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Vol. XCI.

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—House of the Chancellor of All Saints' Cathedral, Albany, N. Y.

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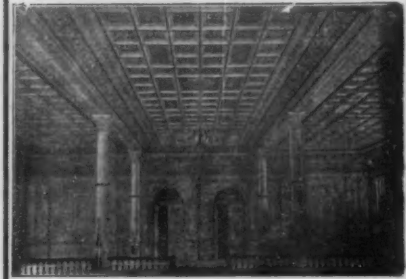
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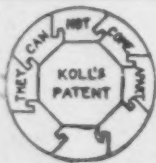
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SOCIETIES

CINCINNATI CHAPTER, A. I. A.

On March 19 the Cincinnati Chapter of the American Institute of Architects increased its annual dues, which step was taken in order that the organization might become affiliated with the Engineers' Club, Electrical Engineers' Society, Mechanical Engineers and the Chemical Society of Cincinnati. This action on the part of the Chapter now makes the amalgamation of these organizations complete, the architects being the last to take the necessary step. Under this merger each society is to retain its individual identity, but will have one meeting place where all can gather and hold discussions and also maintain a library. The Chapter appointed a committee to act in conjunction with the Erkenbrecher Memorial Association, which proposes to build a monument to the late Andrew Erkenbrecher, founder of the Zoological Garden. It is proposed to erect a memorial entrance to the Zoo, which idea is now being considered by the committee.

ARCHITECTURAL LEAGUE OF AMERICA.

The next convention of the Architectural League of America will be held in Washington, D. C., April 22, 23 and 24, under the auspices of the Washington Architectural Club. The clubs participating will be:

The T-Square Club, of Philadelphia; Cleveland Architectural Club; Toronto Architectural Club; Pittsburg Architectural Club; Twin City Architectural Club; Chi-

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cago Architectural Club; Detroit Architectural Club; St. Louis Architectural Club; Washington Architectural Club; Architects' Club, of Urbana, Ill.; National Society of Mural Painters; National Sculpture Society; San Francisco Architectural Club, and the George Washington Architectural Club, of Washington, D. C.

In all probability the Boston Architectural Club, Memphis Architectural Club and the Portland (Oregon) Architectural Club will also be represented at the meeting.

Among the more important matters for the consideration of the meeting will be: (1) The question of individual membership in the League; (2) the transfer of members from one club to another; (3) the establishment of the office of permanent secretary; (4) traveling scholarships; (5) fellowships in the architectural schools, and (6) the question of fuller preparation on general educational lines for entrance to professional schools, and less general and more special work in the professional schools.

A number of papers of special interest will be presented by eminent architects.

LOS ANGELES ARCHITECTURAL CLUB.

Mr. Harrison Albright was the principal speaker at a meeting of the Architectural Club Tuesday evening, March 19. He read a paper on reinforced concrete construction,

reviewing the history of reinforced concrete architecture from the earliest times.

NEW YORK CHAPTER, A. I. A.

The New York Chapter of the American Institute of Architects held a special meeting March 26 at the Engineering Building, to which meeting the Chapter had invited city officials and other distinguished citizens, also the members of the Fine Arts Federation—namely, the National Academy of Design, American Water Color Society, the Society of American Artists, the Architectural League of New York, the American Fine Arts Society, the Society of Beaux Arts Architects, the National Sculpture Society, the National Society of Mural Painters, New York Water Color Club, Brooklyn Chapter of the American Institute of Architects, Society of Illustrators, and the officers and executive committee of the Municipal Art Society of New York. The drawings submitted with the report of the City Improvement Commission were on view and afterwards the audience was addressed by Mr. Francis K. Pendleton, Mr. Jacob A. Cantor, Mr. Frederic Crownshield and Mr. Walter Cook.

The meeting unanimously adopted the following resolutions:

Resolved. That the meeting heartily approves the work of the City Improvement Commission and feels that the entire community owes it a debt of gratitude for its earnest, effective and disinterested work for the beautification and practical development of New York City, and hopes and urges that the suggestions presented

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here to-night will be carefully considered by the city authorities and adopted as far as possible.

Resolved, That the plan proposed of providing by legislation or constitutional amendment that the City of New York shall have the power, in connection with any public work, of acquiring sufficient adjoining property to enable it by re-sale of the portion of the property so acquired in excess of that actually essential to the work to recoup the expense or cost of the improvement be and the same is hereby approved, and the officers of the city government and all members of the Legislature are hereby urgently requested to forward the same by all means in their power.

PERSONAL MENTION

NEW YORK.—Mr. J. F. W. Bunsen has entered the employ of Muralt & Co., engineers and contractors, New York, and will take charge of their Southern office in Charleston, S. C.

Mr. Bunsen, who is a nephew of the late Prof. Bunsen, the inventor of the burner which bears his name, has had many years' experience in designing and erecting important engineering works. At the time of the Galveston flood Mr. Bunsen was engaged as the mechanical superintendent of the American Cotton Co., Southern District. He was delegated by the City of Galveston to prepare the designs and plans for a system of breakwaters, and although his plans were not immediately utilized on account of lack of funds, the present admirable breakwater system has been built practically in accordance with his original ideas and plans. His experience also includes the design and erection of various breweries, sugar refineries, spinning mills and electric light and power plants, including oil refineries for the Standard Oil Co. in Mexico and South America, cotton mills for the American Cotton Co., and various sugar plants in Cuba, Mexico and South America.

Mr. Bunsen will have charge of Muralt



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& Co.'s various projects in the Southern States and especially the large power plant which that company is now building for the United States Government at the Charleston Navy Yard.

BOSTON, MASS.—Messrs. Wheelwright & Haven, architects, have removed their offices from the Colonial Building to 220 Devonshire street.

KNOXVILLE, TENN.—Mr. George E. Matthews of the firm of Matthews & Brome, architects, has decided to leave the city and has accepted an offer with Frank M. Andrews & Co., of Cincinnati and New York.

WALLA WALLA, WASH.—On March 27 George W. Babcock, former Mayor of Walla Walla, a California pioneer of '49 and prominent citizen of Walla Walla since 1885, died at his home. Mr. Babcock was born in Providence, R. I., November 22, 1832, but most of his boyhood was passed in New York State. In 1849 he became stricken with the Western fever and came across the plains with the first rush of gold seekers, the trip taking six months and nineteen days. Arriving in the Golden State he engaged in mining for ten years at the camp of Hangtown. From there he went to San Francisco, where he made a success as architect and builder. In 1885 he came to the Northwest, locating in Spokane for six months, and then coming to Walla Walla for the purpose of locating the Washington State penitentiary, for the buildings of which he furnished the plans. He superintended the construction of the different buildings.

BALTIMORE, MD.—Upon the complaint of Francis E. Tormey an order has been signed by Judge Stockbridge, in Circuit Court No. 2, requiring Alfred Cookman Leach to show cause why a receiver should

not be appointed for the business of architects conducted by Mr. Tormey and Mr. Leach at 323 North Charles street. The bill of complaint, filed by Heuissler & Sauerwein, attorneys, states that the partnership was formed March 14, 1904, and alleges that irreconcilable differences have arisen between the partners. By advertisements in the *Sun* notice is given of the dissolution of the partnership of Francis E. Tormey and Alfred Cookman Leach, under the firm name of Tormey & Leach, architects. The notice is signed by Mr. Tormey.

SPOKANE, WASH.—Mr. F. H. Russell, formerly of the reclamation service in Nevada, has formed a partnership with R. E. Vincent in the Mohawk block, and the new firm will engage in drafting, in hydraulic, civil and structural engineering work.

NEWPORT, R. I.—Dr. J. Newton died here March 29, aged 62. He designed several of the famous villas of Newport, including those of Mrs. William G. Weld of Boston; "Wakehurst," James J. Van Alen's place, known the world over; "Crossways," the summer place of Mr. and Mrs. Stuyvesant Fish, and other summer residences.

NEWBURGH, N. Y.—Frank A. Scott, architect and builder, sustained a stroke of paralysis, March 29, while at his office on the northwest corner of First and Front streets.

NOTES AND CLIPPINGS.

TENTERDEN STEEPLE AND THE GOODWIN SANDS.—Not many months ago, during a somewhat heated discussion in the smoke-room of a West End club, the following old saw was given as a perfect example of false logic: "Tenterden steeple was the cause of the Goodwin Sands." But I contended that on the contrary this was an example both of good logic and the persistency and value of oral tradition. My intervention in the discussion was laughed at by a room full of university men, many of whom were well-known authors; and I stood there for some ten minutes quite alone contending

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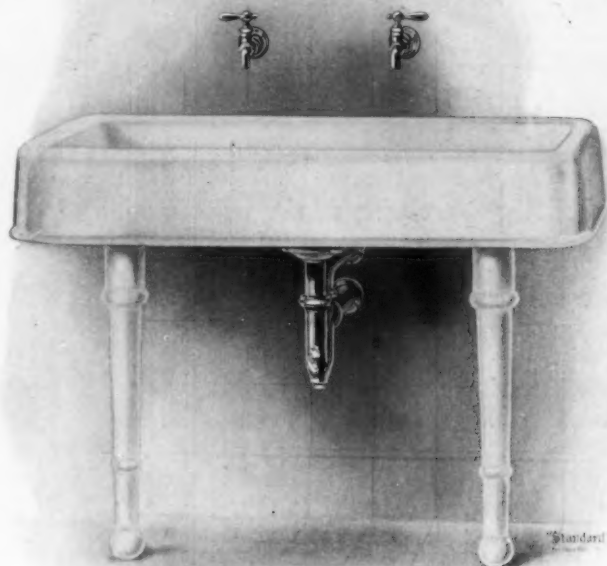
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against this brilliant company of Britons. "But he laughs best who laughs last," and I stuck to my thesis, intimating, as politely as I could, that it was pure ignorance which caused their merriment. I then gave the following account of this classic example of false logic: "When the encroachment of the shoals called the Goodwin Sands began to be dangerous to navigation, there was some sort of a commission appointed to investigate the matter, and if possible to ascertain the cause. Many expert witnesses had been heard when a common sailor took the stand and said he had always understood that Tenterden steeple was the cause of the Goodwin Sands. Of course, he was laughed at for his pains by the wise and learned commission, and his testimony has served to amuse the knowing ones for many generations. But a little knowledge of the local tradition of Tenterden confirms the testimony of the poor ignorant sailor and turns the laugh at last upon the commission. A sum of money had been left by an enterprising citizen of the parish of Tenterden to keep the Goodwin Sands from encroaching upon the channel. This money was honestly applied for some time, how long is not known, and the shoals were kept clear. But the time came when these funds were diverted from their rightful purpose, and were misapplied for the erection of a steeple on the parish church. The sands were thus left to accumulate, and hence the very truthful, as well as logical, saying of the people that Tenterden steeple was the cause of the Goodwin Sands. Here we have a perfect bit of logic, containing a very interesting and valuable historical incident, wrapped up

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in a traditional nutshell—which has been handed on from generation to generation by word of mouth." "But where is Tenterden steeple? It is nowhere near the Goodwin Sands," exclaimed several of my literary auditors at once; and I then had to supplement my lecture on the persistency and value of English oral tradition with a short discourse on English geography, explaining that there was a time—strange as it might seem to these highly literary gentlemen—when Tenterden steeple was nearer the coast than it is to-day. The Mayor of Canterbury writing to the *Times* only the other day, in answer to a letter of Sir W. B. Richmond concerning the alarming condition of the cathedral tower, states that "the Mayor and commonalty, as a body corporate, are no more responsible for the present condition of the cathedral tower than are the Goodwin Sands for that of Tenterden church steeple." The Mayor in his quotation of this old maxim has got it wrong end first, but his meaning is clear enough, and he has unwittingly evoked an example which is fatal to his arguments, for if the municipality of Canterbury is no less as well as no more responsible for the decay of the cathedral tower than Tenterden steeple was for the accumulation of the Goodwin Sands, then it is wholly responsible.—*G. M. Royce in the Nineteenth Century.*

M. OSIRIS AND MALMAISON.—M. Osiris was a true Frenchman of Bordeaux, although as an Israelite he had a right to his strikingly Oriental name. He was a widower from his youth and remained faithful to her whom he had lost. He watched the slow but sure heaping up of riches which came to him almost by spontaneous impulsion after the first start; and he used his leisure, which seemed to be his whole life, in conjuring up objects on which to bestow his largess. Every one remembers the house of Malmaison where he patiently gathered together every least fragment of furniture and art or personal relics which had once belonged to the Empress Josephine. It was long, very long, before he could persuade the public authorities to accept this startling historical museum, with all the funds needed for its support. When he came back from his château in December, only a few weeks before his death and with the hand of death already heavy upon him to his certain knowledge, he called for the proper State officials and there, in his house, had them make an inventory of all the precious objects which he wished to go to this Musée Osiris; and he stipulated that his faithful valet of many years should be its guardian.

COMPETITION.—Competition is becoming the recognized channel for obtaining designs for the majority of important new buildings. It is useless to pursue the old line of bewailing such a state of things; we have to face the facts, and, taking human nature as it is, we may just as well recognize that there exists in the architectural profession a fight for existence no less acute than in any other profession to-day, and



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that, this being so, men will strive for their pocket's sake, in total disregard of any ethics. Moreover, quite apart from such considerations, it must be admitted that in many cases competition is really the best means of obtaining designs. It is not against the principle of competitions that we should protest, but against those instances of unfair conditions which are unfortunately still so frequent.—*Builders' Journal*.

BUILDING NEWS.

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

ABBEVILLE, LA.—Reports state that the Catholic congregation will erect brick edifice costing between \$50,000 and \$75,000. Committee consists of Rev. Father La Forest, L. O. Broussard, J. E. Nettles and others.

ABERDEEN, WASH.—It is reported that plans have been prepared for a fireproof building which is to be erected at Heron and I Streets by W. B. Mack and J. B. Dabney.

ALBUQUERQUE, N. MEX.—Bids are asked by the Commissioner of Indian Affairs, Washington, D. C., until 2 P. M., April 30, for furnishing and delivering the necessary materials and labor required to construct and complete a dormitory and a mess hall, both of brick, with plumbing, steam heat and electric light; also a tank and tower and an extension of the electric lighting system. Further information may be ob-

tained from Burton B. Custer, Superintendent, Albuquerque.

ANDOVER, MASS.—McKim, Mead & White, 160 Fifth Avenue, New York, are preparing plans for a church and rectory for the Free Christian Church Society, to be erected at Andover, Mass., to cost about \$40,000. Jos. A. Smart, Chairman Building Committee.

ATLANTIC CITY, N. J.—The contract to erect the auditorium on the pier at the foot of Arkansas Avenue, it is reported, has been awarded to the Keystone Structural Co., of Philadelphia, Pa., the cost to be about \$200,000.

It is stated that Nixon & Zimmerman, of Philadelphia, Pa., propose erecting a concrete and steel vaudeville theatre, on the Boardwalk and Maryland Avenue, at a cost of \$250,000.

The Pennsylvania Railroad Company plans to erect a new passenger station here, besides new baggage and freight depots. The improvements contemplated will cost nearly \$500,000. Alex. C. Shand, Philadelphia, is Chief Engineer.

AUGUSTA, GA.—It is said that Frank P. Milburn & Co., Washington, D. C., have prepared plans for a fireproof addition to the Albion Hotel for Bryan Lawrence. Proposed cost, \$60,000.

BEAUMONT, TEX.—H. A. Pearlsein, it is reported, will erect a five-story building at Pearl and Fannin Streets.

BERKELEY, CAL.—The Board of Education is reported to have adopted plans for the high school to be erected at Allston-

way and Grove Streets, at a cost of \$140,000.

BOZEMAN, MONT.—Plans are reported on foot looking towards the erection of a new building at the State Agricultural College, to cost \$80,000.

BRIDGEPORT, CONN.—Plans are being prepared, according to reports, by Meloy & Beckwith, architects, 23 P. O. Arcade, Bridgeport, for a residence to cost \$150,000.

BRISTOL, TENN.—The members of the Methodist Episcopal Church South are reported to be contemplating the erection of an edifice to cost about \$36,000. E. F. Kahle, pastor.

The Interstate Hotel Company, it is stated, has adopted plans by Barber & Klutz, Knoxville, Tenn., for proposed \$100,000 hotel.

BROOKLYN, N. Y.—The Empire Circuit Company, of Cincinnati, O. (Jas. Fennessy, president), is reported to be contemplating the erection of a reinforced-concrete theatre at Ralph Avenue and Quincy Street, to cost \$250,000.

A large new store and flat house is about to be built on the north side of South Eighth Street, 145 feet west of Hooper Street, by P. Lanzerkowsky, 935 Myrtle Avenue. Samuel Sass, 23 Park Row, Manhattan, is the architect and plans provide for a six-story building measuring 50x107 feet, to have light brick and limestone front, tin roof, hardwood finish, and floors, bath room and laundry fixtures, and will cost about \$50,000.

BUFFALO, N. Y.—Press reports state that

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a county Court-house and City Hall combined will be erected, at a cost of at least \$1,000,000. For particulars address Henry V. Bisgood, of McGrath & Bisgood.

It is reported that the Directors of the Buffalo Club have accepted the plans of Green & Wicks, 110 Franklin Street, for the addition which it is proposed erecting to the clubhouse, at a cost of \$50,000.

CHARLOTTE, N. C.—The Building Committee of the Y. M. C. A. is stated to have engaged Hook & Rogers, of Charlotte, to prepare plans for the Y. M. C. A. building, which is to be erected at a cost of \$100,000.

CHICAGO, ILL.—Reports state that William J. Brinkman, architect, Metropolitan Block, is completing plans and will take figures on a church to be built at Eighty-third Street and Bond Avenue for St. Michael's Roman Catholic Church (Polish). It will be 95x200 feet, in Gothic style, of fireproof steel construction, with two towers, one on each side of the entrance, the highest to be 280 feet. The structure will be of pressed brick and stone, having stained glass windows, slate or tile roof carried on steel trusses, steam heat, wiring for electric light, marble and tile work, a seating capacity of 2,000, and will cost complete \$200,000.

Andrew Sandegren, architect, 164 Dearborn Street, has completed plans, it is reported, for a 35-apartment building, to be erected at Thirty-fifth Street and Grand Boulevard for Krietenstein Bros., 107 Dearborn Street. The building is to be three stories high, 149x162 feet, built of pressed brick and stone trimmings, with plate glass, oak and mahogany finish, oak and maple floors, marble, tile and mosaic, combination lighting fixtures, mantels and consoles, nickel plumbing and sheet metal work. Cost, \$120,000.

