand the greater is the quantity of cement required for equal strength of mortar. It should be clean and free from ligneous, organic or earthy matter. The value of a sand cannot always be judged from its appearance, and tests of the mortar prepared with the cement and the sand proposed should always be made. Washing sand does not always improve it, as the finer particles which may be of value to the compactness and solidity of the mortar are carried away in the process.

6. *Aggregate.*—The aggregate, consisting of gravel, hard stone or other suitable material, should be clean and angular, varied in size as much as possible between the limits of size allowed for the work. In all cases, material which passes a sieve of a ¼-inch square mesh should be reckoned as sand. The maximum allowable size is usually ¾ inch. The maximum limit must always be such that the aggregate can pass between the reinforcing bars and between these and the centering. The sand should be separated from the gravel or broken stone by screening before the materials are measured.

7. *Proportions of the Concrete.*—In all cases, the proportions of the cement, sand and aggregate should be separately specified in volumes. As the strength and durability of reinforced-concrete structures depend mostly on the concrete being properly proportioned, it is desirable that in all important cases tests should be made as described herein with the actual materials that will be used in the work before the detailed designs for the work are prepared. In no case should less dry cement be added to the sand when dry than will suffice to fill its interstices, but subject to that the proportions of the sand and cement should be settled with reference to the strength required, and the volume of mortar produced by the admixture of sand and cement in the proportions arranged should be ascertained.¹ The interstices in the aggregate should be measured and at least sufficient mortar allowed to each volume of aggregate to fill the interstices and leave at least 10 per cent. surplus. For ordinary work, a proportion of one part of cement to two parts sand will be found to give a strong, practically water-tight mortar, but where special water-tightness or strength is required the proportion of cement must be increased. The amount of cement added to the aggregate should be determined on the work by weight. The weight of a cubic foot of cement for the purpose of proportioning the amount of cement to be added may be taken at 90 lbs.

8. The metal used should be steel having the following qualities:

(a) An ultimate strength of not less than 60,000 lbs. per square inch.

(b) An elastic limit of not less than 50 per cent., or more than 60 per cent. of the ultimate.

(c) An elongation of not less than 22 per cent. in the lengths stated below.

(d) It must stand bending cold 180 degs. to a diameter of the thickness of pieces tested without fracture on outside of bent portion.

In the case of round bars the elongation should not be less than 22 per cent., measured on a gauge-length of eight diameters. In the case of bars over 1 inch in diameter the elongation may

¹For convenience on small works the following figures may be taken as a guide, and are probably approximately correct for medium silicious sand:

Parts Cement.	Parts Sand.	Parts Mortar.
1 plus ½	1 equals 1.20	
1 plus 1	1 equals 1.50	
1 plus 1½	1 equals 1.90	
1 plus 2	1 equals 2.35	
1 plus 2½	1 equals 2.70	
1 plus 3	1 equals 3.00	

be measured on a gauge-length of four diameters and should then be not less than 27 per cent. For other sectional material the tensile and elongation tests should be those prescribed in the British Standard Specification for Structural Steel. Before use in the work, the metal must be clean and free from scale or loose rust. It should not be oiled or painted, but a wash of thick Portland-cement grout is desirable. Welding should, in general, be forbidden; if it is found necessary, it should be at points where the metal is least stressed, and it should never be allowed without the special sanction of the architect or engineer responsible for the design. The reinforcement ought to be placed and kept exactly in the positions marked on the drawings, and, apart from any consideration of fire-resistance, ought not to be nearer the surface of the concrete at any point than 1 inch in beams and $\frac{1}{2}$ inch in floor-slabs or other thin structures.

9. *Mixing: General.*—In all cases the concrete should be mixed in small batches and in accurate proportions, and should be laid as rapidly as possible.

Hand-mixing.—When the materials are mixed by hand they are to be turned over and thoroughly mixed on a clean platform until the color of the cement is uniformly distributed over the aggregate.

Machine-mixing.—Whenever practicable, the concrete should be mixed by machinery.

10. *Laying.*—The thickness of loose concrete that is to be punned should not exceed 3 inches before punning, especially in the vicinity of the reinforcing metal. Special care is to be taken to insure perfect contact between the concrete and the reinforcement, and the punning should be continued till the concrete is thoroughly consolidated. Each section of concreting should be as far as possible completed in one operation; when this is impracticable and work has to be recommenced on a recently laid surface it is necessary to wet the surface, and where it has hardened it must be hacked off, swept clean and covered with cement grout. Work should not be carried on when the temperature is below 34 degs. Fahr. The concrete when laid should be protected from the action of frost, and shielded against too rapid drying from exposure to the sun's rays or winds, and kept well wetted. All shaking and jarring must be avoided. The efficiency of the structure depends chiefly on the care with which the laying is done.

Water.—The amount of water to be added depends on the temperature at the time of mixing, the materials and the state of these and other factors, and no recommendation has therefore been made. Sea-water should not be used.

11. *Centering or Casing.*—The centering must be of such dimensions and so constructed as to remain rigid and unyielding during the laying and punning of the concrete. It must be so arranged as to permit of easing and removal without jarring the concrete. Provision should be made wherever practicable for splaying or rounding the angles of the concrete. Timber when used for centering may be advantageously limewashed before the concrete is deposited.

12. *Striking of Centres.*—The time during which the centres should remain up depends on various circumstances, such as the dimensions or thickness of the parts of the work, the amount of water used in mixing, the state of the weather during laying and setting, etc., and must be left to the judgment of the person responsible for the work. The casing for columns, for the sides of beams and for the soffits of floor-slabs of not more than 4 feet span must not be removed under eight days; soffits of beams and of floors of greater span should remain up for at least fourteen days, and for large-span arches for at least twenty-eight days. The centering of floors in buildings which are not loaded for some time after the removal of same may be removed in a short time; the centering of structures which are to be used as soon as completed must remain in place much longer. If frost occurs during setting, the time should be increased by the duration of the frost.

13. *Testing.*—Before the detailed designs for an important work are prepared, and during the execution of such a work, test-pieces of concrete should be made from the cement, sand and aggregate to be used in the work, mixed in the proportions specified. These pieces should be either cubes of not less than four inches each way, or cylinders not less than four inches diameter and of a length not less than the diameter. They should be prepared in moulds and punned as described for the work. Not less than four cubes or cylinders should be used for each test, which should be made twenty-eight days after moulding. The pieces should be

tested by compression, the load being slowly and uniformly applied. The average of the results should be taken as the strength of the concrete for the purposes of calculation, and in the case of concrete made in proportions of 1 cement, 2 sand, 4 hard stone, the strength should not be less than 2,400 lbs. per square inch.

Loading tests on the structure itself should not be made until at least two months have elapsed since the laying of the concrete. The test load should not exceed one and a half times the accidental load. Consideration must also be given to the action of the adjoining parts of the structure in cases of partial loading. In no case should any test load be allowed which would cause the stress in any part of the reinforcement to exceed two-thirds of that at which the steel reaches its elastic limit.

Suggestions are also given in the report about methods of calculation, with papers by Professor W. C. Unwin and Mr. W. Dunn.

UNDERWRITING AND OTHER TERMS.¹—I.

THE work outlined for the Committee on Uniformity of Requirements during the past year was the preparation of a glossary of insurance words and terms, especially those which either are not defined at all in the standard dictionaries and encyclopedias, or, being defined, have definitions which are not especially fit when applied to usage in the fire-insurance business.

To this end the Committee presents some 170 definitions for your consideration, of which number practically all pertain to engineering or technical matters, but little attention having been given to Underwriting terms.

The Committee fully realize that many of the definitions are open to criticism, since members are not and probably never will be unanimous in their opinions concerning same, and suggest that such definitions be omitted entirely if their inclusion will cause extended discussion, and especially if at the end of such discussion there may in all probability be many unwilling to subscribe to the amended definitions.

GLOSSARY.

A.

"*Air Shaft.*"—A duct usually vertical, but not necessarily so, enclosed in any material, for the passage of air either by natural or artificial draft. See "ventilating shaft."

"*Aligned*" or "*Alined.*"—Set in line, said of shafting which is set properly and runs true in its bearings.

"*Astragal.*"—A projection on the edge on one fold of a door, sash or shutter to fit into a corresponding groove in the other fold.

B.

"*Back-draft.*"—A reversal of the draft of a fire in a boiler or furnace. It is generally due to the accumulation of unignited gas in the furnace or boiler flue from imperfect combustion or temporary choking caused by expansion, wind, sudden atmospheric changes, etc.

"*Book-tile.*"—A roof tile shaped like a book in that the ends are square, one edge concave and the other convex.

"*Breeching.*"—The connecting flue, generally of iron, between a boiler or furnace and its stack; a smoke or heat flue; an uptake.

"*Bus-bars, rods or wires.*"—The wires, bars or rods from which the various transmission circuits of an electric power distribution system are supplied, and to which the leads from the generators (or other sources of power) are connected for convenience of control. Usually applied to the main conductor of an electric switchboard.

"*Bushing.*"—

(a)—Electricity, an insulating sleeve or collar about a wire or conductor.

