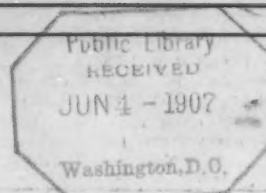


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The AMERICAN ARCHITECT AND BUILDING NEWS

Regular Edition

Vol. XCI.

JUNE 1, 1907.

No. 1640.

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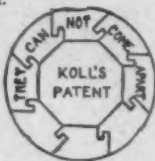
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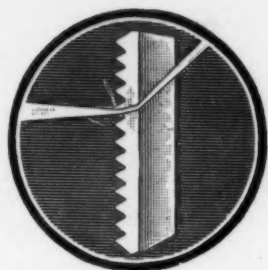
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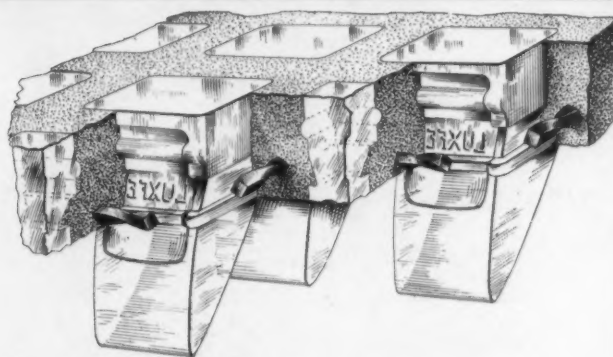
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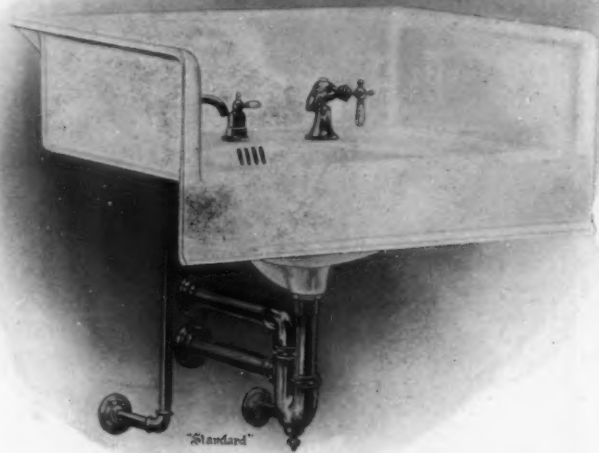
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SOCIETIES

COLUMBIA UNIVERSITY.

The students of the School of Architecture of Columbia University unveiled a portrait of Prof. A. D. F. Hamlin, painted by Mr. J. Redding Kelly in the Avery Library, on Tuesday afternoon, May 28, at 4:45.

CHICAGO ARCHITECTURAL CLUB.

At the annual meeting of the Chicago Architectural Club the following officers were elected: *President*, Hermann V. von Holst; *First Vice-president*, C. H. Hammond; *Second Vice-president*, Herbert Green; *Secretary*, Hugo A. Zimmerman; *Treasurer*, Otto A. Silha.

PENNSYLVANIA ACADEMY OF THE FINE ARTS.

Among the prizes recently awarded by the Academy were Cresson Scholarships of \$1,500 each for two years' study in architecture abroad to Edgar Cope and T. Harlan Ellett.

ST. LOUIS ARCHITECTURAL CLUB.

In the contest by students of the Washington University, for a year's free membership in the Club for the best drawing submitted, Edward L. Gahl won. Other students competing were A. Jensen, H. Z. Dietz, R. O. Chaffee, and S. H. Allen.

The judges in the contest were Professors F. M. Mann, W. T. Trueblood and L. C. Spiering.

E. J. Russell, former president of the

Architectural League of America, reported that the traveling scholarship of the national body, entitling the winner to two years' study in Europe, was won by Chas. P. Price. The Harvard scholarships were won by E. L. Plietch and Frank L. Dillard.

PERSONALS.

SCRANTON, PA.—Charles A. Feeney, of 1317 Vanderventer Boulevard, a young man twenty-one years of age and an architect, employed by John A. Duckworth in the Exchange Building, died at the Scranton Private Hospital, May 14.

WYOMISSING, PA.—The jury in the suit of Henry A. Stetler, architect, vs. E. D. Kains, both of Wyomissing, returned a verdict May 8 in favor of the plaintiff for \$26.50. Mr. Stetler brought suit to recover a balance of \$50 due him for services rendered for Mr. Kains in making plans and specifications for a new house. The latter claimed these plans were not satisfactory and refused payment.

SAN FRANCISCO, CAL.—Charles J. Rousseau, Jr., architect, of 820 Stanyan Street, begs to announce to his many friends and patrons that he has no connection whatever with the firm of Chas. M. Rousseau & Co., architects, or with the troubles of Mrs. Alicia McCone and her building on Turk Street.

CHAS. J. ROUSSEAU.

MILWAUKEE, WIS.—The jury in the suit of Otto C. Uehling, architect, against Gustav E. Kahm, a cement work contractor,

returned a verdict for the defendant May 16. Uehling wanted \$10,000 damages, alleging that Kahm had assailed his professional qualifications and personal integrity, thereby bringing him into public scandal and disgrace.

LINCOLN, NEB.—The State Board of Public Lands and Buildings has elected George Berlinghof, of Lincoln, State Architect, to draw plans and specifications of all buildings to be erected under the direction of the Board. Mr. Berlinghof will receive as compensation 3½ per cent. of the contract price of the buildings. It will also be his duty to superintend the construction of the buildings.

NEW YORK, N. Y.—Alonzo B. Jones, sixty years old, an architect and yachtsman, known well in this city and in Philadelphia, died May 16 in Bellevue Hospital from wounds received when he fell out of bed at his apartment, in No. 140 East Twenty-seventh street. He struck on his head and never regained consciousness.

MILWAUKEE, WIS.—Judge Williams and a jury are trying the \$10,000 damage suit brought against Emil Sponholz and Gustav E. Kann, contractors, by Otto Uehling, an architect, who alleges slander in connection with remarks made relative to a \$23,000 building which he was erecting in February, 1906.

FORT PIERCE, FLA.—Contractor and Mrs. H. I. Klopp are to move to Jacksonville, where they will make their future home. Mr. Klopp will open an architect and builder's office.

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NOTES AND CLIPPINGS.

THE DEEPEST MINING SHAFT.—If you go to the famous Red Jacket shaft, for instance, you find the most powerful hoisting machinery in the world, huge engines of as much as 8,000 horsepower which reel and unreel drums of wire cable that wind down a straight mile below the surface. These engines hoist ten-ton cars of ore one mile at the rate of forty miles an hour, or from the bottom to the top of this stupendous hole in the ground in ninety seconds. This is the deepest mining shaft in the world. Apart from this fact, perhaps the most interesting feature of the Red Jacket shaft is in the theory that it is possible to detect the effect of the earth's revolution in a hole as deep as this. No less an authority than President McNair, of the Michigan College of Mines, has explained the belief that nothing dropped in this deepest of mining shafts can ever reach the bottom without colliding with the east side of the shaft.

"This is due to the motion of the earth," said he. "The article dropped, no matter what its shape or size may be, will invariably be found clinging to the east side of the shaft. One day a monkey wrench was dropped by a miner, but it failed to reach the bottom, and was found lodged against the east side of the shaft several hundred feet down. We decided that to make a proper test of the theory, it would be worth while to experiment with a small, heavy, spherical body. So we suspended a marble, tied with a thread, about twelve feet below

the mouth of the shaft. We then burned the thread with a lighted match in order not to disturb the exact fall of the marble. About five hundred feet down it brought up against the east side of the shaft. When miners have fallen down the shaft the result has been similar. Their bodies, badly torn, have been found lodged against the east side of the shaft. A carload of rock was dumped down the deepest mining shaft in South Africa, but not a particle of it reached the bottom."—*Ralph D. Paine, in Outing.*

THE MONASTERY AT RILLO.—It is said that the largest spoon in daily use is the wooden soup stirrer at Rillo monastery. The old spoon at Rillo is famous. It has been used for more than twenty years, and has had predecessors of its own kind for centuries. It has stirred soup for thousands of refugees who have sought safety in the monastery from the persecution of the Turk. The monastery was built in mediæval times. It has a curious kitchen. It is a room twenty feet square, but nearly one hundred feet high. Its rock walls gradually slope together as they rise, forming a dome with a hole about a foot in diameter at the top. A depression in the earth floor holds the fire, made of pine logs. Over the fire is hung a great iron cauldron, which holds more than twenty gallons of soup. The cook climbs up on a big square stone and stirs the soup with the great spoon. The smoke from the pine rises with the steam of the soup to the dome and out through the opening.—*Exchange.*

FIRE-KILLED TIMBER VALUABLE.—It is not generally known that trees killed by forest fires are used to any large extent, the popular opinion being that timber of this character is unfit for use. Dead timber is usually associated with unsound and decayed wood. For this reason it is hard for the average person to believe that it is capable of much use. In the West, however, there are many large tracts of fire-killed timber which, owing to dry climate and high elevations, are just as sound thirty years after as the day they were burned. One of the important uses made of dead timber is for railroad ties. It has been found that the strength of the timber has not been impaired by the fire-killing while the durability has been often increased. Where these ties have been used along with green-timber ties they have shown up remarkably well. In some cases they have lasted much longer than ties of green timber. Dead timber is used for this purpose in wholesale quantities in the Pike's Peak National Forest, in Colorado, and in a more limited way in some other places. That ties made of this material are of known value is proved by the fact that the price is the same as for green-timber ties. In a number of places these ties have been made as long ago as fifteen years. Where the worth of the ties is known there is a strong demand for them. One tie contractor had a contract for 75,000 and could easily have doubled it had he been able to get out the ties. The Government, through the Forest Service, is acting for the greatest economy by disposing of this dead tie material before

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it becomes useless, as every dead tie that is sold saves that much green timber to keep up the future tie supply.—*Boston Transcript.*

PHONOGRAPH AS A WITNESS.—The phonograph as a witness in the law courts was bound to come sooner or later, and it did so the other day in Brussels. A lawyer of that city had been continually annoyed by the noises of hammering, etc., at an iron foundry in his near neighborhood. Finding that complaints were unavailing, he brought the matter into court. But before doing so he placed a phonograph in his library for one whole day. When the case came before the Fourth Chamber he produced the phonograph and set going the specially prepared cylinder. An uproar and din as from the forge of Vulcan was the result, and the ingenious lawyer won his case "hands down."—*London Chronicle.*

CITY NOISES.

We have our bars and bolts and keys
To guard our property to-day—
We have our criminal decrees
To punish those who disobey;
We have our Diplomats to save
Our interests afar and near,

And lawyers for all matters grave,
And mental strength to banish fear.

But helpless are we, and abject,
Before the evil of the day;
We cannot for an hour elect
The power to quell the tyrant's sway;
But week by week we must submit
And cringe in agony before
The crazing noises, which are fit
For Bedlam—and for nothing more.
—*Lurana W. Sheldon in N. Y. Times.*

COMPETITIONS

BOSTON, MASS.—It is reported that so many letters are being received by the Board of Directors of the Y. M. C. A. protesting against an award of the new Arlington Street building to one architectural firm that it is likely a competition will be held. It is possible that only Y. M. C. A. members will be invited to compete, although those architects who have been identified with the Association work may be admitted.

BUILDING NEWS.

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

ALBANY, N. Y.—The Board of Award of the Trustees of Public Buildings have accepted the plans of Palmer & Hornbostel, architects, 63 William Street, New York, for the new Educational Building to be erected at Albany. The plans provide for a building 585 feet long, with four stories and basement, constructed of granite, mar-

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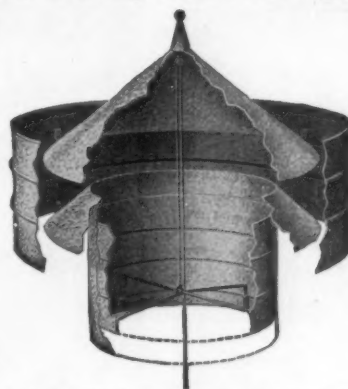
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The value of such equipment is proved conclusively by such endorsement as the following from the Pioneer Cotton Mills of Guthrie, Okla., under date of January 16th, 1907:



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ble or limestone. It will be of classic design, with a Corinthian colonnade facing Washington Avenue. When completed the building will contain the State Library, State Museum and other departments. It is estimated that the building will cost \$3,000,000. George L. Heins, State Architect, and Andrew S. Draper, Commissioner of Education, will confer with the architects regarding the final draft of the plans. M. F. Dollard, Albany, has contract to clear the site for the new building.

From plans prepared by Marcus T. Reynolds, it is said additions and alterations are to be made to the Fort Orange clubhouse which, with furnishings, will entail an outlay of \$50,000.

ATLANTA, GA.—R. H. Hunt, architect, Eighth and Broad Streets, Chattanooga, Tenn., is preparing plans for the Broughton Institutional Church at Atlanta, Ga., to cost \$300,000.

ATLANTIC CITY, N. J.—Reports state that members of the First Presbyterian Church turned down a proposition to remodel their present edifice and voted unanimously to erect a new church and chapel, to cost \$40,000.

ATHENS, GA.—Bids are being received for erection of new agricultural building for University of Georgia; building to be 264 feet in length; depth, 60 to 75 feet; three stories; pressed brick and terra-cotta; tile roof; steam heat; architect, E. E. Dougherty, 313 Candler Building, Atlanta, Ga.