Edmund R. Krause, it is stated is preparing plans for a residence to be built at Lake Shore Drive and Roscoe Street for

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KEYSTONE
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SEE PAGE XI.

Mrs. Chas. D. Peacock. It will be three-story, of pressed brick, stone and terra-cotta. Probable cost, \$60,000.

Reports state that plans have been about completed for the large new hospital which is to be built for the Presbyterian Hospital from designs by Architects Shepley, Rutan & Coolidge, 84 Van Buren Street. It will be located at Congress and Wood Streets, and plans provide for a six-story building 75x100 feet, to cost about \$300,000.

The congregation of the Evangelical Lutheran Trinity Church, it is stated, has had designs prepared by Architects Worthman & Steinbach, 625 West Chicago Avenue, for a new church and parsonage to be built at

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Thirty-first Street and Lowe Avenue. The church will measure 15x121 feet and the parsonage 25x63 feet, both buildings will be built of brick and stone, finished in hardwood and cost about \$60,000 total.

A store and apartment-building, it is stated, is about to be built at Twelfth Street and Marshfield Avenue from designs by Architect L. G. Hallberg, 84 La Salle Street. Designs show a three-story building covering 75x100 feet. It will have front of pressed brick with stone trimmings, composition roof, and will cost about \$65,000.

Niels Buck, 125 La Salle Street, it is said, has prepared plans and is taking figures on an apartment-building to be erected at Irving Park Boulevard and Seeley Avenue. It will be three stories, 79x120 feet, and cost about \$60,000.

Reports state that a large new apartment-house will be built at Sheridan Road and Irving Park Boulevard for W. S. Bogle from designs by Architect George S. Kingsley, 36 La Salle Street. It will be a three-story building, covering an area of 310x140 feet, and cost about \$150,000. The front will be of pressed brick with stone trimmings and will have composition roof, hardwood finish and floors, steam heat, electric wiring, tile and mosaic work, etc.

CINCINNATI, O.—The Board of Education will erect a new Woodward high school building, 223x160, five stories high, to cost \$500,000. G. W. Drach, architect.

Reports state that Edward Kohl will erect a large flat-building. No plans have been made, nor has architect been selected.

It is said that the U. S. Engineer Department is preparing plans for a concrete steel storehouse, 40x60 feet, to be built on cement pile foundation. Col. McD. Townsend is in charge.

CLEBURNE, TEX.—Reports state that the city has voted affirmatively the issuance of bonds for erection of \$75,000 high school building. Address the Mayor.



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CLEVELAND, O.—Architects Lehman & Schmitt, 625 Garfield Building, have prepared plans for the Excelsior club house. Estimated cost, \$125,000.

Bids will be called for soon by the Board of Public Service for constructing the West Side Market, for which an appropriation of \$165,000 has been made. W. J. Carter is City Engineer.

COLORADO SPRINGS, COLO.—Plans are now being drawn, it is said, for the new addition to Glockner Sanatorium, which will cost \$75,000, and work on the new building will start at once thereafter.

COLUMBUS, O.—The Ohio Archaeological and Historical Society at the State University, it is stated, has indorsed the bill providing for an appropriation of \$400,000 for the building to contain the State Library.

It is reported that Tracy-Wells Company will erect a six-story fireproof building on Grand and Spring Streets.

CONNEAUT, O.—I. C. Cohen, manager of the Majestic Theatre in Cleveland, is said to be interested in the erection of a theatre in Conneaut, to cost \$60,000.

COUNCIL BLUFFS, IA.—It is stated that plans are ready for the new Y. M. C. A. building to be erected at Seventeenth and St. Mary's Avenue. Cost, \$125,000.

CROOKSTON, MINN.—The Directors of the Industrial School, it is reported, will erect a \$50,000 dormitory and dining hall at Farm School.

DENVER, COLO.—The Theological Seminary Trustees of the Roman Catholic Diocese of Colorado, it is reported, propose erecting a \$200,000 building. Rev. J. J. Martin is interested.

DES MOINES, IA.—Plans are being prepared by Hallett & Rawson, 615 Walnut Street, for theatre to be erected at Eighth and Mulberry Streets for the Lederer & Strauss Company, and the Karl Kahler Estate, to cost about \$150,000.

The Trustees of the Drake University are reported to have approved the plans of Proudfoot & Bird, Crocker Building, for

the three-story brick and stone Carnegie Library, which is to be erected at a cost of \$50,000.

DUNCAN, I. T.—J. H. Pry is reported as having plans prepared for a \$300,000 hotel.

Reports state that the Duncan Commercial Club is considering a proposition for the construction of a \$50,000 military college.

DUNKIRK, N. Y.—Thos. W. Harris, of Buffalo, is reported to have submitted to the Board of Education plans for remodeling the high school which call for a three-story addition, the rebuilding and fireproofing of the old building, the total cost to be about \$75,000.

EDMONTON, ALTA.—W. Briesbach, Mayor, writes that it is proposed to erect a hospital at a cost of \$200,000. Architects, Johnson & Lines, of Edmonton.

EL PASO, TEX.—It is proposed to erect a modern market building in El Paso to cover one entire city block and to cost over \$100,000.

EMPORIA, VA.—Bids are asked by the Greensville County School Board, until noon, April 18, at the office of Henry Maclin, Superintendent, Emporia, for the erection of a high school building. Plans and specifications may be seen at the office of the Superintendent, Emporia, Va., and at the office of Albert F. Hunt, architect, 1107 East Main Street, Richmond, Va. All bids must be accompanied by a certified check of \$250.

ENID, OKLA.—C. R. H. Davis, of St. Louis, Mo., it is stated, intends erecting a \$150,000 apartment house.

EVANSVILLE, IND.—Parsons & Schoville are reported to have ordered plans for a wholesale building; estimated cost, \$80,000.

FARGO, N. D.—It is stated that the erection of two buildings at the Oak Grove Lutheran Ladies' Seminary, one to be a dormitory and the other an additional school, is reported contemplated. The cost of each is to be about \$50,000.

FORT DODGE, IA.—Liebbe, Nourse & Rasmussen, architects, 724 Walnut Street, Des

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Moines, have prepared plans for a seven-story bank building, 80x140 feet, for the First National Bank. Estimated cost, \$125,000.

GADSDEN, ALA.—Reports state that a stock company has been organized to erect a hotel costing \$60,000. U. B. Kronenberg, Selma, Ala., is interested.

GRAPEVILLE, PA.—Milligan & Miller, of Wilkinsburg, are reported to have been engaged to prepare plans for the St. Paul's Orphanage, which is to be erected at Grapeville at a cost of \$80,000.

HACKENSACK, N. J.—State Architect Geo. E. Poole, of Trenton, it is stated, has accepted the invitation of the Building Committee to select the plans to be accepted for the \$600,000 Court-house to be erected in Hackensack. Competitive plans have been submitted.

HAGERSTOWN, MD.—Reports state that an Eastern syndicate proposes erecting a \$1,000,000 hotel in this city.

HANOVER, N. H.—Dartmouth College, it is stated, will build a gymnasium, using \$300,000 lately donated by Thomas P. Salter, of New York. William J. Tucker is president.

HIGH BRIDGE, N. J.—Oscar Frommel, a produce merchant at West Washington Market, Manhattan, has purchased 104 acres at High Bridge, near the place of ex-Governor Voorhees, and he is having plans drawn for an extensive country home that is to cost about \$75,000.

HUDSON, N. Y.—Plans are being submitted by various architects for the new Columbia County Court-house. Address Clerk Board Supervisors.

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SOCIETIES, PERSONAL MENTION, ETC.

FEW persons would be likely to deny that American architects are, as a rule, refined, well-bred and certainly rather decent individuals, quite unlikely, say, to sit down in shirt-sleeves and trousers stayed by a single soiled suspender to dine in public. But if they really possess a restraining sense of decency in one direction, how is it that, almost without exception, they are willing to show such brutal and indecent disregard in another direction for those other feelings of the bystander which are as easily shocked and offended as those which shrink and shrivel in the presence of a soiled shirt-sleeve? Let any New Yorker gaze out of his window in any direction and he will find his eye offended by the evidences of the brutal, indecent indifference of American architects, of the men who prate about art and beauty and try to impress upon their clients their own reverence for the sky-line. Everywhere, where things are supposed to be a little out of sight, in the treatment of roofs and party-walls, reveals, returns, parapets, elevator pent-houses, skylights and copings, chimneys and, above all, in the treatment, or rather the total neglect, of courtyard walls and the doors and windows that open upon them, he can see at a glance evidence enough to blast the pretence that the majority of architects have a maintainable claim to be considered not artists merely, but even men who have an understanding

of decency and good feeling toward their fellow-men. Why is it that these unspeakable atrocities are to be seen on every side in this twentieth century in such a city as New York, do you ask? Pure thoughtlessness, simple veneration for the rule o' thumb. Can any better evidence be wanted of man's simian descent than is afforded by the shamefully crude and neglectful way in which New York architects treat the rears of their buildings, their unprotected sides, their frowzy roofs, their slighted court fronts, simply because they have always done so?

THAT it is merely a matter of simian imitativeness is made plain when, now and then, we come upon a building where its architect has really done his full duty, not only to his client but to the public, and has shown that he has taken to heart the story of Porthos and his baldric. We never pass along Fifth Avenue, near the Public Library, and see rising above its lower neighbors in a truly Acropolis dignity the eastern façade of the Engineering Societies' Building, that we do not rejoice at the forethought of the man who prepared the competition programme and the unusual success with which the architects handled the problem, not only on this side but also on the rear, where that rear will always be visible from Bryant Park. The building, as a piece of rational architecture—decorated construction—is one of the most successful and dignified in the entire city; and here, if you please, we have a designer who not only can prate about sky-lines, but actually produce them, satisfyingly, simply and inexpensively. When one looks away from this building to regard the impertinent unconcern of the western wall of the towering Hotel Belmont, not far away, it is easy to comprehend that there really is a difference between tweedledum and tweedledee, and that the difference is not merely one of cost.

BUT, nerve-racking as is all the disheveled unkemptness of the upper levels of New York architectural achievement, it is not as depressing as the unconsidered treatment of the courtyards of hotels and apartment-houses. There is so vast an accumulation of architectural illustration that goes to prove that the courtyard in other countries has been the special object of the architect's most sedulous consideration, that it is not easy to understand why and how it is that similar spaces in New York should be bounded by walls of the plainest brickwork, simply punched full of the needful number of openings, all of the same size—and the meagerest at that, their grouping unstudied, their details unconsidered; nothing but a plain flush blank of coarse brickwork, with no variation of pattern effected in the bond, with never a string-course through the whole height, with single rowlocks for lintels, and jambs and sills ungraced by thought. It is distressingly humiliating that everywhere, even in so notable a building as the Home Club, on East Forty-fifth Street, the courtyard walls should be so neglected, when their proper handling would add so very much to the pleasure of those who have to spend their time in rooms that open on them. An oriel, a balcony, or mouch-

Public Library
RECEIVED
APR 15 1907
New York, N. Y.

araby, a patterning in brickwork, a change of bond, a veneering of tile, an attempt at sgraffito, a little half-timber work, there are endless ways of making a departure from the bleak forlornness which now pervades the regulation city courtyard, making it, everywhere, as deadly depressing as the corridor of a jail.

THE New York *Evening Post* has of late undertaken to exploit at great length certain artistic scandals. Having amazed its readers by giving many columns of its space to the airing of a dispute between three brothers, painters, of recently acquired notoriety, it last week directed attention, and none too soon, to the Cathedral of St. John the Divine, on Bloomingdale Heights, New York. To ourselves and to most of the profession, we fancy, that undertaking has been a good deal of a mystery, as it has not been at all easy to perceive why, in view of what building processes are in these days, so little should have been accomplished in all these years, and why that little should not augur better for the final result. When, a month or so ago, we saw that Mr. Harry Hems had, in *The Building News*, indulged in some pretty savage criticism of the figure sculpture already in place upon the apsidal chapels, we set it down as merely an instance of purblind Britannic superiority that those interested in the matter could afford to smile over. But the criticism takes on another and far less agreeable aspect when the sculptor who modelled these figures, Mr. Gutzon Borglum, informs the *Evening Post* that not only was Mr. Hems right in his strictures, but that he was altogether too self-restrained in giving expression to them. In self-defense, Mr. Borglum now explains that the architects and building-committee, in spite of his own reiterated remonstrances, continue to allow the stone-cutters to follow his models at such distance or with such variation as their discretion or lack of skill allows. The situation is not usual, for one does not ordinarily find an architect siding with a contractor against a fellow artist, particularly when, as in this case, that artist has been willing, for one reason or another, to do a large amount of work at an extraordinarily modest rate. The situation is hardly improved when one of the architects assures the public through the reporters that there are no American sculptors competent to do the work as he thinks it should be done, or when the building-committee makes it known that the whole thing does not concern the public in any way. It seems to us, however, that, if the *Evening Post* representations are accurate, the treasure-chest of the Cathedral of St. John the Divine is likely to lack that public plenishing on which progress depends until building-committee and architects have been replaced by less petulant successors.

THE Philadelphia *Item*, which perhaps is not the best of authorities, published last week a very remarkable interview with the architect of the Pennsylvania Capitol. In it Mr. Huston is made to say: "What, however, proved to be the most serious factor in the whole transaction was the since much-discussed 'per-foot' and 'per-pound' rule, a legal provision of an arbitrary character, from which there was simply no escape. This

rule is the result of a law passed about ten years ago, in force at the time this work was done, and still in force." Captain Delany, however, who was Superintendent of Grounds and Buildings for many years, says that no such law exists. But, supposing that it does, how much better it would have been for Mr. Huston's reputation if he had, at the first disclosure, made this extraordinary revelation instead of having to go for precedent so far afield in time and distance as to Paris and the Second Empire—and then find only a single instance of contracting by pound and foot at that.

IT is rather a misfortune that the case of Haydel vs. Gould, which had about it so many of the characteristics of a leading case of general value, should have been so handled in court and so presented in the newspapers as to have mainly the air of a *chronique scandaleuse*. Still, a case that has been carried up through the Appellate Division and the Court of Appeals of the State of New York without encountering a reversal of the lower court's decision is a very satisfactory "leading case," and, as "Castle Gould" is an easy name to keep in mind, the case is likely to be turned to hereafter whenever an architect finds that an unreasonable client seeks to turn him adrift and do him out of his just dues.

THE forestry matter is so big and so vastly important that there are many points of view from which it can be considered, but bathos could find no clearer definition than that afforded by the lumbermen and pulp-mill men of Maine, who just now are seeking to have established by law an open season for beavers! And yet all the beavers in Maine could not work the devastation that a single gang of lumbermen, aided by a portable saw-mill, can accomplish in one season. What the deforesting possibility of such an outfit is can be known from what is happening in Clearfield County, Pa., just now. Here, nine thousand acres of standing timber were bought two years ago, and one-third of it has already been felled, yielding fifty million feet of lumber, and in four years more not a tree will be standing there, the saw-mill wasting them away at the rate of two hundred thousand feet a day. It is disheartening, too, to find the Government not only careless and indifferent, but, more than this, actually compelling timber waste by legal enactment. To please the cigar-makers' union, a law has been passed that forbids tobacconists or others to make use of empty cigar-boxes, and so compels the wasteful and wanton destruction of a vast quantity of perfectly useful manufactured material and the consequent destruction of many trees out of which new boxes must be made. To be sure, many people will argue that, as the cigar-box is made from Spanish cedar that grows in Cuba, its waste is not one of our own economical problems; but modern commercial life does not recognize political boundaries and a waste effected in one spot has its reaction in many another. Another very serious matter, which even now is causing concern to those who really understand the absolute necessity of reforestation, is the difficulty, perhaps the impossibility, of procuring seed when at length the task of replenishing the forests shall actually be taken in hand.

THE ENGINEERING SOCIETIES' BUILDING, NEW YORK.

EARLY in 1903, Mr. Andrew Carnegie offered the sum of \$1,000,000 for the purpose of providing a suitable building for the various engineering societies centering in New York. A year later the gift was increased to \$1,500,000, to be participated in jointly by the American Institute of Electrical Engineers, the American Society of Mechanical Engineers, the American Institute of Mining Engineers and the Engineers' Club.

The expenditure of the donation was placed in the hands of a committee of twelve, three from each of the bodies named, and the only limitation made by the donor was that the money should be expended in suitable buildings, the land being purchased by the bodies interested.

One of the most important duties of the committee was the division of the gift in proportion to the requirements and objects of the two buildings. This delicate task was accomplished by allotting \$1,050,000 to the Engineering Societies' Building, and \$450,000 to the Club-house.

The site acquired for the Engineering Societies' Building is on West Thirty-ninth Street, north side, between Fifth and Sixth Avenues. The frontage covers five city lots, Nos. 29 to 33, the total front being 125 feet. This land has been bought with money advanced by Mr. Carnegie to the three engineering societies at 4 per cent. interest, the cost being \$502,000, one-third of the amount being payable by each society. To the east of the property, light and air for the building are satisfactorily ensured by the purchase by the Club for its own protection of a large four-story private house of "restricted" height; the Club-house being in the immediate rear of the Engineering Building.

The Conference Committee spent its first year in disposing of the various questions arising in the acquisition of real estate, deciding upon the method of holding title to the property, making arrangements for the administrative details, and determining as nearly as possible the actual requirements of the proposed building. It then became necessary to select an architect. The worldwide fame of the donor, the magnitude of his gift, the national character of the engineering societies, and the great cost of the contemplated edifice, made the selection of an architect a semi-public matter of more than ordinary importance.

The plan of selection adopted was that of a "mixed competition," in accordance with what was understood to be the wish of Mr. Carnegie. In carrying out this plan, six architects of high reputation were invited to participate. Each of the invited architects was to be paid \$1,000 for submitting his plan, whether it was accepted or not. In addition, other architects were invited to present plans, but without compensation, and the competition was also thrown open to all architects who for two or more years had been in the actual practice of their profession, under their own name. Four prizes were provided for the best of the non-invited architects in the "open" class. All plans were submitted anonymously, and the committee associated with itself as professional adviser Dr. W. R. Ware, formerly Professor of Architecture at Columbia University.