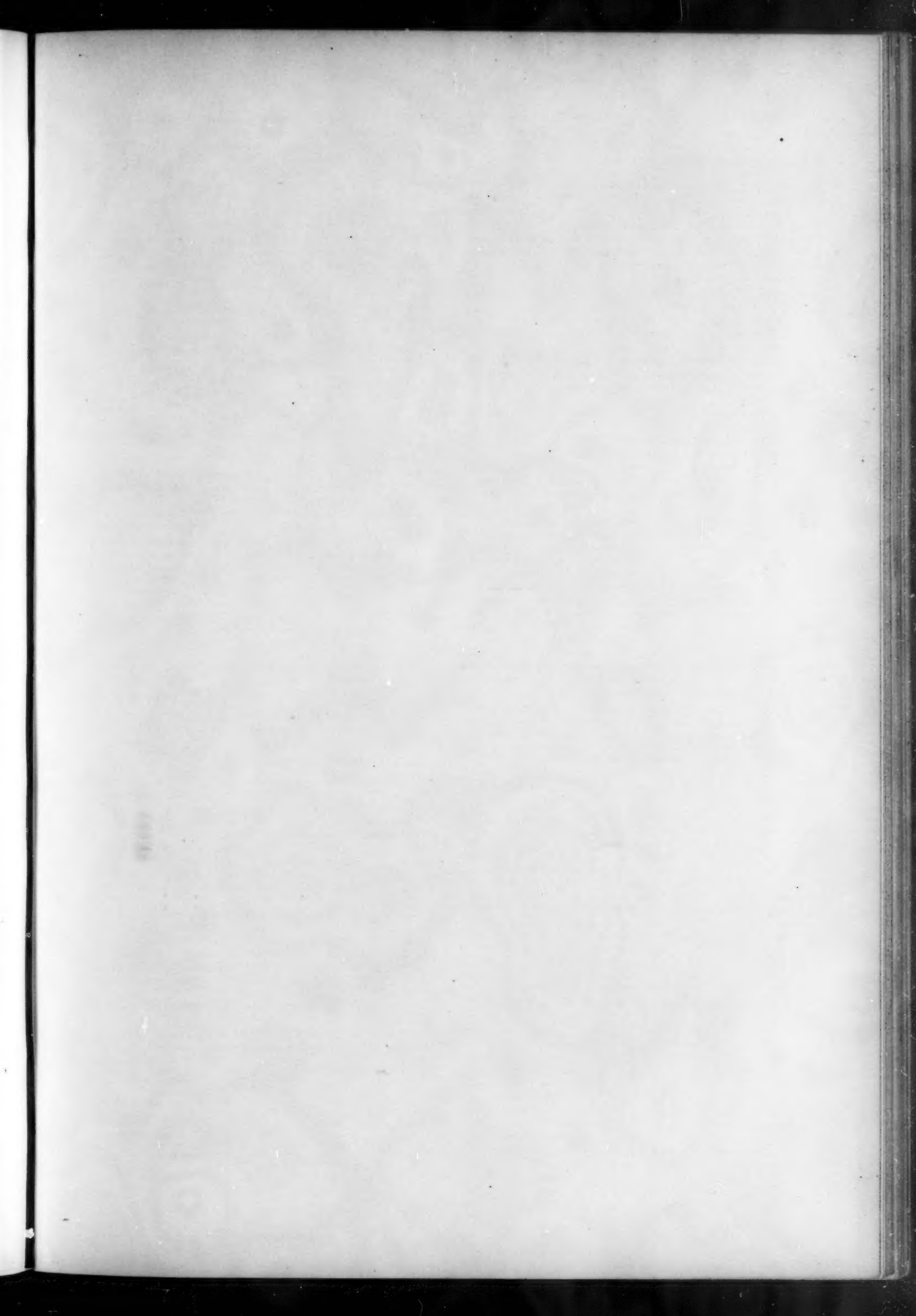
(b)—A male-and-female threaded fitting used with wrought-iron pipe for making connection between two different sizes of pipe.

C.

"*Cap.*"—

(a)—A top member of a column or the protecting top of a post or wall.

¹Report of the Committee on Uniform Requirements submitted at the annual convention of the National Fire Protection Association, May, 1907.



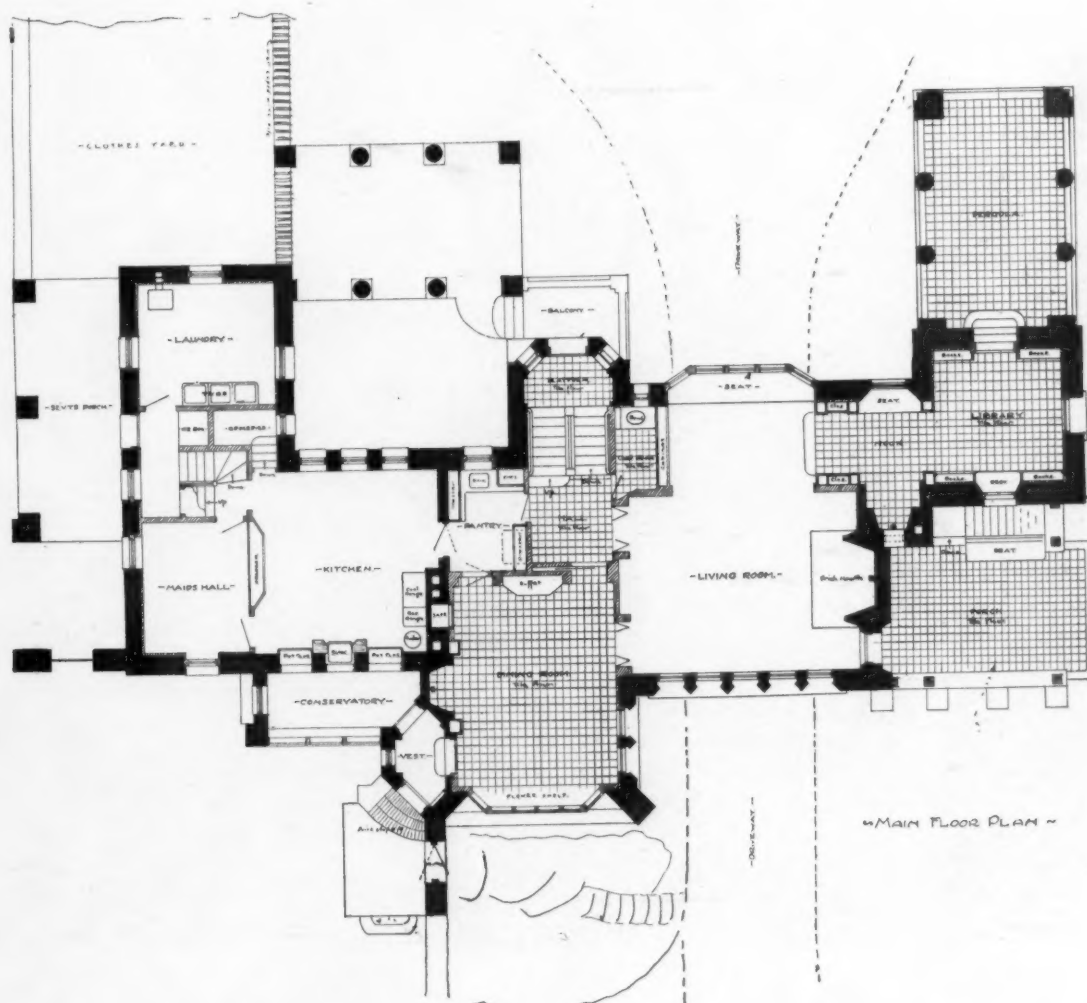
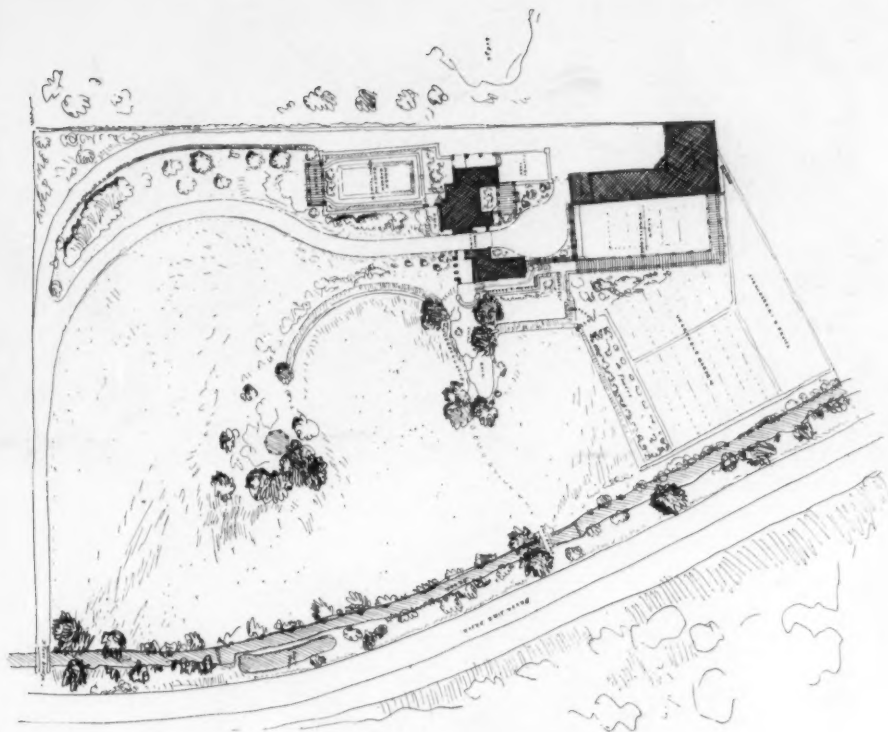


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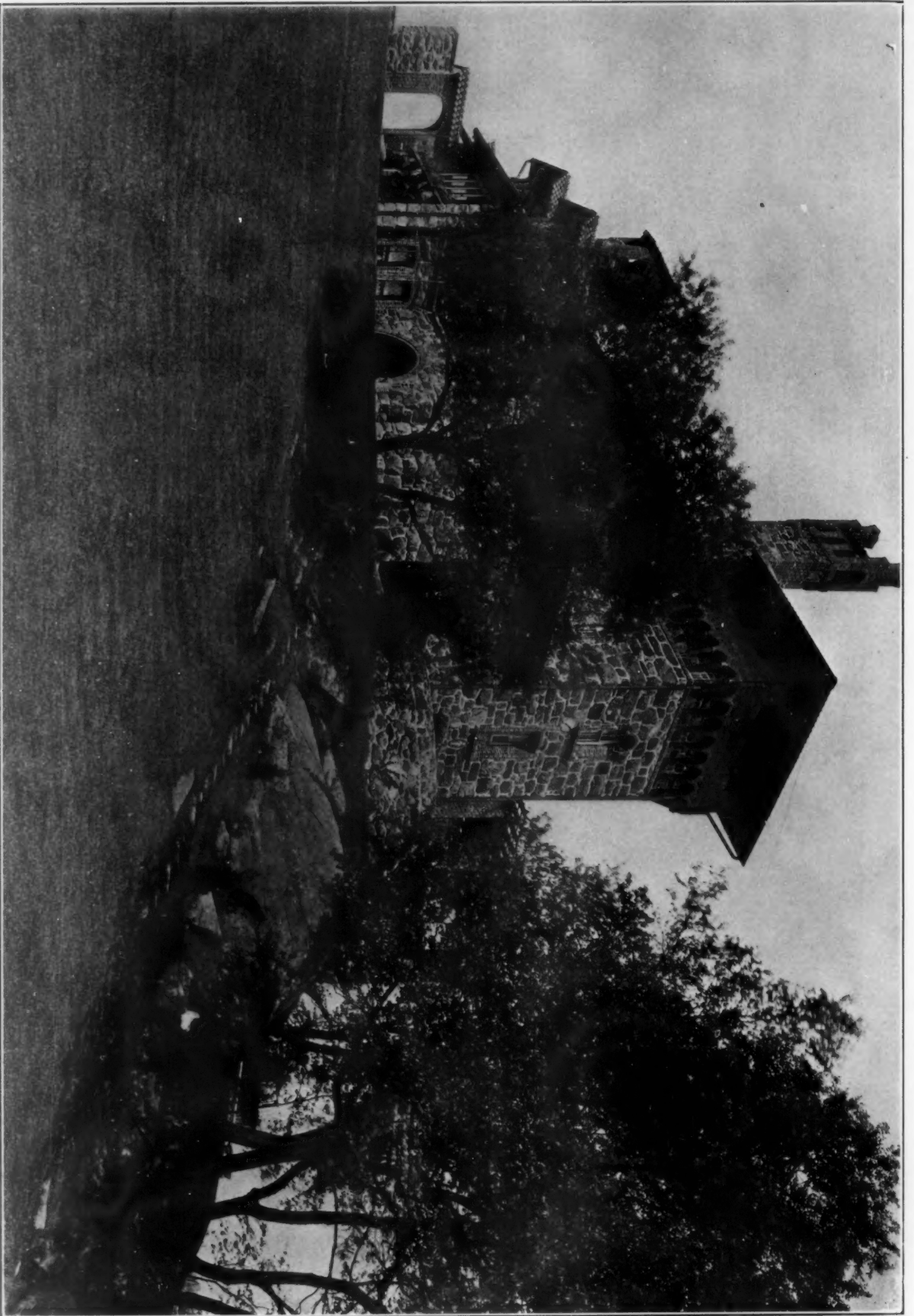
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COTTAGE OF C. P. BYRNES, ESQ., SEWICKLEY, PA.