BALTIMORE, MD.—The Baltimore & Ohio Railroad Company will erect a freight depot and terminal buildings on the property

bounded by Conway, Sharp, Howard and West Streets. Estimated cost, \$1,000,000. D. D. Carothers, Baltimore, is Chief Engineer.

Baldwin & Pennington, architects, Professional Building, North Charles Street, it is said, have distributed revised plans for the home to be erected for the Sisters in charge of St. Thomas' Catholic Church at Hampden.

It is reported that J. Henry Miller has received the contract for the erection of the terminal station for the Washington, Baltimore and Annapolis Railway Company, at Park Avenue, Marion and Liberty Streets, from plans prepared by Architects Simorson & Pietsch. The building will be two stories high, the construction being of reinforced-concrete, with the exterior walls of red brick, ornamented with light stone and terra-cotta. The structure, with the site, represents a cost of about \$200,000.

BAXLEY, GA.—Plans prepared by H. L. Lewman, Louisville, Ky., have been adopted for erection of \$50,000 court-house at Baxley.

BETHUNE, N. C.—C. S. Nicholson, it is stated, contemplates erecting store buildings, but has not made definite decision; may use concrete blocks or bricks.

BINGHAMTON, N. Y.—A. W. Johnson, of Toledo, O., is preparing plans for a brick and stone theatre to be erected for Frank Burt, care of Burt's Theatre, Toledo. It will cost about \$50,000.

BIRMINGHAM, ALA.—It is reported that Loveman, Joseph & Loeb, M. V. Joseph, senior member, owning lots adjoining pres-

ent building, 100x140 feet and 40x100 feet, respectively, will erect a ten-story steel-frame building on sites.

According to reports, Jefferson county will vote June 24 on the issuance of \$500,000 of bonds for erection of combined court-house and jail building; John T. Reed, President Board of Revenue.

BOSTON, MASS.—The Suffolk County Court-House Commission (Judge Jas. R. Dunbar, Chairman), it is stated, has selected George A. Clough, of Clough & Warner, 53 Tremont Street, as the architect for the improvements and addition which it is proposed making to the court-house at a cost of about \$1,000,000.

BRADDOCK, PA.—H. E. Mills is reported to have prepared plans for a building which the Braddock Amusement Company intends erecting at a cost of about \$50,000.

BROOKLYN, N. Y.—N. Serracino, 1133 Broadway, has been appointed architect for the construction of a new church to be built at Dean Street, Brooklyn, N. Y., Rev. Father L. Caporaso, 1662 Dean Street, Rector.

According to reports, it is now proposed that the Appellate Division of the Supreme Court be established in a court-house to be erected on the triangular strip of ground at Sterling Place and Flatbush Avenue.

Plans, which have been approved by the Municipal Art Commission, which were originally intended for the Sixth District Municipal Court-House, are also in the possession of Borough President Coler.

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BRUNSWICK, GA.—Reports state that elec-
tion will be held June 19 on issuance of
bonds for completion of new court-house
and erection of jail. No plans have yet
been made for jail or architect employed.

CALGARY, ALTA.—William Dodd, of Cal-
gary, it is stated, has received first prize
for the plans for the city hall which is to
be erected at a cost of \$150,000.

CARBONDALE, ILL.—The Legislature is re-
ported to have appropriated \$50,000 for the
construction of a school at the Southern
Illinois Normal University in this city.

CHICAGO, ILL.—Webster Tomlinson, 809
Steinway Hall, Chicago, is preparing plans
for the buildings for the Great Western
Smelting and Refining Company, contracts
for which will be let about July 1. There
will be three one-story buildings, one 50x
400 feet, one 40x240 feet, and the third
60x100 feet. The power plant will include
one 150-horsepower duplex engine and two
125-horsepower boilers.

The Trustees of the Old People's Home,
at Indiana Avenue and Thirty-ninth Street,
it is reported, are planning the erection
next spring of three new buildings, two to
cost \$76,000 each, and a larger building to
cost \$160,000. A C. Bartlett is a member
of the Board of Trustees.

The National Lead Company, manufac-
turers of white lead and lead pipes, 1510
State Street, it is said, has acquired 597x
105 feet of land at the southwest corner of
Johnson and Sixteenth Streets, adjoining
the company's large plant, and contem-
plates the erection thereon of several build-
ings as addition to the plant, the improve-
ments being estimated to cost \$150,000.

Architect Francis M. Barton, Royal In-
surance Building, 167 Jackson Boulevard,
is taking figures on an eight-story rein-
forced-concrete factory, 80x100 feet, to be
erected on Jefferson Street, near Madison
Street, for the Marshall & Huschart Ma-
chinery Company. It will be of reinforced-
concrete construction, have steam heat,
electric light, passenger and freight ele-
vators, plate glass, pressed-brick front, and
cost \$200,000.

The Harrison estate, it is said, will build
a big apartment-house on part of the Car-
ter H. Harrison homestead at Ashland
Avenue and Jackson Boulevard. It will be
three stories high and will cover 80 by
138 feet, and will contain twenty-four
apartments. The building will cost \$60,000.
The project is in charge of George K.
Owsley as the agent for the Harrisons.

CHILLICOTHE, O.—Architect F. L. Pack-
ard, of Columbus, Ohio, is preparing plans
and specifications for an eight-story office
building to be erected there for the Cen-
tral National Bank of that city. The build-
ing will be 40x50 feet in dimensions, fire-
proof construction, passenger elevators and
modern in every particular.

CLEVELAND, O.—Plans have been com-
pleted for a building to be constructed for
the First National Bank, on Euclid Avenue.
The building will have four large pillars
in the façade. The columns are 62 feet
high and over 6 feet in diameter. Crown-
ing the columns will be a strong entablature,
with a parapet and balustrade above. The
material used in the façade will be granite.
J. Milton Dyer, Cuyahoga Building, is ar-

chitect. Estimated cost, \$250,000. Plans
will be completed about June 1.

The Eldridge & Higgins Company, it is
stated, has secured a permit to erect a ware-
house at Huron Road S. E. and Vinegar
Hill, to cost \$125,000.

The Williamson Building Company in-
tends to extend the Williamson Building
at a cost of \$750,000. The addition will be
erected east of the present structure on the
40-foot Euclid Avenue frontage, now oc-
cupied by the four-story Otis Building.
The addition will be sixteen stories high
and 180 feet deep, and will conform in
every way with the original building. The
extension to the east will place the Euclid
Avenue entrance in the center of the com-
pleted building.

Plans are being prepared for a hospital
on East Thirty-fifth Street for the Babies'
Dispensary and Hospital. Cost, \$75,000.
Address Charles A. Otis.

It is said that plans are being prepared
by Architect William P. Ginther, Arcade
Building, Akron, O., for a church for St.
Adalbert's parish. Cost, \$50,000.

COLUMBIA, Mo.—It is reported that Louis
C. Stephens, St. Louis, Mo., will prepare
plans and specifications for conservatory
of music and gymnasium to be erected at
Stephens' College.

COLUMBUS, O.—The Eagles, it is stated,
have adopted plans for a five-story building
to be erected at Town and Pearl Streets,
to cost \$50,000.

CONNELLSVILLE, PA.—Plans have been
completed for a new armory at Connel-
sville for the Tenth Regiment, N. G. P.
Cost, \$50,000. Address W. G. Wilkins

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

DULUTH, MINN.—Reports state that the County Board has appropriated \$700,000 for the erection of the proposed new court-house.

ELIZABETH, N. J.—Plans are on foot looking towards the erection of a \$60,000 brick structure at the corner of First and Franklin Streets, having a frontage of 100 feet on each thoroughfare. The owner of the property is Emil Zucker.

EL PASO, TEX.—The Eagles of El Paso, it is reported, have practically concluded their arrangements for the erection of a handsome building, which when completed will represent a cost of about \$100,000. While the site of the building has not yet been definitely settled, it is understood that it will probably be located on Texas or Stanton Street.

EL RENO, O. T.—According to reports, the city is considering the erection of city hall to cost about \$50,000. Address the Mayor.

ERIE, PA.—Plans are being prepared by the members of the Holy Trinity Polish Catholic Church for an edifice, to cost \$80,000.

FORT SAM HOUSTON, TEX.—Bids are asked by L. J. Fleming, Constructing Q. M., until 11 A. M., June 13, for construction, plumbing and electric wiring of one set hospital sergeants' quarters at Fort Sam Houston.

FT. WORTH, TEX.—W. T. Waggner is reported to have purchased a site and intends erecting a fifteen-story office building.

GLENDAL, CAL.—A. Dudley, Mason Building, Los Angeles, it is stated, is preparing plans for a four-story fireproof hotel to be erected here at a cost of about \$200,000.

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

HARRISBURG, PA.—Y. M. C. A., it is said, has under consideration the erection of a building.

Plans have been prepared by Architects Hewitt, Stevens & Palst, 671 Bullitt Building, Philadelphia, Pa., for the hotel, 105x130 feet, on the site of the Harrisburg opera-house.

HARTFORD, CONN.—William B. Johnson, 26 State Street, is reported to have prepared plans for a building which is to be erected by the Open Hearth Association. Dr. Charles D. Alton, Chairman Building Committee.

HORNELLVILLE, N. Y.—Reports state that plans are being prepared by Architects

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Pierce & Bickford, Elmira, N. Y., for a court-house in Steuben county. Cost, \$100,000.

HOUSTON, TEX.—It is reported that the United States Government has made an appropriation of \$400,000 for the new post-office building, for which the site was secured four years ago.

KANSAS CITY, MO.—W. H. Maxwell, chairman Board of Directors, it is said, has secured permit to erect labor temple; four stories; 110 feet frontage; cost \$80,000.

Charles F. Smyth, it is said, has been granted a permit to erect a four-story apartment-house at the southwest corner of Armour Boulevard and Broadway. The building will be made of dark red vitrified brick and cut stone, with ornamental iron porch rails and a tile roof. It will occupy a frontage of 136 feet and will contain twenty-four apartments.

KNOXVILLE, TENN.—The Knoxville Banking Company is reported to have accepted plans for a ten-story banking office building at Gay and Clinch Streets. J. W. Heit, Clerk Building Committee.

It is said that a new agricultural building will be erected at the University of Tennessee, to cost about \$100,000.

LA CROSSE, WIS.—According to reports, the plans of Schick & Roth, architects, for the North Side German Lutheran Church building, have been accepted, and bids will be received by the architects within a few days. Cost, \$50,000 to \$65,000.

LAREDO, TEX.—Plans by Alfred Giles, San Antonio, Texas, have been accepted for erection of court-house for Giles county, and bids will soon be advertised for.

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

LEXINGTON, KY.—Richards, McCarty & Bulford, Columbus, Ohio, it is said, have prepared plans and will receive bids until June 11 for erection of proposed hotel for the Phoenix Hotel Company.

LITTLE ROCK, ARK.—George R. Mann is preparing plans for office building to be erected for H. A. Bowman. The building will be fireproof, having hot-water heating, electric and gas lighting and electric elevators; cost \$125,000; contract not yet let. Address H. A. Bowman, 111 West Sixth Street.

The American Architect and Building News.

Vol. XCI.

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SOCIETIES, PERSONAL MENTION, ETC.	

THERE died in Detroit last week a man of note in his community, a good citizen, an intelligent man of affairs, a multimillionaire, who, when one stops to consider the final result of his activities, can in no small degree be held indirectly responsible for a substantial portion of the enormous annual ash-heap in this country. Although the maker of varnishes has a lighter moral responsibility than his who makes parlor matches or glass lamps for kerosene, there is no gainsaying the fact that the presence of varnished or shellacked woodwork in a burning building not only facilitates the rapid spreading of the fire through the flame's instantaneous flashing over the varnished surface, but has caused a disproportionate number of deaths, as the smoke and fumes given off by burning varnish are particularly suffocating. It is fortunate for one's peace of mind in the watches of the night that ultimate responsibility for our routine daily actions is obscured by our consideration of the more pressing nature of their immediate effects. Otherwise there would be boiled less varnish—an admirable and useful article of commerce and the arts—and fewer glass lamps and parlor matches made. And so, too, would there be fewer combustible buildings erected and no high-powered automobiles built or used. The responsibility is there, however, but it, indirect and remote as it is, does not rest solely on the individual delinquent, but must be accepted and borne by the community of which he forms a part and which he serves.

THAT this is so is shown with some clearness, when one tries to get the true bearings of the recent revelations as to the character and quality of the rails lately delivered to our railroads, a matter that is one of the most interesting and important problems that to-day confront the commercial and scientific world. Looking back only a short way, we come upon the sudden and annoying freight-blockade of last year which, without warning, opened the eyes of the public to the fact that the existing transportation facilities of the country were unable to handle the country's traffic at times of abnormal activity and prosperity. As usual, the public sought relief through crude and ill-advised legislation in many places, coupled as usual with threats of confiscation and outlawry. Railroad managers thus threatened had to set about undertaking enormous amounts of double-tracking and placed orders for immense additions to their rolling-stock, all to be delivered and installed with the least possible delay. The inevitable result was the flooding of rail-mills and car-shops with orders conditioned, most of them, on delivery on or before a fixed date—if the railroads were to be spared the visitation of further public wrath and condign punishment. The impossible had been demanded by the public and something had to give way. Quality or quantity had to suffer, since it was plain that an "aroused public sentiment" would insist on having ocular demonstration that something actually was being done, and as the common man can generally measure quantity with some accuracy, it is plain that the thing that had to suffer was the quality of the manufactured output. It is at once evident that the railmakers' assertion that the recent rail-failures have been due to the increase in speed and weight of trains is unworthy of attention, for the simple reason that, between this year and last, there has not been the increase of speed and weight alleged, while the failures have come generally, we believe, in the new rails manufactured under conditions which, as a reasonable analysis of the situation shows, were established by the public itself.