In July, 1904, the committee made careful examination of the plans thus submitted, at the rooms of the American Art League, New York City, twenty-six sets of plans comprising over 500 drawings having been received for the two buildings. The programme called for a handsome but not too ornate treatment of the Engineering Societies' Building, the side and rear walls to be reasonably conformable in architectural treatment with the front elevation, so that the edifice might have the aspect and character of a completed structure rather than that of a section of an unfinished block. All drawings were in India ink, on plain white paper, without color, to a scale of 1-16 inch to a foot, accompanied by a sealed envelope giving the name of the designer and a general description of the proposed building. After a very careful study of the numbered sets of plans, it was found that the unanimous choice of the committee, with the warm approval of the professional adviser, had gone to Messrs. Herbert D. Hale, of Boston, and Henry G. Morse, of New York, associate; who were forthwith appointed the architects for the building and who as the firm of Hale & Rogers, and H. G. Morse, associate, carried out the work. The award for the club-house was similarly made by the Conference Committee to Messrs. Whitfield & King, of New York.

The corner-stone of the building was laid in the eastern wall by Mrs. Andrew Carnegie on May 8, 1906. The time of com-

pletion was fixed for November 15, 1906. Offices were ready for occupancy on December 15, 1906; some were in use before the end of the year, and the entire building, though not quite finished, was ready for use January 1, 1907. This remarkable expedition was largely due to the fact that at no time did the architectural plans require important revision. A steel strike in the spring of 1906 lasted one month and a plaster strike in November about two weeks, but the building was erected within the specified time and within the appropriated sum, and the relations of the Conference Committee, the architects and the general contractor have been throughout of a most harmonious nature.

The frontage of the Engineering Societies' Building on West Thirty-ninth Street is 115 feet, and the depth is 90 feet. The property itself is 125 feet front by 110 feet depth. The building laws of the city of New York require that only 85 per cent. of the lot area shall be occupied by the structure on it. Advantage has been taken of this limitation to give the building a monumental appearance. It rises thirteen and one-half stories above the sidewalk to a height of 218 feet 6 1-2 inches. The exterior is built of limestone up to the auditorium floor, and of gray mottled brick and terra-cotta above. The treatment is restrained and dignified, but without severity. As the lower portion is devoted to auditoriums, the middle section to offices, and the upper part to the library, an effort has been made to accentuate these three separate parts of the building, with happy result, as shown elsewhere.

In excavating for the foundation, rock was found at from 27 to 67 feet below the curb line, and there are forty-six concrete piers in the foundation going down to solid rock. Two of these piers sustain a load of 3,000,000 pounds each in weight of structure alone, and the steel columns at these two points weigh 1,000 pounds to the foot. The steel plate-girders in the ceilings of the main auditorium weigh 48 tons each, and the steel lattice-truss on the sixth floor weighs 64 tons. The total weight of steel employed in building construction is 2,650 tons.

All the steel work in the building has been covered with from 2 to 4 inches of semi-porous terra-cotta, and the columns are grouted with concrete. The floors are built with terra-cotta 6-inch segmental-arch construction, overlaid with 5 inches of cinder-concrete. All exterior walls are furred with a 2-inch terra-cotta block, to prevent any possibility of moisture being driven through the walls.

Access to the building is gained by the central entrance on the street level to the first floor, by the western side door leading to the elevators, and by the broad driveway which encircles it completely, so that carriages can enter by the eastern covered arch, set down their occupants at a side entrance and emerge by the western gate. There are three elevator riseways in the main elevator-shaft, faced with an iron grille lined with wire-glass. On each side of this shaft wide stairways rise to the sixth floor of the building, and one leads thence to the library floor. A freight-elevator has been installed on the eastern side of the building, and a commodious service stairway on the north side rises the entire height of the edifice. At the first floor, a rear door communicates across the ten-foot areaway, in the open, with the café of the Club-house, and on the ninth floor, a flying covered bridge connects with the breakfast-room on the tenth floor of the Club-house.

The woodwork in the building has been reduced to a minimum. The large window sashes are built of cast-iron, and the other windows of wood covered with kalamined iron, such windows having only a small moulding in place of the usual wide trim and casing. All the doors in the basement, first floor and at the ends of the auditorium promenade are kalamined-iron fire-doors, and the exit door to the Engineers' Club is built of electroplated copper on wood. All the woodwork, including floors, sleepers, trim, etc., has been fireproofed. The windows up to the height of 100 feet are glazed with wire-glass, except on the Thirty-ninth Street front, thus bringing the exterior fire-hazard down to the lowest possible point. All finished floors throughout the building are of cement, marble or terrazzo, except the library, main auditorium and lecture-rooms, where maple has been used. The insurance rate of 15 cents for this building is the best proof of its safe construction and solid workmanship. Moreover, additional precaution against fire has been taken by placing an 8,000-gallon tank on the roof, with a stand-pipe at each end of the building, the tank being fed by two electric pumps.

All the walls and ceilings are painted in neutral tints, and the decoration is simple though carefully studied, especially with an idea to later development in the way of mural paintings, the setting of the names of distinguished engineers in plaques, niches for bronze or marble busts, panels for bronze tablets, etc. Opposite the elevator-shaft on each of the three founder societies' floors, the badge of the society occupying the floor has been executed in a heavy brass plate set into the terrazzo. The hardware throughout, in a subdued brass finish, is quite massive and is master-keyed for all doors. The mail-chute is ornamental and of the latest pattern. The driveway is defended by handsome wrought-iron gates specially designed, and over the main entrance a large bronze plaque has been set, bearing the words, "Engineering Societies," to explain the purpose of the building to passers-by.

The spacious first floor is laid with Tennessee marble tile, having a border in design of colored marble. The central court or main foyer is marked by twelve large columns of Swiss Cipolin marble. A short low flight of steps leads from the foyer to the elevators, and at will a metal grille is thrown across the steps so as to restrict or direct travel. Gold ornament is used sparingly for architectural accentuation, and the woodwork is in dark oak. Large chairs and lounges in red leather furnish the foyer, and similar furniture is used in the writing-room, smoking-room, reception-room and administration-room, which also contains three telephone booths associated with the "private-exchange" system. On the foyer walls, facing toward the main entrance, are two large bronze tablets, one bearing a relief portrait of Mr. Carnegie and the words of his second terse letter of gift of \$1,500,000, and the other a statement to the effect that the land was given by members and friends of the three founder societies. On this floor also, at the rear, are receiving and shipping offices through which all freight and goods are handled. In time this floor will be graced with statuary, but even now it creates a most favorable impression as one enters the building.

Immediately above the first floor is the coat-room, laid out on a sectional plan so that several lines of persons may be accommodated at once on entering or leaving. Special toilet facilities are also provided on this floor, which virtually occupies the space that would otherwise be left blank by the slope of the main auditorium floor just above it.

The main auditorium extends up through two floors and, with its gallery, will seat about 1,000 persons. The requirements of this chamber were unusual and difficult of definition. It had to be arranged primarily for the general meetings of the societies, at which the speaking is from the floor as well as from the platform, and at which diagrams, illustrations or blackboard drawings are often employed. This is quite the opposite from the ordinary audience-hall, where the stage is the starting point both for the seating arrangements and for the acoustic and optical necessities. Hence the platform is notably small for so large a hall, accommodating few persons, while any speaker in the audience is easily within range of observation by everybody.

On both the parterre and the gallery floors, at the sides, the auditorium is surrounded by corridors, rendering access to every point very easy, and permitting ready withdrawal for conversation, committees, etc. The corridors assist also in maintaining quiet within the hall. The platform has ante-rooms and is conveniently close to the freight elevator, for delivery of apparatus. There is also a fine stereopticon equipped with connections for moving pictures. The seats are fixed opera-chairs in red leather with revolvable tops, and the aisles are laid with red carpet. The gallery front is bordered in red plush. Above the auditorium arch is a decorative cartouche bearing the badges of the three founder societies. There are side brackets for lighting, but the main illumination is effected indirectly through the glass ceiling, above which are incandescent lamps. The elevators and stairs open directly upon the two floors of the auditorium which can thus be emptied very quickly in case of emergency. Practical tests of the chamber have already shown it to be a success in every respect of comfort and convenience.

The next two floors above the main auditorium are devoted entirely to lecture-rooms, of which there are no fewer than seven. Two spacious assembly-rooms, 51 feet by 66 feet and 29 feet by 66 feet, occupy the larger part of the fifth floor in such a manner that they can be used independently, or one may be made auxiliary to the other. Two smaller rooms on this floor,

16 feet by 22 feet and 18 feet by 19 feet, can be also used separately or as annexes for reception or conversazione purposes, and provision is made with steam-tables, etc., for the service necessary for luncheons or light refreshments. All these rooms are agreeably finished in soft light tints and have facilities for water, air, electric connections, etc., for demonstrations and experiments.

The sixth floor is also divided into lecture-rooms, planned somewhat differently, and of smaller dimension than those on the floor below. The dimensions are respectively 22 feet by 44 feet 6 inches, 30 feet by 46 feet 6 inches; 30 feet by 41 feet and 20 feet by 28 feet. In this manner the building affords facilities to audiences of every size, from 1,000 down to 100; while on occasion every room can be occupied by sections and sub-divisions of an engineering or scientific meeting, with independence and without interference.

The seventh and eight floors have been reserved for the associate societies that have engineering or some department of science as their principal object. For these organizations the building affords office areas of varying size, from one room up, with the common facilities of the lecture-rooms, library and other accessories. Among these societies may be enumerated the Society of Naval Architects and Marine Engineers, the Society of Heating and Ventilating Engineers, the National Electric Light Association, the Society of Chemical Engineers, the New York Electrical Society, the Association of Edison Illuminating Companies, the American Street and Interurban Railway Association.

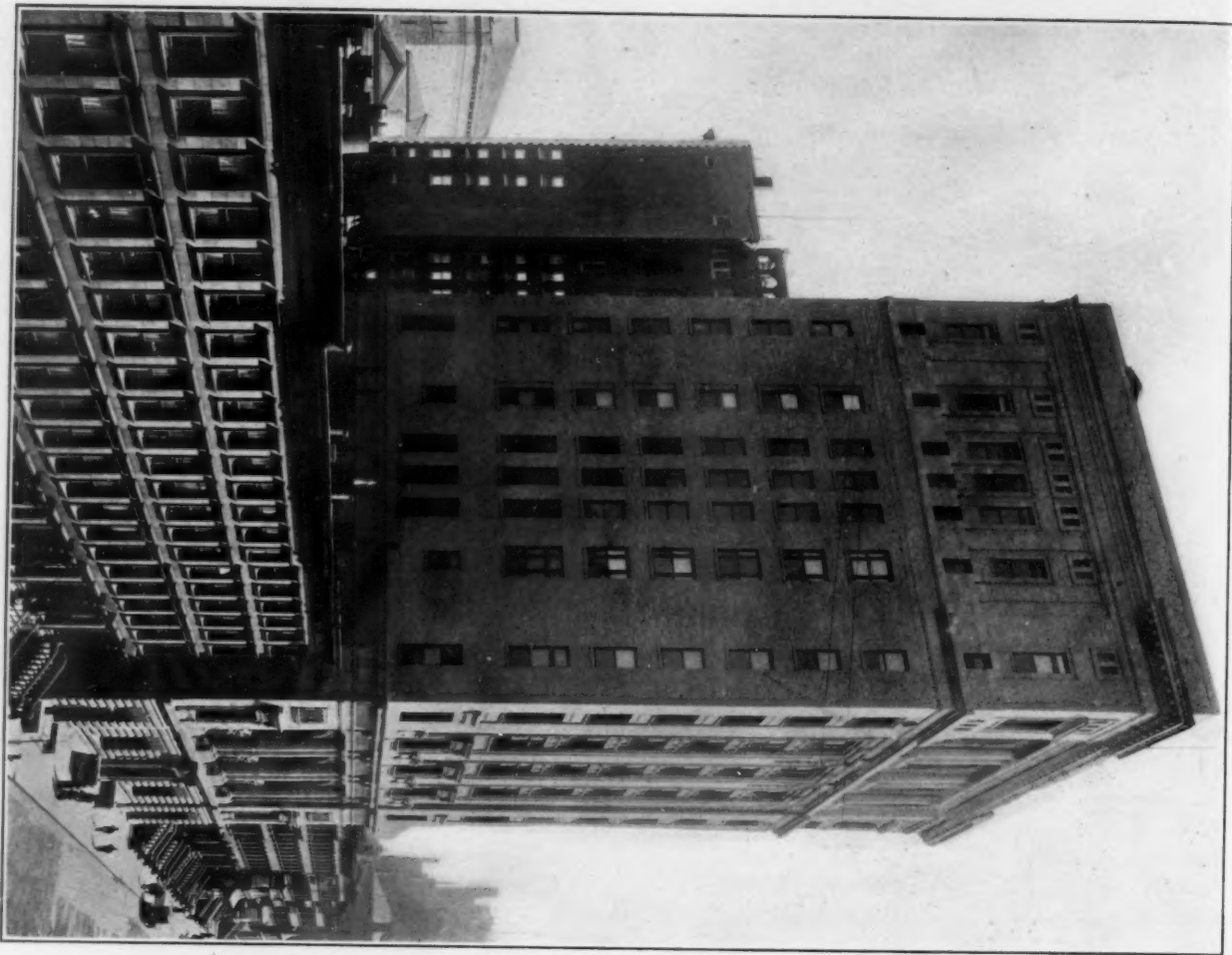
Each of the three Founder Societies occupies a floor laid out in accordance with its own plans. The American Institute of Mining Engineers has the ninth floor, the American Institute of Electrical Engineers has the tenth floor, and the American Society of Mechanical Engineers has the eleventh floor. These floors are all devoted to administrative and executive work, and the libraries of the three societies have been concentrated in the two top floors of the building.

A crowning detail in the plan has been the reservation of the twelfth and thirteenth floors for the libraries of the three Founder Societies and of such other collections of engineering literature as may be added. The twelfth floor, below the library proper, has been devoted to the book-stacks, but at the present time the main library is also equipped with one tier of stacks, with provision for a gallery tier later. The stack-room is partly equipped with stacks, and in the library a delivery-desk, reading tables and chairs have been provided. The Founder Societies entertain the ambition of creating and maintaining the finest collection of engineering literature in the world, supplemented by the current periodicals, and all the patents relating to invention in the arts and sciences. Provision is being made for special research accommodation, working alcoves, photographic reproduction, drawing and similar library work. Commanding magnificent views of Greater New York and vicinity in every direction, the library is retired, quiet, free from noise and dust, an ideal haunt of the student and man of research; while open at all times to any reader. In view of the proximity of the new Public Library, the Engineering Societies Building, with its unequalled collection of scientific and industrial data, becomes at once a vital and important center of the highest value for the diffusion of useful knowledge, and the two libraries supplement each other.

A bronze bust of Mr. Carnegie, executed especially for the building by Mrs. E. Cadwalader Guild, a well-known sculptor, from sittings, and presented by the present and past officers of the Founder Societies, stands at the eastern end of the library, facing toward the main entrance from the elevators.

A FINAL REPORT ON THE SAN FRANCISCO DISASTER.—I.

IN the *Proceedings* of the American Society of Civil Engineers for March, that makes its appearance nearly twelve months after the occurrence of the San Francisco disaster, may be found the reports of a general committee and six special committees appointed to investigate and report on various phases of the disaster. Considering the authoritative source from which they emanate and the deliberateness with which they have been prepared, these reports doubtless deserve to be considered the final word on the lessons derivable from the lamentable mishap. Therefore we reproduce in full that one of the special reports which is of most value to architects and builders:



SOUTHWEST VIEW.

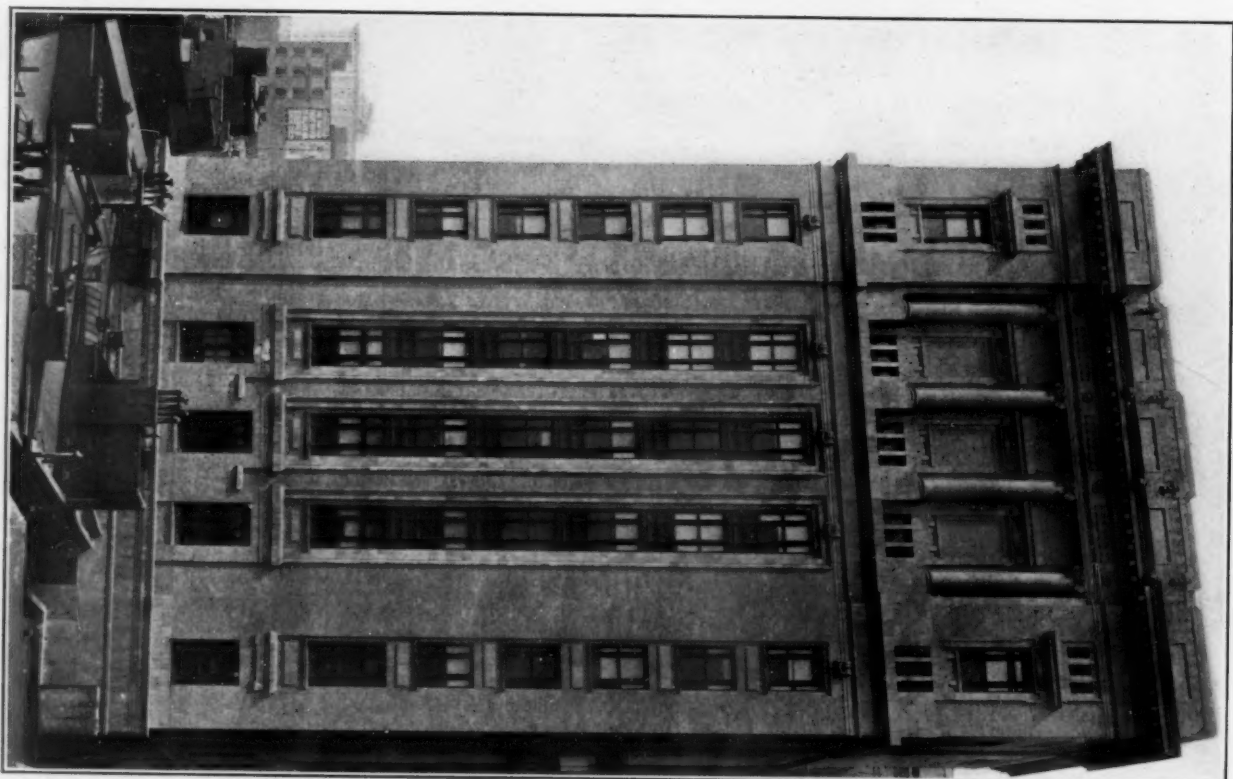
ENGINEERING SOCIETIES' BUILDING, W. THIRTY-NINTH STREET, NEW YORK, N. Y.

The American Architect and Building News.

Regular Edition.

