

Furnished by
Henry Pastor
Memorial Fund

Public Library
RECEIVED
MAY 20 1907
Washington, D. C.

The AMERICAN ARCHITECT AND BUILDING NEWS

Regular Edition

Vol. XCI.

MAY 18, 1907.

No. 1638.

SUMMARY:

Pages 197-198

The Unusual Breakage of Steel Rails—The Reciprocal Duties of the Underwriters and the Community—Half a Century's Profit and Loss on Fire Insurance—Municipal Ownership of Fire-breaks—Opposition to a Day-camp for Tuberculous Children—Contesting a Final Certificate on the Ground of Insanity—The Considerate Architect and the Economical University—The Tribulations of a Belgian Competition-winner.

WESTMINSTER CATHEDRAL.—II.....	199
AN ISLAND CATHEDRAL FOR BOSTON.....	201
COMMUNICATION	203

The Cathedral of St. John the Divine: a Criticism.

ILLUSTRATIONS	204
Church of the Disciples, Boston, Mass.: Four Plates—Pontefract House, Sewickley, Pa.—Stable at Greenwich, Conn.—John Hancock Building, Boston, Mass.—House of W. L. Mellon, Esq., Pittsburgh, Pa.	

Additional: Public Library, Racine, Wis.—Entrance to John Hancock Building, Boston, Mass.—McKinley High School, St. Louis, Mo.—First Church of Christ, Scientist, and the Lindell Exchange of the Bell Telephone Co., St. Louis, Mo.

NOTES AND CLIPPINGS.....	204
--------------------------	-----

FLATIRON BUILDING

NEW YORK

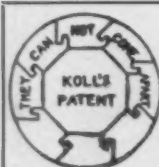
LOOMIS FILTERS

Established 1880.

Improved System. Simple and Effective.
LOOMIS-MANNING FILTER CO.Main Office: 828 Land Title Bldg., Broad
and Chestnut Streets, Philadelphia.
Boston. New York. Baltimore.
Washington.Hydraulic
Electric
Steam
Belted
for
Passenger
or Freight
Service**OTIS ELEVATOR COMPANY**
NEW YORK OFFICE: 17 BATTERY PLACE**"RENAISSANCE FIREPLACES."**

40 Gelatine Plates, on bond paper, 9" x 11"

In Envelope, Price \$5.00.

THE AMERICAN ARCHITECT, Publishers.Send for
Catalogue G19**KOLL'S**
PATENT LOCK JOINT
STAVED COLUMNS
are particularly well adapted
for out-door use. Made in all
sizes from 5 in. to 48 in.
diameter and proportionate
lengths.
Hartmann Bros. Mfg. Co.
Mt. Vernon, N. Y., U. S. A.
N. Y. Office, 1123 Broadway.
Western Factory, H. Sanders
Co., 77-85 Weed St., Chicago.**ELECTRIC SIGNALS**

FOR

PASSENGER ELEVATORS**ELEVATOR SUPPLY & REPAIR CO.**136 Liberty St.
NEW YORK34 W. Monroe St.
CHICAGO**THE CUTLER MAILING SYSTEM**PATENTED AND AUTHORIZED
SHOULD BE SPECIFIED BY NAME WHERE
A STANDARD AUTHORIZED MAIL CHUTE
EQUIPMENT IS DESIRED. INSTALLED IN
CONNECTION WITH THE U. S. FREE COL-
LECTION SERVICE ONLY BY THE SOLE
MAKERS**THE CUTLER MFG. CO., Rochester, N. Y.****RENAISSANCE
DOORWAYS****RED CLOTH, GILT TOPS**

Plates (104), each 10 x 14 inches.

Price, \$7.50

THE AMERICAN ARCHITECT
12 WEST FORTIETH STREET
NEW YORK.**THE ROBERT C. FISHER COMPANY**

Successors to Fisher & Bird

MARBLE & GRANITE WORKS139th-140th Sts.—Locust Ave. and East
River. Established 1880. New York.**BERGER'S "CLASSIK"
STEEL CEILINGS**

EXCLUSIVE IN STYLE.



Write us for Catalogue and Prices.

WE also make all kinds of sheet metal
roofing and siding; Cornices, Finials,
Creastings, Skylights, Metal Shingles,
Metal Lath, Multiplex Plate for fireproof
floors and roofs; Steel Office and Vault
Equipment, etc.

Send us your plans for estimate.

THE BERGER MFG. CO.

A.A.B.N. 2-5 CANTON, OHIO.

ATLAS PORTLAND CEMENT
The Standard American Brand. Always Uniform**THE ATLAS PORTLAND CEMENT COMPANY, 30 BROAD STREET, NEW YORK****Alphabetical List of Advertisers**

For CLASSIFIED LIST, See Page xviii.

A Alsen Cement. xviii American Concrete Steel Co. vii American School of Correspondence. xiv American Luxfer Prism Co. xii American Mason Safety Tread Co. xix American Sheet & Tin Plate Co. xxviii Associated Expanded Metal Co. xix Atlas Portland Cement Co. ii	Expanded Metal and Corrugated Bar Co. xviii F Fisher Co., Robert C. ii French & Co., Samuel H. xviii Frink, I. P. xix G Genasco Roofing Co. xxvii General Compressed Air and Vacuum Co. xix Globe Ventilator Co. xxviii Gorham Mfg. Co. xxvii Gurney Heater Mfg. Co. xx	L Lane, John. xvi Loomis-Manning Filter Co. xix Lufkin Rule Co. xix M Mass. Institute of Technology. iv Miller & Bro., James A. xviii Mittineague Paper Co. xvi Monarch Water Heater Co. xvi Mullins Co., The W. H. xviii N National Fireproofing Co. v National Lead Co. x Neuchatel Asphalt Co. x New York Belting & Packing Co. xi New York Blower Co. x Northwestern Terra Cotta Co. xiv	Society of Beaux-Arts Architects. iv Soltman, E. G. xvii Standard Sanitary Mfg. Co. vi Stanley Works. vii Summer School of Painting. x Sun Dial Co. xv
B Barber Asphalt Paving Co. e-o-w, xiv Batterson & Eisele. xxxi Berger Mfg. Co. ii Bird & Sons, F. W. xxxi Burt Mfg. Co. v	H Hartmann Bros. Mfg. Co. ii Harvard University. iv Hayes, Geo. xviii Holophane Glass Co. xix I Information Bureau of Tile Indus- try. xii J Jackson Co., Wm. H. xx Jenkins Bros. x Jones, T. W. xviii	O Okonite Co. (Ltd.). iv Otis Elevator Co. ii P Peerless Rubber Mfg. Co. iii, iv, v, vi Pennsylvania Rubber Co. ix R Raymond Concrete Pile Co. xii Rider Ericsson Engine Co. xvii	T Taylor, J. W. xix Thorn Co., J. S. xviii Thorp Fireproof Door Co. iii Troy Laundry Machinery Co. xx Trussed Concrete Steel Co. xii, xiii
C Campbell, Walter M. xix Cardinell-Vincent Co. lxi Cement Age Co. lviii Chappell Furnace Co. xv Chicago Portland Cement Co. xs Clinton Wire Cloth Co. xiv, xv, xxxi Contractors' Supply & Equipment Co. i Corrugated Concrete Pile Co. viii Cutler Mfg. Co. xiii	K Kewanee Water Supply Co. xx Keystone Varnish Co. xxii Knoche & Steves. x	S St. Louis Portland Cement Co. xs Samson Cordage Works. x Smith Co., H. B. xvii	U U. S. Mail Chute Equipment Co. xxi U. S. Mineral Wool Co. xviii Universal Portland Cement Co. xx University of Illinois. iv University of Michigan. iv University of Pennsylvania. iv
D Deane, E. Eldon. xix Dixon Crucible Co., Jos. vii E Elevator Supply and Repair Co. ii Emmel, Charles. xiv			V Vaile & Young. xx W Washington University. iv Weber Steel Chimney Co. xli Winslow Bros. Co., The. xv Winslow Co., E. J. iii Wirt, P. B. xix Wolff Mfg. Co. xxxv
			Y Yale & Towne Mfg. Co. x



CITY INVESTING COMPANY'S BUILDING, BROADWAY AND CORTLANDT ST., N. Y.
 FRANCIS H. KIMBALL, *Architect* WEISKOPF & STERN, *Engineers*
 Rises 32 stories, 486 feet above sidewalk; cubical contents, 10,300,000 feet.
 WATERPROOFING, BELOW GRADE, THE HYDROLITHIC SYSTEM EXCLUSIVELY.



The Hydrolithic System of Water- proofing

WHAT IS IT?

HYDROLITHIC Coatings consist of a specially prepared hydraulic cement and sand, that, when set and hard, has all the characteristics of set Portland cement. Its tensile strength is greater, rather than less, than that of Portland, and so is its hardness; but, unlike Portland cement, it is absolutely impermeable. In carrying out our work we prefer to apply our coating to interior surfaces, that is, on the inside of the foundation walls, and to the wearing surface of floors, although it may with satisfactory results be applied to exterior areas. But, upon interior positions it is perfectly safe, for its bond to solid forms of masonry and concrete construction cannot possibly be broken by water pressure. It has for months and years together prevailed against pressures of 130 lbs. to the square inch, which is equal to over 300 ft. head of water, and the older it grows the stronger and tougher it becomes.

We are equipped to perform Guaranteed Waterproofing anywhere in the world

Send to us for particulars, for expert advice, for list of our works and references.

E. J. WINSLOW CO., Inc.

Consulting & Contracting Engineers and Manufacturers of Waterproofing
408 Western Union Building, CHICAGO

Auxiliary: **THE WATERPROOFING COMPANY**

NEW YORK

PITTSBURG

BOSTON

UNIVERSITY OF PENNSYLVANIA SCHOOL OF ARCHITECTURE

FOUR-YEAR COURSE. (*Degree B. S. in Arch.*) (Architectural engineering may be taken in lieu of advanced design, etc.)