Charles Barton Keen, Architect.

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HOUSE OF MR. EDWARDS, KINGSBURY ROAD, ST. LOUIS, MO.

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- (b)—A pipe fitting provided with a female thread for closing or stopping the end of a line of pipe.
- (c)—The screwed cover of a chemical extinguisher.
- (d)—The upper half of a journal box.

"Casement Stay."—A bar or other device for holding a window sash open.

"Ceiling Light."—A glazed sash in a ceiling, usually under a skylight.

"Choke Coil."—A coil of wire, wound in one direction, of very small resistance but large inductance; used to reduce the voltage and throttle the flow of current without the loss of power which follows the use of resistance.

"Circuit-breaker."—

(a)—A mechanical device for breaking a circuit.

(b)—An electrical device, manual or automatic, for interrupting completely the flow of current in a circuit, and capable of being restored to the closed position without damage or change in the device itself other than that due to wear and tear.

"Clearance."—

(a)—Distance between two or more objects, as applied to separation of the heated portion of any device from wood-work or other fixed inflammable material; may be further designated as side, bottom or overhead clearance.

(b)—As applied to machinery, the distance between any two or more moving or stationary parts which the action of adjustment of the machine permits.

"Clear Span."—Distance between end supports; a truss supported only at ends is said to have clear span.

"Compensator."—

(a)—Used with A. C. motors. A type of transformer in which the secondary winding is a continuation of the primary winding; suited to use on low potential circuits and most commonly found as the starting device of induction and synchronous motors. When one of the secondary terminals of a compensator is arranged so that the position of its connection to the winding may be varied the device is called an auto-transformer.

(b)—Voltmeter. A device used in connection with voltmeters to show pressure at the center of consumption without the use of pressure wires running to that point; or an arrangement of transformers, an inductance coil, and a resistance coil in the main feeder and voltmeter circuits so that the voltmeter will read the pressure at the outer end of the feeders—the point where current is consumed.

(c)—Three-wire system. A term applied to two auxiliary electric machines built to operate either as motors or generators, coupled together and having outside leads connected to the outside wires of the 3-wire system with inside leads common to neutral wire. They serve to equalize the load on the two sides of the system, the one on the lightly loaded side running as a motor driving the other on the heavily loaded side as a generator.

"Construction."—

(a)—"Compromise Mill." A form of construction which, in the main, conforms to the standard for mill construction, but which may be sub-standard in having concealed spaces, unprotected steel, light combustible partitions, floor openings, small timbers, or deficient floors, or roof, etc.; in case these defects are present in sufficient numbers a "compromise mill" constructed building may not be classed as "slow-burning"; also spoken of as semi-mill construction.

(b)—"Crib." Made of superimposed planks laid flat, with broken joints, and spiked together.

(c)—"Fireproof." Literally proof against the effects of fire. In reality nothing is absolutely fireproof. Fireproof construction is popularly recognized as consisting of incombustible materials such as stone, brick, terra-cotta, tile or concrete, etc., with or without a steel framing, assembled in such a manner that it cannot burn or add fuel to burning contents.

(d)—"Iron-on-studding." A style of construction in which corrugated or sheet iron is fastened directly on studding or scantling; differing from iron-clad in that the latter form of construction has the metal fastened to sheathing, which in turn is fastened to studding.

(e)—"Mill." Originally applied to buildings of heavy timber with floors and roofs of thick plank and walls at least 12 inches thick in top story and increasing in each story below, no floor openings, no concealed spaces, no light combustible

partitions and all exposed openings protected. The modern standard mill-constructed building for mercantile and factory purposes often differs from the above in having protected cast-iron or steel posts with stairs, elevators, etc., in brick shafts and protected openings to floors. It should be noted that standards for mill construction vary in different sections of the country. See "slow-burning," "semi-mill" and "Pittsburg" construction.

(f)—"Pier-and-panel." Applied to wall construction in which the main weights are carried on piers between which thinner walls are built.

(g)—"Pittsburg." A type of slow-burning construction in which the floors are formed by planks laid on edge and spiked together.

(h)—"Slow-burning." Any construction, not fireproof, which has been rendered slow-burning either by its massiveness or by the use of fire retardants. Commonly spoken of synonymously with mill or Pittsburg construction, which see.

(i)—"Semi-mill." See compromise mill.

(j)—"Skeleton Steel." Consisting of a framework or skeleton of steel which carries all loads.

"Country Risk."—A risk located outside of a city, town or village and not under protection of any public fire-fighting apparatus.

"Cut-off."—A local fire-stop, such as a brick wall with protected openings between different sections of a building. Combustible or lightly constructed incombustible partitions are not regarded as cut-offs, although acting to a certain extent as fire-stops. See "wall," "fire."

"Cyclone-collector."—A dust collector shaped like the inverted frustum of a cone, or ogee-shaped, generally of iron and depending upon gravity and centrifugal force to separate the dust from the air containing it, with a vent at the top, another at the bottom and an intake near the top for the dust-laden air, which is blown in and circles around, dropping the dust and itself escaping through the top vent.

D.

"Door" or "Doors."—

(a)—"Batten-door." A door made of narrow boards held together by means of cross battens nailed to them ("Century"). A term misused in the insurance business, in which *batten* is taken to mean the principal boards of a built-up wooden door.

(b)—"Double." A single door on both sides of an opening.

(c)—"Double-hung." Doors with two methods of suspension, either one or both of which may support the doors, usually found only on large openings; a common form is known as "jack-knife," in which two doors are hinged together, the upper door being also hinged to the head of door-frame or to wall, the lower edge of lower door being held to wall by rollers in guides at sides.

(d)—"Double Swinging." A pair of doors hung one on each side of a doorway; also improperly called "folding doors."

(e)—"Folding." Two or more doors on one side of an opening, one of which is hinged to the jamb or door-frame and swings back against the jamb or wall, the second door being hinged to the first, the third to the second, etc., and swinging into place as does the first; the combination is frequently spoken of as one door, each division being termed a leaf, in which case, if the door has two divisions, it would be termed a two-leaf folding door, etc. Also applies to iron shutters.

(f)—"Sash-door." A door having the upper portion formed like a sash.

(g)—"Single." A single door on one side only of an opening.

"Drip-loop."—The downward bend or loop in an electric wire just before it enters a building, to prevent moisture from following the wire in; sometimes called a rain-loop.

"Dry-pipe System."—An automatic sprinkler system for protection of unheated buildings, in which the sprinkler pipes are kept under air pressure, this air pressure acting through the medium of a dry-pipe valve to hold back the water supply until one or more heads may open, when water is automatically admitted through the dry-pipe valve by the release of compressed air from the fused sprinklers.

E.

"Elevator-boot."—The lower pulley of an elevator and its enclosure of wood or iron.

"Elevator-head."—The pulley or pulleys driving a bucket-belt and its enclosure of iron or wood.

"Elevator-leg."—The enclosed channel in which a bucket-belt travels between the head and boot.

"Exposure."—

(a)—Anything detached from a risk which, through its inflammability, explosibility or other qualities, may create fire-loss in the risk exposed.

(b)—Features of exterior construction which may aid in the introduction of or spread of fire in a risk; as wooden cornices and awnings, frame-roof houses, light exterior walls, unprotected openings, frame additions, etc.

F

"Fan-light."—A window containing a sash with bars radiating from the middle of its base like the spokes of a fan.

"Fire Division."—Not a common term. See "wall," "fire."

"Fireproofing."—Materials used in buildings to protect metal members from heat; generally consists of tile, terra-cotta, brick or concrete.

"Fire-retardant."—A substance or device capable of retarding but not necessarily preventing the progress of fire.

"Fire-resistive."—Having the power to resist fire. A weaker term than "fireproof," inasmuch as any material is fire-resistive to a greater or lesser degree.

"Flasher."—A device, generally rotating, for throwing in and out the circuits to the lights of intermittent electric signs.

"Flat Arch."—A form of masonry construction in which each unit is in compression and the lower surface of which is straight.

"Floor-light."—Glass set in a floor for transmitting light to space below.

"Folding Shutter."—See "doors, folding."

"Frame."—

(a)—The skeleton woodwork or metal-work of a structure.

(b)—Anything constructed of wood; as a frame shed, a frame wall, a frame bin, etc.

(c)—A door frame or window frame.

"Framing."—Framework; a structure or frame for supporting or enclosing anything, or to be the basis of a more complete structure.

"Friction Elevator-Head."—A small paper friction roller or pulley keyed to the main shaft and rotating against the periphery of a large iron pulley which drives the bucket-belt.

"Furring."—Strips nailed to walls or beams to serve as a foundation for laths, sheathing, etc.

"Fuse."—An electric device, consisting of a connecting link, strip, plate or bar, enclosed or unenclosed, designed to fuse at a certain predetermined temperature and thus break or open the circuit, preventing loss from overload to the apparatus protected.

(a)—"Cartridge." One in which the fusible portion is surrounded by asbestos or other non-inflammable material and enclosed in a cylindrical shell, resembling a gun cartridge shell.

(b)—"Open Link." One in which the fusible portion is bare.

(c)—"Plug." One in which the fusible portion is enclosed in a porcelain-filled metallic plug.

Any of the above types may be, and in some localities are required to be, placed in standard cabinets.

G

"Glass Slate."—A piece of rough plate glass, used like a slate for roof covering where light is required.

"Gridiron."—The slatted floor, either of wood or iron, or both, over a theatre stage which supports the numerous pulleys for operating the scenery.

H

"Hard Sprinkler-heads."—Automatic sprinkler heads which fuse at a temperature exceeding 165 degrees F.; also known as high-degree or high-test heads; used over boilers, in dry-kilns or other places where the temperature is normally so high as to fuse ordinary heads.

"Hazard."—

(a)—"Moral." The danger of loss from fire either by intentional or careless neglect of physical hazard, or by arson. Some causes of moral hazard:—Poor trade conditions, business jealousy, enemies, pyromaniacs, decrease of raw products, panics, etc.

(b)—"Physical." Anything which possesses originally or which through deterioration or other natural causes, carelessness or neglect, may become possessed with the power to cause fire, or which unduly influences the rapid spread of fire, or which in any way affects disadvantageously any feature of protection.