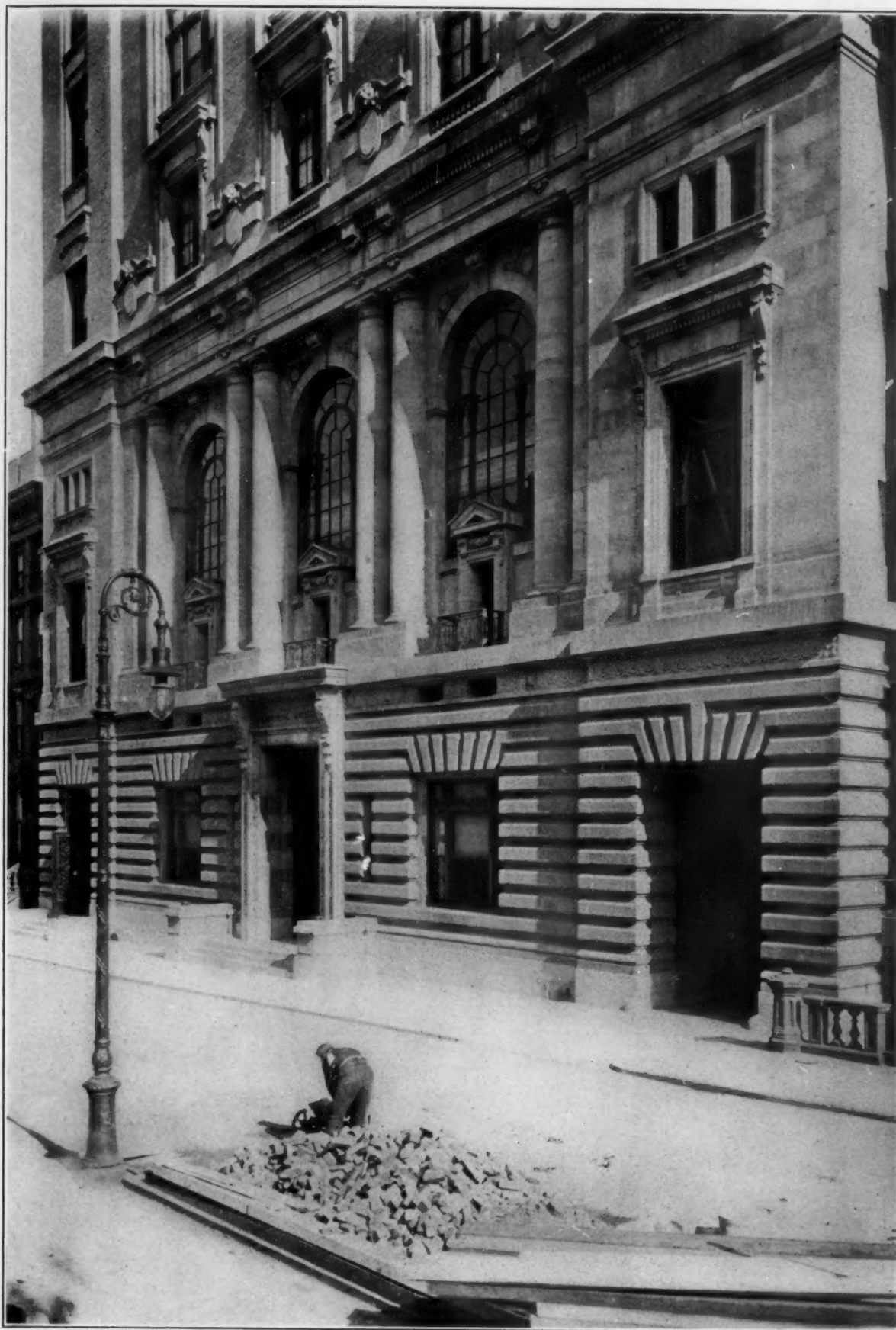
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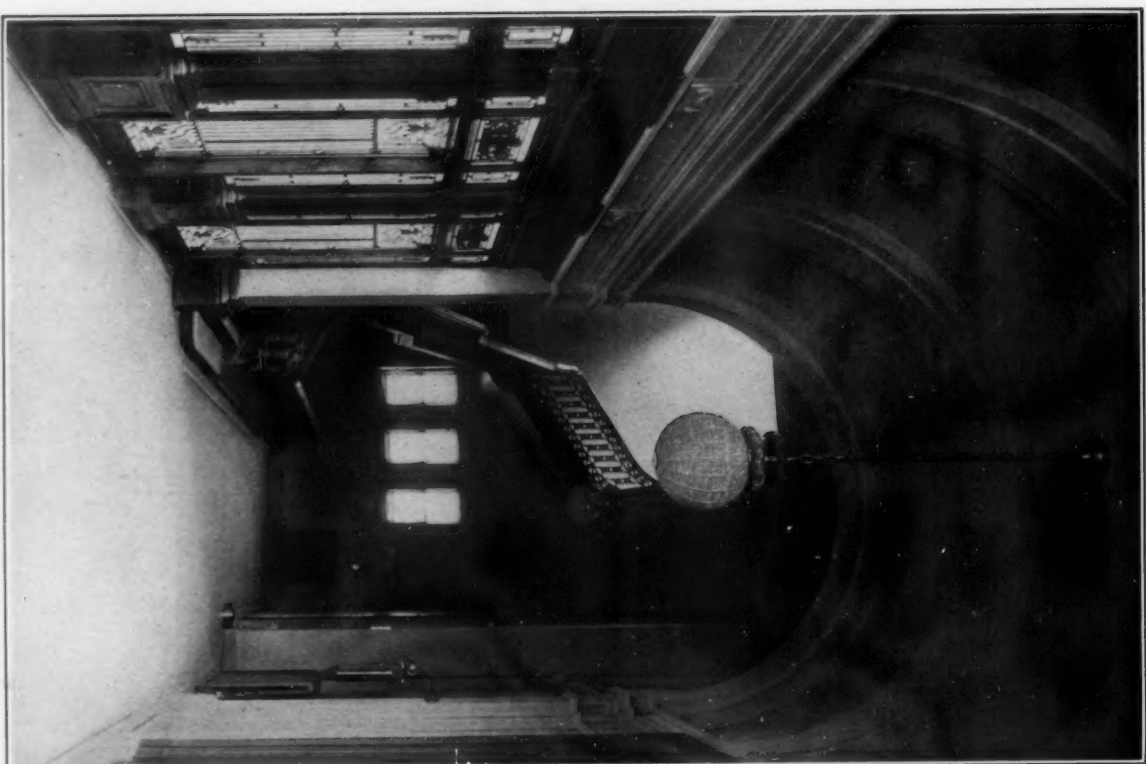
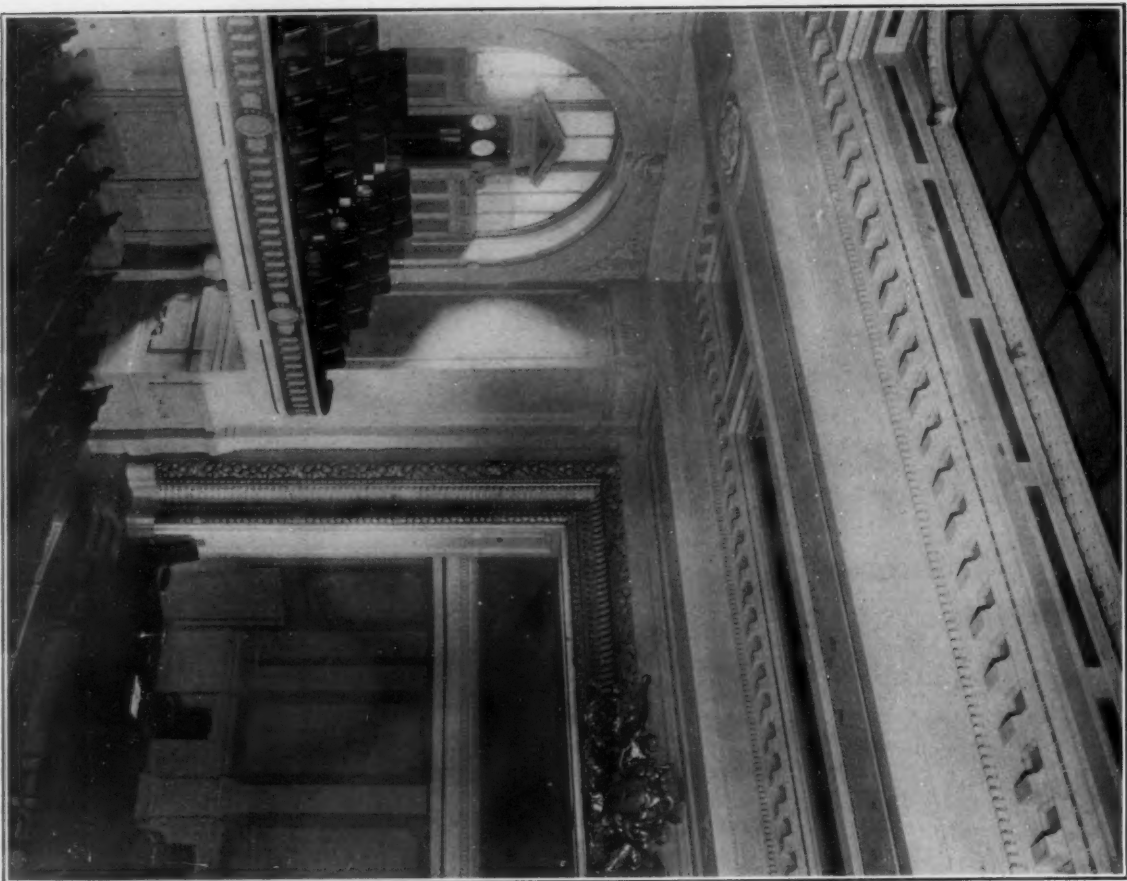
UPPER STORIES: EAST FRONT.

Volume XCI, Number 1633.
April 13, 1907.



LOWER STORIES: ENGINEERING SOCIETIES' BUILDING, W. THIRTY-NINTH STREET, NEW YORK, N. Y.

Hale & Rogers and H. G. Morse, Associated Architects.



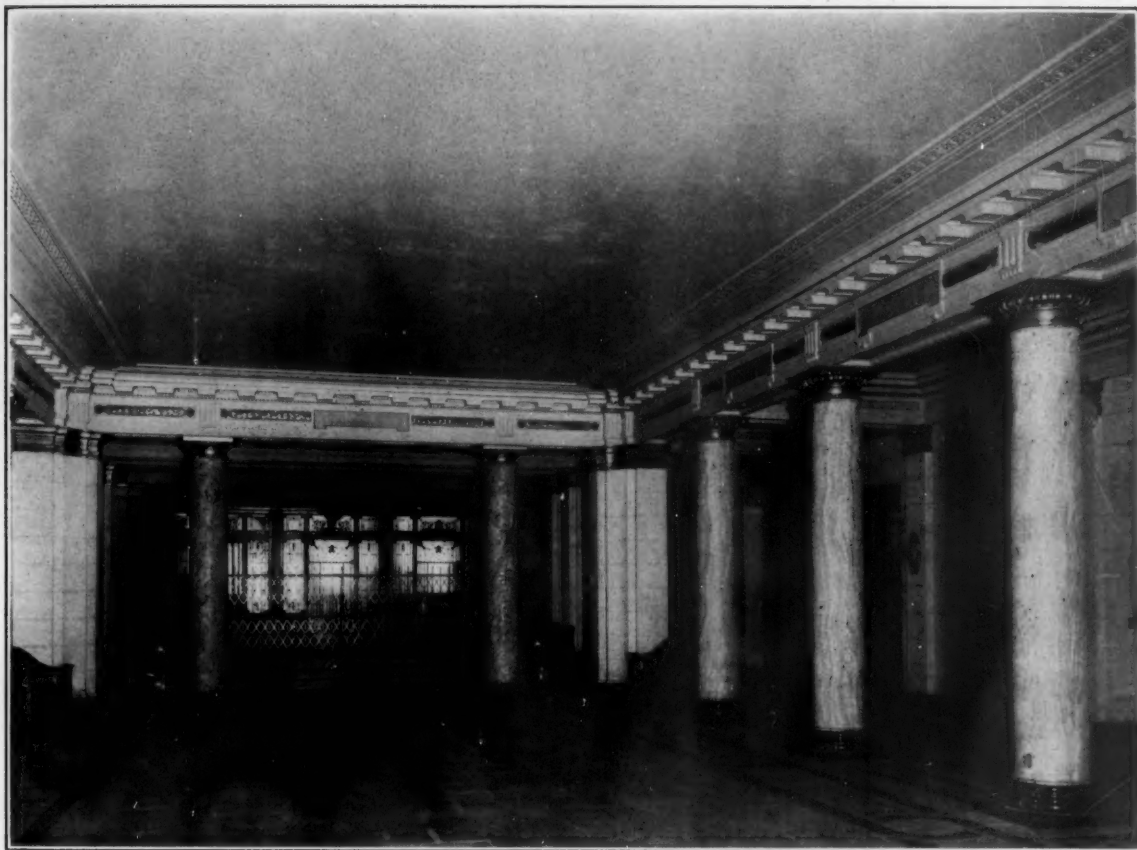
VIEWS IN AUDITORIUM AND CORRIDOR: ENGINEERING SOCIETIES' BUILDING, W. THIRTY-NINTH STREET, NEW YORK, N. Y.

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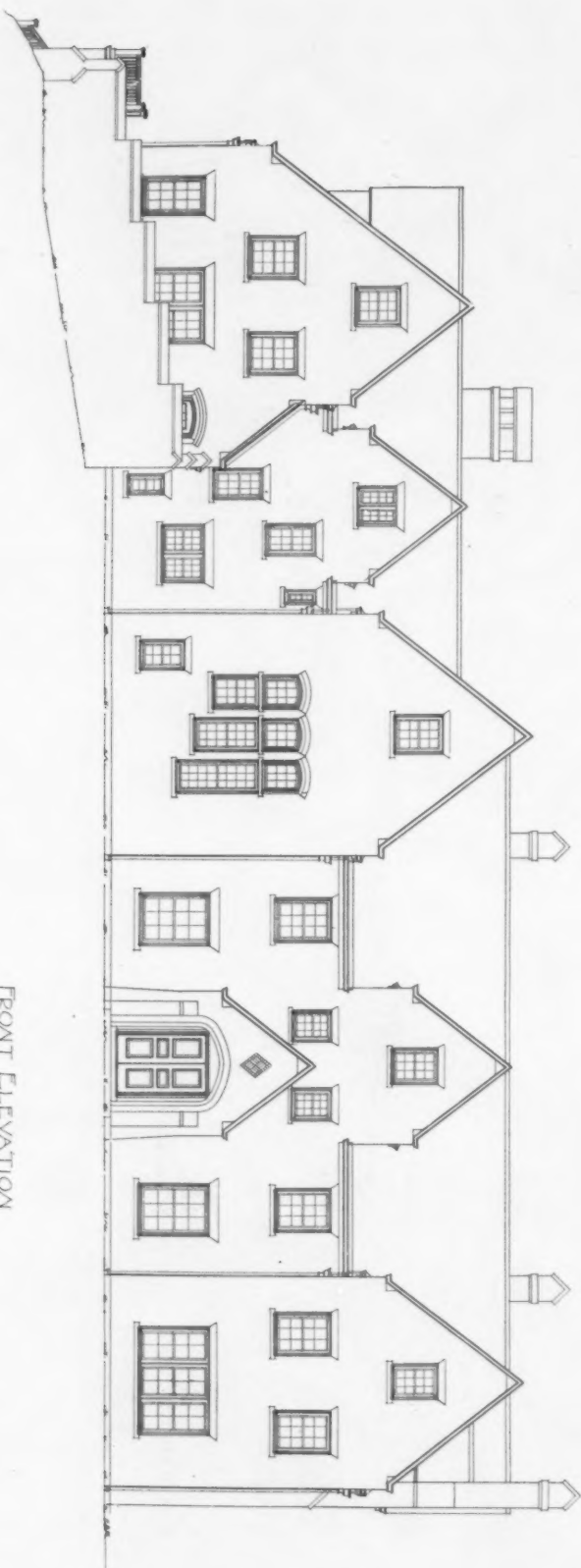
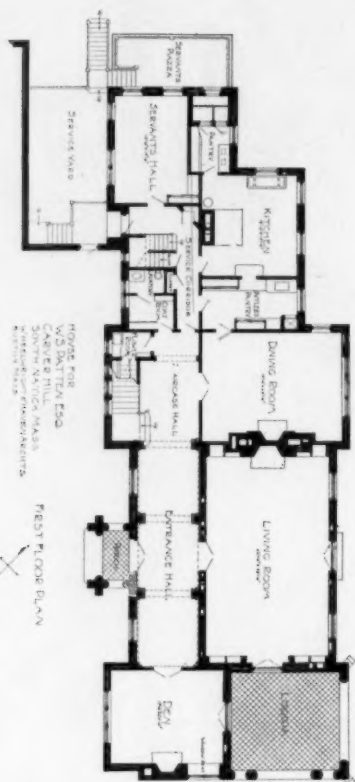
LIBRARY AND ENTRANCE LOBBY: ENGINEERING SOCIETIES' BUILDING, W. THIRTY-NINTH STREET, NEW YORK, N. Y.

Hale & Rogers and H. G. Morse, Associated Architects.