GRADUATE YEAR. (*Degree M. S. in Arch.*) (Allowing specialization in design or in architectural engineering, etc.)

SPECIAL COURSE OF TWO YEARS. (*Certificate.*) (For qualified draughtsmen; affording option in architectural engineering.)

COMBINED COURSES IN ARTS AND ARCHITECTURE, by which A. B. and B. S. in Arch. may be taken in six years.

COLLEGE GRADUATES granted advanced standing.

SUMMER COURSES in elementary and general subjects through which advanced standing may be secured.

For full information address: DR. J. H. PENNIMAN, Dean, College Hall, University of Pennsylvania, Philadelphia, Pa.

UNIVERSITY OF ILLINOIS

Four-year professional courses in Architecture, in Architectural Engineering and in Architectural Decoration. Special courses for draughtsmen and constructors. Excellent library and equipment. University fees nominal.

Department of Architecture

W. I. PILLSBURY, Registrar, URBANA, ILL.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ARCHITECTURE

Options in Architectural Engineering and Landscape Architecture.

College graduates and draughtsmen admitted as special students.

H. W. TYLER, Secretary,
Mass. Institute of Technology, Boston, Mass.

HARVARD UNIVERSITY

The Graduate School of Applied Science and The Lawrence Scientific School

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

For further information, address W. C. SABINE, 15 University Hall, Cambridge, Mass.

THE SOCIETY OF BEAUX-ARTS ARCHITECTS

has established

A FREE COURSE OF STUDY

open to draughtsmen and students of any city, modeled on the general plan pursued at the Ecole des Beaux-Arts in Paris, and comprising frequent problems in Orders, Design, Archaeology, etc.

For information apply to the Secretary of the Committee on Education, 3 East 33d St., New York City.

WASHINGTON UNIVERSITY

St. Louis, Mo.

DEPARTMENT OF ARCHITECTURE

offers a professional four-year course in Architecture. Admission by examination or by certificate or diploma from other schools and colleges. Draughtsmen are admitted as special students.

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICH.

DEPARTMENT OF ARCHITECTURE.

Four-year course in Architecture and in Architectural Engineering. Draftsmen and others adequately prepared are admitted as special students. For Bulletin describing work, address Dean of Department of Engineering.

"MONUMENTAL STAIRCASES,"
40 Gelatine Plates, on bond paper, 9" x 11".
In Envelope. Price, \$5.00.
THE AMERICAN ARCHITECT, Publishers.

THE GEORGIAN PERIOD

PRICE, \$60.00.

"The most important work on architecture yet produced in America."—*Nation*.

THE AMERICAN ARCHITECT,

12 WEST FORTIETH ST. NEW YORK

OKONITE INSULATED ELECTRIC LIGHT WIRES

Are pronounced by leading Architects to be **SAFE, DURABLE** and **EASILY ADJUSTED** for the inside wiring of **PUBLIC & PRIVATE BUILDINGS**

WILLARD L. CANDEE, } Managers.
H. DURANT CHERRY, }
GEO. T. MANSON, Gen'l Supt. W. H. HODGINS, Sec'y.



TRADE MARK
REG. U.S. PATENT OFFICE.

Candee Weatherproof Wires

Okonite Waterproof Tape

Manson Protecting Tape

SOLE MANUFACTURERS

THE OKONITE CO., Ltd.

253 Broadway, New York

SOCIETIES

HARVARD UNIVERSITY DEPARTMENT OF ARCHITECTURE.

Charles A. Coolidge, '81, and R. C. Sturgis, '81, architects, of Boston, have been appointed lecturers in architectural design for next year in the Department of Architecture. The following instructors have also been appointed: Andrew Garbutt in modelling; H. V. Hubbard in landscape architecture; A. S. Jenney in architecture; H. D. Murphy in drawing from life; H. P. Warren in free-hand drawing.

The Nelson Robinson, Jr., Traveling Fellowship in Architecture, with an income of \$1,000, was re-assigned to A. E. Hoyle, 2G, who received the fellowship last year and is now pursuing his studies in Rome.

BALTIMORE ARCHITECTURAL CLUB.

The exhibition, which opened in the Peabody Institute's art gallery May 6, is an interesting one.

Its exhibits show, amongst other things, the growth of the movement for the beautifying of cities. The plans for the development of the city of Washington and the improvements now being put into execution at Cleveland, where the city's public buildings are being grouped together, are the most prominent examples, but there are many others.

Mr. Burnham's sketches of plans for the rebuilding of San Francisco, the Schuylkill River embankment improve-

ments in Philadelphia and the parkway which is being built from the City Hall to Fairmount Park in that city; the Midway Plaisance waterway plans for Chicago; the plans for the improvement of Croton, New York; the plans for the treatment of Brooklyn Plaza and the Williamsburg Bridge in Greater New York, and the plans for the City Court in St. Louis are also shown. Among the individual public buildings exhibited are perspective sketches of the proposed new National Museum Building for Washington, the stately Connecticut State Library and Supreme Court Building, the sewage dumping station at Washington and a proposed flower market and public baths building in New York.

NATIONAL ACADEMY OF DESIGN.

The annual meeting of the members of the National Academy of Design was held last week. These officers were elected:

President, Frederick Dielman; *Vice President*, Herbert Adams; *Corresponding Secretary*, Harvey W. Watrous; *Recording Secretary*, Kenyon Cox; *Treasurer*, Francis C. Jones.

Members of Council—Ben Foster, J. C. Nicoll, Will H. Low, William Sergeant Kendall, J. Alden Weir, Henry B. Snell. *Academicians*—Paul Dougherty, Edward Gay, W. L. Lathrop, Charles F. McKim, Howard Pyle, W. Elmer Schofield, R. W. Van Boskerck, Charles H. Woodbury, William Gedney Bunce, and Charles Melville Dewey.

PERSONAL MENTION

JERSEY CITY, N. J.—Judge Charles S. Carriek, of the First District Court, has handed down a decision, awarding \$100 to Robert P. Smith in his suit against Anton Maciejewski, of 833 Newark Avenue. The architect sued for fees due him for the designing of a building that was to have been erected at 131 Twelfth Street, Jersey City, but which project was abandoned.

WESTFIELD, MASS.—Mr. C. A. Tinker, who had rooms for two years in the Post-office and Elm Park buildings as architect and civil engineer, is to open an office in Springfield.

SPRINGFIELD, MASS.—Mr. Lyman R. Howes has formed a partnership with E. A. Ellsworth and the firm will be known as Ellsworth & Howes, architects. Mr. Howes takes the place of John J. Kirkpatrick, who resigned from the firm May 1.

NOTES AND CLIPPINGS.

TO DRAIN THE FLORIDA EVERGLADES.—To save and use some six or seven million acres of land which has been supposed to be waste and which has been given over to reptiles and wild animals, is the project which the Governor of Florida and certain of the State's capitalists have undertaken. The famous Everglades are to be drained—are being drained, in fact, and a vast area of land which has been lost to the use of man, much of which has been over-



Notice Sliding Sleeve Damper. Patented.

With the Competition

of every other standard make, we have just shipped **forty-six** 30-inch Burt Ventilators to the Warwick Mills, Centerville, R. I., one of the largest textile mills in the East. Besides perfect and satisfactory operation at all times, Burt Ventilators, in the opinion of the actual user, possesses the advantages of having every necessary and advance feature. (See engravings.)

Burt Ventilators

after proving their superiority in the above case, were selected by the mill architects, to be used on the large plant of the Grinnel Mfg. Corporation, New Bedford, Mass., for which we have just received an order for **thirty-three** 30-inch Burt Ventilators. "The best advertisement is the satisfied customer."

Send today for our handsome 64-page general catalogue—it is free.

The Burt Mfg. Co., 550 Main St., Akron, O.

Largest Manufacturers of Oil Filters and Exhaust Heads in the World.



Notice Sliding Sleeve Damper. Patented.

flowed with water and thousands and thousands of acres of which are almost impassable swamp, are to be brought under cultivation. Florida is to become a much more wonderful State even than it has been heretofore and that means a good deal. The *Technical World Magazine* has an article by A. B. Clark on the work and the country, the difficulties in the way of saving this great acreage and the benefits which will accrue to the State from the carrying out of the enterprise.

"The importance of this immense undertaking can with difficulty be comprehended," says the writer. "It is estimated in figures which can scarcely be understood by the ordinary mind. The reclamation of this land means the addition to Florida of nearly as much cultivated land as she now has. It will mean the throwing open to cultivation of an area twice as large as the State of Connecticut. It means that Florida will become the sugar-producing State of the Union, and that for her sugar products the \$150,000,000 will be paid which is now annually sent abroad for imported sugar, an amount expended for an import which exceeds by several million dollars the value of our united exports of corn, wheat, flour, beef and naval stores. It means that Florida will in a few years become one of the richest and most important States in the Union."

ROTUNDA OF THE NEW YORK CUSTOM-HOUSE.—In the new Custom-house in New York City the large dome surmounting the interior rotunda is constructed entirely of

fireproof flat terra-cotta tiles, and the total absence of any metal for supporting this elliptical dome shows the great cohesive power of flat tiles when laid in cement mortar. The dome is 80 feet by 135 feet in size, and supports on its summit a skylight of glass and metal whose total weight is 140 tons. The tiles used for this purpose are 12 inches in length, 6 inches in width, and about 1 inch in thickness. They are laid on edge, and form a perfect curve. The supporting walls of this rotunda are built of brick up to the lower part of the dome. A massive flat ring of steel is fitted on the top of this brick-work and imbedded in it, and from this the dome springs. The foundations of the dome are of solid, flat tiles cemented together on their edges, but after a few courses an outer and inner shell is formed. Nine layers of 1-inch flat tiles form the lower courses; but as the curvature of the dome is reached, one course after another is omitted until near the middle there are only three layers of tiles for each shell, leaving an open space between them.—*The Building News*.