"Head."—

(a)—In masonry, a long stone over a door or window opening; a lintel.

(b)—In carpentry, the horizontal piece at the top of a quarter partition or door frame.

(c)—In slating, the upper part of a slate.

(d)—In iron-work, the enlarged end of a bolt.

(e)—The funnel generally placed at the top of a rain-water pipe.

(f)—The vertical height to which water will rise in a pipe under any given pressure.

(g)—The top horizontal piece of a window or door frame.

(h)—In automatic sprinkler equipments, the device designed to release water from a pipe to quench a fire.

"High-degree Thermostats."—Thermostats which operate at a temperature exceeding 160 degrees F. See "hard sprinkler heads."

(To be continued.)

BELGIAN ARCHITECTURE.

IN 1814, when there was a partition of some parts of Europe, it was a difficulty to decide the fate of Belgium. If it were not through fear of the growing influence of Prussia, it would now have belonged to that country, a circumstance which is remembered in Berlin. England insisted on it being separated from France. Austria knew by experience the impossibility of ruling it. Finally Belgium was incorporated with Holland.

The fate of the country at that time was curiously suggestive of many features of Belgian art. The peculiarities of the Dutch painters were easily imitated by Belgian painters. A Belgian *Kermesse* by Rubens does not differ much from one of the crowds of Dutchmen which were so often represented in Holland. Teniers and Brauer, who were Flemings, are often supposed to be Dutchmen. On the other hand, the influence of French building was most marked. Indeed it might be said that the art of Belgium in general swayed between its northern and southern neighbors. Since 1830 Holland has lost its influence with Belgian artists, while France has gained much of its old supremacy among them.

The Dutch Government were well aware of the task before them in dealing with their new possession. Three months exactly after the fate of the French Emperor had been finally decided at Waterloo an order was issued that the Dutch language was to be the official tongue of Belgium. Language is closely linked with liberty and much else, and although they were such near neighbors few of the educated classes of Belgium could express themselves in the dialect of Holland. The consequence was that not only in the Cabinet Councils but in all Government departments Belgians were in a ridiculous minority. Out of thirty-nine diplomatists only nine were Belgians. In the Home departments there were eleven Belgians to 106 Dutchmen. There were six times as many Dutch commissioned officers in the army as Belgians. The Supreme Court was at The Hague, and litigants had to travel there from all parts of Belgium. As was to be expected, the Belgians conspired, and the success of the Paris Revolution of 1830 caused an uprising in Brussels. The Dutchmen very wisely did not make much difficulty about a separation.

Although the Belgians might not be considered by men of the Fergusson class as essentially artistic, yet after they became independent they set about building with an enthusiasm that recalled Mediaeval times. We must remember that the people in those days looked upon their freedom from Dutch officialdom as a blessing from heaven. In consequence, the revolution was barely ended when they began to erect parish churches and convents. The majority were more or less Renaissance in character. The adoption of the style was remarkable, and suggested southern influence. . . . Some churches were erected in the Gothic style, while in others a sort of Romanesque was preferred, partly because wall-painting was exercised by several artists, and large panels for the display of religious pictures were considered a necessity.

The skill exhibited by the painters produced an unanticipated effect in architecture. The most precious treasures possessed by Belgium are the town-halls. In no other country of Europe are

such memorials to be found of the power of burghers. After the Revolution of 1830 several of the most ardent painters devoted themselves to national subjects. It then became manifest to the humblest peasant that, in spite of the anomalies of the Government of the country in the past, Belgium had then a history of which the people should be proud. Several of the town-halls were decorated with paintings which helped to explain historic incidents which occurred in their vicinity. So much success attended those efforts, it was but a step to the revival of Belgian architec-

ture to many foreign nations. It is possible that desire may again arise for a style which will be more distinctly French, but at the present time the native style enjoys most favor.—*The Architect*.

ILLUSTRATIONS

HOUSE OF MR. JAMES C. GREEN, ARCHITECT, GREENWICH, CONN.: SIX PLATES.



Rear View, House of Mr. J. C. Green.

ture, not only for new municipal buildings, but for banks, business establishments and private residences. Some of them may appear allied to examples in Holland, but in the best work there are features which are distinctly Belgian. The increased interest which quarrying obtains has revealed the existence of a marvelous variety of building stones, and the architect has therefore at his command materials which are adapted to all necessities. In fact,



Main Entrance, House of Mr. J. C. Green.

HOUSE OF MR. EDWARDS, KINGSBURY ROAD, ST. LOUIS, MO. MESSRS. MAURAN, RUSSELL & GARDEN, ARCHITECTS, ST. LOUIS, MO.
COTTAGE OF C. P. BYRNES, ESQ., SEWICKLEY, PA. MR. CHARLES BARTON KEEN, ARCHITECT, PHILADELPHIA, PA.

Additional Illustrations in the International Edition.

DETAILS: HOUSE OF MR. JAMES C. GREEN, ARCHITECT, GREENWICH, CONN.: TWO PLATES.



Dining-room Fireplace, House of Mr. J. C. Green

there is no country in Europe in which there seems to be a more hopeful likelihood of a national style, in which Renaissance elements will be fused into compositions which can recall the peculiar position of Belgium as a country which was closely related



Billiard-room Fireplace, House of Mr. J. C. Green.

HOUSE OF MR. J. C. GREEN, ARCHITECT, GREENWICH, CONN.

The building is founded on solid rock and the walls are of the local stone, with dark blue and red brick about the openings.

For insulation and interior finish a layer of sheathing quilt is placed next the interior surface of the walls, which are then furred and plastered. Terra cotta ornamentation, designed by the architect, is sparingly used in the exterior—for example, in the skewbacks for brick arches. The roof is of Spanish tiles.

All stairways and the floors of corridors, halls, servants' quarters, kitchen and laundry are of asbestolith, molded in so-called sanitary forms, i. e. without sharp angles. The living room is floored with stained birch and most of the other principal rooms with dark red vitrified tile, which material is also used for porch and terrace floors.

The main entrance is under the porte cochère to the left. On the right of the porte cochère is the entrance to the rooms reserved as the owner's offices. Staircase, halls and corridors are panelled in wood, covered with a dull gold Chinese paper. This paper was applied before the wood was thoroughly seasoned, and the shrinkage of the wood has accidentally produced a crinkling of the paper which gives an interesting surface.

The entrance hall and billiard-room are trimmed with cypress, stained dark and waxed; the walls of the latter are covered with a Japanese leather paper of lustrous dark green; the ceiling is of wood laid in lozenge-shaped panels. In the dining-room the woodwork is of chestnut, worked out by hand tools. The library is lined with bookcases glazed with leaded glass; the windows in this room are also of leaded glass, in which old printer's marks are used as the motive for ornament.

The tower, which affords a splendid view for many miles around, has at its top a large chamber, open on all sides and designed for use during extremely warm weather as a sleeping chamber. This room is protected from the weather by glazed casements, which fold into recesses.

Servants' quarters are arranged in an extension over the laundry running out from the main building.

A feature of the kitchen is its hygienic arrangement, the room being constructed on lines similar to those employed in a hospital. The walls are of vitrified brick. A high stone wall, capped with red tile, makes a view into the garage and the adjoining stable from any part of the house an impossibility. On the other side of the stable, away from the house and opening out from the men-servants' quarters, is a wide balcony exclusively for their use and convenience. The garage is built to store two cars, and has a tank for gasoline located some thirty feet outside the building. This garage has also three rooms for men servants, and a bath and toilet room. The stable has four single and two box stalls, with large carriage rooms and harness closets.

sion is celebrated for many splendid carvings by Gibbons, and in front of the house is a statue of George I on horseback, which that monarch presented to the Duke of Bolton of his day, who had been his friend and confidant prior to his accession to the throne of England. Another present of King George's was a couple of superb marble pillars, which had originally been sent by the Duke of Tuscany to Charles II.—*Marquise de Fontenoy, in N. Y. Tribune.*

GERMANS RECLAIMING THE CAMPAGNA.—If the Germans can succeed in their enterprise of reclaiming the Campagna di Roma, it will be a victory which will give them a still higher place in Europe. Charles Dickens did not exaggerate when he described it as the fittest burial-ground for the Dead City:—"So sad, so quiet, so sullen; so secret in its covering up of great masses of ruin and hiding them; so like the waste places into which the men possessed with devils used to go and howl and rend themselves in the old days of Jerusalem." The Campagna has an area of about 1,400 square miles, and the formation is mainly volcanic. At one time a large number of people lived on it. But when, in the early days of the Roman Empire, the nobles were

allowed to divide the territory into immense estates, ruin seized it. Under the Popes many efforts were made to reclaim the Campagna, and in consequence parts were utilized without much danger. But the great plain requires to be treated as a whole, and that was a task which was impossible in any of the preceding ages. It remains to be seen whether the German syndicate will be more successful than the Emperors and Popes who attempted to grapple with the difficulty. The plans prepared by Colonel Donath, an engineer officer, propose the excavation of a connected series of water-courses, which will all trend towards the sea. There are already some rivers, but they are not sufficiently looked after, and the obstructed courses overflow. The soil is not absorbent, and in consequence marshes are formed which become a perennial source of miasma. The works of the Panama Canal appear to be easy in comparison with those required for the reclamation of the Roman Campagna. If the aim of the projectors could be accomplished not only would an immense area of cultivated land be produced, but Rome

would enter on a new historical period, for people could live there without apprehension of the dangers which centuries of neglect have created, and in this way unanticipated prosperity would follow for the ancient city.—*The Architect.*

THE HARDNESS OF TANTALUM.—Tantalum has been hammered into sheets which are extremely hard. Sir William Crookes, F. R. S., states that "a hole had to be bored through a plate of this metal and a diamond drill was used, revolving at the rate of five thousand revolutions per minute. This whirling force was continued ceaselessly for three days and nights, when it was found that only a small depression, .25 millimetre deep, had been drilled, and it was a moot point which had suffered the more damage—the diamond or the tantalum."—*Scientific American.*

GROUND RENTAL "ONE RED ROSE."—Hundreds of persons visited the little town of Manheim, June 9, to witness the quaint ceremony of the Feast of Roses. In 1772 Baron Henry William Stiegel, founder of the town, deeded to Zion Lutheran Congregation the ground upon which their church stands, in consideration of an annual rental of "one red rose, payable in June, when the same shall be lawfully demanded." Twice in the lifetime of Baron Stiegel payment was demanded and made. Then the custom fell into disuse until it was revived recently.—*Exchange.*



Fireplace in Entrance-hall: House of Mr. J. C. Green, Architect.