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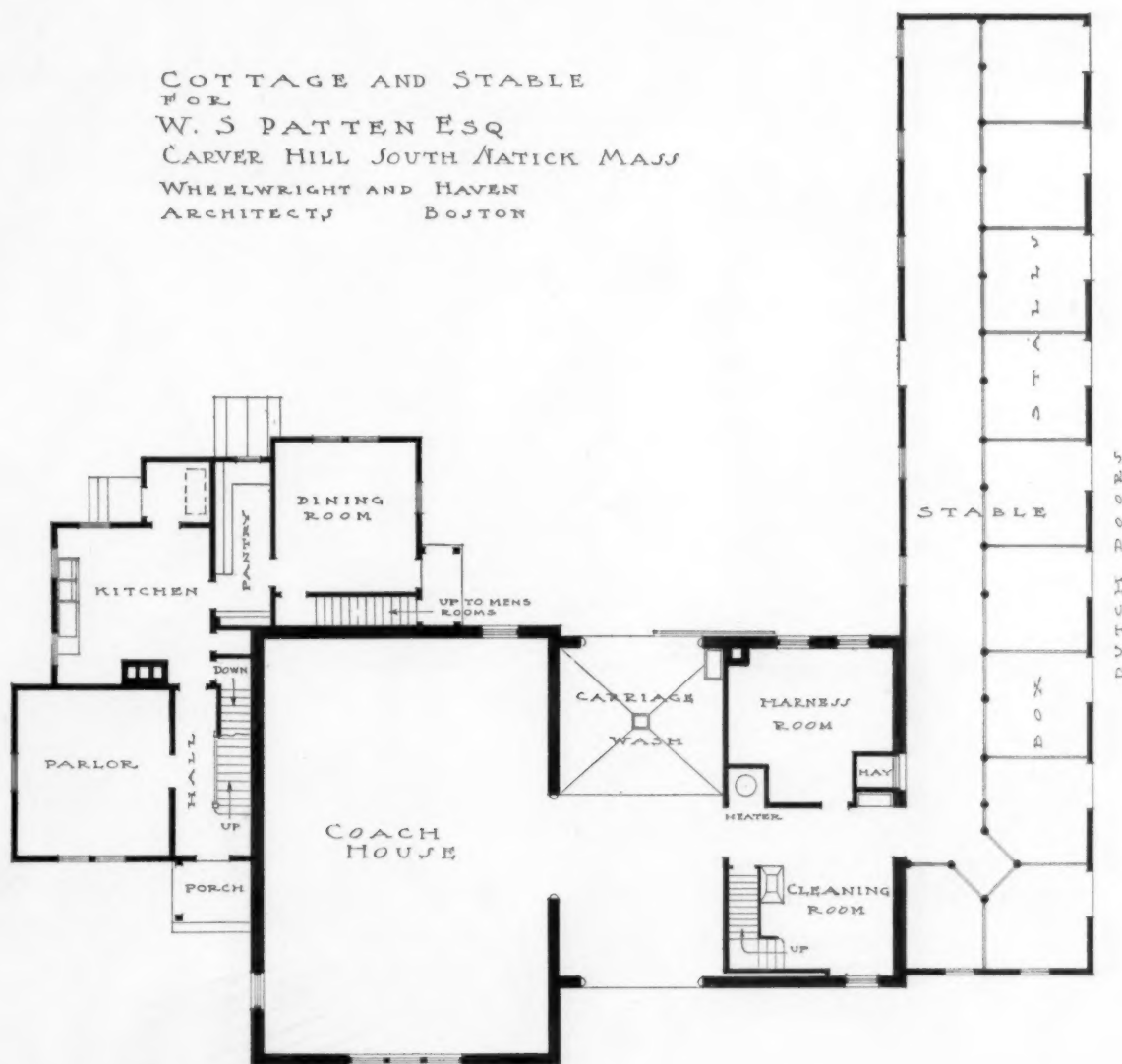
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FRONT ELEVATION



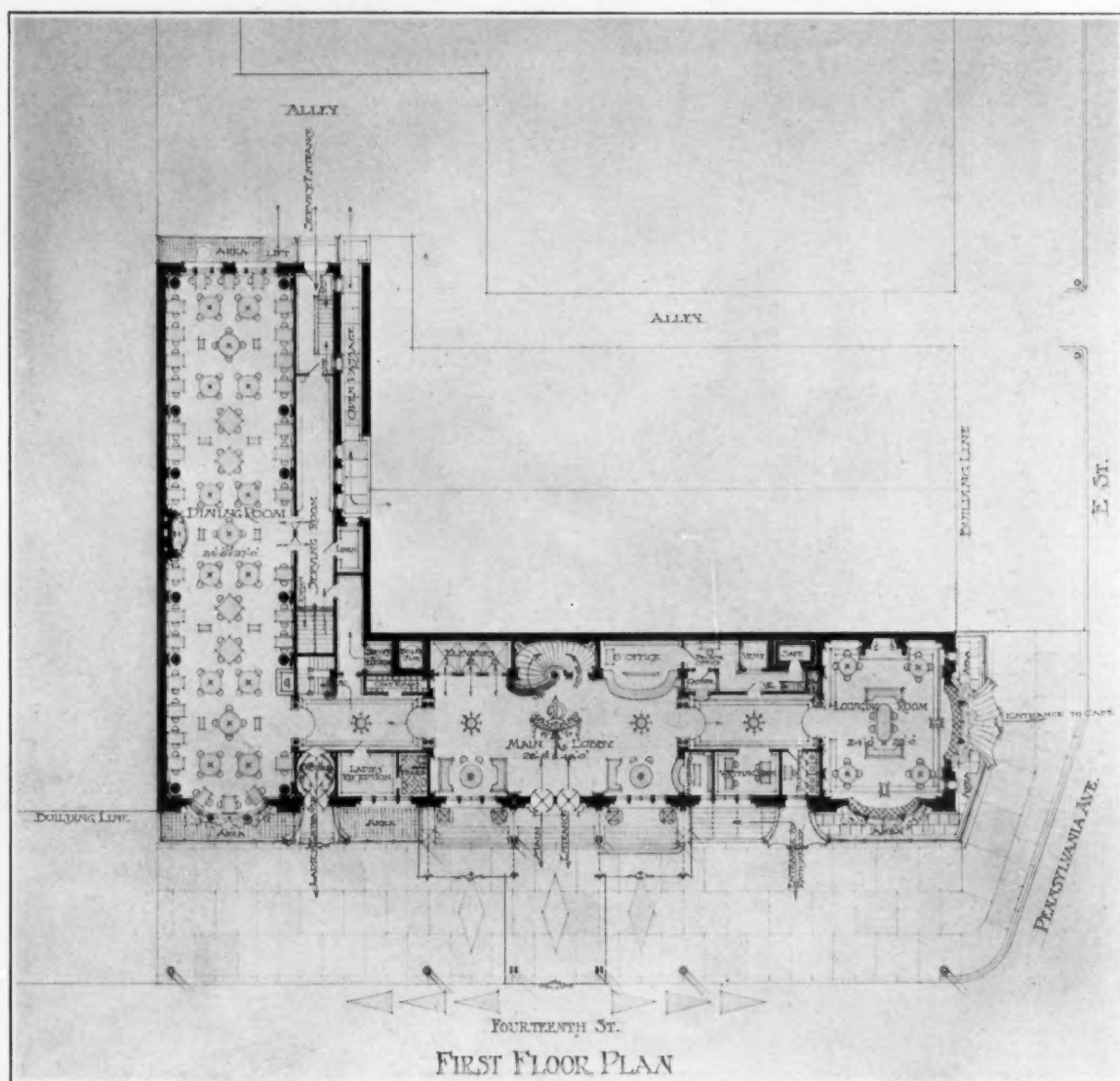
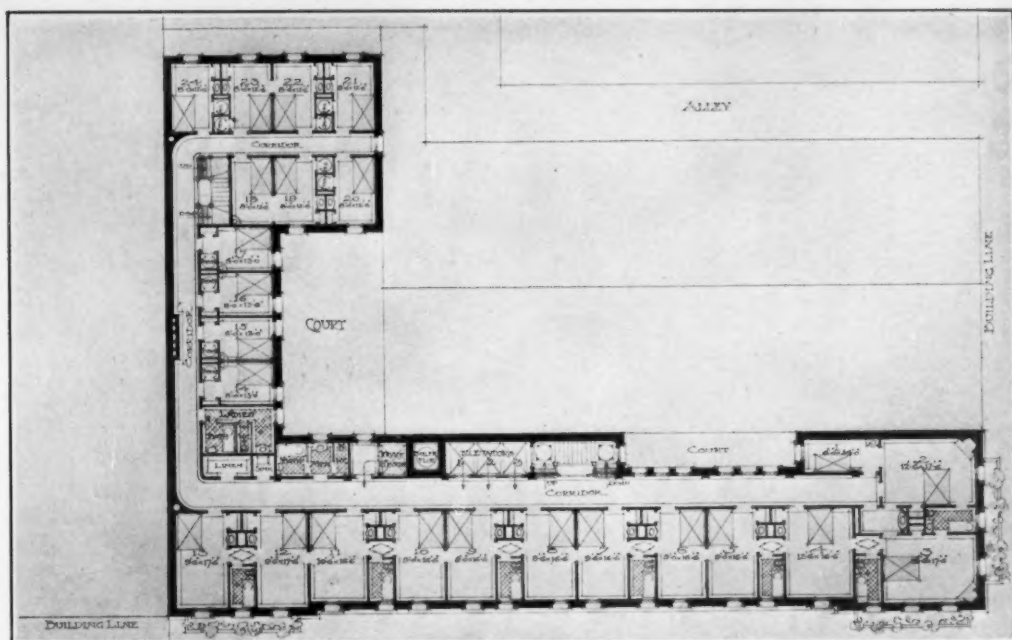
COTTAGE AND STABLE
FOR
W. S. PATTEN ESQ
CARVER HILL SOUTH NATICK MASS
WHEELWRIGHT AND HAVEN
ARCHITECTS BOSTON





COMPETITIVE DESIGN FOR HOTEL, FOURTEENTH STREET AND PENNSYLVANIA AVENUE, WASHINGTON, D. C.

C. F. Garlihs and James E. Ware & Sons, Associated Architects.



COMPETITIVE DESIGN FOR HOTEL, WASHINGTON, D. C.

C. F. Garlchs and James E. Ware & Sons, Associated Architects.

THE earthquake in the western portion of California, and the resulting fires in San Francisco and Santa Rosa on April 18, 1906, caused a general destruction of engineering structures which is of interest to many engineers.

It may be stated that this report has been delayed in order that as complete data as possible might be obtained. The damage by fire and earthquake was extensive; and, in the case of fire damage, the effect on concealed parts was hidden, and could only be ascertained when the buildings were stripped. This can hardly be said to be complete as yet, but it was felt that the report could not be delayed any longer for that reason.

Some members of the committee have been employed in a professional capacity in the examination of damaged buildings. These statements, when considered in connection with the press of business in an extraordinary period, must be taken as the excuse for not furnishing to the profession an earlier report.

The region affected by the destructive effects of the shock was some 300 miles long by 50 miles broad, and covered the most populous part of the State, including the cities of Santa Cruz, San José, Alameda, Oakland, Berkeley, San Francisco, Napa and Santa Rosa, besides a number of smaller towns. No attempt is made here to enter into a detailed study of the shock, or its cause, such topics being treated by the Committee on Geology.

The shock was followed by destructive fires in San Francisco and Santa Rosa, which destroyed the entire business districts of both places. The area burned over in San Francisco slightly exceeded four square miles. Santa Rosa had a population of about 8,000, and its entire business district was burned. A number of institutions, such as Stanford University at Palo Alto, the State Hospital for the Insane at Agnews, and St. Patrick's Academy at Menlo Park, were badly wrecked.

No statistics are at hand as to the number of people killed, but it might reach 750. At Agnews' Asylum 112 people were killed, of whom more than 100 were patients.

It is not believed possible to locate any particular place as the center of disturbance, the effects being about the same in all parts of the area named. The character of the ground had considerable to do with the destructive effects, buildings on rocky hills suffering much less than those on alluvial plains.

Any consideration of the damage to buildings must be preceded by a description of the type of buildings; hence this report is naturally divided into three parts, namely:

- I.—Description of Buildings.
- II.—The Earthquake Damage.
- III.—The Fire Damage.

I.—DESCRIPTION OF BUILDINGS.

For the purposes of this report, buildings are divided into five types, as follows:

- Type 1.—Wood frame structures.
- Type 2.—Structures with brick, stone or concrete-block walls and timber floors and partitions.
- Type 3.—Structures with brick and stone bearing walls, metal interior frames, and fire-proof floors.
- Type 4.—Structures with steel frames supporting all wall and floor loads.
- Type 5.—Reinforced concrete structures.

It must be recognized, of course, that there were various combinations of these types, but the classification is sufficiently definite for present purposes. Types 3 and 4 are nearly the same, but both fire and earthquake damage differed considerably in the two.

Building methods were about the same as in other parts of the United States, and hence a brief description is deemed sufficient. It must also be recognized that here, as elsewhere, there was much difference in structures placed under the same heading, the well-braced steel-frame building standing next to one without any attempt to supply bracing of any kind. For obvious reasons, no special building can be designated as being thus defective.

Type 1.—Wood Frame Structures.—With a few exceptions, all residences, including 2-story and 3-story flats, in the territory named, were of timber. The San Francisco ordinance allowed them to be built 45 feet high. Some higher buildings existed in San Francisco, but no data are at hand regarding earthquake damage, as they were burned. The construction was generally with studding one story in height, the succeeding story studding resting upon the floor joists. Some balloon framing was used, but it was not general. This type included residences, and, in some small towns and outside the fire limits in the larger towns, many store buildings were built in this way.

Type 2.—Masonry Walls, Timber Floors and Partitions.—This type of structure formed the more pretentious buildings of the cities and towns outside of San Francisco, and also the buildings at Stanford University, Agnews' Asylum, St. Patrick's Academy, and County Court Houses. In San Francisco, the great majority of business blocks were of this type, as were also the large private hotels and apartment-houses. Under the San Francisco building ordinance, they could be built 100 feet high, or 8 stories. Buildings of 2 or 3 stories might have, with the brick walls, a system of timber columns and girders, or a partition of timber studding, carrying the floors and roof. In higher buildings, cast-iron or steel columns and steel girders were used to support the joists. Roofs were of timber framing, covered with tin, or tar and gravel.

The Stanford University buildings had walls of brick with a facing of sandstone, one general type ruling throughout. Some of the older buildings had full stone walls, and these were but slightly injured. They were built by various architects. In some, wooden roofs without trusses were used; in others, steel or wooden trusses; and this feature had a marked effect in determining the amount of damage.

The Palace Hotel, an 8-story structure, occupying a large lot, was of this type, honeycombed with interior partitions of solid brick walls, tied together with numerous iron anchors. This building withstood the shock well, but a similarly constructed building at Agnews' Asylum was completely wrecked. Buildings with hollow-block walls were few in number; one of 4 stories in Oakland, one at San José, and four of 2 stories at Palo Alto, are all that have been noted, although others may exist.

Type 3.—Masonry Walls, Metal Interior Frames, and Fire-Proof Floors.—A list of the buildings of this type in San Francisco, with details of construction, is given in Table I.

Outside of San Francisco, this type was not used, except for some County court-houses. The older fireproof buildings were

TABLE I.—BUILDINGS OF TYPE 3 IN SAN FRANCISCO

NAME OF BUILDING	Stories	Approximate Area	Use	FRONT WALLS		Columns	Floors	Ceilings	Column Protection	Partitions
				Lower	Upper					
Academy of Sciences...	6	7,500	Museum, Offices...	G.	S. S.	Cast-Iron...	Concrete...	None...	Metal Lath...	Metal Lath.
California Casket...	7	10,700	Under construction.	S. S.	S. S.	Channels...	Concrete...	None...	Concrete...	None.
City Hall...				B.	B.		Misc...	Misc...		
Crocker...	11	10,000	Offices...	G.	B. & T. C.	Phoenix...	Tile...	Tile...	T. C.	T. C.
Crocker Estate...			Lofts...	T. C.	B. & T. C.	Cast-Iron...	Concrete...	None...	None...	None.
Emporium...	6		Store, Offices...	S. S.	S. S.	Z-Bars...	Tile...	Tile...	T. C.	T. C. and Plaster Bl.
Ferry Building...	3	112,000	Offices...	S. S.	B.	Cast-Iron...	Concrete...	None...	None...	T. C.
Hibernia Bank...	2	17,000	Offices...	S. S.	B.	Pl. and Angles...	Concrete...	Metal Lath...	Metal Lath...	Metal Lath.
Kamm...	7	9,000	Lofts...	S. S.	S. S.	Channels...	Concrete...	None...	Metal Lath...	Metal Lath.
Majestic Theatre...				B.	B.		Tile...	Metal Lath...		
Mercantile Trust...	3	5,500		G.	G.		Concrete...	Metal Lath...		
Mills...	11	21,000	Offices...	M.	B. & T. C.	Z-Bars...	Tile...	Tile...	T. C.	T. C.
Mutual Life...	9	5,000	Offices...	G.	B. & T. C.	Z-Bars...	Tile...	Tile...	T. C.	T. C.
Old Chronicle...	9		Offices...	S. S.	B.	Cast-Iron...	Tile...	Tile...	T. C.	T. C.
Post Office...	3	68,000		G.	G.	Channels...	Concrete...	Metal Lath...		
Scott...	6	20,000	Lofts...	S. S.	S. S.	Cast-Iron...	Concrete...	None...	None...	None.
Sloan...	6			T. C.	B. & T. C.	Cast-Iron...	Concrete...	None...	Metal Lath...	None.
Spring Valley...	6	10,000	Offices...	G.	B. & T. C.	Z-Bars...	Tile...	Tile...	T. C.	T. C.
Union Trust...	6	8,400	Offices...	G.	B. & T. C.	Channel...	Tile...	Tile...	T. C.	T. C.
Wells Fargo...	6	10,000	Offices...	G.	B.	Cast-Iron...	Concrete...	Metal Lath...	Double M. L.	Metal Lath.
Young...	6	3,500	Lofts...	G.	B.	Z-Bars...	Concrete...	None...	Metal Lath...	None.

Abbreviations: S. S., Sandstone; G., Granite; T. C., Terra Cotta; B., Brick; M., Marble.

of this type. Generally, the walls were self-supporting only, columns carrying all floor loads. This applies to buildings of 8, 9 and 10 stories. In buildings of less height, generally, the floor load next to the wall was carried by the wall. Data of the construction are given in Table 1. Very little attempt at bracing was used in this type, the Crocker Building offering the only instance of systematic design, and that not being very effective. All had fire-proof floors and partitions.

frame. In either case, a swaying motion is set up, the effect of which is more or less destructive, depending upon the elasticity of the structure, the same stresses occurring as when a live load passes over a truss.

The damage to buildings by the earthquake can now be taken up by considering each type as designated in Part I.