TREE-PLANTING BY THE PENNSYLVANIA RAILROAD COMPANY.—It was learned yesterday that the Pennsylvania Railroad Company, impressed with the necessity of providing a future source of supply for the five million railroad ties used annually on its system, was about to undertake what is said to be the most extensive private forest planting on record, and that altogether 2,250,000 red oak, Scotch pine, chest-

nut, locust and catalpa trees would be set out by the company's agents this spring. The total area to be planted, it was said, was about a thousand acres at Mount Union, Altoona and Holidaysburg, Pa. In explanation it was said that ties had been getting scarcer and more expensive every year, and that the company thought it best to insure itself a proper supply, say, in twenty years, when it was expected that some of the trees would be large enough to cut for ties. The Scotch pine and red oak trees will not be suitable for cutting for about thirty or forty years, but they are said to make the best ties.—*New York Tribune*.

THE PARLIAMENT HOUSE AT EDINBURGH.—Parliament House, Edinburgh, in which the convention of Royal Burghs is now sitting, is one of the cheapest houses of Parliament ever built. Begun in the middle of the seventeenth century, it took nearly ten years to construct, at a cost of under £12,000. For seventy years, up till 1707, the Scottish Parliament made the building its meeting place. In that year came the "end o' the auld sang," and the Scots Parliament handed over its rights to the Court of Session, which has since administered justice within its walls. It is fitting that in the bi-centenary years of the Union the immemorial convention of Royal Burghs should meet within the historic walls. Vastly different, however, is the building in its modern character of a court of justice from the old "talking shop." Practically the only part that has remained



"Standard" Porcelain Enameled Sink, with Apron all around, Enameled Sink Legs with Wall Supports, Nickel-plated Strainer, Fuller adjustable Flange Bibbs and "p" Trap with Waste and Vent to Wall with or without Bibbs and Trap.

Houseowners

Know what

"Standard"

Stands for

In the public mind "Standard" and Sanitation are synonymous terms. Whenever you specify "Standard" Porcelain Enameled Fixtures for Residence, Hotel or Apartment House you are assuring the owner that he will receive what he recognizes as the best in the way of sanitary equipment.

Standard Sanitary Mfg. Co.

PITTSBURGH, PA., U. S. A.

unaltered is the great hall, with its statues, its portraits, and its costly stained glass windows.—*London Chronicle*.

GRECO-BUDDHIST SCULPTURE IN TURKESTAN.—Dr. M. A. Stein, leader of the Indian Government Mission to Eastern Turkestan, has made important archaeological discoveries in Chinese Turkestan. On the site of an ancient village in a desert northward of the Niya River he obtained a rich yield of antiquities illustrating everyday life seventeen centuries ago, showing the predominant influence of Greco-Buddhist art and including records written on wooden tablets in the Kharoshto script. At Miram he found nearly a thousand Tibetan records. Many most interesting art remains were discovered in a ruined Buddhist shrine, including colossal stucco reliefs closely related to the Greco-Buddhist sculpture of the first centuries of the Christian era.

That Greek art and the Buddhist religion met at some period of history and left traces of their combination has been known for some time through the bas reliefs at Gandara. These sculptures, in almost the best Greek style, are representations of the Buddha and his disciples, and the Oriental mysticism grafted on the realism of the Greeks resulted in productions of fascinating delicacy and refinement, recalling in some respects the work of the sculptors of the early Italian Renaissance. It would appear from Dr. Stein's discoveries that Greek art reached the Buddhistic Orient through Bactria and Turkestan.

The region in which Dr. Stein has been working for some years was once watered by the river Nya, which now loses itself in the sands. The ancient legend that the entire region, with its great cities and millions of inhabitants, was overwhelmed by sand, seems to receive support from the recent discoveries. The Kharoshto characters inscribed on the objects found by Dr. Stein were in use under the Indo-Scythian Princes of the first two centuries of the Christian era. The civilization of which the traces are now being found is one of the greatest puzzles remaining to historians.—*N. Y. Times*.

THE SUBTERRANEAN DWELLINGS OF NORTHERN AFRICA.—Fuller details have been received of the remarkable trip across the Sahara, from Tripoli to Lake Chad, by Hans Vischer, formerly belonging to the missionary staff in Northern Nigeria. He left Tripoli in July, accompanied by a number of Mecca pilgrims from Northern Nigeria. He succeeded in bringing ten of them with their families right through the sandy wastes of the Sahara. In the mountains of Gharian he found people living in subterranean dwellings. Through entrances ten yards long and one yard wide he came upon a square courtyard which was in reality a great hole open to the sky. Upon this all the rooms and stables converged. The rooms were very dark, and there were no windows, but cleanliness prevailed. Round the courtyard was a wall protecting the dwelling underneath.—*N. Y. Evening Post*.

NEW YORK'S AND OTHER DEBTS.—The total bonded debt of the United States is only \$925,000,000, and that of New York City is already more than half that of the national government. At the present rate of increase the metropolis will have the larger indebtedness in five years. The total debts of all the States in the Union amount only to \$234,314,190, less than half that of the single city of New York. The total State, county and city indebtedness of the entire United States is less than three times that of the city of millionaires. The great military powers of the world are much concerned over China and her debt, and yet China has borrowed only \$613,000,000, against \$500,000,000 for New York City. The entire Dominion of Canada owes only \$271,000,000, about equal to New York's increase in four years. Yet with all this stupendous debt the average citizen of Manhattan never gave the matter a second thought when he saw the official figures.—*New Broadway Magazine*.

THE PRINCE EDWARD ISLAND TUNNEL.—Engineers' estimates on the cost of a tunnel under Northumberland Strait to maintain uninterrupted communication between Prince Edward Island and the mainland, are in the hands of the provincial and Dominion Parliaments. The figures vary from \$9,000,000 to \$40,000,000. The proposed tunnel would be seven and a half miles long, and would reach a depth of 150 feet under low-water level. The proposed line of the tunnel is from Cape Tometine in New Brunswick to Cape Traverse, P. E. I.,—*Exchange*.

THE MAXWELL TRUSSED BAR

for reinforcing concrete structures is a FULLY TRUSSED BAR of any desired steel which can be applied to all kinds of Architectural or Engineering Concrete Construction without departing from the original design of the bar.

This is THE NEW BAR in the field of reinforcement which combines the two essential qualities,

STRENGTH and ECONOMY

For particulars address Dept. D

AMERICAN CONCRETE STEEL COMPANY

Penobscot Building, DETROIT, MICH.

THE WHISTLER MEMORIAL.—The proposed international memorial to Whistler, which is to be executed by Rodin, is to be erected on Cheyne Walk, Chelsea Embankment, near Whistler's old home. This site was recently decided upon by the London County Council. The cost of the memorial is to be \$10,000, of which the International Society of Sculptors and Gravers contributes \$2,500 out of the proceeds of the recent Whistler memorial exhibition.—*N. Y. Evening Post.*

BUILDING NEWS.

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

ABERDEEN, WASH.—It is said that Finch & McCaw will erect a four-story business building on H and Heron Streets, to cost about \$150,000.

ANDERSON, IND.—The trustees of the Episcopal Church have purchased a site, corner Eleventh and Delaware Streets, and will, according to reports, receive bids until June 3 for the erection of a modern church edifice thereon. Estimated cost, \$35,000.

ANDREWS, IND.—Plans are being prepared, it is reported, for the erection of a Carnegie library building in this town. The contract will be let probably about July 1.

ASTORIA, ORE.—The Elk Lodge, according to reports, is preparing to erect a \$50,000 lodge building.

ATLANTA, GA.—Sidney H. Phelan is stated to be having plans prepared for a

five-story fireproof apartment-house which he intends erecting on Peachtree Street.

AUGUSTA, GA.—An apartment-house, to cost \$150,000, it is said, will be erected here, regarding which Alexander, Johnson & Steiner can give information.

AUSTIN, TEX.—The plans for the campaign to raise funds for the University Young Men's Christian Association building have been completed and the active canvass will begin at once. A \$75,000 building will probably be erected.

BALTIMORE, MD.—It is stated that a \$150,000 edifice is to be erected for the members of the Trinity M. E. Church (Rev. Forrest J. Pettyman, pastor).

BAY CITY, MICH.—The Weponah Building Company is reported incorporated with a capital of \$250,000, for the purpose of erecting a hotel and auditorium.

BERKELEY, CAL.—Architect John Galen Howard has prepared plans for a fireproof library building to be located between the North Hall and California Hall. Cost, \$575,000.

Bids are asked until May 30 by the Board of Education for erecting a Polytechnic High School, to cost \$160,000. Stone & Smith, 789 Market Street, San Francisco, architects.

BOSTON, MASS.—Plans are being drawn for a Y. M. C. A. building, to cost \$500,000, to be erected on Arlington and Newbury Streets. Architects, Shepley, Rutan & Coolidge, 122 Ames Building, Boston.

CENTRALIA, WASH.—The directors of the United States National Bank, it is reported, have organized the Centralia Loan and

Trust Company, and will erect a building with safety deposit vaults. Capital, \$50,000.

CHARLESTON, W. VA.—Harding & Upman, of Washington, D. C., are stated to be the architects for a twelve-story office-building which is to be erected here by a company of which C. M. Alderson and Saml. Stephenson are local representatives. The cost of the building is stated to be about \$200,000, and a provisional contract is reported to have been given to the Engineering Contracting Company, of Baltimore, Md.