NOTES AND CLIPPINGS

HACKWOOD PARK, HAMPSHIRE.—The present mansion was designed by Inigo Jones. Among its most famous mistresses was Lavinia Fenton, wife of the third Duke of Bolton, who had married her from the stage, where she had created the rôle of Polly Peachum, in Gay's "Beggars' Opera," and the French garden at Hackwood has a beautiful marble-paved room which was specially constructed for her as a music-room. One part of the grounds is known as Springwood, and there ivy grows as it pleases and hangs in long festoons from the tops of the beech trees. On the other side of the grounds is a large amphitheater, where *al fresco* theatrical entertainments have often been held. It is walled in with great elms, has a turf floor for a stage and tiers of grassy seats for the audience. The man-

POSITIONS WANTED.

GOTHIC designer and draughtsman; English Ecclesiastical, Collegiate and Domestic; is open for engagement. Address A. K. Mosley, care American Architect.

ARCHITECTURAL draughtsman desires position; trained in London; ten years' experience; six months in this country; working and detail drawings, quick and neat tracer; salary to commence, \$90 per month. Address Simpson, 609 North Calvert Street, Baltimore, Md. (1643)

WANTED—A position by A-1 draughtsman and designer for ornamental iron and bronze. Address 25-A, care American Architect. (1643-1646)

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PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 10, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 3d day of July, 1907, and then opened, for the new plumbing system, etc., in the U. S. Court House and Post Office building at Baltimore, Maryland, and extension thereto, in accordance with drawings and specification, copies of which may be had at this office, or at the office of the Custodian of the building, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1642-1643)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 10, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 18th day of July, 1907, and then opened, for the construction (complete) of the extension to the U. S. Post Office and Court House at Chattanooga, Tennessee, in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Custodian at Chattanooga, Tennessee, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1642-1643)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 10,

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PROPOSALS.

1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 19th day of July, 1907, and then opened, for the construction (complete) of the U. S. Post Office at Gainesville, Florida, in accordance with drawings and specification, copies of

which may be had at this office, or at the office of the Postmaster at Gainesville, Florida, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1642-1643)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 8, 1907. Sealed proposals will be received at this office until 3 o'clock p. m., on the 15th day of July, 1907, and then opened, for an Extension, Remodeling, etc., including plumbing, gas piping, heating apparatus, electric conduits and wiring, to the U. S. Post Office and Custom House at Sheboygan, Wisconsin, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Custodian at Sheboygan, Wis., at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect. (1642-1643)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 4, 1907. Sealed proposals will be received at this office until 3 o'clock p. m., on the 10th day of July, 1907, and then opened for the construction of an extension, remodeling, etc., including plumbing, gas piping, heating apparatus, electric conduits and wiring and lift, to the U. S. Post Office and Court house, Knoxville, Tennessee, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Custodian at Knoxville, Tennessee, at the discretion of the Supervising Architect. James Knox Taylor, Supervising Architect. (1642-1643)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 17, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 11th day of July, 1907, and then opened, for an electric dumb-waiter in the U. S. Post Office, Court House, etc., at Chicago, Illinois, in accordance with the specification, copies of which may be obtained at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1643-1644)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 17, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 17th day of July, 1907, and then opened, for the miscellaneous changes and repairs at the U. S. Post Office, St. Joseph, Missouri, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Custodian at St. Joseph, Missouri, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1643-1644)

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 17, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 24th day of July, 1907, and then opened, for the construction complete of the extension to the U. S. Post Office at Aurora, Illinois, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Aurora, Illinois, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1643-1644)

Dr. J. M. Withrow is chairman of the Building Committee.

CLEVELAND, O.—M. C. Stone will erect a modern storage building on Superior Avenue; estimated cost, \$100,000.

George W. Kortz and Eugene W. Steinbrenner will erect a six-story building at Superior Avenue, to cost about \$500,000.

It is stated that bids will be received by J. W. Stevens, New York Life Building, St. Paul, Minn., until July 10, for the erection of the Hughes High School, on Clinton and Gay Streets. It will be 272x112 feet, seven stories high, and of reinforced concrete fireproof construction; cost, \$600,000.

COEUR D'ALENE, IDAHO.—George Williams is stated to have submitted plans for a three-story 53x90-foot brick City Hall.

COLUMBUS, S. C.—A company has been incorporated to erect a hospital, to be known as the St. Luke's and to cost \$100,000. Address Dr. Knowlton, Du Bois.

CRAWFORDSVILLE, IND.—The Samuel H. Brubaker Company, architects, Aetna Build-

ing, have prepared plans for a four-story lodge building, at Crawfordsville, for a Castle Hall lodge, Knights of Pythias, to cost about \$50,000.

DALLAS, TEX.—Plans for the addition to the St. George Hotel are being prepared. It is to be 50x100 feet, and will be erected at Commerce and Martin Streets; cost, \$100,000.

DENISON, TEX.—It is reported that the St. Louis capitalists who recently purchased the Empire Building will remodel the structure to an office building and install an electric elevator; cost, \$100,000. C. E. Hanon, resident manager.

DES MOINES.—The congregation of the University Place Church is reported to be considering the erection of a new edifice, to cost between \$50,000 and \$100,000.

Local press reports state that work will soon begin on the construction of the Y. W. C. A. building, to be erected on Ninth and High Streets, \$40,372 having been already procured. It is proposed to solicit funds to

the amount of \$80,000. Architects, Hallett & Rawson, 615 Walnut Street.

Plans have been prepared for a handsome church edifice, to be erected by the members of the University Place Church of Christ. Cost, \$125,000.

DETROIT, MICH.—D. J. Healy, 224 Woodward Avenue, is having plans prepared for a fine store and office building on Broadway, to be six stories and basement, 34x110 feet, of pressed brick, Bedford limestone and structural steel, fireproof, steam heating, electric lighting, open plumbing, electric passenger elevator, marble and mosaic tile, plate and prism glass, composition roof, metal skylight, hardwood finish, hard plaster, etc. Estimated cost, \$100,000.

It is stated that the House of Providence will erect an infants' asylum at the Boulevard and Fourteenth Avenue, at a cost of \$300,000.

DULUTH, MINN.—Architect J. J. Wagenstein, 401 Providence Building, has prepared plans for a six-story building on Lake

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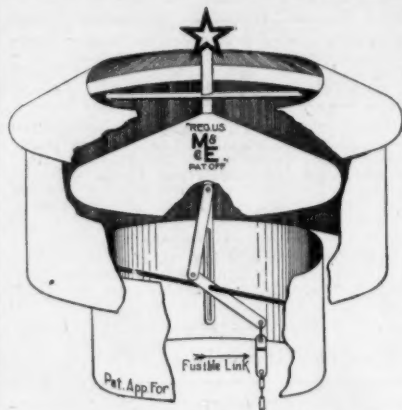
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Avenue for the Dewitt Seitz Company, to cost about \$75,000.

Captain Joseph Sellwood, it is stated, intends erecting an eight or nine story building on Superior Street.

EAST ORANGE, N. J.—Richard Hansch, of 19 Leonard Street, has submitted plans to the Board of Education for an addition to the high school, estimating the cost at \$75,000.

EL PASO, TEX.—The new military school, which has been under consideration for some time, is now almost an assured fact. At least \$50,000 will be expended for necessary buildings.

EUREKA SPRINGS, ARK.—Architect George W. Helmuth, of St. Louis, is preparing plans for a Carnegie library to be erected here.

FORT SMITH, ARK.—The Fort Smith Hotel Company is considering plans and specifications for a hotel, as recently noted. As proposed, the building will be six stories and of fireproof construction. Estimated cost, \$175,000.

FORT WAYNE, IND.—F. L. Curtis & Co. will, it is reported, receive bids for the erection of a six-story brick and stone hotel to be erected on Berry and Harrison Streets; probable cost, \$300,000.

FORT WORTH, TEX.—Plans are being prepared by Architect Conrad Hoeffler, 603 Main Street, for the erection of a stone edifice to the German Lutheran congregation.

GAINESVILLE, FLA.—Walter & Edwards, of Columbia, S. C., are reported to have been engaged to prepare plans for a three-story brick and stone building to be erected at the State University; appropriation, \$150,000.

Bids will be received until July 19 for the construction (complete) of the United States Postoffice. James Knox Taylor, supervising architect, Washington, D. C.

FAIRPORT HARBOR, O.—George S. King, Central Trust Building, Cleveland, is preparing preliminary plans for a hotel and summer resort building at Fairport, for the Fairport Resort Co., which will cost about \$150,000.

FAIRMOUNT, W. VA.—The Masons, it is stated, have had plans prepared by Baldwin & Pennington, of Baltimore, Md., for a five-story temple, which they propose erecting of buff-colored brick and terra-cotta trimmings and gray granite base.

FALL RIVER, MASS.—The Superintendent of Buildings has been instructed to call for

plans for a 12-room school house, to cost \$70,000 without furnishings.

GARFORD, TEX.—Bids will be received on a bank building, 25x80 feet, stone rubbed and ashler half and half, quarry near the ground; usual rights reserved. Plans and specifications can be seen at the office of Taylor & Mount, architects, Mineral Wells, Texas.

GRAND JUNCTION, COLO.—Press reports state that a university of industry, science and art is to be established here and supported by the Carnegie Foundation Fund. The initial endowment, it is said, will be \$500,000, and the total cost will be \$1,500,000. The new university will be known as the Western University.

GREEN BAY, WIS.—The erection of a courthouse, jail and Sheriff's residence is reported contemplated.

HANNIBAL, MO.—It is reported that the Wabash Railroad (A. O. Cunningham, St. Louis, Mo., chief engineer), the Missouri, Kansas & Texas Railway (S. B. Fisher, St. Louis, chief engineer), and other railroads will build a passenger station to cost about \$250,000.

HARTFORD, CONN.—Plans are being prepared by the Royal Typewriter Co., 253 Broadway, New York, for the erection of a large plant at Hartford. The company has bought five and a fourth acres of land on New Park Avenue, Hartford, and it is intended to erect a brick factory building containing at least 250,000 square feet of floor space. Beyond arranging the approximate size of the building, the company has made no plans for the structure or its equipment. It is expected that about \$500,000 will be spent on the plant.

HOKKSET, N. H.—T. Edward Sheehan, Tremont Building, Boston, Mass., is preparing plans for a school, convent and chapel for the sisters of Mount St. Mary's Academy, at Hookset, to cost about \$200,000.

HOT SPRINGS, ARK.—It is reported that a \$100,000 high school building is to be erected at Hot Springs.

JACKSON, MISS.—The Central Bank of Mississippi will erect a new building at a cost of \$100,000. Architect is not yet employed. Building will be 55x110 feet, eight stories, fireproof, hot-water heating, electric lighting.

Plans are being prepared for the Hotel Norvelle, to be erected at Pearl and Capital Streets. S. T. Carnes and Frank G. Jones, of Memphis, are owners. Cost, \$400,000.

KANSAS CITY, MO.—The building recently noted to be erected by W. E. Minor, 1000 Oak Street, at a cost of \$80,000, will have steam heat, electric lighting and passenger and freight elevators. Plans have been prepared by Howe, Hoyt & Cutler, 323 East Ninth Street. Bids will be opened about August 1.