THE *Scientific American* shows with great clearness and its customary simplicity what are likely to have been the technical errors that have brought about the recent disasters and have caused every railroad engineer at a recent convention to deny that he was satisfied with the quality of the rails recently delivered by the mills to his railroad. It appears to be the universal testimony that the mills are not living up to the requirements of the engineers' specifications and that the latter are accepting the output only under the indirect compulsion of the public. Three chief elements of evil enter the problem as now handled by the mills. First, as the ores low in phosphorus are nearly exhausted, the smelters have now to use higher grade ores from which the phosphorus cannot be eliminated by the Bessemer process. Secondly, the mills now roll four rails from ingots of the same size and weight that used to yield only three rails, and to do this they are using more than formerly of the upper part of the ingot, where are collected the impurities, free car-

bon, scoriae, etc. In the third place, as an ingot chills from the outside there is always a tendency toward shrinkage away from the axis of the mass, and there is always not only a depression in the head of each ingot having the shape of an inverted cone, but the opening, or "pipe" as it is called, always diminishing in size, continues to descend into the body of the ingot as an actual visible opening or as an invisible strain almost indefinitely. The result is that, in now using more of the upper part of the ingot than formerly, the railmakers now put through the rolls some of the ingot in which this pipe actually exists, and owing to the speed of manufacture the sides of the pipe, now much elongated by rolling, are not welded together, but exist as a longitudinal flaw, as is shown by many of the rails that have lately given way. It is clear that a longitudinal flaw of this sort in a structural shape, due to this faulty method of manufacture, is of some real interest to architects.

IT is a matter for real regret that when a suitor has a case in which a real matter of principle is involved and upon which the courts have not yet passed effectively, those to whom the principle may at some time have application cannot come forward and share with the original suitor the expense of carrying the case through to the court of last resort, as the English architects tried to do two years ago in the case of *Gibbon vs. Pease*. An individual litigant must be a very determined person, or have a deeper pocket than most, to shoulder the cost and trouble of waging single-handed a battle for a general principle, so no one can feel surprise that, as we recently recorded, Messrs. Rankin, Kellogg & Crane decided to compromise their suit against the city of Newark, rather than fight it through to a final decision that might leave them not only defeated but poorer men. Nor can one be surprised that Mr. C. H. Niehaus has decided to compromise for \$3,000 his suit for \$125,000 against the Louisiana Purchase Exposition Company, for their unhand-some treatment of him in the matter of his equestrian statue of St. Louis. In both of these cases there was a real matter of principle involved, and it is unfortunate that the suitors could not have had general support from their respective fellow-professionals. In addition to the money damages paid him, Mr. Niehaus has extorted the concession that the statue shall be inscribed as having been erected "after the design of C. H. Niehaus," a statement which will be altogether meaningless to the general public—and to most other people as well.

IT appears to be settled, for the moment at least, that as an arbiter of taste the Commissioner of Education for the State of New York outranks the State Architect, for, in the curious matter of the design for the State Normal College at Albany, to which we referred some time ago, it has just been definitely decided that that building shall have the exterior effect designed for it by Mr. A. R. Ross, in spite of the disapproval of the State Architect. As Mr. Ross is to receive, it is computed, a commission of \$8,500, one thousand dollars more than the salary paid to the State Architect, the incident will at the same time strengthen the hands of those who

believe in the folly of employing State Architects—except for very circumscribed duties—and will encourage the opponents of the institution to ask with renewed insistence what wisdom there is in employing such a functionary, if some one else has to be called in to do his work.

GERMANS, at least those who, during the Boxer uprising, made off with the collection of wonderful astronomical instruments, centuries old, and installed it in Berlin, must, because of what has occurred lately, be ready to agree that the Japanese are rapidly gaining the plane of occidental civilization and so need no longer be included amongst the "yellow perils." News reached this country last week that a Japanese nobleman has succeeded in carrying off to Japan the wonderful P'ungduk pagoda at Seoul which for three centuries at least has been a loadstar to Japanese ambition. One might expect that so wonderfully audacious and capable a people as the Japanese would have carried off this pride of Korean architecture, now nearly one thousand years old, in some unusual, if not theatrical, way, say bodily and between dusk and dawn. But no, the rape was accomplished with truly occidental vulgarity and sordidness. Finding it impossible to induce the Korean custodians of the pagoda to sell the structure to him on any terms, the determined collector of souvenirs recalled the fact that, owing to the late trouble between Japan and Russia, the affairs of the Hermit Kingdom are now administered by Japanese officials, with or without the knowledge and consent of the Emperor of Korea and his advisers. From these obsequious fellow-countrymen, who had no real power in the premises, the Viscount Tanaka easily obtained, for a consideration, probably, written permission to take down and remove the sacred shrine, and the removal was actually made quite openly, the Koreans being too intimidated to interfere.

PROBABLY the most inequitable laws on our statute-books are the lien laws, and the architect, or the lawyer for that matter, who professes to understand them is really a very audacious person. As architects know, or should know, that their client's pocket is the security that both material-men and mechanics have their eyes on, they ought always to exercise especial care to protect him from the attacks of those who are practised in the art of building without capital. A very interesting bill, and we incline to think it a very just and useful one, was reported favorably to the Michigan Legislature early last month. It is intended to prevent a contractor from slipping out of his difficulties and leaving the unfortunate material-man to fight it out with the still more unfortunate owner. Mr. Miller's bill provides that when a material-man is obliged to place a lien upon a building in order to secure payment for material used in it, then the contractor who ordered and used the material has been guilty of embezzlement and can be punished by five years' imprisonment or a fine of one thousand dollars, if intent to defraud can be proved; while if there was no such evil intent, the penalty is fixed at ninety days or one hundred dollars, or both.

REINFORCED CONCRETE: ITS LIMITATIONS.¹—II.

LIKE the preacher, I might have subdivided this paper into "firstly," "secondly," and so on, and the headings would then have been somewhat as follows:

- (1) Generally.
- (2) Inspection.
- (3) Science of reinforced-concrete.
- (4) Details of construction.

So that we have now reached the problem of the so-called science of reinforced-concrete and a very troublesome problem we shall find it, for we are dealing with a material whose physical qualities and even shape undergo great changes for some time after it has assumed its duties, a material the computations of which, more than that, the very definitions of whose properties, are as changing as the winds that blow.

This is a strong statement and needs explaining. I promise to be as short as possible; the question of shear and the theories of stresses in more complicated structures, as arches, retaining-walls, etc., fascinating as they are, will be hardly touched on; instead let us assume the simplest possible case and take up the computation of a reinforced-concrete girder, beam or slab composed of ingredients according to ordinary practice, at one particular time, say a few months after the concrete is laid. We have thus discarded the above-mentioned differences in the strength of the concrete at the different periods of hardening, also the question of different qualities of concrete composed of ingredients mixed in different proportions, laid with different amount of wetness, etc.

Now we are all familiar with such definitions as neutral axis, modulus-of-elasticity, factor-of-safety, ultimate strength, etc., and we meet them again in the calculations of the reinforced-concrete girder, beam or slab, but their character and meaning have changed.

While with steel beams these definitions are definite and constant, with the reinforced-concrete beams they are more or less indefinite and variable.

The modulus-of-elasticity of structural steel is constant within the elastic limit and for the different kinds varies hardly more than 5 per cent. from the generally assumed 30,000,000 lb. per sq. in., but the modulus of elasticity of reinforced-concrete is variable, decreasing under increasing pressure, and its variations in strength have been stated at ranges varying all the way from 750,000 lb. to 4,000,000 lb. per sq. in. The generally assumed value of 3,000,000 lb. per sq. in. for the modulus looks like a rather bold compromise. M. Christophe, a French authority on reinforced-concrete—and it is to the French that we owe our theories on reinforced-concrete—suggests the abolishing of the very name of modulus-of-elasticity of reinforced-concrete.

From the fact that the modulus-of-elasticity of steel is constant while that of reinforced-concrete varies, it follows that the neutral axis is variable, rising above the middle of the beam with the increase of the stresses in the beam; and it follows furthermore from the variability in the modulus-of-elasticity of reinforced-concrete, *i.e.*, the variation in the compressibility of concrete, under varying pressures, that the center of gravity of the compression stresses in the concrete varies and also that we have quite a variegated collection of stress-strain diagrams, with which, however, I will not trouble you.

All authorities agree, furthermore, that the term "factor-of-safety" is not, strictly speaking, applicable to reinforced-concrete work, because cracks open in the lower surface of the concrete before the steel is stretched beyond a safe strain and before the upper part of the concrete is compressed to its safe limit.

Yet, in spite of these uncertainties, variable factors and characteristics, the fact, absolutely proved by daily experience all over the civilized world remains that reinforced-concrete in the shape of beams and slabs, if properly proportioned and handled, is a material of inestimable value, safe, fireproof as no other material, everlasting and relatively cheap; so, theories and formulas which covered the case had to be evolved and with an astonishing amount of ingenuity and learning they have been evolved. All honor to the men who gave us these theories. It is true the first formulas looked rather formidable and it was expecting a good deal from the busy engineer that he should familiarize himself with their intricacies. But the long perplexing formulas have had their day and simple rules which appeal directly to the understanding have taken their place.

¹A paper by Mr. Carl Gayler, read before the Engineers' Club of St. Louis, January 2, 1907, and published in the "Journal" of the Association of Engineering Societies; here continued from page 208, No. 1639.

As you all know, the moment-of-resistance of a beam, girder or slab is to-day expressed as the product of the stress in the steel reinforcement into the effective height, *i.e.*, into the height from the centre of gravity of the steel rods to the centre of gravity of the compressive stresses of the concrete, with the condition that the proportion of square inches of steel to the number of square inches of the concrete shall be at a certain ratio. In other words, the moment-of-resistance of any reinforced-concrete girder, beam or slab is strikingly similar to that of any steel girder or beam. Considering the amount of knowledge and ingenuity displayed in the theoretical researches it seems like an unkind saying, but it is true nevertheless, that we are hardly justified in speaking of a "science of reinforced-concrete" at all.

It might interest you to see just what cross sections we obtain for a reinforced-concrete girder if we apply such formulas and proportions as are the daily practice, and to compare the same with the cross sections of a steel beam and of a wooden joist of the same strength. In Fig. 6 a few such sections are shown, drawn to the same scale.

Assumed units: extreme fiber stress in I-beams...16,000 lb. per sq. in.
Extreme fiber stress in reinforcement.....1.25 per cent.
Ratio of areas of steel to area of concrete.....1,200 lb. per sq. in.
Extreme fiber stress in wood.....1,200 lb. per sq. in.

The results are rather startling and it must be confessed that for clumsiness, unsightliness and apparent wastefulness the reinforced-concrete girder, at least in its simplest shape, is without a peer in the realm of building materials.

In using the word "wastefulness," that part of the concrete which lies below the neutral axis is referred to. It really does seem as if very little use were made of the strength of this por-

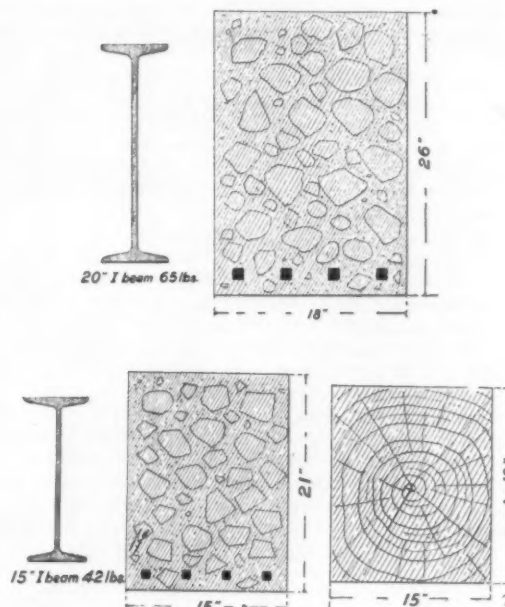


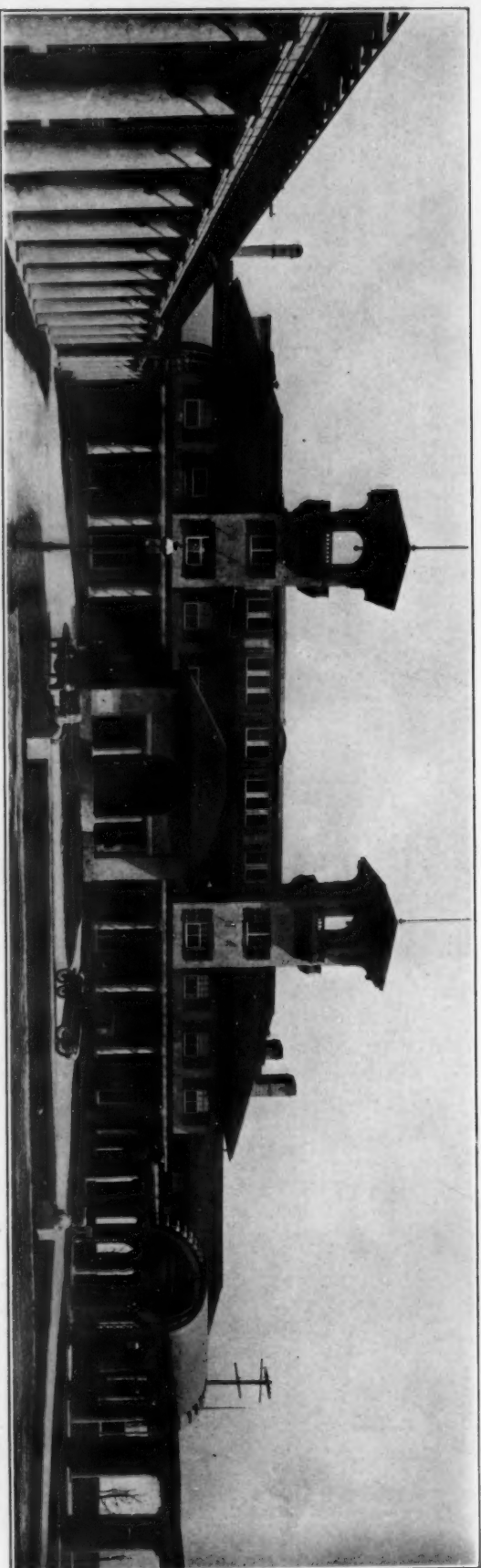
FIG. 6.

tion of the concrete, at least in girders where the shear is taken up by steel.