Building committee of Beni Kedem Temple, A. A. O. N. M. S., composed of Charles K. Payne, Neil Robinson and J. D. Baines, has purchased site, 72x219 feet, on which to erect building, expending about \$60,000.

CHARLOTTE, N. C.—It is reported that the Charlotte Auditorium Co. has been incorporated to erect an auditorium to seat 5,000 at a cost of about \$50,000.

The Commercial National Bank, it is said, contemplates erecting an eight-story steel bank and office building, costing about \$150,000.

The First Baptist Church will erect a new building, to cost \$50,000. J. A. Durham, T. S. Franklin, W. C. Dowd are members building committee.

CHEROKEE, IA.—One hundred and twenty-five thousand dollars has been appropriated by the Legislature for a building for the State Hospital.

CHICAGO, ILL.—The United States Amusement Company, it is stated, intends

SPRING PAINTING '07 Edition

A seasonable circular on the vital subject of paint. Different forms of metal and wood construction are attractively illustrated, and there's just enough "talk." Write for free copy B-14.

JOSEPH DIXON CRUCIBLE CO., Jersey City, U. S. A.

ESTABLISHED 1868

THE "HAYES" METALLIC GLAZED STRUCTURES

SKYLIGHTS FIRE PROOF WIRE GLASS WINDOWS

71-8TH AVE. NEW YORK.

METAL LATHINGS ETC.

MINERAL WOOL

FIRE, SOUND and VERMIN PROOF INSULATOR
SAMPLES AND CIRCULARS FREE

U. S. MINERAL WOOL CO., 140 Cedar St. NEW YORK

Corrugated Concrete Pile Co. of America

1170 Broadway, New York

LICENSEES

Ailing Construction Co. CHICAGO William L. Miller BOSTON The Engineering-Contracting Co. BALTIMORE

erecting inside the elevated loop district a theatre and hotel, to cost about \$5,000,000.

Architect L. G. Hallberg, Oxford Building, 84 La Salle Street, is taking bids on a warehouse to be built at 16 Michigan Avenue for W. F. McLaughlin & Co., 82 South Water Street. It will be four-story and basement, 50x124 feet, of reinforced-concrete and brick, have pressed-brick front, gravel roof, steam heat, metal skylights, and cost \$50,000.

Hirsch, Wickwire & Co., manufacturers of clothing, 341 South Franklin Street, are negotiating for a long-term lease of the property at the northeast corner of Franklin and Van Buren Streets, where they contemplate the construction of a store and loft-building. It is to be ten-story, 100x153 feet, of fireproof construction, have pressed-brick fronts, composition roof, steam heat, wiring for electric light, and is estimated to cost \$300,000.

CHICKASHA, IND. TER.—Plans are being prepared, it is said, for a \$50,000 high school to be erected here; also for a \$200,000 opera-house and hotel. Address W. J. Croslen.

CINCINNATI, O.—The Board of Education is stated to be in favor of erecting the following schools: One sixteen-room school on the Westwood School lot, estimated to cost \$160,000; a ten-room school to replace Highland School on Eastern Avenue, estimated to cost \$115,000; a twenty-seven-room school on Clinton Street, in the Eleventh District, estimated to cost \$200,000, exclusive of ventilating and heating.

Harry Hake, architect, Andrews Building, is preparing plans for a brick, stone and terra-cotta building, fifteen stories high, to be erected at Seventh and Vine Streets, for the Provident Savings and Trust Company, Chamber of Commerce Building, Cincinnati. Estimated cost, \$500,000.

CLEVELAND, O.—Louis N. Weber is said to be preparing to erect a six-story business building on Chestnut Avenue, near East Ninth Street.

The Euclid-Doan Company has been incorporated, at Columbus, with \$150,000 capital. The incorporators are: Anton Dreher, A. J. Harvey, Geo. A. Harvey, S. S. Harvey and Alonzo M. Snyder. The company will erect a hotel addition to the block, on the northeast corner of Euclid Avenue and East 105th Street.

CATTENWOOD, IDAHO.—The Jesuit Fathers, it is reported, propose erecting next year at Cottonwood, near Lewiston, a college, at a cost of about \$50,000.

DALLAS, TEX.—Sanger Bros., it is said, have purchased building site for \$100,000, and will erect modern business house at an early date.

DES MOINES, IA.—Mack Olsen is stated to have organized a company which will erect the Sherman Court—a four-story apartment-house—on West Sixteenth and Pleasant Streets. Capital, \$75,000.

DETROIT, MICH.—The members of the North Baptist Church, it is reported, propose erecting a \$75,000 edifice at Woodward and Pingree Avenues. Rev. T. W. Young, pastor.

ESTABLISHED 1844

FRENCH'S

Paints and Varnishes

Highest Standard Attainable
Write for prices and samples

Samuel H. French
and Company
PHILADELPHIA

Lightning Rods

Protection assured by our continuous copper conductors. Our booklet of valuable information, "Flashes of Lightning," illustrated, sent free.

THOMAS W. JONES, 180 Front Street NEW YORK

STANLEY'S

BALL BEARING HINGES

In WROUGHT BRONZE and STEEL
NEVER WEAR DOWN. NEVER CREAK.
NEVER REQUIRE OILING.

The improved washer protects the balls against moisture and dust.
For Sale by Leading Hardware Dealers.

Attractive Literature for the asking.

THE STANLEY WORKS
NEW BRITAIN, CONN. NEW YORK CHICAGO

DULUTH, MINN.—A. W. Hartman will erect a six-story brick building, 100x115 feet, on west side of Lake Avenue, south of Buchanan Street. Estimated cost, \$80,000.

Reports state that on April 24 the County Commissioners passed a resolution authorizing the erection of a Court-house, to cost \$700,000.

It is said that plans are being prepared for the Bethel Society for a four or five-story stone and brick building, to cost \$150,000.

DURHAM, N. C.—The Main Street Methodist Church, of Durham, it is reported, will erect a new building at a cost of \$100,000. Address the pastor for information.

EL PASO, TEX.—The Eagles of El Paso have practically concluded their arrangements for the erection of a handsome building, which, when completed, will represent a cost of about \$100,000.

Pennsylvania Interlocking Rubber Tiling

The border of this advertisement illustrates one of the innumerable attractive designs into which Pennsylvania Interlocking Rubber Tiling can be rendered. This tiling is far more desirable than any other flooring material because it possesses a great many exclusive advantages. It is absolutely noiseless, will outwear even marble tilings, is non-inflammable, odorless, perfectly sanitary and waterproof. When a new building settles, the floors, if covered with unyielding materials, will develop more or less serious cracks. Pennsylvania Interlocking Rubber Tiling readily conforms to changing levels and the floors retain their perfect condition.

Our Color Design Book

gives full information about Pennsylvania Interlocking Rubber Tiling. We are pleased to have architects submit sketches showing dimensions of any space for which this incomparable flooring may be considered so that we can give figures of cost. Architects and builders may also obtain design blanks and make their own original designs.

PENNSYLVANIA RUBBER COMPANY

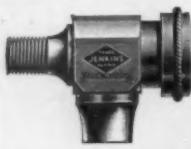
JEANNETTE, PA.

NEW YORK, 1741 Broadway
CHICAGO, 1241 Michigan Avenue
PHILADELPHIA, 615 North Broad St.
ATLANTA, GA., 102 North Prior St.
BOSTON, 20 Park Square

BUFFALO, 717 Main Street
DETROIT, 217 Jefferson Avenue
CLEVELAND, 2134-6 East Ninth St.
SAN FRANCISCO, CAL.,
512-514 Mission Street

LONDON, 26 City Road





Jenkins' Improved Automatic Air Valves

FOR RADIATORS, HEATING COILS, ETC.

Fitted with an expansible, elastic plug of Jenkins Composition. They are perfectly automatic; thousands in use and giving entire satisfaction. Take up no more room than an ordinary air cock; neat in appearance, being finished all over and nickel plated; and can be applied after radiators are set.

Write for a copy of our 1907 catalogue.

Jenkins Bros., New York, Boston, Philadelphia, Chicago, London.



DIFFUSERS

HEATING, VENTILATING, COOLING,
MECHANICAL DRAFT, DRYING,
AIR WASHING, ENGINES.

Specify N. Y. B. System :: Get Catalogue 53-M

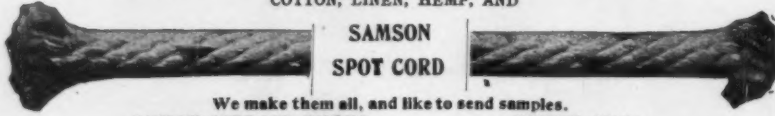
NEW YORK BLOWER CO.

STEWART AND 25th PLACE

CHICAGO

SOLID BRAIDED SASH CORD

COTTON, LINEN, HEMP, AND



We make them all, and like to send samples.
SAMSON CORDAGE WORKS, BOSTON, MASS.



Knoche & Steves

Manufacturers of

Plastic Relief Ornaments

For Interior and Exterior Decorations

Write for Catalogue A.

2101-2103 Reading Road Cincinnati, O.



THE STANDARD

for over forty years. Frink's Reflectors. All sizes and shapes for every conceivable purpose. State your wants and we can meet them. Investigation means adoption.

I. P. FRINK, 551 PEARL ST., NEW YORK

Asphalt FLOORS ROOFS

SIDEWALKS and CARRIAGE WAYS
of Public Buildings, Hospitals, Ware-
houses, Stables, Cellars, etc.,
laid with

VAL de TRAVERS ROCK ASPHALT
Durable, Fireproof and Impervious. For
estimates and list of works executed,
apply to

The Neuchatel Asphalt Co., Limited
265 BROADWAY - NEW YORK



The architect with

Yale & Towne Hardware

to draw upon can give his client almost unlimited choice and by reason of the great range of quality, suit him exactly on price.