Charles A. Smith has prepared plans and will receive bids for a Y. M. C. A. building; six stories, 96x132 feet; brick, stone and steel; cost, \$225,000.

Scottish Rite Masons have approved plans by W. W. Rose for the erection of West Side Masonic Temple; four stories, 60x136 feet, auditorium on second floor with seating capacity of 800, steam heat, electric and natural gas lighting; cost, \$100,000.

It is said that the New England National Bank will erect a fireproof building at a cost of \$200,000; one story, 80x80 feet, granite; architects, Wilder & Wright.

The Gloyd Lumber Co., it is said, is having plans revised by John W. McKecknie for erection of an office building; 10 stories, 37x90 feet, brick, stone and steel; cost, \$250,000.

Wilder & Wright, architects, First National Bank Building, have let a general contract to George L. Brown & Son, American Bank Building, for constructing a two-story stone and marble bank building, 80x90 feet, at Tenth Street and Baltimore Avenue, for the New England Bank (J. F. Downing, president); cost, \$250,000.

KNOXVILLE, TENN.—A building costing \$100,000 will be constructed by the W. J. Oliver Manufacturing Co. It will be 400x80 feet, of steel construction.

LANSFORD, PA.—Bids will soon be asked for the erection of a church for the St. Mary's Hungarian Roman Catholic congregation. Cost, \$80,000. The Rev. Father Kasperec may be addressed.

LEESVILLE, LA.—It is stated that the building to be built by the Bank of Leesville will be of brick and concrete construction, two stories, partially fireproof, electric lighting, probably steam heat. Architect, Mr. Steinman, Beaumont, Tex.

LITTLE ROCK, ARK.—Reports state that the Capitol Hotel will be erected at a cost of \$50,000. Address Joseph W. Irwin.

LOUISVILLE, KY.—The Louisville Gas Co. is reported to have taken out a permit to build a three-story brick and stone office building on C street and Third Avenue, at a cost of \$65,000.



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LUMBERTON, N. C.—Commissioners of Robeson County, it is announced, have selected Frank P. Milburn & Co., Washington, D. C., to prepare plans and specifications for a \$50,000 county courthouse. Bids will be called for when plans are ready.

MADISON, O.—The Lake Shore & Michigan Southern Railroad (S. Rockwell, chief engineer, Cleveland) will erect a \$50,000 station here.

MEMPHIS, TENN.—Reports state that no architect has yet been selected for the proposed Y. M. C. A. building. The association is now looking for a location.

MERIDEN, CONN.—E. C. Horn, Theater Building, 1440 Broadway, New York City, has been engaged to prepare plans for the theater which it is proposed erecting here at a cost of about \$70,000.

MILWAUKEE, WIS.—It is reported that Ferry & Clas, architects, who are drawing plans for the \$500,000 auditorium, will have them ready by June 20. Bids will be called for within ten days. It is planned to take bids on the entire structure, the successful bidder sub-letting the smaller contracts.

Buemming & Dick, architects, 521 Jackson Street, it is said, will have plans ready about June 24 for bids for the new \$100,000 parochial school building to be erected by the St. John's Catholic congregation on Jackson Street. The Rev. Father James J. Keogh, rector.

MINNEAPOLIS, MINN.—Plans are being prepared by Architect Harry W. Jones, 916 Lumber Exchange, for the interior finishings of the Asbury Hospital, on Ninth Avenue South and Tenth Street. Cost, \$60,000.

It is said that plans are being prepared by Louis Lockwood, National G. A. R. Bank Building, St. Paul, for a residence on Blai-dell Avenue, to be 75x48 feet and cost \$35,000.

Architects Long & Long, 830 Hennepin Avenue, have prepared plans for a 15-story office building, 44x152 feet, to be erected on First Avenue South, between Fifth and Sixth Streets, for J. E. Andrus.

Harry G. McLaskey, 3232 Tenth Avenue South, it is said, will erect a fireproof building on Lake Street and Thirteenth Avenue South, to cost about \$100,000.

MISSOULA, MONT.—Reports state that the county voted to erect a courthouse, to cost \$175,000.

M. B. McBride, secretary Board of Education, writes that the citizens on June 1 voted to issue \$95,000 bonds for a high school. Bids will be called for in about sixty days.

MONROE CITY, MO.—According to reports plans are being prepared for the new courthouse in Monroe County, at a cost of \$75,000.

MONTEVALLO, ALA.—Press reports announce that William Ernest Spink, architect, 712-813 Title Guarantee Building, Birmingham, Ala., has been commissioned to prepare plans and supervise the construction of several new buildings to be erected for the Alabama Girls' Industrial School, at Montevallo, at a cost of \$200,000. The plans for the first buildings will be ready for figures in about three weeks.

MONTGOMERY, ALA.—The Building Committee of the Alabama University is report-

ed to have authorized Architect Lockwood to prepare plans for a power station, an engineering building and a geological museum, the cost not to exceed \$100,000. The old buildings and equipment are to be repaired.

MOORESTOWN, N. J.—Extensive improvements are to be made to the Moorestown Academy, from plans and detailed specifications by Walter Smedley, of Philadelphia, Pa. Plans provide for building an addition to contain laboratory, library and dining-rooms, and for making alterations to the present buildings. Estimates have been taken and work will be started soon.

MORGANFIELD, KY.—It is stated that the Knights of Columbus are having plans prepared for a hospital, to be built at Morganfield and to cost about \$150,000.

MOUNDSVILLE, W. VA.—The Mound City Bank, it is said, is having plans prepared for a new building, to be three stories, pressed brick or concrete blocks, to contain banking, store and office rooms and theater; cost, \$50,000.

NASHVILLE, TENN.—Plans are being prepared, according to reports, for a hospital for the Methodists to cost \$200,000. Address Samuel J. Keith.

It is said that plans have been prepared by Architect Robert Sharp, 21 Cole Building, for the erection of a four-story addition to the Central Tennessee Hospital; cost, \$60,000.

Plans are being considered by the Rev. Thomas S. Byrne, bishop of the diocese, for a new edifice; cost, \$100,000.

Plans are being prepared for the Methodist hospital, to be erected at a cost of

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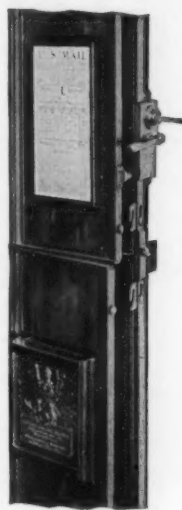
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\$200,000. Address County Clerk P. A. Sheldon.

It is stated that the Board of Trade (Samuel G. Douglas, president) proposes the organization of a company to build a hotel costing \$1,000,000 with furnishings. A meeting will be called to formulate specific plans.

Bids will be received until June 29 by the County Court Building Committee for the new jail and courthouse to be erected here. Plans prepared by Architects Wheeler, Dickey & Runge.

NEWBERRY, FLA.—Press reports state that John G. White proposes to erect a fireproof building; architect desired.

NEW ORLEANS, LA.—Reports state that Anthony Monteleone has accepted plans and specifications by Toledano & Wogan for his proposed 11-story addition to the Commercial Hotel, to be known as the Monteleone Hotel. Plans call for steel superstructure, with reinforced concrete floors; entirely fireproof, without wood except for door and window openings; 97x126 feet; 600 rooms; granite-base fronts, faced with ornamental full-enamelled white terra cotta and pressed bricks; entrance in center measuring 22x44 feet; staircase 14 feet wide, of white marble with gilt bronze railing.

The New Orleans Terminal Company has applied to the City Engineer's office for a permit for the erection of a brick, stone and terra cotta building on neutral ground of Basin, at Canal Street, to be used as a passenger station. The building will cost \$240,000.

NEW YORK, N. Y.—Plans have been filed for the erection of a three-story brick and stone school at Sixty-ninth Street and Am-

sterdam Avenue for the Wilson Industrial School; cost, \$75,000. H. R. Marshall, architect.

Architect Charles I. Berg, 571 Fifth Avenue, has prepared plans for a 12-story loft building at Spring and Crosby Street for John E. Olson, at a cost of about \$425,000.

Plans have been filed for the erection of a five-story brick and stone building to be erected at Thirtieth Street and Lexington Avenue for the School of Applied Designs for Women, at a cost of \$85,000. Pell & Corbitt, architects.

It is reported that Architect W. E. Mowbray, 624 Manhattan Avenue, has completed plans and specifications for the large new apartment house to be built at the southeast corner of Madison Avenue and Sixty-fourth Street, by the Sixty-fourth Street Company, 624 Manhattan Avenue. The new building will be ten stories high, of fireproof construction, and will have steam heating, electric lighting, elevators, telephone and refrigerating systems, and all modern improvements and appliances. It will cost about \$750,000.

It is said that plans have been completed and work is to start soon on the erection of a large business building (lofts), which is to be built at 30-32 West Fifteenth Street, for the Realty Holding Co., 907 Broadway. Buchman & Fox, 11 East Fifty-ninth Street, are the architects, and the plans provide for a 12-story building, of brick, stone and iron, with steam heat, electric light, elevators, etc. Approximate cost, \$225,000.

Architect Samuel Sass, 23 Park Row, it is said, has prepared plans for two six-story brick stores and tenements at Twelfth

Street and Second Avenue, for Jacob Fish, at a cost of \$100,000.

Architects Schwartz & Gross, 35 West Twenty-first Street, have prepared plans for an 11-story brick store and loft building at 6 West Twentieth Street, for Six and Eight West Twentieth Street Company, to cost about \$250,000.

It is reported that Architect William Birkmire, 396 Broadway, has prepared plans for an 11-story brick store and loft building at 114 West Twenty-seventh Street, for the Felt Construction Company, to cost about \$200,000.

It is said that plans have been prepared for an apartment building to be erected for Frank A. Clark, 502 West 136th Street, at Broadway and 135th Street; cost, \$225,000.

Harry T. Howell, Third Avenue and 149th Street, it is stated, is preparing plans for a six-story apartment house to be erected on the southwest corner of Tiffany Street and Whitlock Avenue, for Albert Rothermel, of 686 East 149th Street. Cost, \$67,500.

Charles H. Caldwell, 160 Fifth Avenue, has completed plans for \$80,000 worth of alterations to the six-story loft building at Nos. 64-66 Fifth Avenue, for the Macmillan Company. No building contracts have yet been issued.

Samuel Sass, 23 Park Row, is preparing plans for six 6-story flat buildings for the W. & B. Realty Co., 99 Nassau Street, to be erected on the north side of 145th Street, 305 feet east of Eighth Avenue, to cost about \$250,000.