In mere fairness it ought to be said, right here, that the reinforced-concrete slab, used as floor for buildings and viaducts, is, in every respect, economy, fireproofness and strength, unequaled by any other building material; but as our subject is the "limitations of reinforced-concrete," such a eulogy does not come within its scope.

Let us take another illustration, the comparative cross sections of a column for a building in cast-iron, steel and reinforced-concrete, all of equal strength. These cross sections are particularly interesting because they are taken from actual experience.

Plans have been prepared for a five-story warehouse, using cast iron columns, steel beams and concrete floors. For weighty, financial reasons, reinforced-concrete was substituted for all the metal work and the relative cross sections of the cast-iron columns and of the substituted reinforced-concrete columns, the latter, as planned by the contractors themselves, drawn to the same scale, from the first story of said building, are shown in



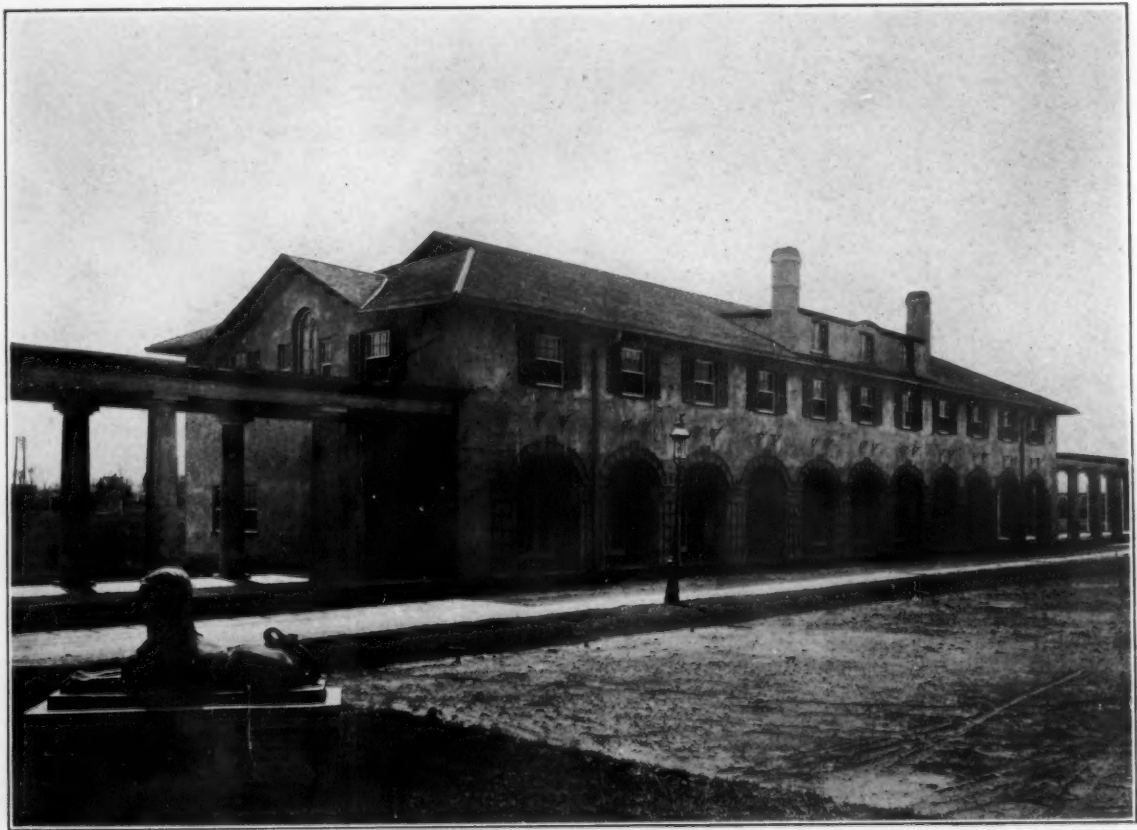
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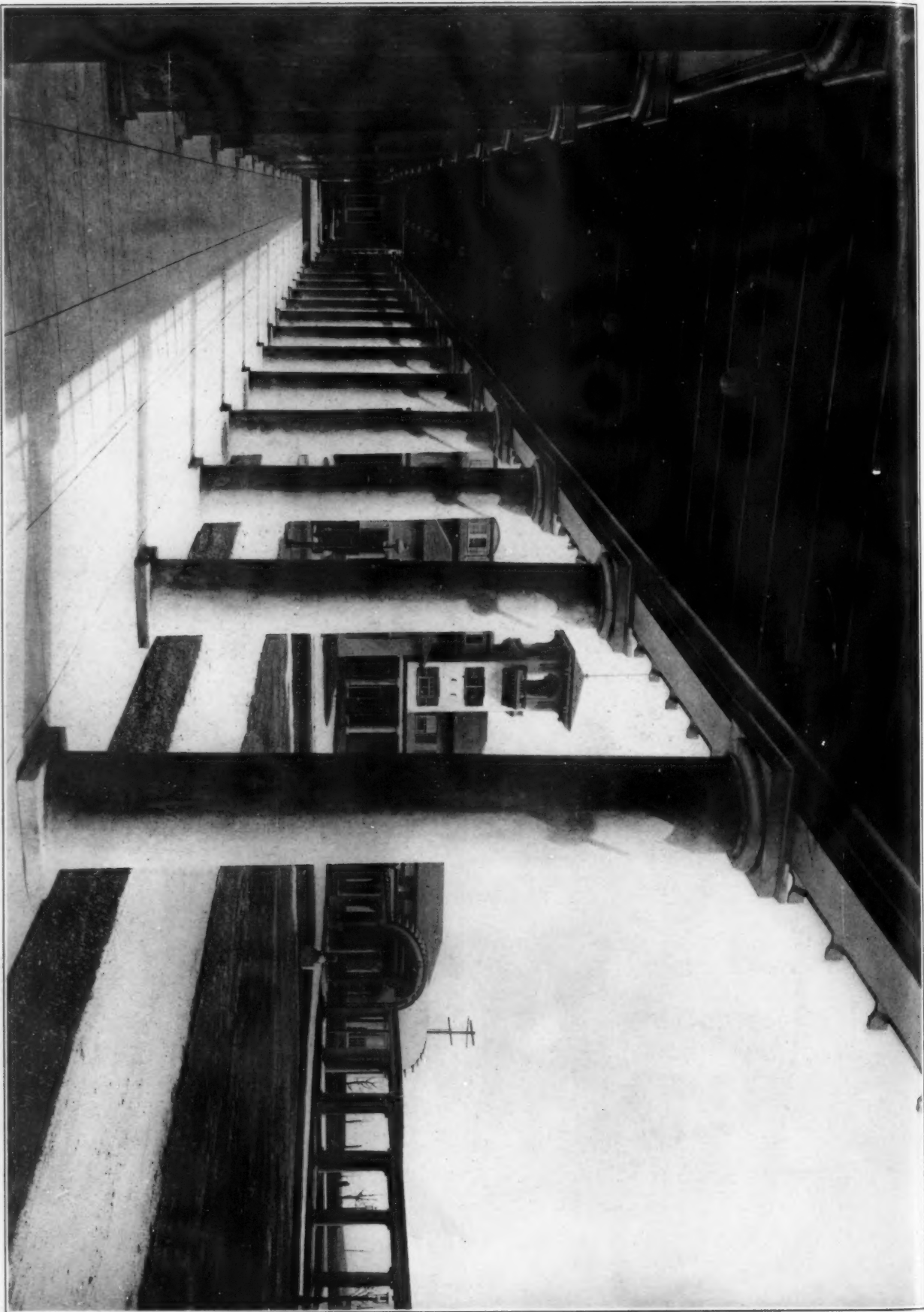
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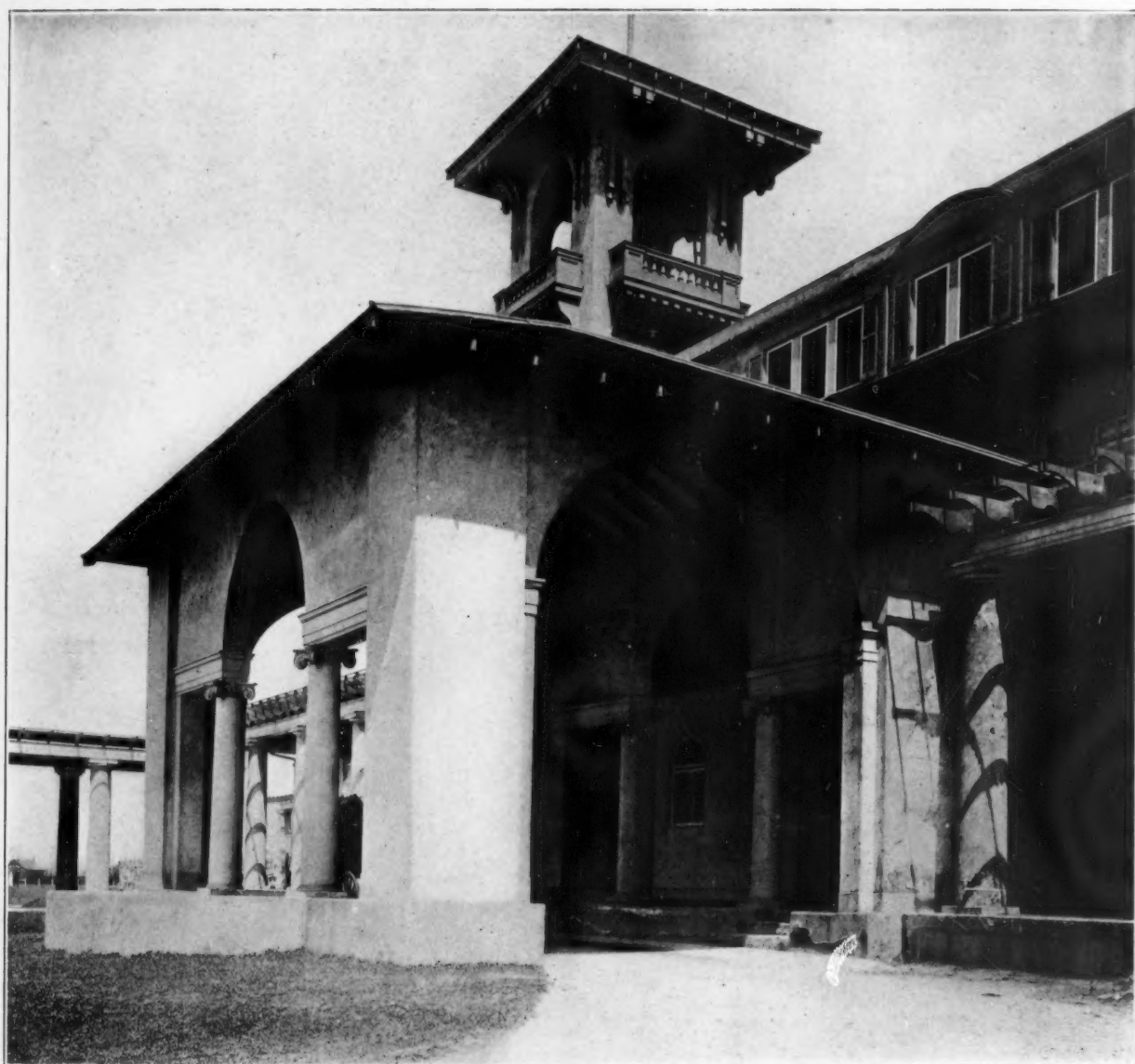
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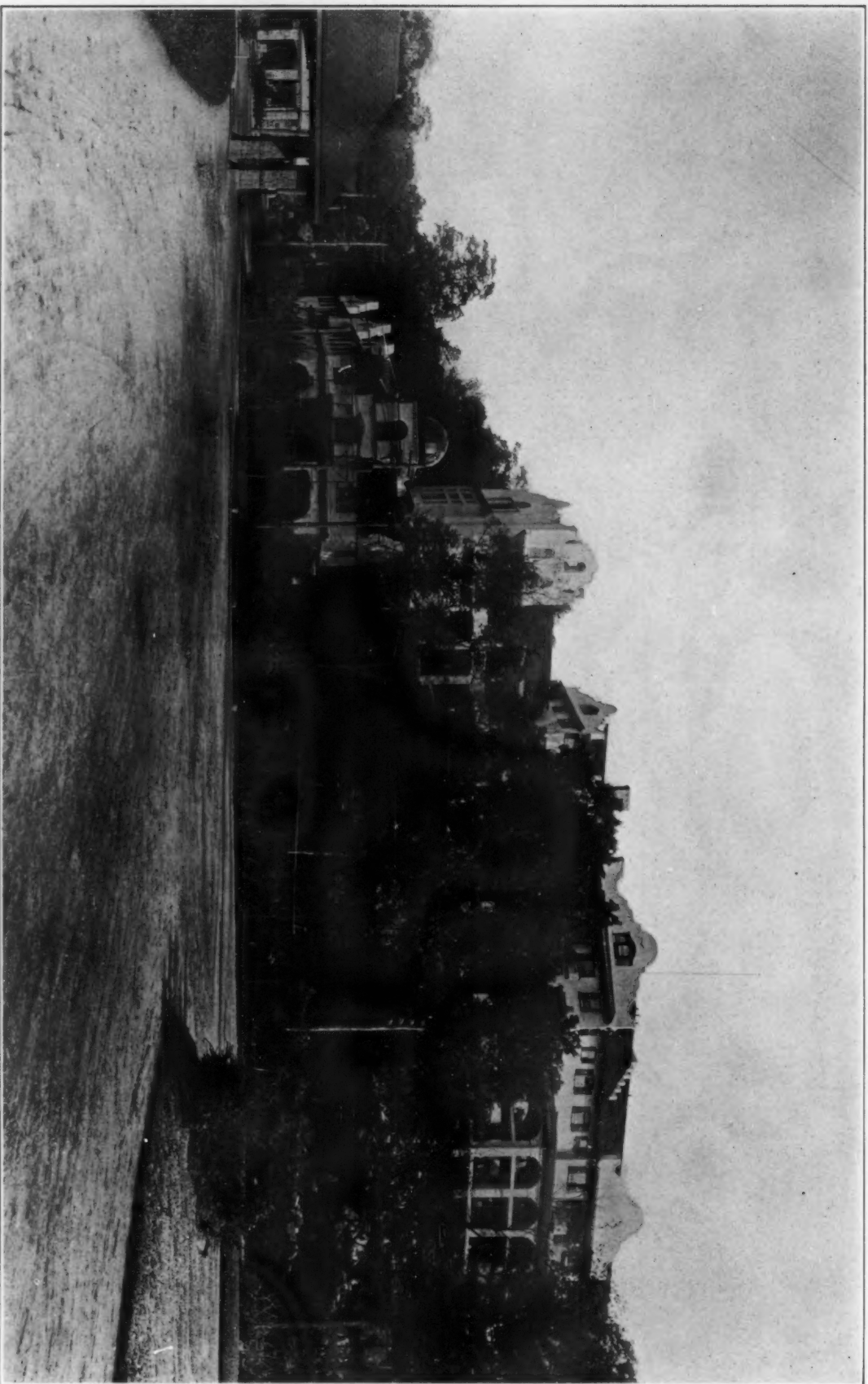
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COTTAGE OF THE MISSES PARBLOTT, COLUMBUS, O.