As a first step, send for our free portfolio of designs.

The Yale & Towne Mfg. Co.

No. 9 Murray Street, New York

You never heard of an architect who used coal-tar for roofs because it was better than asphalt. You may know architects who used coal-tar because it was cheaper.

That time is past. A roof made of Trinidad Lake Asphalt now costs practically the same as a coal-tar roof ---and is permanently waterproof.

WE BUILD ROOFS OF ASPHALT.
WRITE FOR FULL INFORMATION.

**THE GENASCO ROOF-
ING COMPANY**
PHILADELPHIA

New York Chicago

For information about Genasco Ready Roofing and other Genasco Roofing products, write to the Barber Asphalt Paving Company, Philadelphia, New York, Chicago or San Francisco.

FAIRMONT, W. VA.—The Shaw Hotel Company, capital \$100,000, has been formed by A. E. Shaw, J. W. Crown, M. E. Ashcroft and G. M. Alexander, all of Fairmont, to build a large hotel.

FORT WAYNE, IND.—The trustees of the Y. M. C. A., according to reports, will soon ask for bids for the erection of a \$60,000 building, plans for which are now being prepared.

FORT WOOD, N. Y. H.—Bids are asked by G. C. Burnell, Constructing Quartermaster, until 10:30 A. M., May 23, for furnishing all material and labor for construction of post exchange and gymnasium and stable at this post.

FORT WORTH, TEX.—J. W. Scharbauer, it is reported, will erect a hotel and sanitarium at Fort Worth, Texas, costing about \$100,000.

FRANKLIN, IND.—E. B. Bryan, president of Franklin College, announces that bids will soon be solicited for the construction of a \$50,000 library and science hall building.

GRAND RAPIDS, MICH.—The congregation of the United Presbyterian Church, it is stated is arranging to erect a \$50,000 edifice.

GREENPOINT, L. I., N. Y.—Percy Williams is stated to have had plans prepared by J. B. McElfratrick, 1402 Broadway, New

York City, for a theatre which he intends erecting at Calyer Street and Manhattan Avenue, at a probable cost of \$200,000.

GROSSE POINT FARMS, MICH.—John M. Dwyer is stated to be having plans prepared for a residence to be erected here, at a cost of about \$100,000.

HAGERSTOWN, MD.—The erection of a Y. M. C. A. building, costing about \$75,000, is reported contemplated.

HARTFORD CITY, IND.—Plans are being made by the Methodists for a new edifice on Washington Street, at a cost of \$50,000.

HOBOKEN, N. J.—David M. Ach, of 1 Madison Avenue, New York City, is stated to have completed plans for Michael Smith,

The American Architect and Building News.

Vol. XCI.

SATURDAY, MAY 18, 1907.

Public Library
RECEIVED
MAY 20 1907
No. 1638.

A Journal of Constructive and Decorative Art Published Every Saturday by **THE AMERICAN ARCHITECT** (Incorporated)

No. 12 West 40th St., New York

REGULAR EDITION - - - \$6.00 a year

Single Copies from 15 to 50 cents.

INTERNATIONAL EDITION - - - \$16.00 a year

Single copies from 40 to 75 cents.

Entered at the Post-office, New York, as Second Class Matter.
Copyright, 1907, by The American Architect.

CONTENTS

SUMMARY: 197-198

The Unusual Breakage of Steel Rails—The Reciprocal Duties of the Underwriters and the Community—Half a Century's Profit and Loss in Fire Insurance—Municipal Ownership of Fire-breaks—Opposition to Day-camp for Tuberculous Children—Contesting a final Certificate on the Ground of Insanity—The Considerate Architect and the Economical University—The Tribulations of a Belgian Competition-winner.

WESTMINSTER CATHEDRAL.—II. 199

AN ISLAND CATHEDRAL FOR BOSTON. 201

COMMUNICATION: 203

The Cathedral of St. John the Divine: a Criticism.

ILLUSTRATIONS: 204

Church of the Disciples, Boston, Mass.: Four Plates

—Pontefract House, Sewickley, Pa.—Stable at Greenwich, Conn.—John Hancock Building, Boston, Mass.

—House of W. L. Mellon, Esq., Pittsburgh, Pa.

Additional: Public Library, Racine, Wis.—Entrance to

John Hancock Building, Boston, Mass.—McKinley

High School, St. Louis, Mo.—First Church of Christ,

Scientist, and the Lindell Exchange of the Bell Tele-

phone Co., St. Louis, Mo.

NOTES AND CLIPPINGS 204

SOCIETIES, PERSONAL MENTION, ETC.

THE recent report of the Railroad Commission of the State of New York, containing, as it does, proof that in the first three months of this year there were broken on the railroads in the State nearly four times as many rails as were broken during the corresponding months of the preceding year, draws attention to a fact that is seriously disquieting to those who travel. In an inferior degree the phenomenon is of some special interest to architects, who, after the railroads, are the greatest consumers of rolled steel; not that there is any close relation between the stresses to which rails are ordinarily subjected and the strains which the steel frames of buildings naturally have to undergo. But if this strange and sudden increase in the failure of rails is due to changes recently introduced at the rolling-mills into the methods of melting and rolling, if there has been any change in the ores or in the proportions of the formulas used in smelting, it would seem to follow that, as structural shapes are produced after the identical methods used in rail-making, the material recently delivered and used for building has not just the qualities that users, guided by experience and the statements of text-books, suppose that it has. The danger is probably a remote one, and its cause is at any rate unidentified as yet; but architects will

do well to follow the investigations into the cause of these accidents that railroad managers are now making. One point at least is worthy of attention: One of the large railroad systems has already placed its orders for new rails conditioned on the steel being puddled by the open-hearth process and no longer by the Bessemer process, as recently.

IF there is any one thing that has been established by proof that cannot be gainsaid it is that the factory mutuels have succeeded in constraining their clientèle to adopt methods of building and protection that have resulted in making factory buildings very safe insurance risks. It might be argued that, if the regular fire-insurance companies adopted the methods which the factory mutuels have devised and tested, a great gain for themselves could be effected at the same time with a larger benefit to the community. Unfortunately, this is true only in a very small degree and the progress toward a saner method of building can be brought about, through the insurance companies, only in very irregular and variable ways and degrees. But the value to the community of fire insurance, even in the wasteful way in which it is managed at present, is so real, so vast, that it is nightmarish to picture to oneself the condition of the business community if all the fire-insurance companies should liquidate and go out of business. The facts placed before the recent annual meeting of the National Board of Fire Underwriters seem to indicate that these very useful factors in modern business life have a very justifiable ground for turning to the community and demanding relief, relief real and instant, from the conflagration hazard. The demand would be a righteous one, since the conflagration hazard can exist only by and through the sufferance of the community at large.

THE report in question, presented by President Burchell, shows that the loss through the San Francisco fire to the 243 companies affected swept away, by more than \$79,708,174, all the profits made by these companies since 1860, the year when the association was organized. To make good the difference here indicated a large draft had to be made on capital funds in many cases; in others heavy stock assessments had to be levied, while in others again the companies had to assign and the loss fell on the insured. It seems to us that a civilized community should be able to see the unfairness and unwisdom of expecting any portion of its membership to assume the duty of protecting it at such unfair risk to the undertakers, and it seems that it should be equally patent that the duty of protecting a community from the conflagration hazard rests not upon the underwriters, but upon the community itself. The one form of municipal ownership in which we most staunchly believe is the public ownership of effective fire-breaks.

AT a hearing of the new Building Code Commission in New York, last week, the representatives of the New York Board of Fire Underwriters pointed out that

a conflagration in the business district of New York that should sweep an area equal to that devastated by the Baltimore fire would, happening at any time, imperil the prosperity of the whole country, while it is easy to see that if it should occur to-morrow, so soon after the San Francisco fire, there would not be an insurance company in this country and few in any that could survive the strain. New York has a good fire-department, and it is, with its surrounding rivers, well arranged for fighting a big fire. Almost every week large fires occur there, any one of which, seemingly, might well be the starting-point for a conflagration, but somehow or another they have not been, and because they have not been people seem to feel that they cannot be. But luck is not always of one kind, and a large fire may occur at some time when the streets are impassable because of snow, while the wind is blowing a gale; or, in consequence of an anarchistic outbreak, fires may be started in many parts of the city at the same time. In such event the lack of fire-breaks of really fireproof buildings stretching from river to river at intervals up and down the island, such as we recommended some time ago, would be sadly felt.

MAN'S inhumanity to man is illustrated better by few things than by the way in which the erection of a hospital or asylum is resisted by the owners of property near the projected site. These protests are very likely to come with most virulence from persons—as often persons of general intelligence as those really ignorant—who, having one child sick with a contagious disease, unblushingly send to school daily the other children of the family who have not yet “come down” with the disease. Quite recently Dr. Ellen Stone, of Providence, R. I., finding she had under observation quite a number of tuberculous children, bethought her that it would be beneficial to gather them for the daytime into a small out-of-door camp, and so persuaded her father, the well-known architect of that city, to give her the use of some property on the East Side where the camp with its miniature shelter pavilion could be established. No sooner did the project get noised about than a lively spirit of protest developed and, curiously enough, among the protestants was a gentleman who fills a professorial chair in Brown University, he and his fellow expostulators being quite oblivious of the fact that the children in question in their previous unguarded state, living at home amid undesirable surroundings, would be a greater menace to the community than they possibly can be in a little day camp.