It is said that work will soon be started on the erection of a large store and flat house to be built on the northeast corner of

CONCRETE HOUSES

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are illustrated in the JUNE HOUSE BUILDING NUMBER of

Cement Age

which has just been issued and is for sale on news-stands. The **PRIZE WINNING DESIGNS** in the competition recently held by the Association of American Portland Cement Manufacturers are reproduced in full together with description and cost data. This issue also contains illustrated articles on "Progress in the Construction of Concrete Country Residences," and on "Cement Stucco." **Every Progressive Architect should read CEMENT AGE every month :: :: Yearly Subscription, One Dollar**

JUNE SPECIAL NUMBER, TWENTY-FIVE CENTS

CEMENT AGE COMPANY, 227 Fifth Avenue, N. Y.

Riverside Drive and 159th Street, by the Heansle Construction Company, 302 West Twenty-first Street. L. A. Goldstone, 110 West Thirty-fourth Street, is the architect. The plans provide for a six-story building, of brick, stone and iron; to have composition roof, hardwood finish, steam heat, hot-water supply, tile and mosaic work, and all modern improvements and appliances. Approximate cost, \$200,000.

NORMAL, ILL.—It is reported that a manual arts building will be constructed in connection with the State Normal University, to cost \$100,000.

Announcement has been made that three sets of plans for a new City Hall are being prepared. The Board of Public Works and the City Council will examine the drawings as soon as they are completed. The general project is for two structures—a hall of justice, where the police department, courts and adjuncts would be accommodated, and a municipal building for the city's general business. The cost of the improvements has not been estimated as yet, although the figures have been placed approximately at \$750,000 or \$1,000,000.

OKLAHOMA CITY, OKLA.—Press reports state that plans are being prepared for a church for St. Luke's Methodist congregation; cost, \$80,000.

It is reported that the American Trust Company, recently organized, contemplates erecting a building, probably ten stories high of modern steel construction, costing about \$200,000.

OMAHA, NEB.—Architect F. W. Clark, 1005 New York Life Building, it is said, has prepared plans for a church for the First

Church of Christ, Scientist; cost, \$50,000, with an exterior of granite, brick and terra cotta.

Architect Thomas R. Kimball, McCague Block, is preparing plans for a five-story building for the Y. W. C. A., to cost about \$100,000.

Plans have been prepared, according to report, by Architects Fisher & Lawrie, 212 Paxton Building, for a residence at Nineteenth and Dodge Streets for Frank B. Kennard; cost, \$50,000.

PATERSON, N. J.—Jacob Fabian is stated to be interested in a company which proposes erecting a three-story house at Ward and Clark Streets.

PENSACOLA, FLA.—It is stated that the officials of the American National Bank have purchased a site and have commissioned architects to prepare plans for a ten-story office building, to be erected on Government and Polefox Streets.

PHILADELPHIA, PA.—F. Russell Stackert, 1421 Chestnut Street, it is reported, has been commissioned to prepare plans for an auditorium building to be erected for the parish of the Church of the Immaculate Conception, on Cheltenham Avenue, near Chew Street. The building will be a two-story and basement structure, 70x120 feet, of brick and stone construction, and besides an auditorium the building will have clubrooms, bowling alleys, basketball courts and a gymnasium. The cost will be about \$50,000.

Ballinger & Perrot are said to be taking sub-bids on plans for a seven-story and basement 91x61-foot office, manufactory and storage building, to be erected for Smith, Kline & French, at Fifth and Appletree Streets, of reinforced concrete construction,

Plans have been prepared by Ballinger & Perrot, architects, of 1200 Chestnut Street, for a large new printing house for Edward Sterne & Co., Inc. The new building will be located at 1631-1633 Vine Street and 1634-1638 Pearl Street. The old buildings will be torn down, and work on the new building is to be started as soon as possible. The new structure will be five stories high, fireproof, and cost about \$100,000.

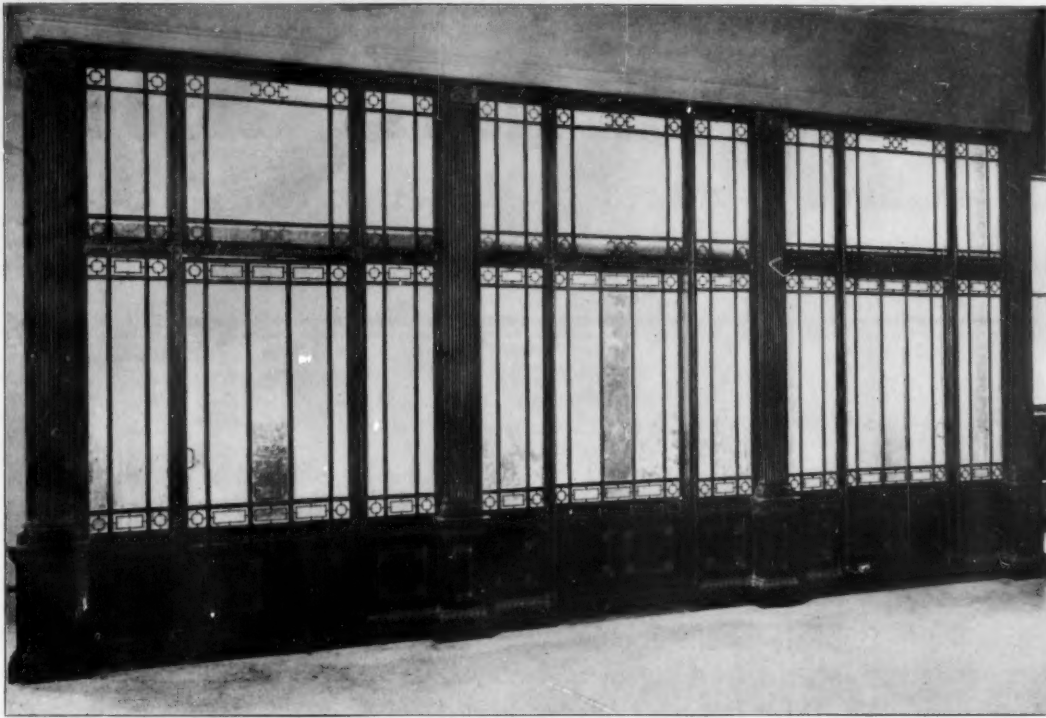
Roydhouse, Arey & Co., Fidelity Mutual Life Building, are stated to have been granted a permit to erect a five-story 124x53-foot brick office building for Burnham, Williams & Co., on Spring Garden and Broad Streets; cost, \$80,000. Wilson, Harris & Richards, Drexel Building, are the architects.

A site has been selected at the corner of Seventh and Lombard Streets, near Starr Garden Park, for the proposed tuberculosis hospital of the Henry Phipps Institute, 238 Pine Street. The hospital will cost about \$300,000. For particulars address Dr. Lawrence F. Flick.

John de Long, it is said, will erect a six-story 125x80-foot concrete and hollow tile apartment house on Morris Street and Cheltenham Avenue, Germantown; cost, about \$90,000.

Architect George Lovatt, 420 Walnut Street, has prepared plans for a church for St. Patrick's Roman Catholic congregation, at Twentieth and Locust Streets; cost, \$200,000.

PITTSBURG, PA.—The Building Committee of the Central Board of Education is



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stated to have adopted the plans of F. J. Osterling, Times Building, for the high school; probable cost, \$1,200,000.

Reports state that the Chamber of Commerce is contemplating the erection of a new building; cost, \$1,000,000. Address H. T. W. English, president.

RALEIGH, N. C.—It is said that the special Hospital Commission, of which Dr. J. W. McNeill is a member, has decided to expend between \$200,000 and \$300,000 for the erection of hospital buildings for epileptics. It is proposed to install a plant for manufacturing brick for the structure.

The State Board of Agriculture, it is announced, is considering the erection of an agricultural building to cost \$60,000. T. K. Bruner, secretary.

RICHMOND, PA.—Architects Wilson, Harris & Richards, Drexel Building, it is said, have prepared plans for the four-story Y. M. C. A. building at Richmond, to cost about \$60,000. C. Lorraine, care of C. & O. Company, will receive bids.

RICHMOND, TEX.—It is announced that Fort Bend County will vote July 25 on the issuance of \$75,000 for erecting a courthouse. Address County Commissioners.

ROCHESTER, MINN.—Plans have been prepared by Architects E. B. Bielmaier & Son, 117 Mason Street, Milwaukee, Wis., for a convent and mother-house building for the Order of Franciscan Sisters; cost, \$75,000.

ROCKFORD, ILL.—B. H. Jillson, of Racine, Wis., is reported to be preparing plans for a Y. M. C. A. building to be erected at Rockford, to cost about \$150,000.

RUTLAND, VT.—The members of the Ital-

ian R. C. Church are reported to be planning the erection of a \$50,000 edifice.

SAN ANTONIO, TEX.—It is reported that the International & Great Northern Railroad will soon submit plans to contractors for the erection of a proposed passenger station, to cost about \$150,000. O. H. Crittenden, resident engineer, Palestine, Texas.

SAN FRANCISCO, CAL.—Press reports state that plans are being prepared for a hotel to be built at Powell and Bush Streets by C. A. Meusdorfer, 2242 California Street; cost, \$175,000.

The Yerba Buena Building Company, according to reports, will erect a seven-story store building here on Geary Street, near Jones, to cost about \$100,000.

SAVANNAH, GA.—The Chatham Land and Hotel Company, incorporated with \$500,000 capital stock and privilege of increasing to \$2,000,000, it is said, proposes to erect a 300-room tourist hotel at a cost of \$75,000, covering a site 600 feet square. It is proposed to expend \$25,000 in improving surrounding grounds.

ST. AUGUSTINE, FLA.—Edwards & Walter, of Columbia, S. C., are preparing plans for two dormitory buildings for the Deaf, Dumb and Blind Institute at St. Augustine, to cost about \$80,000. N. P. Bryan, chairman Board of Control, Jacksonville, Fla.

ST. LOUIS, MO.—Plans have been prepared, it is said, by Architect W. A. Cann, Missouri Trust Building, for a five-story sanitarium and training school for the Masonic Sanitarium and Training School Co., 3509 Franklin Avenue; cost, \$150,000.

Reports state that plans are being prepared for the erection of a courthouse in St. Louis, on the west of the city hall bounded by Clark Avenue, Thirteenth, Fourteenth and Market Streets; cost \$2,000,000.

F. C. Bonsack, it is announced, is completing plans and specifications for the erection of a proposed coliseum—four stories, 300x300 feet, seating capacity 25,000. It is also contemplated to erect a theater and a 100-room hotel adjoining; total cost of structure, approximately \$500,000.

Plans have been prepared, according to report, by Architect A. B. Groves, Stock Exchange Building, for a hospital addition to cost \$800,000.

Charles A. Smith, Dwight Building, it is said, has plans ready for bids for a six-story building, 96x132 feet, at Tenth and Oak Streets, for the Y. M. C. A. Brick, Carthage and Bedford stone, steel, will be used in construction; estimated cost, \$225,000. C. S. Bishop, 810 Wyandotte Street, is secretary. Estimated cost \$225,000.

Harry Holbrook has applied to the Board of Public Works for a permit to erect a four-story Class C building on Mission Street, between First and Second. Estimated cost, \$115,000.