Type 1—Wood Frame Structures.—The principal damage to buildings of this type was the cracking of plaster and the wreck-

TABLE II—BUILDINGS OF TYPE 4 IN SAN FRANCISCO

NAME OF BUILDING	Stories	Approximate Area	Use	FRONT WALLS		Columns	Floors	Ceilings	Column Protection	Partitions
				Lower	Upper					
Alexander Hotel.....	11	4,700	Hotel.....	S. S.	S. S.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Alto.....	8	1,500	Offices.....	B.	B.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Aronson.....	10	9,350	Lofts.....	S. S.	B. & T. C.	Channels.....	Concrete.....	None.....	T. C.....	T. C.
Atlas.....	10	2,700	Offices.....	B.	B.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Bullock and Jones.....	8	4,000	Lofts.....	T. C.	T. C.	Channels.....	Concrete.....	None.....	T. C.....	T. C.
Claus Spreckels.....	10	5,600	Offices.....	S. S.	S. S.	Z-Bars.....	Concrete.....	Metal Lath.....	T. C.....	T. C.
Fairmount Hotel.....	6	66,000	Under construction..	G.	T. C.	Channel.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Grant.....	8	5,500	Offices.....	T. C.	T. C.	Channel.....	Concrete.....	Metal Lath.....	T. C.....	T. C.
Hamilton Hotel.....	12	3,100	Hotel.....	S. S.	S. S.	Channel.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
James Flood.....	11	40,000	Offices.....	S. S.	S. S.	Z-Bars.....	Tile.....	Metal Lath.....	B. & T. C.....	T. C.
Kohl.....	11	9,000	Offices.....	S. S.	S. S.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Marston.....	8	1,200	Under construction..	B. & T. C.	B. & T. C.	Channels.....	Concrete.....	Concrete.....	Concrete.....	Concrete.....
Merchants Exchange.....	14	25,000	Offices.....	G.	B.	Pl. and Angles.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Monadnock.....	10	18,000	Offices.....	B.	B.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
Mutual Savings Bank.....	12	5,000	Offices.....	S. S.	S. S.	Z-Bars.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....
New Chronicle.....	10	5,600	Under construction..	B.	B.	Pl. and Angles.....	Tile.....	Tile.....	T. C.....	T. C.
Rialto.....	9	10,000	Offices.....	T. C.	B. & T. C.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	T. C.
Ruef.....	8	1,000	Under construction..	S. S.	S. S.	Channels.....	Concrete.....	Concrete.....	Concrete.....	Concrete.....
Shreve.....	11	9,000	Offices.....	S. S.	S. S.	Z-Bars.....	Concrete.....	Metal Lath.....	Concrete and T. C.....	T. C.
St. Francis Hotel.....	1	22,000	Hotel.....	S. S.	S. S.	Z-Bars.....	Concrete.....	Metal Lath.....	Concrete and T. C.....	T. C.
Telephone Co.....	8	2,500	Offices.....	B.	B.	Channels.....	Concrete.....	Metal Lath.....	Metal Lath.....	Metal Lath.....

Abbreviations: S. S., Sandstone; G., Granite; T. C., Terra Cotta; B., Brick; M., Marble.

Type 4—Structures with a Steel Frame Supporting all Wall and Floor Loads.—A list of these structures in San Francisco, with details of construction, is given in Table 2. Outside of San Francisco, there were but few, one in Berkeley, of 7 stories; two in Oakland, the highest having 11 stories; one in San José under construction (steel frame up); and the Spreckels Sugar Refinery near Salinas, of 5 stories. All were built with fire-proof floors and brick walls, with brick, stone, or terra-cotta fronts. The frame was of steel in all cases noted.

Type 5—Reinforced Concrete Structures.—Only a few structures of this type existed in the territory affected, and these were built a number of years ago. The old portion of the Museum, and Roble Hall, at Stanford University, were built after the Ransome system, but little reinforcement was used in the walls. In Alameda there was a 4-story factory building built on the same system. At Redwood City there was a small 2-story sub-station, and in San Francisco a building was in course of construction with reinforced concrete columns and floors, but with brick walls. The Academy of Sciences had a complete reinforced concrete floor system on cast-iron columns. There was a 1-story factory in Berkeley, and a 3-story factory near Vallejo; also, two residences in country towns. As far as known, these nine instances are all there were in the earthquake region.

II.—THE EARTHQUAKE DAMAGE.

It is probable that the subject of earthquake damage will be of less interest than that of the fire damage. While considerable that has been learned can only be applied in earthquake centers, still there are many interesting points applicable to other regions. Again, while it is admitted that the Pacific coast of the American continent is subject to earthquakes, they are by no means limited to that region. The Charleston earthquake or the one early in the last century in the Mississippi Valley, while not as severe as that in California, might have been sufficient to destroy water supplies and start fires in any large city, the effect of which might have been as destructive as at San Francisco or as at Valparaiso.

Authorities are agreed that ground vibrated by an earthquake has both a vertical and horizontal motion. The amount has been stated as 1 inch and 3 inches, respectively, in the shock under consideration. The amount of motion undoubtedly varies, depending upon the character of the ground. Filled lands and alluvial plains undoubtedly have more motion than rocky hills. By these two motions and their combinations, a building may be damaged in two ways. If large in plan, one portion may be lifted and dropped before the remaining part moves, thus distorting the

ing of brick chimneys, which occurred everywhere. Numbers of houses were distorted and damaged, by the movement of filled ground upon which they stood, enough to compel their being taken down. This ground vibrated much more than other kinds, and resulted in upsetting houses. Numbers of houses with rotten foundations were upset, and in some cases 3-story structures lurched forward, breaking at the second-floor level and collapsing the first story.

Speaking generally, there was little damage to wooden frame buildings. Undoubtedly, they should be well braced, and the foundation should be carried below the soil to a firm material. Mention might be made of the precaution that pictures and other ornaments in sleeping apartments should not be placed so that in falling they may injure the sleepers. The greatest source of danger lies in brick chimneys. Innumerable instances occurred where the chimney broke through the roof. It may seem paradoxical to say that if brick chimneys must be used, they should be built with poor mortar above the roof line, but the reason is that, if so built, they will be shattered and will fall in parts. If well built, and falling as a whole, the effect is much more destructive. It is idle to expect the exposed portion of a chimney of ordinary dimensions, even of brick and Portland cement, to stand, when vibrating with a house during an earthquake. Some statements are added in the general conclusions following.

Type 2—Masonry Walls and Timber Interior.—Buildings of this type suffered most from the shock, and in them the greatest loss of life occurred. The damage ranged from minor cracks in brickwork to the complete destruction of large buildings. The swaying motion produced by the earthquake caused diagonal cracking in all directions. In all structures with brick, coursed-stone, or concrete-block walls, these diagonal cracks appeared, crossing each other and generally running at about 45 degrees with the horizontal. Piers between windows, spandrels between window heads and sills, and interior partitions were thus affected. Stone mullions, sills, and transoms were cracked, and large sandstone and granite blocks were split.

Another feature was the shearing of brick walls near the ground. Walls of any length would be sheared from a just-to-be-seen crack up to an amount that upset the entire wall by removing the support.

Gables were upset everywhere. As built, there was little if any connection between the wooden roof and the brick. As the wall was thin, it resulted in upsetting the gable. The most marked instance of this was the gable wall of the Memorial Church at Stanford University, which stood, practically disconnected from

the wooden roof. It was ornamented with a costly mosaic, and the entire wall fell.

Buildings of this type also suffered by the wrecking of fire-walls and cornices, which, falling in or out, did much damage. Some fire-walls, falling on lower buildings, wrecked them. People were killed in the street by cornices and upper walls falling outward.

A favorite method of constructing such buildings, when used as stores, was to build the front wall upon a girder, placed at the second-floor level, and supported on columns. As the interior frame was generally independent of this girder and the wall, the result was that the wall fell outward.

Another cause of the destruction or partial wrecking of such buildings was the roof construction. Cases were observed where roofs, of as much as 80 foot span, were built with inclined rafters resting upon the walls and unprovided with horizontal ties of any kind. When the building was in motion, the inclined rafters acted as thrust pieces to overturn the walls.

The foundations of such buildings were generally found intact, the damage increasing toward the top. Many arches were opened at the crown, and the arch stones or bricks dropped.

It must be recognized that buildings of this type were general throughout the region of the shock. The damage ranged from slight cracks to the complete destruction of large structures, hence no general statement covers the case. A few individual statements may be of interest. In Oakland, a concrete-block building, 4 stories high, was injured little if any. At Palo Alto, two such structures, 2 stories high, probably not very well built, were completely wrecked, the blocks being broken and disintegrated.

At the Agnews' State Asylum, large 4-story structures were completely wrecked. The walls stand, but are shattered everywhere. At this place, all partition and hall walls were brick, the buildings being a series of cells. It is difficult to describe the destruction of this brickwork. Probably 90 per cent. of the mortar bonds were broken, leaving the wall but a pile of loose bricks. The mortar was of fair grade. A large tower of brick over one building fell, doing much damage. At San José, the large City-hall, of brick, with brick partition and hall walls, was shattered everywhere. The old County Court-house was not badly hurt, but two later buildings were badly shattered.

At Stanford University, the uniform method of construction was brick walls, with a veneer of coursed ashlar. The buildings were connected by numerous arcades formed with two rows of arches covered by a hip roof. The arches rested upon single stone columns. Several buildings here were completely destroyed, notably the large library, gymnasium and museum buildings. The arches were injured by the dropping of keystones, the movement of supporting columns and the falling of spandrels. In many of the walls there was a separation of the ashlar facing from the brick backing. The cracking of walls, with other damage as noted above, was evident everywhere. Foundations were nowhere injured.

At St. Patrick's Academy, at Menlo Park, some large 4-story brick buildings were damaged, the worst effect being in the two upper stories. Two-story structures were but little injured. A tall tower on one building was badly wrecked.

At Santa Rosa, nearly every brick building was wrecked, and the resulting fire destroyed the entire business part of the town.

In San Francisco, while there are some special instances of buildings of this class withstanding the shock, there are others where there was complete destruction. The Palace Hotel is a notable instance of how a brick building may withstand the earthquake, it being practically uninjured.

Type 3.—Masonry Bearing Walls, Metal Interior Frames and Fireproof Floors and Partitions.—It may be questioned why this type was separated from Type 4, with a steel frame carrying all loads. The reason is that buildings of this type were damaged more by earthquake and fire than those of Type 4. In Table 1, showing the buildings of this type, no distinction is made between walls carrying some of the floor loads and those where all floor loads were carried on a steel frame—columns being placed in the walls. Of the latter class, the Mills, Crocker, Kamm, Union Trust and Mutual Life Buildings are examples. The frame of the Mills Building (1891) has columns of one-story section, each section resting upon the cap of the one below, and connected thereto with four bolts. Beams and girders rest upon the cap plate, and the entire structure was bolted above the third floor. After the earthquake and fire, this building leaned from 7 to 9 inches out into

Bush Street. The distortion of the frame was uniform above the second floor. There being no crack in the outer walls, it is difficult to say whether this movement was due to the shock, or had been a gradual movement from the time of construction. As all buildings of this type were burned, it is difficult to separate earthquake from fire damage.

In the Kamm Building, one wall, seven stories high—60 feet, of 13-inch wall and the remainder 17-inch—sprang out about 14 inches near the middle height. The reason is obscure, some stating that it was caused by the explosion of dynamite. In other respects, the outer walls of buildings of this type suffered as other brick walls. Interior partitions of terra-cotta show all the characteristic cracks of brick walls, the mortar joints being broken and opened from $\frac{1}{4}$ inch to 2 inches. Cornices, being generally supported on iron brackets, held, but here, also, it is difficult to separate fire from earthquake damage. Speaking generally, those buildings with a steel wall column supporting the floors suffered less than those where the walls held the floors.

Type 4.—Structures with a Steel Frame Supporting all Wall and Floor Loads.—Relatively buildings of this type were those most exposed to earthquake damage, the type including most of the tall buildings in the city. Here, as elsewhere, it was a question of bracing. Some frames were well braced, others partially so, others not at all. The Claus Spreckels Building (nineteen stories), about 80 feet square in plan, was braced better than any. Portal bracing was placed on each side of each corner, up to the third floor. In addition, there were eight lines of eye-bar diagonals from the basement to the fourteenth floor and three above. All girders had gusset-plate knee-braces. The Mutual Savings Bank Building (twelve stories) had two lines of portals and two lines of eye-bar diagonals from top to bottom. The New Chronicle (sixteen stories) had deep girders and gusset-plate knee-braces throughout. The Shreve Building (eleven stories) had deep girders and two complete systems of portal bracing. The Kohl Building had deep lattice girders throughout. The Merchant's Exchange, St. Francis Hotel, Fairmount Hotel, Monadnock, Rialto, and James Flood Buildings were large in area, and were without special wind bracing.

Earthquake damage consisted in cracks in partitions, where made of tile. On the buildings where corner piers of stone rested upon concrete under the sidewalk, the stonework was badly cracked. Where such stone was carried on the steel frame, no cracks are found, but there are only a few instances of this method. Walls of brick, or of stone and brick, did not suffer as much as might have been expected. The rear walls of the St. Francis Hotel were cracked. The walls of the Atlas Building were affected in the same manner. The rear brick walls of the Merchants' Exchange moved outward on the girders from 1 to 3 inches. On the Spreckels Sugar Refinery, near Watsonville, there were several cases of the 13-inch brick walls being thrown down, but no such damage occurred in San Francisco. A number of piers and spandrels of the brick front of the new Chronicle Building were cracked, as were also the terra-cotta faces of the Fairmount. The brick front of the Monadnock was badly cracked. On the Claus Spreckels Building, the sandstone fronts were intact up to the tenth story. From there to the sixteenth story, the stonework was badly worked on the beds. Some stones were split, and nearly every one moved, the maximum movement being possibly 2 inches. This stonework rested on girders, and was backed with brick. The dome of the building containing the seventeenth, eighteenth and nineteenth floors, was covered with terra-cotta, each piece being anchored to the metal frame. As far as could be determined, no damage or movement of this terra-cotta took place. The same is true of the terra-cotta gables of the Mutual Savings Bank. As far as observed, the damage to stone facing was greatest on the Claus Spreckels Building.

To this statement of damage to stonework, exception must be taken in the case of stone cornices. Elaborate cornices of sandstone were used on the Claus Spreckels, Mutual Savings Bank, Kohl and James Flood Buildings, all supported on iron brackets, and no movement or breaking of stone could be observed. The same is true of terra-cotta cornices on other buildings; in fact, the care taken to support cornices seemed to protect them from damage.

No foundation damage was observed in any buildings.

The damage to steel frames was almost negligible. Some rivets were sheared in the James Flood Building, and in the Union Trust Building a number of bolts were sheared. As most

of the frames are hidden, the extent of the damage is unknown, but is probably small. A few of the eye-bars of the diagonal bracing of the Claus Spreckels Building were bent, as if the opposite ones had taken the strain. A careful examination failed to reveal any sheared rivets. The greatest damage to a steel frame was that of the tower of the Ferry Depot. This tower was about 40 feet square and some 200 feet high above the main structure. It was sheathed with brick and stone, except the top, which was of metal. The frame had a column at each corner, with a complete system of diagonal rods. A number of rods were broken, and in places the gusset-plates were torn and the rivets sheared. This building rests upon piles driven into deep mud, and it was probably badly shaken.

Type 5.—Reinforced-Concrete Structures.—Only a few instances of this type exist. The old portion of the Stanford University Museum, a complete structure, was uninjured, except for a few cracks. The connecting brick portion was badly shattered. Roble Hall, at the same place, a three-story and attic structure, was uninjured, except where some brick chimneys fell, breaking the roof and floors. The sub-station at Redwood City was injured, and a part had to be rebuilt. This structure was built on marshy ground near the bay, and was exposed to the worst effects of the shock. A warehouse in San Francisco, in course of construction, with two stories up, had its brick walls wrecked, but the reinforced-concrete frame and floors were uninjured, except by the fall of the walls. The floors of the Academy of Sciences and of the Folger Building were uninjured by the shock, and the same is true of the complete reinforced-concrete building, three stories high, in Alameda. The factory buildings and residences before mentioned were uninjured. These constitute the only examples of this type known to the writers, but all the evidence points to the superiority of this method of construction.

Conclusions.—The writers offer the following as conclusions based upon a study of the effects of the earthquake. These conclusions are offered for the reason that it is recognized to be impossible to set forth in a partial description a full idea of the damage.

The effect of the earth motion is to set a building in motion. The structure is thus subjected to all the stresses occurring in a truss sustaining a live load. The amounts of the stresses are unknown, and cannot be predicted, as the intensity of the shock is unknown. Obviously, the shock may range from a tremor to that of a violence that would wreck any building. Again, should the earth-slip take place beneath a building, it would be wrecked.

(To be continued.)

ILLUSTRATIONS

THE ENGINEERING SOCIETIES' BUILDING, WEST THIRTY-NINTH STREET, NEW YORK, N. Y. MESSRS. HALE & ROGERS AND H. G. MORSE, ASSOCIATED ARCHITECTS, NEW YORK, N. Y.: FOUR PLATES.

For description, see article elsewhere in this issue.

HOUSE AND STABLE OF W. S. PATTEN, ESQ., SOUTH NATICK, MASS. MESSRS. WHEELWRIGHT & HAVEN, ARCHITECTS, BOSTON, MASS.: TWO PLATES.

COMPETITIVE DESIGN FOR HOTEL, FOURTEENTH STREET AND PENNSYLVANIA AVENUE, WASHINGTON, D. C. MESSRS. C. F. GARLICH AND JAMES E. WARE & SONS, ASSOCIATED ARCHITECTS, NEW YORK, N. Y.

This design can hardly have failed to satisfy the projectors of this enterprise through any defects and deficiencies in the arrangement of the rooms, as we have rarely seen a plan conceived and carried out with greater simplicity and elegance.

Additional Illustrations in the International Edition.

MAIN ENTRANCE: ENGINEERING SOCIETIES' BUILDING, WEST THIRTY-NINTH STREET, NEW YORK, N. Y.

HOUSE OF THE CHANCELLOR OF THE CATHEDRAL OF ALL SAINTS, ALBANY, N. Y. MR. MARCUS T. REYNOLDS, ARCHITECT, ALBANY, N. Y.

NOTES AND CLIPPINGS

TRADE UNION STRENGTH IN NEW YORK STATE.—According to a current report of the State Department of Labor, there are only four counties in the State which have no labor organizations. These counties are Hamilton, Lewis, Schoharie and Schuyler. About two-thirds of all trades unionists are in the four counties which constitute the city of New York (260,008 members of 678 organizations). Of the 398,494 union men and women in the State, more than 90 per cent. are in the cities, the number having increased in the past decade from 170,215 to 372,093.