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HOTEL GRAMATAN, BRONXVILLE, N. Y.

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DETAIL: HOTEL GRAMATAN, BRONXVILLE, N. Y.

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bridges in our country are built either with utter disregard of the laws of expansion and contraction under changing temperatures, or by assuming variations of temperature to suit the requirements of a cheap arch. It has, for instance, been proposed, in all seriousness, to limit in designing reinforced-concrete arches, the extremes of temperature to 26 degrees above and below the temperature at which the arch is supposed to be built! To my knowledge, this is the only recorded instance in the history of civil engineering in which, instead of building the works according to the laws of nature, an attempt is made to adjust the laws of nature to the work of man.

Let reinforced-concrete work stand on its merits, not on the claim of greater cheapness alone; it can well afford it.

Darwin, somewhere, lays down the law that erroneous opinions are comparatively harmless, because they produce at once in the minds of the listeners a healthy spirit of opposition and criticism, but that it is of the utmost importance that facts are recorded correctly. Well, the facts I have stated are correct; if you think some of the deductions drawn from them are erroneous, the harm, on the quoted high authority, is not very great.

FINAL REPORT ON THE SAN FRANCISCO DISASTER.—

III.

DISCUSSION

EDWIN DURYEA, JR., M. Am. Soc. C. E. [by letter].—The writer wishes to call attention to one of the conclusions of the Committee on Fire and Earthquake Damage to Buildings which he believes to be too severe to be warranted by the facts. He recognizes that the members of this committee had more opportunities to judge of the effects of the earthquake on buildings than he had, but, notwithstanding this, he has incidentally seen a sufficient number of instances of ordinary brick buildings which were not seriously damaged by the earthquake to make the very severe conclusions of the committee as to such buildings seem to be unjustifiable.

The particular statements to which exception is taken are the following:

The building with stone, brick or block construction, having horizontal mortar joints, does not answer the requirement (elasticity) at all. It may be stated, as one of the most obvious lessons of the earthquake, that brick walls, or walls of brick faced with stone, when without an interior frame of steel, are hopelessly inadequate. As a method of building in earthquake countries, such types are completely discredited.

And again:

The writers simply reiterate the statement that, speaking generally, buildings of brick walls and wooden interiors cannot be built which will not be wrecked in a severe shock, it being a fault of design and not of materials or workmanship.

This conclusion is so severe that, if it were true, it would entirely exclude the safe use of ordinary brick buildings, for any purpose, on the San Francisco peninsula. It would seem that even the few instances of brick buildings which have withstood the earthquake with little or no damage would make such a conclusion unjustifiable. The writer has taken no pains to find such examples, but believes that he has seen a number of brick buildings which, while including no steel in their framework, have passed through the earthquake with very little damage. As specific instances, he would mention the brick church on the south side of Geary Street between Gough and Octavia Streets, the stone church on the southwest corner of Geary and Franklin Streets, and the brick cathedral on the northwest corner of Van Ness Avenue and O'Farrell Street. The cathedral does not appear to have been injured at all, the stone church only by the fall of its spire, and the brick church by only slight damage to its spire. The writer has no exact knowledge as to the framework construction of these churches, but, from their appearance, it is very improbable that any steel framework was used. It would seem that church buildings, with their open interiors and large roof spans, would be especially subject to injury from earthquakes.

On the morning after the earthquake, and before the fire had reached them, the writer twice passed by a number of brick warehouses on the north side of the Southern Pacific Railroad, between Fourth and Sixth Streets, and took a little time to examine them. They were of the commonest class of brick warehouse structures, neither design nor construction showing

any special care, yet they had sustained relatively little damage; they also had the disadvantage of being built on extremely poor foundations, their settlement during the earthquake, with respect to the railroad right-of-way, just south of them, being about 2 feet. These warehouses were afterward entirely ruined by the fire.

It seems that, judged even by statements in the body of the report, the conclusion quoted is hardly warranted. In regard to damage to ordinary brick buildings, the committee says:

It must be recognized that buildings of this type were general throughout the region of the shock. The damage ranged from slight cracks to 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, four stories high, was injured little, if any. At Palo Alto, two such structures, two stories high, probably not very well built, were completely wrecked, the blocks being broken and disintegrated.

After such a statement as this—that some brick buildings were but little damaged by the earthquake—and in view of the instances known specifically to the writer where ordinary brick buildings suffered but little damage, it seems that the very severe conclusion of the committee is unwarranted; and that, recognizing the influence of good or bad foundations and of good or bad design, or material, some conclusion less unfavorable to this type of building would have been more just and more nearly in agreement with the facts. It is undeniable, of course, that such buildings are far from being as resistant against earthquake shocks as buildings of Type 3; the latter, however, are frequently entirely beyond reach because of their great cost; and the writer believes that the ordinary brick building, though generally inadvisable where financial considerations will permit of a better one, has shown, by numerous instances, that it may often pass through an earthquake practically unharmed, and, therefore, should not have such unqualified condemnation as that given by the Committee on Buildings.

FRANKLIN RIFFLE, M. Am. Soc. C. E. [by letter].—The writer fully agrees with the Committee on Fire and Earthquake Damage to Buildings that both wood and steel-frame structures are admirably adapted to withstand earthquake shocks, but he is not prepared to endorse the unqualified condemnation of a type of construction which, after making due allowance for numerous instances of inadequate foundations and poor workmanship, has proved itself capable of much greater resistance to shocks than the committee apparently is willing to concede.

The process of reasoning whereby the committee arrived at its conclusions regarding brick buildings appears to be about as follows: An earthquake sets up, in a structure, a swaying motion, the tendency of which is to distort the frame; if sufficiently elastic, as is the case with wood, steel, and reinforced-concrete construction, the structure returns to its original form after distortion; if not elastic, as in the case of stone, brick, or block construction having horizontal mortar joints, the structure is ruptured or wrecked. The latter type is then summarily dismissed with the phrases "completely discredited" and "hopelessly inadequate." It is true that the committee cited a few examples of the failure of brick buildings, to give practical support to its theoretical deduction; but, leaving theory entirely out of the question, the citation of a few examples, coupled with the information that "the damage ranged from minor cracks in brickwork to the complete destruction of large buildings," does not seem to justify the following sweeping conclusions:

... as one of the most obvious lessons of the earthquake, that brick walls, or walls of brick faced with stone, when without an interior frame of steel, are hopelessly inadequate. As a method of building in earthquake countries, such types are completely discredited.

... speaking generally, buildings of brick walls and wooden interiors cannot be built which will not be wrecked in a severe shock, it being a fault of design and not of materials or workmanship.

It is the opinion of the writer that the one great lesson taught by the earthquake is not the inadequacy of any one of the well-known types of building construction, but the necessity of adhering more rigidly, in all types, to the fundamental principles of good design, good materials and good workmanship. It is safe to say that a careful investigation of all the building failures which resulted from the earthquake, would, in most cases, bring to light serious infractions of the commonly accepted rules for safe construction, which would account for much that the committee would attribute to inadequate design or type.

During the first day of the fire the writer spent several hours in the district in which brick buildings were the prevailing

¹A report on the San Francisco Disaster by the American Society of Civil Engineers. Published in the "Proceedings" of that Society and here continued from page 150, No. 1634.

type, and made note of the fact that most of these were in good condition before the flames gutted their wooden interiors and reduced their walls to ruins.

If the committee had included in its investigations the brick buildings in the Potrero and Mission Districts of San Francisco, which escaped the fire, it is doubtful if it would have condemned this type of construction in its otherwise excellent report. Almost without an exception these buildings either were not damaged at all, or were damaged so slightly that the cost of repairs was trivial; and this applies to some buildings which had not been constructed in the substantial manner which engineers and architects would consider essential, even under usual conditions.

A brief description of a brick warehouse in the Potrero District, which came through the earthquake almost without a crack to bear witness to the severity of the shock, will show conclusively that it is not impossible or even difficult to construct a brick building with a wooden interior "which will not be wrecked in a severe shock."

The building is on the east side of Kansas Street, between Fifteenth and Sixteenth Streets, has a frontage of 100 feet, a depth of 200 feet, and is four stories high. The site is a portion of a tract of marshy tide land, which was formerly used as a dumping ground for the city's garbage. To secure a satisfactory foundation for the walls and columns, piles were driven and cut off below the water level, or about 10 feet below the level of the street. The foundation walls were built of concrete reinforced by twisted steel bars, while, above the street level, the walls were constructed of common brick with cement mortar joints. The side walls contain no openings, but both the front and rear walls are generously provided with large windows on each of the ground floors, in addition to six wide-arched doorways on the ground floor—three at each end.

The floor systems consist of wooden beams and joists supported by heavy wooden columns. A brick partition-wall divides the building into two equal parts, each 100 feet square. At the intersection of the partition-wall with the north side wall, a portion of each of the two intersecting walls was carried to a height of about 20 feet above the roof. These walls formed a support for a water-tank about 15 feet high and 12 feet in diameter, which was full of water at the time of the earthquake. Both the building and the tank withstood the shock (or series of shocks) without sustaining any damage whatever. There was nothing unusual about the methods used by the architect. The work was done by contract under the personal supervision of an inspector acting under the architect's instructions. The results obtained naturally followed the careful observance of the commonly-accepted standards of good building practice. During the past year the owner of this building has constructed two similar buildings in the same block. In the light of their experience, who will say that the owner and architect were not fully justified in adhering to a type of construction which the committee has so mercilessly condemned as being "hopelessly inadequate"?

On Rhode Island Street, less than one block from the building already described, is a two-story brick warehouse which was built, many years ago, on a foundation of solid rock. Although, for a period of several years, it has presented a somewhat dilapidated appearance from the fact that much of the mortar had disappeared from the joints, the walls were practically undisturbed by the earthquake.

On the opposite side of the street is a five-story brick building occupied by the National Ice Company. Owing to the unusual height of the stories, the building is about as high as a nine or ten story modern office-building, but it was so well constructed throughout that it suffered no damage whatever.

Two blocks farther north, on Eighth Street, is another five-story brick building which was built many years ago, and, for a long time, was used as a sugar refinery; of late years, it has been used as a syrup factory. The floors and their supporting columns are of wood construction. At the time of the earthquake the top floor was heavily loaded with tanks of syrup. The building suffered practically no damage. This is certainly a remarkable showing, taking into consideration the character of the foundation, which is reliably reported to have sunk several feet during the erection of the superstructure. The walls were well tied together by iron rods, which largely compensated for the instability of the foundation.