Bids are asked by J. W. Stevens, New York Life Building, St. Paul, Minn., until July 10, for the erection of the Hughes High School here, on Clinton and Gay Streets. It will be 272x112 feet, seven stories high, of reinforced concrete fire-proof construction; cost, \$600,000.

It is said that bids will be received soon

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for constructing an eight-story business building at Washington Avenue and Robbins Lane, for the Dulany Realty Co., Line and Fourth Streets. It will be of brick, stone and terra cotta construction, and will cost about \$150,000.

Architects Russell & Garden, 1620 Chemical Building, it is said have prepared plans for a new \$125,000 building for the Chapman estate.

Architect F. C. Bonsack, Eighth and Locust Streets, is said to have completed plans for a residence to be erected by R. H. Kelsey, at a cost of \$50,000, on Portland Place.

ST. PAUL, MINN.—St. Adelbert's congregation, A. D. Mayer, pastor, it is announced, contemplates the erection of a cut stone church on Charles Street, St. Paul; cost, \$125,000.

SCHENECTADY, N. Y.—The Welsh people of Schenectady, it is said, are planning to build a church in this city. W. J. Evans, Schenectady, is chairman of the building committee.

SEATTLE, WASH.—Plans are reported to have been prepared by Architects Graham & Myers, Lowman Building, for the Washington Hotel, to be erected by the Washington Securities Company, Globe Building; cost, \$300,000.

SEALE, ALA.—Press reports state that Russell County Commissioners are considering the erection of a courthouse.

SHEBOYGAN, WIS.—Bids will be received by James Knox Taylor, supervising architect, Washington, D. C., until July 15 for an extension, remodeling, etc., including plumbing, gas piping, heating apparatus, electric conduits and wiring, to the U. S. Postoffice and Custom House at Sheboygan.

Plans have been prepared by Architect G. H. Hemle, 430 South Fifth Street, Springfield, Ill., for the first wing for St. Nicholas' Hospital; cost, \$50,000.

SHERMAN, TEX.—It is reported that the Texas & Pacific Railway and other railways entering Sherman are considering the erection of a union passenger station. L. S. Thorne, Dallas, Texas, vice-president and general manager.

SIoux CITY, IA.—Press reports state that Bishop P. J. Garrigan, of the Roman Catholic diocese, proposes to establish an academy for girls, to cost \$60,000 to \$75,000.

SOUTH OMAHA, NEB.—The directors of the Y. M. C. A. will erect a building at Twenty-third and M Streets, to cost about \$50,000.

SPARTANBURG, S. C.—D. D. Little is reported interested in a company which has

been formed for the purpose of erecting a hotel to cost about \$250,000.

SPOKANE, WASH.—Charles H. Reeves, it is said, is planning to erect a six-story business building at Main Avenue and Washington Street, to cost more than \$100,000. The site is 50x100 feet.

James C. Cunningham, secretary and treasurer of the Union Trust Company, announces that negotiations have been closed for a site on Riverside Avenue and Stevens Street, costing \$200,000, upon which the company will erect a 10 or 12 story business building, 100x142 feet, as soon as the present lease expires. The structure will be of steel construction and modern in every detail.

Reports state that the Spokane-Portland Cement Company, of which D. H. Butz is president, recently incorporated for \$1,000,000, is planning to install a plant to manufacture cement on Sullivan Lake, near Ione, Wash., to cost \$300,000. The plant will have a capacity of 500 barrels a day.

F. C. MacGowan, local manager of the Pacific Telephone and Telegraph Company, announces that improvements to cost \$500,000 will be made by the Bell people in Spokane during the coming year. It is proposed to double the capacity of the present plant, which means that new buildings will be erected.

T. Walsh, superintendent of the Washington division of the O. R. & N., announces that the company proposes to build general offices in Spokane.

Reports announce that Chicago investors, operating with J. L. Callahan & Co., will erect a ten-story steel structure, 100x150 feet, on Riverside Avenue, at a cost of \$250,000.

D. C. Corbin, president of the Spokane International Railroad Co., it is said, is having plans prepared for a seven-story structure at Main Avenue and Washington Street, where he has a site 100x142 feet. The structure will cost \$200,000.

Reports state that Willis L. Moore, chief of the United States Weather Bureau, is having plans drawn to erect an observation station in a public park in Spokane, to be decided upon by Forecaster Charles Stewart.

It is reported that trustees of the First Presbyterian Church of Spokane have bought a site 50x142 feet, at Fourth Avenue and Lincoln Street, and will erect a new building to cost \$100,000. Dr. G. Wm. Giboney is pastor of the congregation; William Burnes is chairman of the building committee.

TEMPLE, TEX.—It is said that the trustees

of Temple Lodge, No. 138, Benevolent and Protective Order of Elks, are planning the erection of a three or four-story building at a cost of \$50,000.

TORONTO, ONT.—The congregation of the Annette St. Methodist Church are stated to have decided to erect an edifice at Annette Street and High Park Avenue, at a cost of about \$50,000.

TUNNELTON, W. VA.—It is reported that A. J. Bonafield is having plans prepared by John C. Tibbets for stone and brick banking and business building.

VANCOUVER, B. C.—J. A. Weart, it is announced, will replace the old Arcade building on the corner of Hastings and Cambie Streets, with a fourteen-story building to cost \$450,000.

WACO, TEX.—The Texas Baptists, it is said, are contemplating the erection of a college at Tyler.

WASHINGTON, D. C.—It is said that the District Commissioners have selected site in the Howard University subdivision for the erection of new school building to cost about \$125,000.

Westcott & Story, 816 Seventeenth Street, N. W., have commissioned Bruce, Price & De Sibour, Washington Herald Building, to prepare plans and specifications for dwelling to be erected on Sheridan Circle at cost of \$150,000.

WEYAUWEGA, WIS.—It is said that plans are being prepared for a church for St. Peter's Lutheran congregation. Cost, \$75,000.

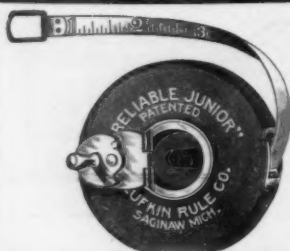
WHEELING, W. VA.—Press reports state that the city will vote July 16 on the issuance of \$200,000 of bonds to erect high-school building. Address the Mayor.

The Young Men's Christian Association will erect proposed new building to cost \$100,000 on present site, 79x115 feet; Dr. J. L. Dickey, president and chairman of building committee.

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U. S. Mineral Wool Co., New York.....
- MORTAR COLORS.**
Sam'l. H. French & Co., Philadelphia, Pa.....
- PAINT.**
Joseph Dixon Crucible Co., Jersey City, N. J.....
Keystone Varnish Co., Brooklyn, N. Y.....
National Lead Co., New York.....
St. Louis Surfacter & Paint Co., St. Louis.....
- PHOTOGRAPHS.**
J. W. Taylor, Chicago, Ill.....
- PLUMBING GOODS.**
Standard Sanitary Mfg. Co., Pittsburgh, Pa.....
Wolff, L., Mfg. Co., Chicago.....
- PNEUMATIC TANKS.**
Kewanee Water Supply Co., Kewanee, Ill.....
- PRISM LIGHTING.**
American Luxfer Prism Co., Chicago.....
Holophane Glass Co., New York.....
- PUMPS.**
Rider-Ericsson Engine Co., New York.....
- REFLECTORS.**
I. P. Frink, New York.....
Holophane Glass Co., New York.....
- REINFORCED CONCRETE.**
American Concrete Steel Co., Detroit, Mich.....
American System of Concrete Reinforcing, Chicago, Ill.....
Clinton Wire Cloth Co., Clinton, Mass.....
Expanded Metal and Corrugated Bar Co., St. Louis.....
Trussed Concrete Steel Co., Detroit.....
Unit Concrete Steel Co., Chicago, Ill.....
- ROOFING MATERIALS.**
American Sheet & Tin Plate Co., Pittsburgh.....
Barber Asphalt Paving Co., Philadelphia.....
Bird, F. W. & Son, East Walpole, Mass.....
Keasbey & Mattison Co., Ambler, Pa.....
See also Asphalt Roofing.....
- SASH-CORD.**
Samson Cordage Works, Boston.....
- SCHOOLS OF ARCHITECTURE.**
Lawrence Scientific School, Harvard University, Cambridge, Mass.....
- Massachusetts Institute of Technology, Boston.....
Ohio State University, Columbus, Ohio.....
Society of Beaux-Arts Architects, The, New York.....
University of Michigan, Ann Arbor.....
University of Pennsylvania, Philadelphia, Pa.....
Washington University School of Engineering and Architecture, St. Louis, Mo.....
- SHEET-METAL WORK.**
Berger Mfg. Co., Canton, O.....
W. H. Mullins Co., Salem, O.....
J. S. Thorn Co., Philadelphia, Pa.....
- SKYLIGHTS, ETC.**
Burt Mfg. Co., Akron, Ohio.....
George Hayes, New York.....
W. H. Mullins Co., Salem, O.....
Vaile & Young, Baltimore, Md.....
- STAIR TREAD.**
American Mason Safety Tread Co., Boston.....
- SUN DIALS.**
Sun Dial, Pittsburgh, Pa.....
- TAPES AND RULES.**
Lufkin Rule Co., Saginaw, Mich.....
- TERRA-COTTA.**
The Northwestern Terra-Cotta Co., Chicago, Ill.....
- TILES.**
Information Bureau of Tile Industry Washington, D. C.....
Jackson, Wm. H., Co., New York.....
- TILES (Interlocking Rubber).**
N. Y. Belting and Packing Co., Ltd., New York.....
Pennsylvania Rubber Co., Jeannette, Pa.....
- TILING (SHEET RUBBER).**
Peerless Rubber Manufacturing Co., New York.....
- TIN AND TERNE PLATES.**
American Sheet & Tin Plate Co., Pittsburgh.....
- VACUUM CLEANING.**
General Compressed Air & Vacuum Machinery Co., St. Louis, Mo.....
- VALVES AND PACKING.**
Jenkins Bros., New York.....
- VENTILATING APPARATUS.**
New York Blower Co., Chicago.....
Thomas & Smith, Chicago.....
- VENTILATORS.**
Burt Mfg. Co., Akron, Ohio.....
Merchant & Evans Co., Philadelphia.....
Globe Ventilator Co., Troy, N. Y.....
- WATER HEATERS.**
Monarch Heater Co., Pittsburgh, Pa.....
- WATERPROOFING.**
E. J. Winslow Co., Chicago.....
- WATER SUPPLY SYSTEMS.**
Kewanee Water Supply Co., Kewanee, Ill.....
- WEATHER VANES.**
T. W. Jones, New York.....
- WINDOW LINE.**
Samson Cordage Works, Boston.....
- WIRE GLASS WINDOWS.**
George Hayes, New York, N. Y.....
James A. Miller & Bro., Chicago, Ill.....