RESURRECTION OF A STATUE OF VICTORY.—A strange resurrection of a statue has recently taken place in France. It was found in the cellar of the Senate buildings, where it had lain since 1870. Early in that year, when everything looked peaceful in France, Napoleon III. ordered the famous sculptor Gustave Adolph Desiré Crauk to model a statue of the Goddess of Victory to be cast in bronze for the Luxembourg Gardens, where several other statues by Crauk are displayed. By a strange fatality the sculptor shipped the completed work from his studio in Valenciennes just in time for it to be delivered in Paris on September 2, the day of the capitulation of the First French Army with Napoleon himself at Sedan. The Goddess of Victory had not many worshippers in Paris at that time. The statue was never even unboxed. It was shoved out of sight and promptly forgotten. Lately Senator Girard, who hails from Valenciennes, got some hint of the existence of the work and started a search for it, as there is talk of holding an exhibition of Crauk's works in Paris at an early day. The statue was found and the critics pronounce it a work of merit. The superstitious see in its discovery an omen of returning military prestige to France. Senator Girard at once laid claim to the statue for the sculptor's native city. Nobody wanted to carry out the project of Napoleon, so he carried his point. The statue has been erected in Valenciennes and unveiled with elaborate ceremonies after its thirty-six-year sleep in dust and darkness.—*New York Sun.*

METRIC SYSTEM REJECTED IN GREAT BRITAIN.—The House of Commons on March 22 by 150 to 110 votes rejected the bill purposing to introduce the metric system into Great Britain. Mr. Lloyd-George, president of the Board of Trade, in behalf of the Government, said the adoption of the system would be a dangerous and costly experiment by which Great Britain would lose the advantage which she now possesses in foreign markets over her metric-system competitors.

COLOR-BLIND ARTISTS.—Artists are as subject to color-blindness as other men. The writer has tested the color sense of a large number of them—colorists, engravers, illustrators—and found an average of one in twenty-two color-blind. As a class they are quicker to recognize varying shades, but a green-blind artist will place a brown skein of worsted with the green as readily as a layman. The possession of an "artistic temperament" bears no other relation to the keenness of one's color sense than comes from close observation and use of color. If an artist's eyes at birth do not possess all color-seeing cones in his retina, he cannot develop them by cultivation.—*Century.*

ANTONIO ZUCCHI, CASTLE-BUILDER.—That the power of utilizing opportunities which characterized the architects of Tivoli continued to exist among the Italian architects in the eighteenth century is suggested by the practice of Antonio Zucchi. He was closely connected with the Brothers Adam, and if he did not design at least decorated several of their buildings in England. In 1770 he was elected an Associate of the Royal Academy. He was also the second husband of Angelica Kauffmann, R.A. He is supposed to have been only a painter, but in Italy he was better known as an architect. An Englishman who was acquainted with him gave the following account of his practice: "He was a great castle maker, and his mode of composing them was to draw first a bold and varied outline of the rock, mountain or eminence upon which his castle was to stand. He then, with according lines, added his castle; and you would be surprised to find how the imagination is assisted by this practice, and what towers, battlements and projections are suggested by it which would not otherwise have been thought of. I always observed that his building was more varied and picturesque in exact proportion to the taste and happiness with which the foundation-line was struck."—*The Architect.*

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WANTED—Structural steelwork draughtsmen and architectural draughtsmen; \$5.04 to \$2.80 per diem. A competitive examination will be held simultaneously at the Navy Yards, Boston, Mass.; Brooklyn, N. Y.; League Island, Pa., and Washington, D. C., May 20 to 21, 1907, for the purpose of establishing an eligible register of structural steelwork draughtsmen and architectural draughtsmen. For further information address the Commandant of the Yard at which the applicant desires to be examined.

(1633-1634)

WANTED—A first-class, experienced architectural draughtsman; must be capable and reliable; give references and all particulars. Address Donaldson & Meier, Penobscot Building, Detroit, Mich.

(1632-1633)

WANTED, an experienced draughtsman, capable of making working drawings from rough sketches. State experience and salary required. Thos. C. Kennedy, Law Building, Baltimore, Md.

(1633)

POSITIONS WANTED.

ARCHITECT, German, three months in this country, 18 years' European experience in theoretical and practical works, best draughtsman; thoroughly experienced in all building and architectural works; wants position in architect office or terra-cotta factory. Address August Hohl, care Neumann, 1523 Second avenue, New York City.

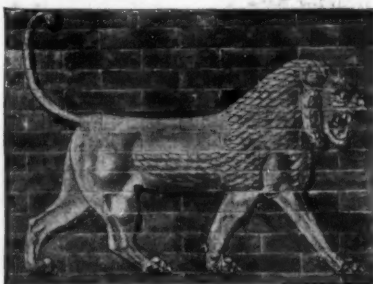
(1633-1634)

GRADUATE Structural Engineer, 12 years' experience, designing, detailing, checking reinforced-concrete and steel buildings, wants position in charge of work; salary, \$28.00 per week. Address, Designer, care American Architect, New York City.

(1633)

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., March 28, 1907.—Sealed proposals will be received at this office until 3 o'clock P.M., on the 6th day of May, 1907, and then opened, for the construction (including heating apparatus, electric wiring and conduits) of the extension to the U. S. Post-Office and Court House



THE LION OF BABYLON

THE Lion of Babylon is made of green and yellow glazed tiles baked several thousand years ago. The figure which adorned the city gate of ancient Babylon is now in the British Museum. The tiles composing it look as if they had been taken from the kiln but yesterday, retaining even their original brilliancy of color. For suggestion on the artistic, sanitary and durable qualities of tile as the most economical and appropriate covering for floors and walls, write:

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OF THE
TILE INDUSTRY
70 CORCORAN BUILDING
WASHINGTON, D.C.

PROPOSALS.

at Trenton, N. J., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Custodian at Trenton, N. J., at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect.

(1632, 1633)

NOTICE TO CONTRACTORS.

Notice is hereby given that sealed bids will be received at the office of the County Clerk in Howard, Elk County, Kansas, until 12 o'clock noon, sharp, Friday, the 17th day of May, 1907, for the erection, construction, and completion of a brick and stone Court House for said county, to be located on the Court House block at Howard, Kansas, in accordance with the plans, details, and specifications now on file in the office of the County Clerk. Bids shall be made upon the entire work complete, and as set forth in the plans and specifications. Each bidder shall accompany his bid with a certified check, as set out in the specifications, payable to Philip Walker, Chairman of the Board of County Commissioners, as an evidence of good faith, and each bid shall be plainly marked "Proposal for Court House," addressed to James L. Logsdon, Clerk of said County at Howard, Kansas. The successful bidder will be required to file a good and sufficient bond, double the amount of the contract price, for the faithful performance of the contract and the payment of all materials, skill and labor. Said contract shall be let to the lowest responsible bidder, and the said Board of County Commissioners reserve the right to reject any and all bids made.

Copies of plans and specifications may be had also from the Architect, Geo. E. McDonald, 716 Paseo, Kansas City, Missouri, by depositing the sum of \$20 with said architect.

By order of the Board of County Commissioners of Elk County, Kansas.

PHILIP WALKER, Chairman.

Attest:

J. L. LOGSDON,

Clerk of Elk County.

(Seal)

GEO. E. McDONALD,

Architect, 716 Paseo,

Kansas City, Mo.

(1633)

(Continued on Page XIII.)

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PROPOSALS—(Continued from Page XI.)

Treasury Department, Office of the Supervising Architect, Washington, D. C., March 28, 1907.—Sealed proposals will be received at this office until 3 o'clock P.M., on the 7th day of May, 1907, and then opened, for the construction, including plumbing, heating apparatus and electric work, of an extension to the U. S. Post-Office at Lafayette, Ind., in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Custodian at Lafayette, Ind., at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1632-1633)

NOTICE TO CONTRACTORS.

Sealed proposals will be received at the office of W. McCulloh Brown, Secretary of the Court House Commission of Garrett County, at the court house in Oakland, Maryland, until 12 o'clock noon on the 18th day of April, 1907, for the erection of a court house for the County of Garrett, according to plans and specifications as prepared by J. Riley Gordon, Architect, of 244 Fifth Avenue, New York City. A certified check in the sum of \$2,000 made payable to the order of the Court House Commission of Garrett County, must accompany each proposal as a guarantee that the contractor awarded the contract will furnish good and sufficient bond within ten days in the sum of \$30,000 that he will complete said contract in accordance with the said plans and specifications. Plans and specifications will be on file on and after April 1, 1907, at the office of the Secretary of the Commission at Oakland, and at the offices of the Architect, J. Riley Gordon, 244 Fifth Avenue, New York, and 921 F Street, N. W., Washington, D. C. The Commission reserving the right to reject any and all proposals.—Robert R. Henderson, Chairman; W. McCulloh Brown, Secretary, Court House Commission. (1631-1634)

March 20, 1907.

Sealed proposals, in duplicate, will be received at the office of the Commissioner of Immigration, Ellis Island, N. Y. H., until 2.30 P.M., Wednesday, April 10, 1907, and opened immediately thereafter for all labor and materials required to make certain changes in partition walls, flooring and beds

KEYSTONE FLAT FINISH

SEE PAGE XI.

PROPOSALS.

of dormitories at the Ellis Island Immigrant Station. Particulars, as to limitations and conditions governing bidders may be obtained from Robert Watchorn, Commissioner.

Treasury Department, Office of the Supervising Architect, Washington, D. C., March 29, 1907.—Sealed proposals will be received at this office until 3 o'clock P.M., on the second day of May, 1907, and then opened, for a marble cornice and balustrade at the U. S. Post-Office and Custom House, Burlington, Vermont, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent of Construction, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1632, 1633)

BUILDING NEWS (Continued).

INDIANAPOLIS, IND.—Henry C. Brubaker, architect, Aetna Building, is said to be preparing plans for a nine-story office-building to be erected at Meridian and Olno Streets for the Physicians' and Dentists' Association. Bids will be asked as soon as plans are completed.

JACKSONVILLE, FLA.—The Directors of the Atlantic National Bank of Jacksonville are reported to be contemplating the erection of a bank building on Forsyth Street.

JERSEY CITY, N. J.—The Great Atlantic & Pacific Tea Co., 260 West Street, New York, is reported to have accepted plans prepared by Howard A. Chapman, 11 Broadway, New York, for an eight-story

reinforced-concrete warehouse, 120x180 feet, which it proposes erecting on Bay Street, Jersey City, at a cost of about \$270,000.

Chas. P. Baldwin, 45 Clinton Street, Newark, is preparing plans and specifications for a bank building to be erected here by the Mercantile Trust Company, of Jersey City.

KANSAS CITY, Mo.—The County Court contemplates expending about \$150,000 in erecting additional building and making other improvements to the County Home. F. A. Rea will prepare plans.

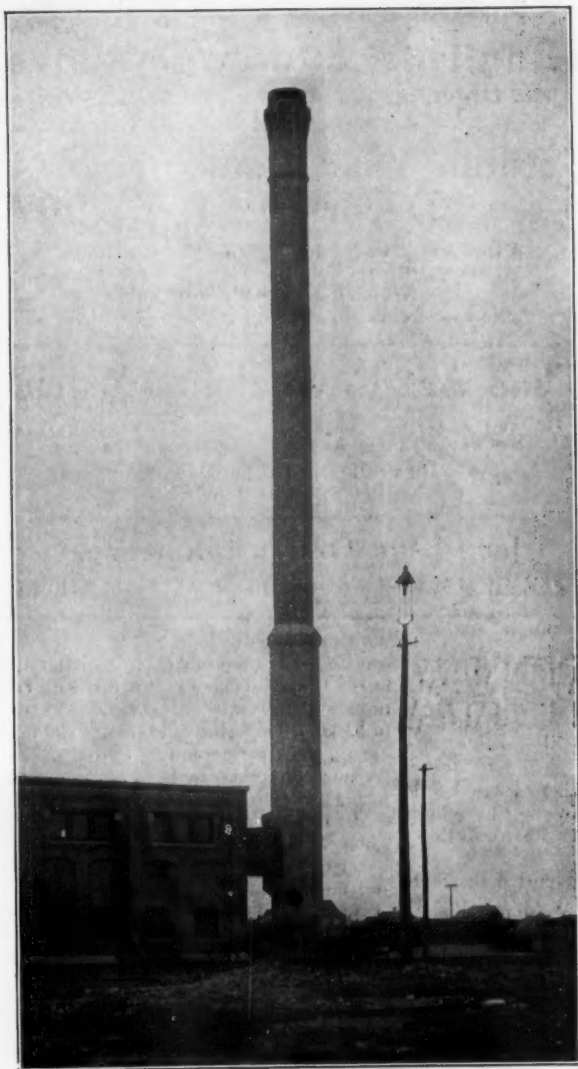
Montgomery Ward & Co., Michigan Avenue, Chicago, Ill., contemplate erecting building here after plans by John W. McKenzie. The structure will have nine stories and basement, will be reinforced-concrete throughout, including columns, girders, floors, stairways and roof, exterior of brick veneer, 159x178 feet, having four freight elevators, three passenger elevators, four stairways, 200-horsepower boilers, two engines and generators, switchboard for power, light and heat, sprinkling system with 35,000-gallon water tank on top of building. Company also plans erecting a second structure, similar to above, to be completed within three years, making the total investment about \$1,000,000.

KEARNEY, NEB.—Reports state that a company is being organized to erect a \$50,000 hotel building.

LAPORTE, IND.—C. Whitney Stevens, 109 Randall Street, Chicago, Ill., is preparing plans for a hotel to be built at Jefferson Avenue and Monroe Street, for C.

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H. Michael and others, of Laporte. It will be three-story, fireproof, and cost \$100,000.

LAWRENCE, MASS.—Certain architects are preparing competitive plans for a grammar school, to be presented April 17 to the School Board.

LIMA, O.—Dawson & McLaughlin, of Lima, have been selected as architects for the proposed Memorial Hall, which will cost \$130,000. The structure will contain lounging rooms, assembly rooms, a military department and an auditorium designed to seat 2,300 persons.

LOS ANGELES, CAL.—Work on the foundation of the new Y. M. C. A. is completed and erection of the structure on the west side of Hill Street, north of Third, will be started at once. The building will cost over \$150,000 and will be six stories high. The building committee has now under consideration the contract for the steel work.

Nelson Story, it is reported, intends erecting a ten-story office-building at Broadway and Sixth Streets.

LOUISVILLE, KY.—St. Cecilia's congregation, it is reported, is having plans prepared for the erection of new brick and stone edifice costing about \$60,000. Rev. Andrew Brady, pastor.

W. H. Labb and associates contemplate building combined theatre and office-building to cost \$250,000.

Reports state that Thomas & Bohne will draw plans for the Duker Street school, to cost \$50,000.

The University of Louisville has purchased Castlewood, on the outskirts of the

KEYSTONE
FLAT FINISH

SEE PAGE XI.

city, and will erect a number of new buildings for the university. No plans have been made or architect selected. Board of Trustees should be addressed.

MARYVILLE, MO.—It is reported that bids will be received, until May 15, by Geo. P. Shoptaugh, of Elmo, secretary of the Board of Regents, for erecting a main building for the Normal School at Maryville. Appropriation, \$225,000.

MEMPHIS, TENN.—Binghamton Bank & Trust Company, O. G. Gardner, president, Jackson, Tenn., will erect bank building.

The Tri-State Hospital, incorporated by Dr. J. T. Jelks, W. R. Barksdale, S. B. Anderson and others, will, it is said, erect \$50,000 hospital.

MILWAUKEE, WIS.—The Committee on Plans, St. John's Catholic congregation, have selected the plans of Bueming & Dick, architects, 1107 Pabst Building, for the new St. John's Catholic Cathedral Institute. It will be three-story, brick and stone. Cost, about \$200,000.

Kohl & Fehr are reported to be the architects for the fourteen-story office and theatre building which the Schlitz Brewing Company intends erecting at Grand Avenue and Third Street, at an approximate cost of \$1,500,000, not including cost of grounds.

MINNEAPOLIS, MINN.—The L. S. Donald-

son Company proposes extensive alterations to the Glass Block store, to cost, with additions and new work, \$1,000,000. There is to be later a six-story addition to the building on the tract recently acquired on First Avenue. Another is likewise to be built facing Seventh Street.

MINERAL WELLS, TEX.—J. W. Scharbauer, Fort Worth, Tex., has purchased site 100x150 feet and will erect a modern hotel and sanatorium, at a cost of \$100,000.

MOBILE, ALA.—The New York Construction Company, it is stated, has the contract for erecting the New Battle House, for which building permit has been issued. The estimated cost is about \$400,000, and the plans call for a dining-room and convention hall on the seventh floor; also a roof garden.

MISSOULA, MONT.—It is stated that plans have been prepared for a court-house, to cost \$150,000.

MITCHELL, S. D.—A high school and ward school will be erected here, according to reports, at an estimated cost of \$100,000.

MONTEREY, CAL.—Bids are asked by Jno. L. Clem, Chief Q. M., San Francisco, until 11 A. M., April 10, for labor and material for constructing double set of non-commissioned officers' quarters at the Presidio of Monterey.

MONTGOMERY, ALA.—The Legislature is stated to have appropriated \$50,000 for buildings, etc., at the Deaf and Blind Institute.

It is reported that the members of the New Exchange Hotel are contemplating the erection of a five or six-story building in the rear of the present structure.



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MONTREAL, QUE., CANADA.—A new theatre is to be built on St. Catherine Street by Mark Workman. Finley & Spence are architects. Work will begin in May and the cost of the structure is placed at \$250,000.

W. S. Vaux, architect, Bailey Building, it is stated, has secured a permit to erect a brick warehouse and office-building for Grellet Collins, at Sixth and Cherry Streets. The building will be 116x99 feet, eight stories high, and will cost \$124,000. John G. Brown is reported to have the contract.

The Board of Governors of the Montreal General Hospital, it is stated, has decided to entirely rebuild the Montreal General Hospital on the present site, at a cost of about \$500,000. Plans have been prepared.

NASHVILLE, TENN.—The building for the Watauga Club, after plans by Carpenter, Blair & Gould, 475 Fifth Avenue, New

York, N. Y., is estimated to cost \$150,000; will have steam heat, electric elevators and electric lighting; contract not yet let.

NEW HAVEN, CONN.—Peabody & Stearns, of Boston, Mass., it is stated, have prepared plans for a steel and concrete 90x120-foot boat-house, to be erected on Chapel Street for Yale University. Probable cost, \$60,000.

NEW ORLEANS, LA.—Audubon Hotel Co., it is reported, is planning the erection of a \$2,000,000 hotel.

New Orleans Council, Knights of Columbus, it is reported, has adopted plans for proposed \$100,000 building.

MacKenzie, Goldstein & Biggs are completing plans for a six-story apartment-house of reinforced-concrete construction, absolutely fireproof, equipped with the most modern conveniences, including steam heat. Cost, \$65,000.

Reports state that Finlay, Dicks & Co. are arranging for the erection of a ten-story building.

NEW YORK, N. Y.—Plans have been completed by Architects Schwartz & Gross, 35 West Twenty-first Street, for a large apartment-house to be erected by the Noel Realty and Construction Company, 122 Morningside Avenue. It will be located at the southeast corner of Riverside Drive and 137th Street, and plans provide for a six-story building measuring 102x109 feet, to contain thirty apartments. It will be built of brick and stone and iron, finished in hardwood and have steam heating, electric lighting, elevators, etc. Cost, \$200,000.