Going west from the Potrero through the Mission District, one may see the following brick structures, the walls of which were uninjured: The Lick School building, and the Forrester cornice works, on Sixteenth Street; the Bryant Street Power House, of the United Railroads, and its two tall chimneys; the Union Brewery and Malting Company's tall building, on Nineteenth Street; the Mission High School building on Eighteenth Street; the Spring Valley Water Company's pumping-station and its chimney on Seventeenth Street; the tall brick chimney of the brick plant on West Sixteenth Street; other structures of more or less importance could be included in this list. It is true that the number of brick buildings in this district forms an exceedingly small proportion of the total number of buildings—which are chiefly frame—but surely evidence of this character is entitled to the same consideration as that mentioned by the committee in discussing the behavior of the limited number of steel-frame buildings in the city, which were constructed with far greater care than the brick buildings just mentioned.

A brick building on Beale Street near Market, owned and occupied by a wholesale hardware company (Dunham, Carrigan & Hayden Company), was constructed upon what the architects termed a "floating" foundation, which consisted of an independent grillage of heavy timbers for each of the four walls. The floors were supported by cast-iron columns. With the exception of a few bricks which were dislodged by the shifting of the heavy cornice stones, the foundation and walls were uninjured by the earthquake, although the latter were reduced to ruins by the fire. The foundation is still intact, and will be used for another building.

The writer has not overlooked the fact that not a few brick buildings were partially—and some wholly—wrecked by the earthquake, but it is generally conceded that most of these were so flimsily constructed that their failure was plainly due to poor materials, poor workmanship, or a combination of the two.

The City Hall is a case in point. To many, its wreckage was no surprise, since it had long been regarded as a notorious example of vicious construction. The massive columns, which were a prominent feature of the building, consisted of cast-iron, shells presumably filled with good concrete. The earthquake, however, developed the fact that loose sand, brickbats, and building refuse generally, had been largely substituted for concrete. The walls were constructed with an equal disregard for honesty and good practice.

In several other instances of partially wrecked brick buildings known to the writer, the cause of failure was clearly due to inadequate foundations. Two of these had been constructed on "made" ground, while another had been built partly in excavation and partly on embankment; in fact, poor foundations were responsible for many failures of buildings of this class. Had all the brick buildings of San Francisco been erected on as substantial foundations as those prepared for the steel-frame buildings mentioned by the committee, and had they been given equally rigid inspection during their construction, it is not too much to say that the percentage of failures would have been very small indeed. On the other hand, had the steel-frame buildings been erected on inadequate foundations, there would have been a large percentage of failures recorded against this type of construction.

The writer is decidedly of the opinion that a careful, unbiased inquiry into all the facts pertaining to the behavior of brick buildings at the time of the earthquake, together with the facts regarding their construction, would not only show that, to a great extent, the conclusions contained in the reports were based on insufficient evidence and erroneous deductions, but would lead to a modification, if not a complete reversal, of the committee's findings.

EMILE G. PERROT, ASSOC. M. AM. SOC. C. E. [by letter].—The report of the Committee on Fire and Earthquake Damage to Buildings, while very comprehensive, is lacking in some details as to the exact nature of the materials used in construction, a knowledge of which would throw more light on the subject. Some of these details, which the writer feels would be of much benefit to those interested, are the following:

Under the head of masonry walls: What was the character of the brick; how were the walls bonded; what was the composition of the mortar (lime or cement); and what was the thickness of the walls, compared with the standards of the New York or Philadelphia Building Bureaus?

Under the head of reinforced-concrete: What proportions were used in the concrete; what kind of stone was used in the aggregate; and how many inches of concrete protected the rods on the bottom and sides of beams, girders and slabs?

All these facts are of vital importance when comparing results. In most cases it is not possible to determine these details from an inspection of the work, but it might be possible to obtain records, such as specifications of the work (if they have not been burnt), which would give this information.

The committee states that the quality of the workmanship had an important bearing on the results; that at Stanford University, where brick walls were veneered with stone, "there was a separation of the ashlar facing from the brick backing," while the buildings with full stone walls were but slightly injured. This would seem to indicate a much lower standard of workmanship in the former than in the latter case, for it is certainly not a difficult matter to bond an ashlar face to a brick backing. Further, it would lead one to believe that the standard of workmanship on the Pacific Coast was not as high as in the East, especially as the buildings of Stanford University were supposed to be of the best; what then could be expected of those buildings for which the cost had to be more carefully considered?

The question is sometimes asked: What would happen to New York, if an earthquake occurred there? The writer does not think that a calamity, such as befell San Francisco, could befall any of the large Eastern cities, as the buildings are much better constructed in every respect.

Under the head of fireproofing, the committee considers solid concrete—it does not say in what proportions—at least 4 inches thick, with a mesh of reinforcement, equal to red brick set in Portland-cement mortar. It also states "that all structural parts of a building, of whatever material constructed, must be protected by another material which will be a more or less complete loss in fire," and refers to reinforced-concrete as coming under this head. The writer cannot see the force of this argument. Since it is agreed that reinforced-concrete is a good fireproofing material, why not make the integral structural part larger in the first place, and do away with the veneer or covering, as it adds nothing to the strength of the member, while an additional thickness of concrete, being homogeneous with the structural part, gives it increased strength; so that, prior to any fire, the building has a greater factor-of-safety, and, in the event of a fire, the portions of the exterior surfaces of the concrete rendered worthless can be removed, and the parts resurfaced? The writer has seen this done with concrete damaged by frost to a depth of from 2 to 4 inches.

To illustrate the point: If it were calculated that a 10 by 10-inch reinforced-concrete column would be required to support a certain floor load, and if 3 inches of concrete were added all around for fireproofing, making a 16 by 16-inch column, this column would not occupy any more floor space than a 10 by 10-inch reinforced-concrete column, fireproofed with 3 inches of metal-lath and plaster or terra-cotta, while there would be two and one-half times more concrete, and, consequently, two and one-half times more strength in the former column than in the core of the latter, as the plaster or terra-cotta veneer would add very little to the strength.

With regard to reinforced-concrete buildings offering the solution to the problem of resisting earthquake shocks, the committee seems to think that, as now designed, they are weak; this may be so, but it must not be forgotten that, in the East, very many large and important buildings have been built, and are being built, in which much thought has been given to just such points as those to which the committee would call attention.

LUTHER WAGONER, M. AM. SOC. C. E. [by letter].—The breaks in tall chimneys, as far as observed by the writer, were in the middle third; the smaller chimneys, upon residences, were usually broken at the roof line, many being twisted and broken through a number of courses. One chimney, upon a brick wall, 18 by 32 inches, and 7 feet above the wall, was broken through eight horizontal courses, its top being rotated about 30° from its original position. From a careful inspection, both before and after the fire, the writer believes that most of the failures were due to lack of bond, and that the addition of a very moderate compression by the use of one or more pairs of rods, reaching preferably from base to top, and provided with turnbuckles to maintain tension upon the rods, would reduce chimney acci-

dents to a very low percentage. The same remarks apply to walls, gables and cornices.

The writer concurs with the conclusion reached by the Committee on Fire and Earthquake Damage to Buildings that, "the prime requisite of the structure is elasticity," and, for this reason, advocates the use of moderate compression by long rods, where possible, as a proper precaution in earthquake countries. Such rods could be adjusted to maintain an elastic compression upon the top courses, and would aid in checking, and possibly wholly prevent, rotation as well as overturning.

Concerning the committee's conclusions as to fire-damages, the writer draws different ones from the same premises. He watched the burning of many of the buildings supposed to be fireproof, and believes it is safe to say that little damage was done to the external trim by fires from adjoining buildings, but that the greater portion of such damage was due to flames issuing from the window and door openings of such fireproof buildings. That this is a proper conclusion is evident from the fact that the greatest damage was at such openings, and that practically no damage occurred between the openings.

The only logical inference that can be drawn from the carefully-compiled data of the committee, as far as concerns the spread of a fire or the arrest of its progress during a general conflagration, is that a solid fire-wall is required to check the flame.

All these high-class buildings had large window-areas—common glass in wooden sashes and frames—wooden floors and doors, and much wooden furniture, and had no more resistance to exterior fire than ordinary brick or wooden buildings.

The chief lesson to be learned from this is that such openings should have better protection.

The report of the Special Committee of the National Fire Protection Association, on the Baltimore fire, 1904, page 123, states:

The general absence of protection at exposed wall openings is responsible for the spread of this conflagration more than any other cause. In fact, this condition may be safely stated to have been the cause for the spread of this fire beyond Fire Department control.

Again, page 124:

The contents of a fire-resistive building, without proper subdivision and no adequate protection against exposing fires, are scarcely any safer as regards destruction by fire than if contained in a building of ordinary construction.

So true and generally applicable are the foregoing quotations that they deserve to be framed and hung in the office of owner, designer and architect. Indeed, all the conclusions of the above-named committee on the Baltimore fire, pages 118 to 124, could also be deduced from the San Francisco fire.

It was stated at a meeting of the Structural Association of San Francisco, that any building had about 60 per cent. of chance of fire from an exterior attack. This was said to be due to the fact that it usually had the four sides and top as exposures, as against an interior attack; but, in a general conflagration, the attack is entirely an exterior one, hence the greater necessity of proper guards for all exterior openings and roofs.

THE ALHAMBRA.

THE Moors did not enjoy the completed palace for more than two centuries. After the surrender to Ferdinand and Isabella an effort was made on a wholesale scale to deprive the Alhambra of whatever was essential to its beauty, but which was supposed to be dangerous to all who looked upon the symbols and ornament. Charles V., when his turn came to reside in it, endeavored to impart a Flemish character to the halls. At a subsequent time the Alhambra was utilized as a hospital and a convict settlement. All the inmates and their hangers-on knew that they could damage the building to any extent which was profitable. Fortunately the Spaniards were afraid of the consequences of possessing Moorish spells in their houses, and curiosity-hunters were too cowardly to journey to Granada. There is some satisfaction in remembering that an Irish refugee, Richard Wall, in the eighteenth century used his power to prevent further injury.

His preservation was only temporary. The old indifference was soon tolerated. Governor after governor was allowed to do as his whims dictated, and it might be imagined that an official wreaked vengeance on the Alhambra as if it were the cause

of his exile in such quarters. Even when the French invaded Spain and the buildings were seized, it was only by chance they were not all blown up when evacuation became a necessity. French writers endeavor to excuse the misdeeds of their countrymen by ascribing them to the fatal necessities of war, but nobody outside France is convinced. According to Washington Irving, modern travelers are indebted to a couple of women who served as caretakers, and were worthy of the title, for the retention of the Moorish characteristics which the Alhambra still presents. After the women's departure the buildings were used to confine galley-slaves, and gangs of them were kept at work in loosing the tiles of the walls and throwing them over the battlements. The original wealth of the palace must have been astonishing to allow depredations during so many centuries, and justified the poets who described it by comparing it to some living being of unparalleled beauty. As one of the inscriptions stated: "Every art has gifted me with its elegance, splendor and perfection. Those who behold me take me for a female. Indeed, when the spectator has attentively admired my beauty, he will find reality to exceed the most extravagant conceptions of his fancy. He will see the full moon beam forth from the rays of my light, and its halo leave me to enter the mansions of the sky."

The visitor who now sees the Alhambra will require to exercise his imagination before he can accept the Moorish poet's words as applicable. Long years of unbridled vandalism have shown their force in all directions. After seven centuries the brickwork, where seen, is not comparable in color with that of England which may be a century or two old. Moreover, the Moorish prince, like the majority of Easterns, did not erect a residence which would amaze spectators by its external appearance: whether small or large, a mansion was intended for the owner's own delight, and he thought only of the embellishment of the interior. That principle has been observed in the Alhambra.—*The Architect*.

ILLUSTRATIONS

THE HOTEL GRAMATAN, BRONXVILLE, N. Y. MESSRS. W. A. BATES AND A. E. BARLOW, ASSOCIATE ARCHITECTS, NEW YORK, N. Y.: TWO PLATES.

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TOMBS: PLATES 57-64.

NOTES AND CLIPPINGS

THE PALACE OF THE KING OF ROME.—It consoles the thrifty spirit of Frenchmen and atones for much official extravagance when they learn that the new Cour des Comptes consists of masonry which was prepared nearly a century ago. The large building, of which M. Moyaux is the architect, is erected with stones which were intended for the palace of the King of Rome, the son of Napoleon I. As the child was born in 1811 and the Empire came to an end in 1815, it seemed to be somewhat precipitate to make provision for a palace which he was not likely to use for several years. But Napoleon was desirous to convince Frenchmen of the duration of his dynasty. Accordingly a site was selected, where the Trocadéro now stands, and Percier and Fontaine were commissioned to prepare plans of the palace, which still exist. A start was made in cutting stone, but the downfall of the Emperor prevented the realization of the project.—*The Architect*.

CEMENT TELEGRAPH POLES.—Telegraph poles made of cement, with an iron rod through the centre to insure against breakage, are the latest novelties in railway and telegraphic construction. Officers of the telegraph and operating departments of the Pennsylvania lines and of the Western Union Telegraph Company the other day inspected poles made of this material in a test yard at Rochester, Penn. Manufacturing these poles will form a new industry for the Pittsburg district.—*Exchange*.