MANY an owner, when confronted with his architect's final certificate, including the extras, must have felt like vowing he would never pay it, because the architect “must have been crazy when he signed it,” and recently one such owner has produced this very plea in the New York Supreme Court. When the “Ansonia,” at Broadway and Seventy-third street, was built, a few years ago, the assignee of the contractor had finally to proceed against the building's owners, suing for \$90,000. The result of prolonged litigation was that the creditor recently secured judgment in the Court of Appeals in the

sum of \$73,000. The owners now seek to have this verdict set aside and the case reopened because, as they allege, they have recently learned that the architect of the building, Mr. Paul E. DuBois, is now and has for some years been confined in an asylum for the insane near Paris, and it is their belief that he was insane when, in 1903, he signed the final certificate, and hence that that instrument can never have been legally validated.

ONLY in cases where a client's “cussedness” is marked and unmistakable do architects feel like resorting promptly to the courts for aid in collecting their commissions. In other cases this disagreeable step is postponed as long as possible, but the fate that has overtaken Messrs. Hornblower & Marshall, of Washington, shows that it is possible to pay too much regard to the finer feelings. These architects did certain work for the George Washington University, on the ordinary vague verbal understanding that commission for the work at the usual rate should be properly paid. The work, the designing and building of the Medical School and the carrying out of certain alterations, proceeded satisfactorily and the architects collected, on account, payments aggregating \$5,485.45. When, however, the job was actually finished and they presented their final bill, complete to the last decimal, they found to their surprise that there was no disposition to liquidate it at once. As a university is a very good client with which to keep on good terms, the architects decided not to press the claim, but let matters drift. Finding at length that patience had ceased to be a virtue, they brought suit for the unpaid balance, \$1,605.64, only to be confronted with the University's successful plea that the claim was outlawed by the statute of limitations!

THE American architect who thinks it such a hardship to have to win his job in competition, in place of having it politely tendered him on a salver, should take heart of grace in that his lot is less hard than that of M. Maquet, a Belgian architect of note and of such skill that, thirty-one years ago, his design for the Mont des Arts, at Brussels, carried off the prize from one hundred and sixty competitors. But the structure, whatever it really is to be, was not built, and six years later, in 1882, a new competition, after an amended programme, was held, and again M. Maquet was successful, but again there was no concrete result. The same maneuvers were repeated in 1887 and in 1894 with identical results in each case, the three things really established being M. Maquet's continuing and abundant good health and courage and his superiority as a designer. At length, in 1903, the State was induced to join with the municipality in carrying out the undertaking, and M. Maquet's plans were finally and formally adopted for execution, but it seems questionable whether actual work has been begun, for we find, four years later, that the unfortunate architect, unable to collect his commission, weary of waiting and noting, doubtless, that his life-expectancy had less and less value each year in the actuaries' mortality-tables, has just brought suit against the city of Brussels for his commission in the sum of 225,000 francs.

WESTMINSTER CATHEDRAL.¹—II.

THE circle, developed by the pendentives, is sixty feet in diameter; the base of the dome is corbelled over from this, so that the springing is clearly defined and a salient angle at the junction of the two surfaces is thus avoided, for the convenience of the mosaic workers of a future generation.

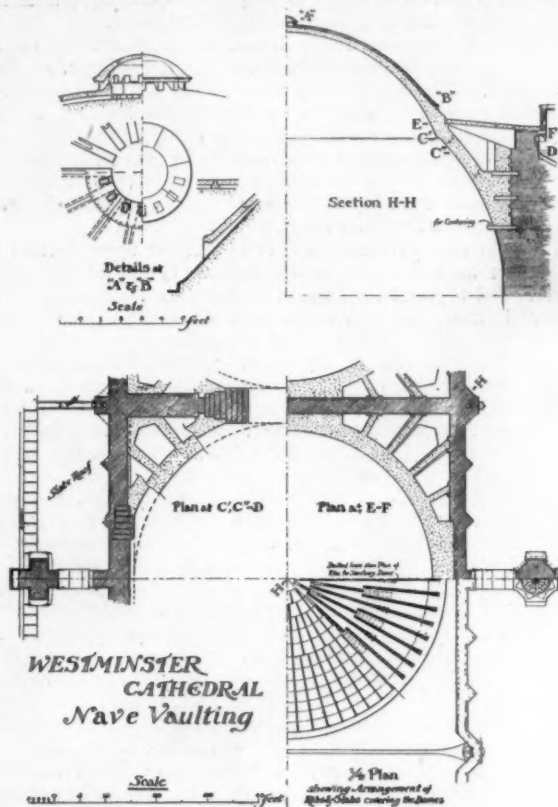
The thickness of the domes at the springing is three feet, which is gradually reduced to thirteen inches at the crown; the curve of equilibrium is, therefore, well within the material.

The domes were turned on closely-boarded centering, in a series of superimposed rings of concrete, averaging four feet in width. The concrete was not reinforced in any way. The centering consisted of radiating trusses supported from the ground on uprights ninety feet in height made of stout planking, bolted together, so as to break joint, and cross-braced at intervals. It was, of course, important to have the centering perfectly rigid to preserve the true curvature of the concrete until it had finally set. Full responsibility for the centering rested with the builder who had contracted to carry out the work; and if his method lacked the daring and skill of a Brunelleschi, or a Fontana, he

ing of homogeneous asphalt would have been more impervious. You will note that by rebating the ribs for the slabs, each radiating section of the covering is kept in position independently of the rest.

The concrete flat roofing around the domes is covered with asphalt that passes up the lower portion of the dome to a height of about four feet six inches under the outer covering, where it is keyed into the concrete.

The eastern portion of the cathedral, comprising the sanctuary, the lateral chapels, and the choir, presents a system of construction essentially Byzantine, the luminous corona of the sanctuary dome being raised aloft on vaulting that seems to be independent of direct support. This buoyancy is due to the extensions that open out on all sides, equal in span to the dome itself. The enclosing walls of the sanctuary on the north and south have very materially affected the design of the eastern chapels. Originally, these chapels were to have been enclosed by slender arcades, on marble columns, corresponding with those of the organ galleries adjoining; but, as in the case of the chapels of the nave, it was soon found that these arcades would



certainly incurred no risk, and did not stint the timbering. The eastern dome of the nave was turned first, then the dome of the sanctuary, next the middle dome of the nave, and lastly the western dome. Their construction occupied about fourteen months.

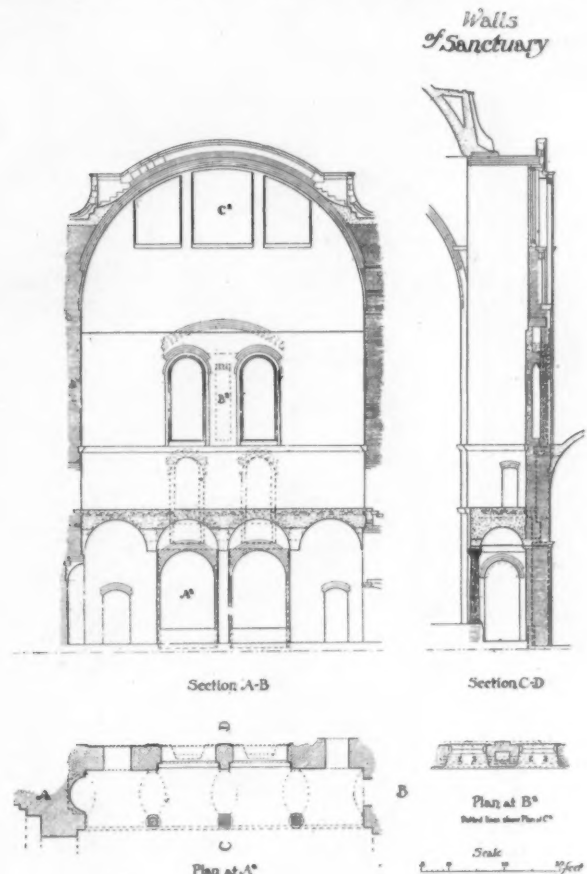
The independent external covering of the domes is formed of three-inch artificial-stone slabs, cast to the curve. They rest on radiating ribs five inches deep of similar material, fixed on the concrete, and rebated to receive the slabs, thus leaving an air-space of two inches between the inner shell and the outer covering, the object being to render the temperature of the interior more uniform. The top and bottom joints of the slabs are rebated. At the springing and at the crown the spaces between the ribs are left open for ventilation, and to prevent the wet being driven into the cavities at the top a circular raised curb is formed on the top edge of the upper slabs, over which is placed a domical capping that allows the air to circulate freely. A reference to the diagram will make this clearer to you.

To form the outer covering, more than 600 slabs were required for each dome; the exposed surface is, therefore, an elaborate network of jointing, and we cannot but feel that an outer coat-

not be sufficient to sustain the weight of the walls above which are the highest in the building; so the columns were changed into brick piers, and the two end bays of the arcades were filled in, leaving only two bays open in the middle and a couple of narrow doorways at each end for access to the aisles. Over the filled-in bays are built the solid portions of the outer wall, against which the organs will probably be placed, while over the two open bays is built the lighter portion of the wall, containing the windows.

The weight of this central part does not, however, entirely depend on the arcade below, for, above the two lower windows a relieving-arch is turned that transmits the weight of the upper part of the wall to the solid portions at the sides, and to still further reduce the weight that portion of the brickwork under the relieving-arch and between the windows is built hollow.

The organ-galleries are independent factors of the construction and, like the galleries of the nave, were left down until the main parts were built. The concrete vaulting of these galleries and the western gallery of the nave is not let into the walls at the back, but supported on brick and stone corbelling so that



¹ A paper by Mr. J. A. Marshall, read before the Architectural Association, April 12, 1907, and continued from page 195, No. 1637.

the walls are not weakened; the concrete was, however, keyed to the wall by projecting courses of brick, and as an extra precaution the columns supporting the vaulting of the organ-galleries are tied to the brick wall by gun-metal ties, while for the west gallery of the nave ties were inserted at the floor level of the gallery where the wall of the narthex has most resistance.