The Fifth Avenue Presbyterian congregation, corner of Fifth Avenue and Fifty-fifth Street, it is said, will build a store and office-building at 712 Fifth Avenue.

Albert S. Gottlieb, 156 Fifth Avenue, is the architect, and plans provide for five-story building measuring 28x116 feet. It will be built of brick and stone, with slate roofing, hardwood finish, and cost about \$50,000.

Plans have been filed for the erection of two six-story brick and stone apartments at Broadway and 158th Street for Fluri Construction Company. Cost, \$500,000. Neville & Bagge, architects.

Plans have been filed, it is said, for a five-story parochial school to be built at 50 East Eighty-fourth Street for the Church of St. Ignatius Loyola. It is to be of limestone and brick, with a frontage of 66 feet and a depth of 63 feet, and will cost \$150,000. Schickel & Ditmars, Fifth Avenue and Eighteenth Street, are architects.

Benjamin W. Levitan, 20 West Thirty-first Street, has prepared plans for two apartment-buildings, at the corner of Seventh Avenue and 111th Street, for the Apartment Construction Company, 45 Lenox Avenue. The buildings will have six stories, light brick, Indiana limestone, and terra-cotta, structural steel and iron, fireproof construction, iron stairs, marble and slate treads, ornamental iron balconies, electric wiring, etc. Estimated cost, \$200,000.

Moore & Landsiedel, 148th Street and Third Avenue, it is reported, have completed plans for three flat buildings on the south side of 146th Street, 215 feet west of Brook Avenue, for Goldberg & Kramer, 835 Broadway. Each building will be six stories high, 33x87 feet, of brick, stone and concrete, structural iron, with tin roofs. Estimated cost, \$105,000.

The property on the east side of Central Park West, 25 feet north of Eighty-seventh Street, has been purchased by the Regent Realty Company. It is reported that the new owners will erect a store, studio and apartment-building. The building is to be twelve stories high, of fireproof construction, and have all modern improvements. Architect's name and details will be given in later issues.

Press reports state that the West Side Construction Company, 321 West Ninety-first Street, will erect a six-story apartment-house, 100.11x105 feet, on the southwest corner of Morningside Avenue and 118th Street, to cost \$160,000. Geo. Fred Pelham, 503 Fifth Avenue, is architect.

Ex-Governor Frank S. Black, 170 Broadway, is contemplating the erection of a handsome residence in Manhattan. Reports state that no site has yet been purchased or definite details settled upon. Messrs. Darners & Compaigne, Illinois Building, Troy, N. Y., are preparing plans.

It is said that figures will be received by Francis H. Pfluger, 32 Union Square, for the eleven-story loft-building, 25x85 feet, which John McCarthy, 727 Broadway, is to build at 21 West Nineteenth Street, to cost about \$75,000.

Lowe & Co., 200 East 116th Street, it is stated, will erect on the north side of 151st Street, 150 feet east of Broadway, a six-story apartment-house, 75x86.11, to cost about \$200,000. Neville & Bagge, 217 West 125th Street, will be the architects.

Plans have been completed by Architects Neville & Bagge, 217 West 125th Street,

for a large new apartment-house to be erected at the northeast corner of Broadway and 145th Street for John W. Kight, corner Broadway and 146th Street. The building will probably be six stories high, of brick, stone and iron, and have steam heating, electric lighting, elevators and all modern improvements and appliances. Cost will be \$250,000.

Plans have been completed by Architect C. M. Straub, 122 Bowery, for a store and flat-house to be erected at the southeast corner of Broome and Sullivan Streets, by the Rosehill Realty Corporation, 37 Nassau Street. The building will be six stories high, measuring 72x50 feet. It will have stone foundation, iron columns and beams, pressed brick front. Cost, \$60,000.

Messrs. Neville & Bagge, 217 West 125th Street, have just been commissioned to prepare the plans and specifications for the new bank and office structure which the Greenwich Bank, 402 Hudson Street, is to erect at the northeast corner of Sixth Avenue and Thirty-fifth Street, on the site of the old Engel chop-house. The building will be six stories high, with banking rooms on the first floor and offices above. No building contracts have yet been awarded.

Mrs. Russell Sage has added \$100,000 to her former gift of \$250,000 for the proposed twelve-story building for the International Committee of the Young Men's Christian Association, to be erected at 125-127 East Twenty-seventh Street and 122-124 East Twenty-eighth Street, to cost \$400,000. The building will be fireproof, and will be ready for occupancy by May 1, 1908. Messrs. Parish & Schroeder, 5 West Thirty-first Street, are the architects.

No sub-contracts have yet been let for the fourteen-story elevator apartment and studio which the Walter Russell Bond & Realty Co., 437 Fifth Avenue, will erect on the south side of Seventy-seventh Street, 150 feet east of Columbus Avenue, to cost \$750,000. The structure will measure 100x82.2 feet and will contain a banquet hall on the first floor. The Dayton Construction Company, of which Walter Russell, 15 West Sixty-seventh Street, is president, have the general contract. Messrs. Harde & Short, 3 West Twenty-ninth Street, are the architects.

It is stated that steps will be taken at once to erect the new building at West and Jane Streets for the Sailors' Home and Institute, which is to cost about \$300,000. There is about \$250,000 available, of which Mrs. Russell Sage has given \$150,000.

Press reports state that no site has yet been selected on which the new St. Thomas's Episcopal Church is to be erected. Plans were prepared by Architects Cram, Goodhue & Ferguson, 17 Fifth Avenue, for the edifice that was to cover the Fifty-third Street and Fifth Avenue site, but it has since been determined not to rebuild on the old plot. It is said that a white limestone edifice of Gothic architecture is now being considered. The Rev. Ernest M. Stires, 1 West Fifty-third Street, is rector.

Reports state that no architect has yet been selected or plans drawn for the Catholic Church rectory and school, to be known as the Church of the Resurrection, to be erected on 151st Street, near Seventh Avenue. Rev. Thomas F. Murphy, of the Cathedral parish, will be the rector.

The 901 Lexington Avenue Apartment Building Company, with office at 27 William Street, are having plans prepared by Architects Rossiter & Wright, 110 East Twenty-third Street, for a large apartment-house which they will build at the northeast corner of Lexington Avenue and Sixty-seventh Street. The building will be eleven stories high, of fireproof construction.

Plans are ready for the twelve-story mercantile structure which the Brunswick Realty Company, 114 East Twenty-eighth Street, will erect at 29-31 East Twenty-second Street, to cost \$250,000. Frederick C. Zobel, 114 East Twenty-eighth Street, is architect.

The Apartment Construction Company, 135 Broadway, will build on the south side of Ninety-seventh Street, 100 feet east of Madison Avenue, a six-story apartment-house, 100x87.11 feet, to cost about \$200,000. Geo. Fred Pelham, 503 Fifth Avenue, is preparing the plans.

A. R. Whitney, Jr. & Co., 135 Broadway, it is stated, have general contract for the twenty-story steel skeleton fireproof flat-iron office-building which the German-American Insurance Co., 35 Nassau Street, will erect at the junction of Maiden Lane, Liberty and William Streets, from plans prepared by Hill & Stout, 1123 Broadway. The cost will be between \$1,000,000 and \$1,200,000.

Harde & Short, 3 West Twenty-ninth Street, it is said, have prepared plans for an apartment-building, to be erected at the corner of Madison Avenue and Sixty-sixth Street, for the Parkview Co., 200 West Fifty-seventh Street. The building will be 100.6x100 feet, with ten stories, of brick and stone construction, and will cost about \$1,000,000. C. S. Rogers is interested.

Maynicke & Franke, architects, 298 Fifth Avenue, have prepared plans for a store and loft-building, at 56 West Twenty-second Street, for Henry Corn, 320 Fifth Avenue, to be leased to Higgins & Seiter, china dealers, 50 West Twenty-second Street. It will have twelve stories, 46x99 feet, will be constructed of light brick, limestone and terra-cotta, structural steel and iron, with fireproofing, slag roof, bluestone coping, electric wiring, etc. Cost, about \$250,000.

OAKLAND, IND.—Bids are asked by W. McCulloch Brown, Secretary of the Court-house Commission of Garrett County, until noon, April 18, for the erection of a county Court-house according to plans and specifications as prepared by J. Riley Gordon, architect, 244 Fifth Avenue, New York City.

OKLAHOMA CITY, OKLA.—It is reported that the School Board is contemplating the erection of a \$125,000 school.

OMAHA, NEB.—F. A. Henninger, architect, is stated to be preparing plans for an apartment-building for E. S. Rood, of Benson, to be built at Thirty-eighth and Farnam Streets, at a cost of \$125,000. It will be of brick and steel, containing 36 apartments of five rooms, and will be seven-story.

Plans for a Y. M. C. A. building, to cost \$125,000, at Seventeenth Street and St. Mary's Avenue, are finished. Thos. L. Kimball is architect, McCague Block.

ORANGE, TEX.—Plans by James Oliver Hogg, architect, New York Life Building, Kansas City, Mo., for memorial building to

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be erected for Mrs. H. J. Luther at a cost of \$150,000, call for reinforced-concrete construction, building to be 72x92 feet; steam heat and electric lighting; bids to be opened April 30 at architect's office.

OSBORNE, KAN.—It is stated that Architect J. C. Holland, of Topeka, has been commissioned to draw plans for a new Court-house that will be erected here at a cost of about \$50,000.

PHILADELPHIA, PA.—A large new business building will be erected at 1318 Arch Street for Silas Jones from plans and detailed specifications by Milligan & Webber, architects. Designs show a four-story building, measuring 22x145 feet. It will be built of reinforced-concrete and have steam heat, electric light, elevators, etc.

J. H. Cook, City Hall, has plans for a four-story stone and brick girls' high school building, at Broad and Wallace Streets, for the Board of Education. Estimated cost, \$250,000.

Work is about to be started on a large new factory, which is to be built on Fifteenth Street, south of Washington Avenue, for Bridgman Bros., by W. G. Moore, builder. Milligan & Webber are the architects, and plans provide for a five-story building, measuring 90x90 feet, of reinforced-concrete, to cost about \$65,000.

The members of the Mickve Israel congregation are said to be considering the erection of a synagogue to cost about \$100,000. Rev. Leon H. Elmaleh may be able to give further information.

Preliminary studies are in preparation by George I. Lovatt, architect, for the new Roman Catholic Church, to be built at Broad and Ellsworth Streets, from the Augustinian memorial fund. The parish will be known as St. Rita's and the church will be designed to accommodate 1,000 persons. It will measure 90x170 feet.

PINE BLUFF, ARK.—A site has been purchased upon which to erect a high school which will cost about \$75,000, and plans and specifications will be asked for at once.

PITTSBURG, PA.—It is reported that the Common Council has passed ordinance appropriating \$250,000 for a Carnegie library. James B. Lawler, Penn and Sheridan Avenues, it is said, will erect an eight-story store and office-building at Penn and Highland Avenues. Cost, \$150,000. No architect announced.

It is reported that T. N. Barnsdall, Farmers' Bank Building, will have plans drawn soon for a twelve or fifteen-story bank and office-building in Fourth Avenue, near Wood Street. No architect selected.

Thos. Hannah is stated to have been engaged as architect for the seventeen-story

KEYSTONE

FLAT FINISH

SEE PAGE XI.

building which is to be erected on Seventh Street by T. J. Keenan. It is stated that bids for the construction will probably be asked very soon.

J. Carlton Strong, 27 East Twenty-second Street, New York, has completed plans and awarded to A. & S. Wilson Company, Pittsburgh, the general contract to erect a six-story store and apartment structure on North Highland Avenue and Kirkwood Street, to cost about \$200,000.

PITTSFIELD, MASS.—It is stated that the County Commissioners are considering the issuing of \$50,000 bonds for the purpose of erecting an addition to and making improvements in the Court-house.

PORTLAND, ORE.—It is announced that N. A. Walker will erect a five-story apartment-house at King and Wayne Streets. Cost, \$125,000. Plans are being prepared by Whidden & Lewis, Concord Building.

PORTSMOUTH, N. H.—It is reported that improvements are to be made this summer to the Naval Hospital at Portsmouth, at a cost of about \$200,000.

Bids are asked by Bureau of Yards and Docks, Navy Department, Washington, D. C., until 11 A. M., April 27, for constructing a brick and steel building for a pattern shop at the navy yard, Portsmouth.

PORT TOWNSEND, WASH.—It is said that the supervising architect at Washington, D. C., will receive bids until 3 P. M., May 2, for the construction of an isolation hospital.

REDLANDS, CAL.—Dike & Logie are reported interested in the organization of a company for the purpose of erecting a tourists' hotel on the Terricina Heights, to cost about \$250,000.

RICHMOND, VA.—It is said that Abner S. Pope will erect an apartment-house, at a cost of \$100,000.

It is reported that the International Theatrical Syndicate, O. F. Rhodes, general manager Southern circuit, will erect \$250,000 theatre in Richmond and several other Southern cities. Rearem & Bildmore, Chicago, Ill., are reported as architects.

M. L. Hofheimer, it is said, is having plans prepared for erection of nine-story building.

It is stated that C. K. Howell is preparing plans for fifteen or sixteen-story building.

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Co., architects, are preparing plans for extensive new building and improvements to be constructed for the Academy of Our Lady of the Lourdes, to cost about \$100,000. It will be a three-story brick and stone structure. St. Mary's Hospital, at the same place, will be thoroughly remodeled.

ST. LOUIS, MO.—It is reported that the Hall Real Estate Company is about to close negotiations for sale of site, 105x109 feet, to a syndicate which proposes to erect a hotel; twelve stories; steel-frame construction; fireproof; cost, \$1,000,000.

Condie-Neale Glass Company is having plans prepared for a proposed office-building to cost \$100,000. The building will be 80x150 feet, six stories and basement. Mauran, Russell & Garden are the architects.

Reports state that plans for the St. Francis de Sales Roman Catholic Church, to be erected at Ohio Avenue and Lynch Street, have been filed. Cost, \$200,000. V. J. Klutho, 202 North Ninth Street, is the architect.

ST. JOHNS, MICH.—Bids are asked by Board of Education, W. H. Brunson, president, until 7 P. M., April 22, for the remodeling of the building, for the installation and completion of the heating system, and for the installation and completion of the plumbing system in the Central High School Building. White & Hussey, architects, Lansing, Mich.

ST. PAUL, MINN.—The congregation of the Merriam Park Presbyterian Church, Inglehart and Moore Avenues, is reported to be contemplating the erection of a \$40,000 edifice.

SAN ANTONIO, TEX.—The State Bank Trust Company, it is reported, has secured a site and intends erecting a five-story banking and office-building.

Francis Drischler, of St. Louis, Mo., is reported to be preparing plans for a ten-story fireproof hotel to be erected here.

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E. J. Davis Mfg. Co., Chicago.

ODORS (Fireproof Metal-covered).

Thorp Fire Proof Door Co., Minneapolis, Minn.

DRAUGHTSMEN'S SUPPLIES.

Favor, Ruhl & Co., New York.

Soltmann, E. G., New York.

ELECTRIC SIGNALS.

Elevator Supply & Repair Co., New York.

ELEVATORS, ETC.

Otis Elevator Co., New York.

Engines (Hot Air).

Rider-Ericsson Engine Co., New York.

FILTERS.

Loomis-Manning Filter Co., Philadelphia, Pa.

FIREPROOFING.

Associated Expanded Metal Co., New York.

Clinton Wire Cloth Co., Clinton, Mass.

Expanded Metal and Corrugated Bar Co., St. Louis.

Gilbreth, Frank B., New York.

Imperial Expanded Metal Co., Chicago.

National Fireproofing Co., Pittsburgh, Pa.

Trussed Concrete Steel Co., Detroit.

Underwriters' Engineering and Construction Co., New York.

FIREPROOF LATHING.

Hayes, Geo., New York.

FLOOR POLISH.

Butcher Polish Co., Boston.

GLASS GLOBES.

Holophane Glass Co., New York.

GRATES, MANTELS, ETC.

Wm. H. Jackson Co., New York.

HARDWARE.

Stanley Works, New Britain, Conn.

Yale & Towns Mfg. Co., Stamford, Conn.

HEATING APPARATUS (Hot Water).

Gurney Heater Mfg. Co., Boston.

H. B. Smith Co., New York.

HEATING APPARATUS (Steam).

Smith Co., H. B., New York.

INSULATED WIRE.

The Okonite Co. (Ltd.), N. Y.

INTERLOCKING RUBBER TILING.

See Tiles (Interlocking Rubber).

IRONWORK (Ornamental).

Jackson, Wm. H., Co., New York.

W. H. Mullins Co., Salem, Ohio.

Winslow Bros. Co., The, Chicago, Ill.

LAUNDRY MACHINERY.

Troy Laundry Machinery Co., Troy, N. Y.

LIGHTNING RODS.

T. W. Jones, New York.

MAIL CRUTES.

Cutler Mfg. Co., Rochester, N. Y.

U. S. Mail Chute Equipment Co., St. Louis, Mo.

MARBLE-WORKERS.

Harrison & Eisele, New York.

The Robert C. Fisher Co., New York.

METAL CEILING.

The Berger Mfg. Co., Canton, Ohio.

W. H. Mullins Co., Salem, Ohio.

METAL LATHING.

American Rolling Mill Co., Middletown, Ohio.

G. Hayes, New York.

Truss Metal Lath Co., New York.

MINERAL WOOL.

U. S. Mineral Wool Co., New York.

MORTAR COLORS.

Saml. 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.

PHOTOGRAPHS.

J. W. Taylor, Chicago, Ill.

PLASTER ORNAMENTS.

Samuel H. French & Co., Philadelphia, Pa.

PLUMBING GOODS.

Standard Sanitary Mfg. Co., Pittsburgh, Pa.

Wolf, 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.

Clinton Wire Cloth Co., Clinton, Mass.

Expanded Metal and Corrugated Bar Co., St. Louis.

Gabriel Concrete Steel Co., Detroit, Mich.

Gilbreth, Frank B., New York.

Trussed Concrete Steel Co., Detroit.

Turner Construction Co., New York.

Underwriters' Engineering and Construction Co., New York.

W. N. Wight & Co., New York.

ROOFING MATERIALS.

American Sheet & Tin Plate Co., Pittsburgh.

Barber Asphalt Paving Co., Philadelphia, Pa.

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.

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.

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.

Globe Ventilator Co., Troy, N. Y.

WATER HEATERS.

Monarch Heater Co., Pittsburgh, Pa.

WATERPROOFING.

Bird, F. W., & Son, East Walpole, Mass.

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.