MICHIGAN VERD-ANTIQUÉ MARBLE.—Organized for the purpose of quarrying verd-antique marble from the beds of that mineral lying in the serpentine group six miles from the north of Ishpeming, the Michigan Marble Company has been launched by Detroit men, and will shortly file articles of incorporation with the Secretary of State. The particular deposit it is proposed to quarry was located many years ago by the late Julian M. Case, who spent a fortune in exploiting it. Only a small amount of the stone had been taken from the quarry and it had been utilized solely for exhibition purposes. There is sufficient of the marble to keep the company busy mining it for decades to come; it has been tested to a depth of 750 feet, at which point it was found of even better quality than at the surface. It is a matter of official record that the verd-antique of western Marquette County is about the finest found anywhere on earth. This mineral, which is a dolomite, is mined to a limited extent in Tennessee, and has also been found in Georgia, but practically the entire world's supply comes from Italy, where quarries have been worked for centuries and are still productive. The stone is worth from \$4 to \$8 per cubic foot, in finished form, and is most largely used in the interior work of costly buildings. The verd-antique of the beds north of Ishpeming is of a beautiful green shade with red and white and stripes of a still deeper green running through it. It is susceptible of a far higher degree of polish than ordinary marble. The stone is compact and can be quarried in large pieces, at comparatively small cost. Samples on exhibition at the Chicago World's Fair in 1893 attracted much attention from mineralogists because of the beauty and durability of the stone.—*Exchange*.

RECENT "FINDS" IN ITALY.—Recent excavations at Pæstum have brought to light a magnificent roadway twenty-five feet wide and flanked by sidewalks. The pavement is of large stone blocks that show deep ruts worn by the wheels of heavy chariots. A beautiful Doric temple to Neptune, a very ancient specimen of Greek art, has been uncovered for a distance of 120 feet. Also the excavations now being carried on at Palatine Hill resulted, May 8, in the discovery of the ruins of a church of the fifth century. This building was originally a private chapel used by the first Christian Emperors of Rome. After moving to Constantinople the Emperors continued to send sacred images to the chapel. The church was dedicated to St. Cesario. Two Popes—Sergius I. and Eugene III.—were elected in the building.—*Exchange*.

SERENDIPITY.—That queer old word "serendipitous" has turned up again. In a recent essay, Mr. J. F. Lucas, speaking of a prominent London journalist, says: "The eager serendipitous spirit which marks his perustrations among topics of the day constitutes one of the permanent attractions of the English press." It might trouble most people to define off-hand the word "serendipitous" and tell its origin. "Serendipity" was coined by Horace Walpole, who applied it to his faculty of making "finds" of an artistic kind; it is "the gift of discovering by a combination of accident and sagacity something that one is not deliberately looking for." There was a prince of Serendip or Sarendip, who discovered the blindness in one eye and the poor teeth of a camel from the state of the grass which it had nibbled. Some years ago there was a "serendipity shop" in London where old books, pictures and bric-à-brac were exposed for sale.—*Boston Transcript*.

PHENIX PARK, DUBLIN.—Originally the Phoenix Park was seven miles in circumference, and contained 1,759 acres. Through the liberality of Lord Ardilaun and Lord Iveagh, sons of the restorer of St. Patrick's Cathedral, and the foresight of the British Government Department of Woods and Forests, the area has been considerably extended in recent years. By the purchase of pieces of land from different proprietors, it became possible to bring the River Liffey wholly within the park boundary for a distance of several miles. Although the name had been evolved from the word "Finniske," a spring of clear water, Lord Chesterfield, when Viceroy, took it upon himself to permanently identify it with the fabled bird of Arabia, that after living single for 500 years, is consumed by fire and rises again from its own ashes. Lord Chesterfield accomplished his purpose by setting up in view of the Vice-Regal Lodge, a fluted Corinthian pillar of dignified height, from the top of which a phoenix is represented in the act of rising from the flames.—*Exchange*.

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PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 16, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 15th day of June, 1907, and then opened, for the construction of new coal bunkers, etc., at the U. S. Mint in Philadelphia, Pennsylvania, in accordance with the drawings and specifications, copies of which may be had at this office or at the office of the Custodian at Philadelphia, Pa., at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1639-1640)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 25, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 2d day of July, 1907, and then opened, for the construction of an extension, remodeling, etc. (including plumbing, gas piping, heating apparatus, electric conduits and wiring), of the U. S. Court House and Post Office at San Antonio, Texas, in accordance with drawings and specifications, copies of which may be had at this office or at the office of the Custodian at San Antonio, Texas, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1640-1641)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 23, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 14th day of June, 1907, and then opened, for an electric passenger elevator in the enlargement U. S. Court House, Post Office, etc., at Macon, Georgia, in accordance with drawing and the specification, copies of which may be obtained at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1640-1641)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 22, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 1st day of July, 1907, and then opened, for the

construction (complete), including heating apparatus, plumbing, gas piping, electric conduits and wiring, of the U. S. Post Office at Ithaca, New York, in accordance with the drawings and specifications, copies of which may be had at this office or at the office of the Postmaster at Ithaca, New York, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1640-1641)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 27, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 8th day of July, 1907, and then opened, for the construction of an extension, remodeling, etc. (including plumbing, gas piping, heating apparatus, electric conduits and wiring), of the U. S. Post Office and Court House at Fort Worth, Texas, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Custodian at Fort Worth, Texas, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1640-1641)

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LOS ANGELES, CAL.—Plans are being prepared by Architect A. L. Haley, 3 Bryson Block, for the apartment hotel, to be 87x128 feet, at the corner of Ninth Street and Burlington Avenue, for J. L. Murphy. Cost, \$75,000.

Reports state that the directors of the Consolidated Realty Company, H. W. Hill-

man Building, have recently selected Harrison Albright, 1201 West Thirty-seventh Street, Los Angeles, as the architect for the reinforced-concrete building to be erected at the corner of Sixth and Hill Streets. It will cost over \$400,000 and will be built as soon as the details of construction can be arranged. The structure will be ten

stories high above the basement, or 120 feet high above the sidewalk, with a frontage on Hill Street of 150 feet and on Sixth Street of 126 feet. The footings, columns, girders, beams, floors, roofs and stairs, exterior and interior walls will be constructed of reinforced-concrete. The floors of the entrance lobby, corridors and toilet



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rooms will be mosaic tile. The floors of the offices will be of cement, with fastenings for rugs and carpets. The interior doors, trim, etc., will be mahogany finished birch. The walls and ceilings throughout the building will be decorated. There will be four high-speed plunger passenger elevators, which will give service from the basement to the tenth floor.

Architects Morgan & Walls, 232 North Main Street, have prepared plans for the seven-story building at Seventh Street and St. Vincent Place, to cost about \$150,000.

The Southern Pacific Company is reported to be considering the question of

erecting a \$700,000 station in Los Angeles. It will be 700 feet long. R. H. Ingram is General Superintendent Southern District.

Architect Charles F. Whittlesey has completed plans for the Forrester Building, to be erected on the east side of Broadway, between Sixth and Seventh Streets. The owners are E. A. Forrester and Frank L. Forrester. The building, which will be of reinforced-concrete, will occupy ground space measuring 56x155 feet and will be eight stories in height. It will cost about \$150,000. The building will be heated by steam, will be fireproof and have hollow metal window frames and sash and wire

glass, marble wainscoted lobby and marble stairs, faced with matte-glaze terra-cotta of Gothic design.

LOUISVILLE, KY.—The directors of the Louisville Gas Company will erect a new office-building on Chestnut Street, between Third and Fourth Streets. Estimated cost, \$75,000.

MARIETTA, O.—It is reported that Mills & Pruitt, of Columbus, have completed plans for an eight-story business building to be erected for the German National Bank.

MILWAUKEE, WIS.—The contract to erect the Majestic Theatre, it is stated, has been

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awarded to John Griffiths & Sons, of Chicago, Ill., at about \$1,500,000.

Reports state that Buemming & Dick, architects, Jackson Street, have prepared plans for the \$100,000 institute building for St. John's Catholic parish, and specifications will be ready for bids in about a month.

Plans for a \$1,500,000 court-house on site of the present one, 160x242 feet, and having four stories and basement, have been submitted to a joint committee of the County Board by H. C. Koch, Wells Building.

Bids for the erection of the \$500,000 auditorium for the city of Milwaukee will be called for not later than July 1, 1907. Architects Ferry & Clas are completing working plans, after Auditorium Board decided on minor changes in interior and exterior. Most likely separate bids will be asked for iron work, masonry, plumbing, heating, painting, plastering, fixtures, etc.

Architect Louis Lehle is drawing plans for a stock house to be erected at Milwaukee, Wis., for the Val Blatz Brewing Company, of that town. Estimated cost, \$200,000.

Reports state that plans for the erection of a \$250,000 foundry for the Manufacturers' Foundry Company, a new corporation recently organized by eastern capitalists and several Milwaukee business men, are being prepared by Architect A. C. Eschweiler.

MISSOULA, MONT.—It is said that the county will vote, June 1, on \$175,000 for erecting a court-house.

MONTCLAIR, N. J.—The Board of School Estimates recently adopted a motion recommending the appropriation of \$175,000 for building a central grammar school. Plans for this building were prepared, but exceeded this amount. New plans will have to be prepared so as to bring the cost within the amount appropriated.

MONTGOMERY, ALA.—It is stated that a Methodist Woman's College is to be established here. This city has given \$50,000 toward the project and the Methodists are to appropriate \$100,000 more.

MOOSEJAW, SASK.—Plans are being prepared in Montreal for hotel to be erected here for the Canadian Pacific Railway Company at a cost of \$175,000. Hayter Reid is Superintendent of Hotels, Montreal, Que.

MOSCOW, IDAHO.—It is stated that bids will be received until June 11 by the Trustees of the University of Idaho for constructing the superstructure of the administration building at the State University. The building is to be three stories, 90x274 feet, of stone, brick, and fireproof construction.

MOUNDSVILLE, W. VA.—Mound City Bank is having plans prepared for erection of building; site 80x105 feet; three stories; pressed brick or concrete blocks; contain

banking, store and office rooms and theatre; cost \$50,000.

Mt. VERNON, N. Y.—Mrs. Ruth L. Bailey, it is reported, has given \$100,000 to erect a hospital in Mt. Vernon as a memorial to her husband, the late James A. Bailey.

It is stated that competitive plans and specifications will be received until June 3 by Edwin Q. Bienvenu, Clerk Department of Public Instruction, 46 S. Fourth Avenue, for a school including ventilating and heating, gas and electric fixtures; cost not to exceed \$87,000.

MUSCATINE, IA.—At a recent election the residents of Muscatine County, it is said, voted to expend \$150,000 for a new court-house and jail.

NASHVILLE, TENN.—Central Tennessee Hospital for the Insane has approved plans for erection of addition to cost \$60,000. Structure will be four stories high, constructed of brick, and will accommodate 150 patients.

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

NEWBERRY, FLA.—Reports state that John G. White will erect a fireproof building, and desires to correspond with architects.

NEW YORK, N. Y.—No plans have definitely been settled upon or architect selected for the improvement of the southeast corner of Fifth Avenue and Fifty-third Street, a plot 60x125. A twelve-story studio building is to be erected on the site.

Plans have been filed with the Buildings Superintendent for an eleven-story loft



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building, with ground floor stores, to be built for the Six and Eight West Twentieth Street Company, of which Edward Friedman is president, at 8 West Twentieth Street. It will have 50 feet front and 82 feet depth, with a façade of brick, trimmed with terra-cotta and limestone, and will cost \$250,000. Schwartz & Gross, 35 West Twenty-first Street, are architects.

Miss A. E. Ericsson will build a six-story factory, 200x100 feet, on the corner of 136th Street and Willow Avenue, to cost \$120,000. Plans prepared by Architect Hermann Horenburger, 682 East 159th Street.

The New York Central and Hudson River Railroad Company has completed plans for a new passenger station in the Bronx at 149th Street and Park Avenue. When it is completed the road will abandon its Mott Haven station, at Park Avenue and 138th Street. The station will be an L structure, located on the south side of 149th Street and extending from Park Avenue to Spencer Place, with the main façade and waiting room on the Spencer Place side. From the tracks underneath the station it is proposed to run extension platforms to the Mott Avenue subway station, a block and a half to the west. It will require eighteen months to build the station.

Operations will soon be started at the northeast corner of Park Avenue and Eightieth Street, on which the "Nine Hundred and Twenty-Five Park Avenue Company," 27 William Street, will erect a \$600,000 elevator apartment-house, fourteen stories from the plans of Delano & Al-

drich, and Pollard & Steinam, associated. Walter G. Merritt, 27 William Street, is president.

Reports state that a six-story fireproof annex will be erected to the fire headquarters in East Sixty-seventh Street, to cost about \$150,000. Francis T. Lantry, Fire Commissioner.

The Gainsborough Studios, a corporation, 307 Fifth Avenue, will soon begin erecting an eight-story fireproof studios, office and apartment structure, 50x88 feet, at Nos. 222 to 224 West Fifty-ninth Street, to cost in the neighborhood of \$300,000. One building on the site will be demolished. Brick, stone and marble, tar and gravel roof, iron and glass skylights, steam-heating, etc. Charles W. Buckham, 307 Fifth Avenue, is architect. No contracts have yet been awarded.

New York Billiard Table Manufacturing Company has purchased Nos. 121-123 Fourth Avenue, on which to erect a ten-story mercantile structure, on plot 30x90 and irregular. No plans or contracts yet.

We are advised that N. Serracino, 1133 Broadway, is the architect for the Church of the Resurrection to be built at West 151st Street, New York City. Rev. Father Thos. F. Murphy, Rector. Plans about ready to take figures.

NEW ORLEANS, LA.—Press reports state that a new union passenger station and train sheds at New Orleans for the joint use of the Rock Island, Frisco, and Southern Railroads is to be erected at a cost of \$500,000. The station will be of steel super-

structure and will be built of granite, stone and brick.