The side galleries of the nave have no supporting wall at the back excepting that next the campanile, but the arcades that carry the vaulting are comparatively short and resistance to any forward tendency is provided by the main piers. It may here be mentioned that the vaulting of the crypt was also delayed until the superstructure was finished.

You now see that in no part of the cathedral does the main structure depend on marble columns, and this arrangement will be appreciated by those who have experienced the uncertainty of getting large marble monoliths delivered by a stipulated time. The Byzantine builders had the advantage in this respect; their quarries were often the dismantled basilicas and temples of the Romans, where they found columns ready to hand. But the primary objects in delaying the subsidiary parts of a building

give greater elegance to the eastern turrets and to bring this part of the building into closer harmony with the choir. To further this object the vaults over the organ-galleries are also exposed, the whole group presenting a subtle gradation of parts, more Oriental than the rest of the building, and perhaps more expressive of the internal arrangements.

The abutment for the main supporting arches of the sanctuary dome is provided by the staircase turrets on the east and by the transept piers on the west, while for the dome itself abutment is provided on the north and south by the vaults over the organ-galleries, on the west by the dome of the nave, and on the east by buttresses built on the wide supporting arch that forms part of the vaulting to the choir; these buttresses are stiffened by the outer wall of a passageway that passes through them to provide communication between the staircase turrets.

The circle developed by the pendentives is fifty-two feet in diameter. On the closely-boarded centering for this dome, other centering had to be constructed for the window openings, the reveals of which represent a series of counterforts all round the dome. Centering had also to be constructed for the wall of the drum or circular podium designed to disguise the counterforts and to protect the glazing from the drainage of the dome.

The cavities between this wall and the shell of the dome are covered by slabs of concrete weathered to a sunk gutter or channel near the outer edge that conveys the water to projecting spouts or gargoyles placed between the windows. The flat of the drum is covered with asphalt that passes partly up the dome under the outer covering as before described. The exposed vaulting and the pendentives around the dome are also asphalted; the wall of the podium is cemented. All cavities are ventilated by drain-pipes communicating with the outer air.

It would be convenient, now, to inspect the upper part of the choir, but we had better perhaps descend by one of the eastern turrets and begin at the bottom, on the very foundations of the church in fact. The floor of the choir is some thirteen feet above that of the nave, so it was almost impossible to avoid the formation of a crypt, only a very slight excavation being necessary to get the required height. The depth of this excavation was, however, limited to a level, below which it was impossible to go by an existing platform of concrete about nine feet thick that extends over more than half the site and served as the foundation for an earlier building.

As the top surface of this platform is practically the floor of the crypt the architect was anxious to dispense with footings around the apse inside, a slight departure from the Building Act that was graciously permitted; but on the outside footings were provided, though they were not a structural necessity. At that time these footings were covered by the ground that rose above the floor of the crypt, but a subsequent alteration of the levels led to their exposure and they are now again concealed by a retaining-wall that forms a low circular podium between the buttresses.

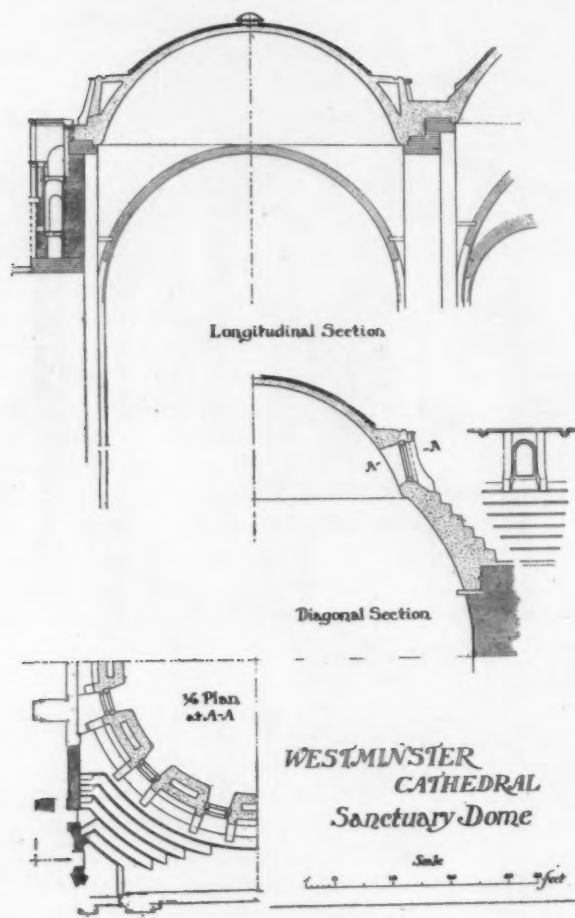
The eastern termination of the cathedral suggests the Romanesque or Lombardic style, if you will, of Northern Italy; the crypt opening into the church, with the retro-choir above, closely following S. Ambrogio's, Milan; the open colonnade under the eaves; the timber roof over the vaulting, are all familiar features. The huge buttresses, however, give distinction and resist the pressure of a vault having a span of forty-eight feet.

Up to nearly half its height this vault is a solid mass of brickwork roughly corbelled over to the curve and faced with concrete. Above this level the vault is a concrete shell eighteen inches thick at the bottom and twelve inches at the crown.

A retaining-wall of concrete is built on the haunches to receive the counterforts or sleeper walls, on which are placed the principal trusses of the roof. The buttresses of the apse rise to the height of the retaining-wall and the two are connected by massive concrete lintels formed across the gallery behind the buttresses. The gallery is covered with concrete slabs, cast *in situ*, that form a flat around the timber roof. To prevent the arcades of the gallery being pushed out by the expansion of the concrete the flat and the lintels were kept clear of the brickwork until the concrete had thoroughly set; the joints were then made good.

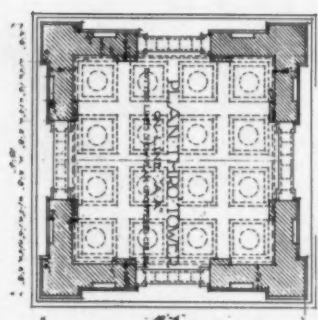
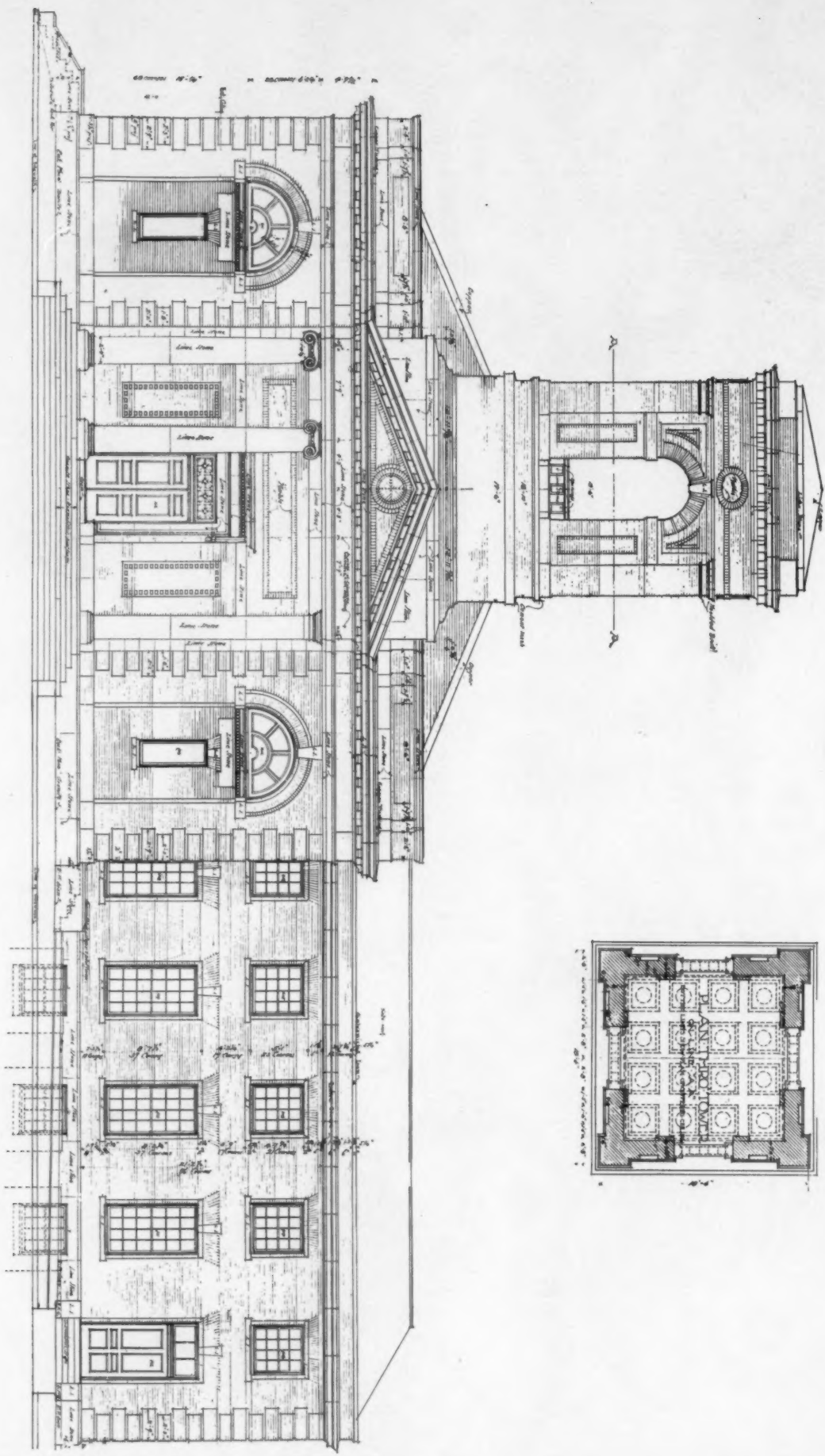
The retaining-wall above referred to was raised a little above the flat to form a curb on which is placed the wood plate for the rafters.