NORFOLK, VA.—A six-story brick structure to be used for stores and apartment suites is to be erected on the corner of Granby and Courtney Streets, the site being the vacant lot immediately adjacent to the Granby Theatre, for the Real Estate Trust and Insurance Company of Norfolk. Estimated cost, \$150,000.

NORWOOD, O.—Werner & Adkins, 77 Mitchell Building, Cincinnati, have prepared plans for a three-story office building at Main and Sherman Avenues for the Board of the Norwood National Bank. Estimated cost, \$55,000.

NORTH YAKIMA, WASH.—It is said that the Masonic Temple Association proposes to erect a \$100,000 building.

OGDEN, UTAH.—Bids are asked by James Knox Taylor, Supervising Architect, Washington, D. C., until 3 P.M., June 24, for the construction (except heating apparatus and conduit and wiring), of an extension to the U. S. Post-Office and Court-House Building at Ogden.

OKLAHOMA CITY, O. T.—Robert Galbreath, of Tulsa, I. T., and others have purchased site at \$102,500 on which to erect eight-story steel and concrete office building 150x140 feet. It is estimated that cost will be between \$250,000 and \$300,000.

OLYMPIA, WASH.—It is reported that nearly \$2,000,000 was appropriated by the State Legislature for new buildings and improvements to the State institutions.

PHILADELPHIA, PA.—Plans have been prepared for a parish house for St. Luke's

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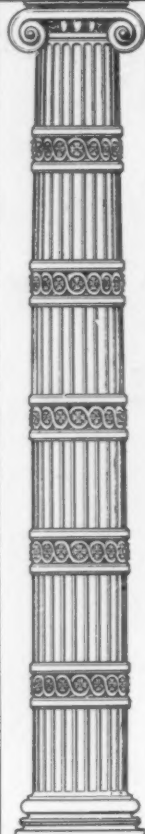
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Seattle, Wash.—Railroad Way and Occidental Ave.
Philadelphia, Pa.—220 South Fifth St.
Louisville, Ky.—111-121 West Main St.

Indianapolis, Ind.—16-18 South Capitol Ave.
Omaha, Neb.—1218 Farnam St.
Denver, Colo.—1621-1639 Seventeenth St.
Richmond, Va.—Cor. Ninth and Cary Sts.
Waco, Texas—709-711 Austin Ave.
Syracuse, N. Y.—212-214 South Clinton St.
Boston, Mass.—110 Federal St.
Buffalo, N. Y.—43-45 Pearl St.
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Episcopal Church, Main and Coulter Streets, Germantown, to replace the present structure. The new building will be 107x52 feet, and cost \$50,000.

Ballinger & Perrott, Twelfth and Chestnut Streets, are preparing plans for a seven-story reinforced-concrete building, 91x60 feet, with terra-cotta trimmings, to be erected for J. C. Buck at Fifth and Apple-tree Streets, to be used for drug factory and warehouse; the power plant, contract for which will be let about August 1, will have a capacity of 125 horsepower; total cost of work proposed, \$75,000.

PITTSBURGH, PA.—The Y. W. C. A., it is reported, has raised the \$300,000 building fund necessary in order to secure the \$200,000 endowment fund offered by H. C. Frick. It is reported to be the purpose of the Association to erect a new building.

Maurice Trimble, Ferguson Block, Pittsburgh, is preparing plans for an addition to the Allegheny County court-house. This addition will be a tower of about forty-five stories, 90x90 feet, of steel and granite construction.

It is said that Architect James T. Steen, Fulton Building, Pittsburgh, has plans for a four-story mercantile building for E. Long, at 625 Liberty Avenue. Cost, \$50,000.

PITTSFIELD, MASS.—Plans have been prepared by the Stanley Electric Company for a foundry on Lower East Street and Wood-lawn Avenue. The building is to cost about \$300,000.

REDWOOD CITY, CAL.—Bids will be received about July 1 for erecting a court-house, to cost \$150,000. Joseph H. Nash

is County Clerk; Glenn Allen, 330 Turk Street, San Francisco, is architect.

RENO, NEV.—It is reported that \$250,000 has been given to the University of Nevada. The money will probably be used to erect a building on the campus.

RICHMOND, TEX.—Fort Bend county will vote July 25 on the issuance of \$75,000 for erecting court-house. Address County Commissioners.

ST. LOUIS, MO.—The Melrose Building and Investment Company will erect on this lot a first-class three-story apartment building at a cost of \$100,000.

SALT LAKE CITY, UTAH.—It is said that plans are being prepared for the new \$100,000 hotel on Third West Street, to be erected by the Houston Real Estate Investment Company for its clients.

SAN ANTONIO, TEXAS.—City has voted affirmatively the issuance of \$200,000 of bonds for school purposes. Address the Mayor.

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

San Antonio Lodge No. 11, I. O. O. F., desires to build a two-story brick lodge room, to cost approximately \$40,000, at the corner of Crockett and Nacogdoches Streets, in San Antonio, Tex., and invites architects to submit plans for such a building on the following conditions: Three or more architects must compete. To the

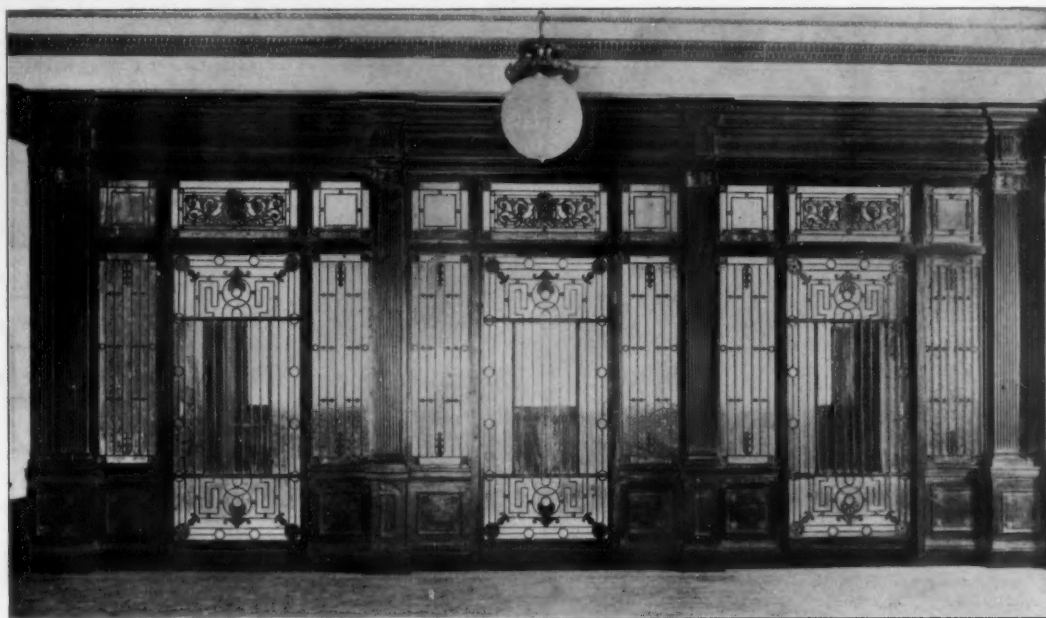
architect whose plans are accepted will be awarded the contract for drawing the specifications and superintending the construction of the building, and he shall receive in full for his services 4 per cent. of total contract price of the building; but he shall agree that he will make changes in or modify his plans to suit the views of the building committee, without further charge, before they are finally accepted, or he be employed as such architect. To the architect whose plans are second choice there will be paid the sum of \$250 in cash, and to the architect whose plans are third choice there will be paid the sum of \$150 in cash. All other plans will be rejected, without liability to the lodge. E. Callsen, secretary, will be glad to furnish all information in his possession as to the particulars of the building required.

SAN FRANCISCO, CAL.—Architect E. A. Krafft, 706 Mason Street, San Francisco, it is said, has prepared plans for a five-story building, 60x120 feet, at the corner of Polk Street and Austin Avenue, for Henry Sahlein, to cost about \$110,000.

The Society of California Pioneers, 1832 O'Farrell Street, plans to build a \$350,000 six-story brick hotel at the corner of Fourth Street and Pioneer Place.

Reports state that the Marvin Estate Company will erect a seven-story brick and office building on California Street, to cost about \$203,000.

Thomas Magee & Sons, 5 Montgomery Street, have applied for a permit to build a seven-story office structure at the corner



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of Geary and Kearny Streets, which will cost \$125,000.

Reports state that a hotel is to be erected on the corner of Powell and Bush Streets by C. A. Meusdorfer, 2242 California Street, architect and owner. The lot measures 112.6 feet on Powell and 52.6 feet on Bush Street. The building will be six stories in height, and contain 125 rooms, with 60 baths. The new hotel will represent an investment of \$175,000. The exterior will be of pressed brick.

The Pabst Brewing Company, it is said, will build a six-story hotel at the corner of Ellis and Powell Streets, to cost \$200,000, and has applied to the Board of Works for a permit.

TACOMA, WASH.—Plans are being prepared for the depot to be constructed in Tacoma for the Northern Pacific Railway Company. Estimated cost, \$750,000. J. E. Campbell is Supervisor of Bridges and Buildings, Tacoma.

TERRE HAUTE, IND.—A new jail, to cost about \$60,000, to be erected east of the present one, is under consideration.

TOLEDO, O.—E. O. Fallis, architect, The Nasby, is preparing plans for a bank building which is to be erected on Huron Street by the People's Savings Building & Loan Company at a cost of \$125,000.

We are advised that the Young Women's Christian Association has raised \$100,000, which is to be used toward the erection of a new association building, the total cost of which complete, with furnishings, is to be \$125,000. No architect has been selected.

The Board of Education, we are advised, has outlined a policy for the coming year which will provide for the erection of eight new school buildings at a cost of \$250,000. No architect has yet been selected.

Architect William B. Hunt, Spitzer Building, is preparing plans for an eight-story apartment building for the Belvidere Building Company, owner and operator of the Belvidere apartment-house on Bancroft Street. This is the second apartment building for the same owner for which Architect Hunt is at present preparing plans. Contracts on the first one are to be awarded within a short time.

TULALIP, WASH.—Bids are asked by the Commissioner of Indian Affairs, Washington, D. C., until 2 P. M., June 12, for labor and material for constructing at Tulalip School dormitory, residence, hospital, warehouse, power-house and electric-lighting plant. Further information may be obtained from Chas. M. Buchanan, Superintendent, Tulalip.

TUSCALOOSA, ALA.—Plans for new buildings to be erected on the campus of the University of Alabama are being considered by the Committee on Buildings and Grounds appointed by the Board of Trustees of the State University. Appropriation, \$500,000. John W. Abercrombie is president.

UNIVERSITY, N. DAK.—Bids are asked until 10 A. M., June 4, by the Board of Trustees of the State University of North Dakota and School of Mines of North Dakota, for constructing a library building, a gymnasium building, a school of mines building, and for repairs on the ladies'

dormitory, known as "The Cottage." Patton & Miller, 140 Dearborn Street, Chicago, and J. B. De Remer, Grand Forks, N. Dak., are architects.

VIRGINIA, MINN.—Architect E. S. Radcliffe, 602 Palladio Building, Duluth, has prepared plans for a fire department, to cost about \$80,000.

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

Percy S. Foster, chairman building committee of the Immanuel Baptist Church, 1327 F Street N. W., has engaged George W. Stone, architect, 1753 Park Road N. W., and F. W. Averill, architect, to prepare plans and specifications for its new church building to be erected at northeast corner Sixteenth Street and Columbia Road.

It is stated that 136 architectural firms are to submit plans on June 15 for the building for the Bureau of American Republics. The cost of the building complete is not to exceed \$600,000.

Reports state that Oscar Hammerstein proposes to erect a \$400,000 opera-house in this city provided a site costing \$200,000 is donated. The money for the site is to be subscribed by forty persons living in Washington and having business interests here.

WEBSTER CITY, IA.—Bids are asked by James Knox Taylor, Supervising Architect, Washington, D. C., until 3 P. M., June 17, for the construction (complete) of the U. S. Post-Office at Webster City, Ia.

WATER



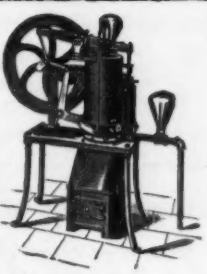
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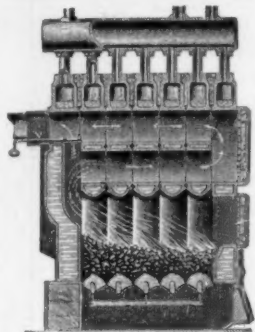
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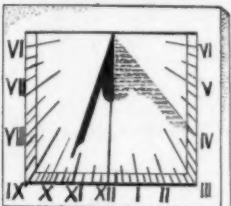
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WHEELING, W. VA.—Young Men's Christian Association will erect proposed new building to cost \$100,000 on present site, 79x115 feet. Dr. J. L. Dickey, president and chairman of building committee.

WILKINSBURG, PA.—Mowbray & Ufinger, of New York, N. Y., are reported to be preparing plans for a stone bank building which is to be erected here at Roos and Wood Streets, at a cost of \$60,000.

WINNIPEG, MAN.—Hooper & Walker, Provincial Architects, McIntyre Block, Winnipeg, are preparing plans for a five-story, 140x83-foot brick and stone addition to the Manitoba Agricultural College.

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