The asphalt covering of the flat is turned up the curb and under the plate, the joint being covered by the lead apron flashing of the eaves. The roof is ventilated by drain-pipes that pass



are, as you know, to give the main parts time to find their permanent settlement, and to avoid interference with the scaffolding and exposure to the weather. The accumulation of rain-water in the pockets of the upper vaulting of the cathedral was sometimes a great nuisance, and holes had to be left in the brickwork for temporary shoots or spouting. During the very hot weather when the domes were being turned they were sprinkled with water to prevent the concrete setting too quickly.

We are now in a position to examine the eastern dome that differs in several respects from those of the nave. Unlike the latter that seem to rest on the flat roofing of the church, the dome of the sanctuary emerges gradually out of the substructure, the extrados of the pendentives forming a pyramidal series of offsets or steps that follow the plan of the dome. The reason for thus exposing the pendentives outside was to limit the height of the supporting walls on the north and south so as to



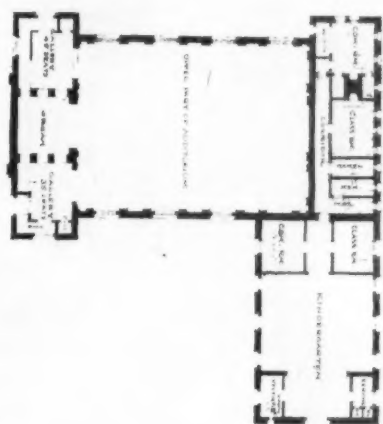
NORTH FRONT: CHURCH OF THE DISCIPLES, BOSTON, MASS.

James Purdon, Architect.

The American Architect and Building News.
Regular Edition.

Copyright, 1907, by The American Architect.

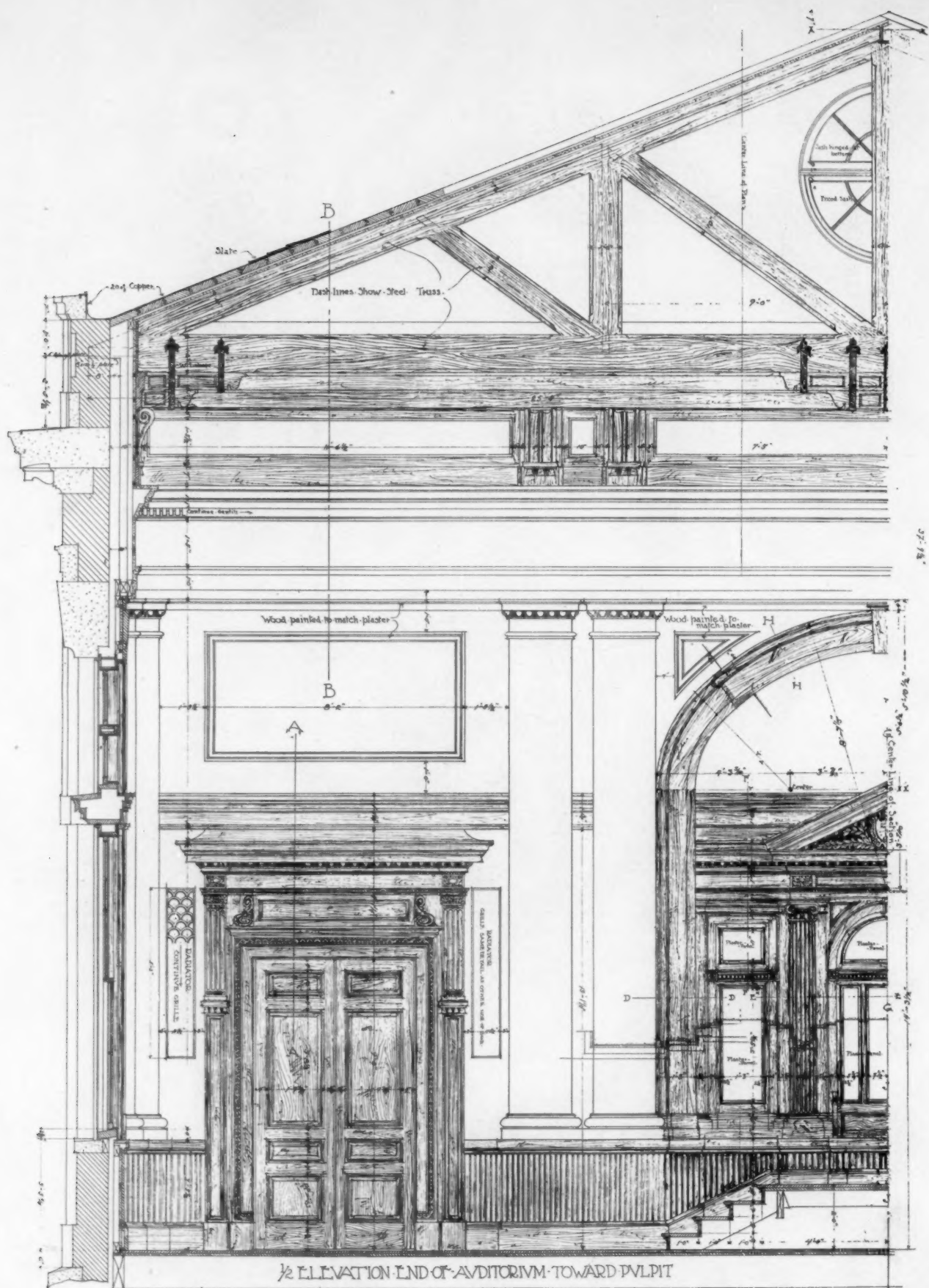
Volume XCI., Number 1538.
May 18, 1907.



**The American Architect and Building News.
Regular Edition.**

Copyright, 1907, by The American Architect.

Volume XCI., Number 1638.
May 18, 1907.



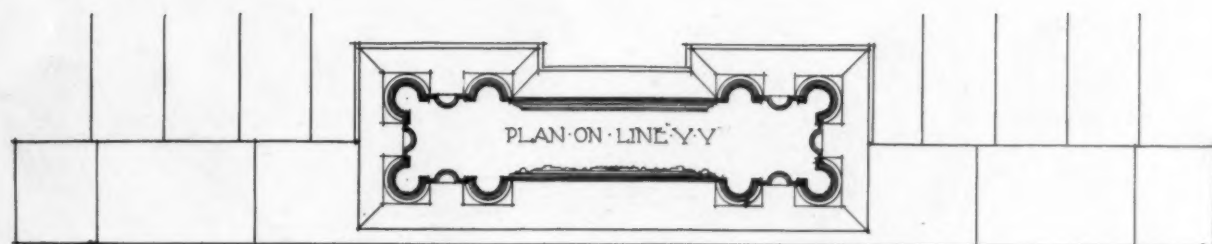
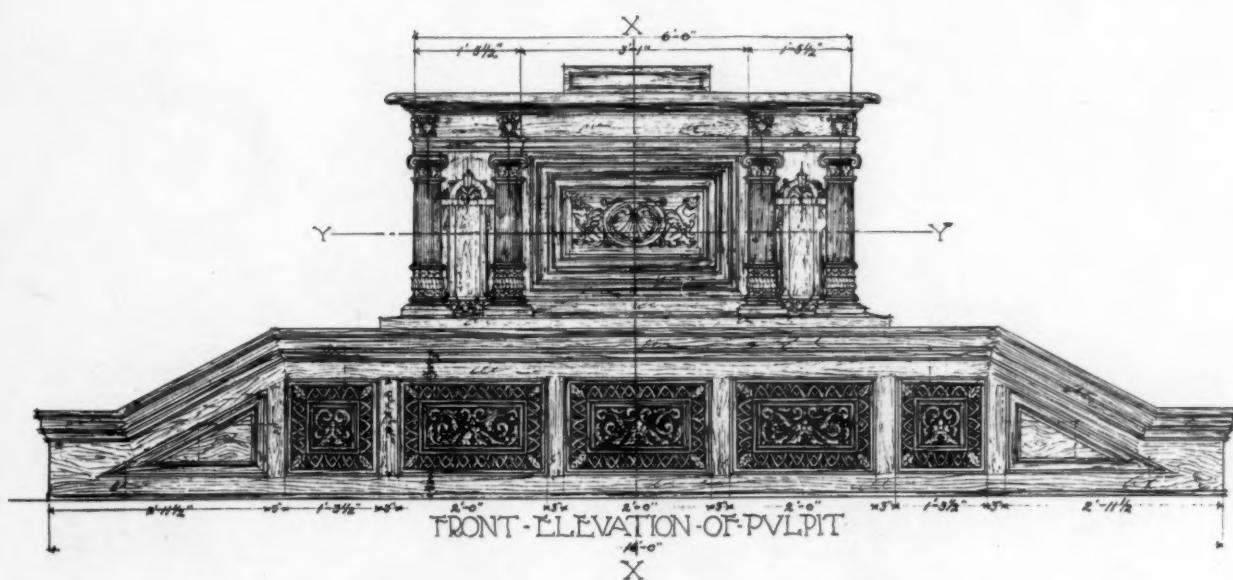
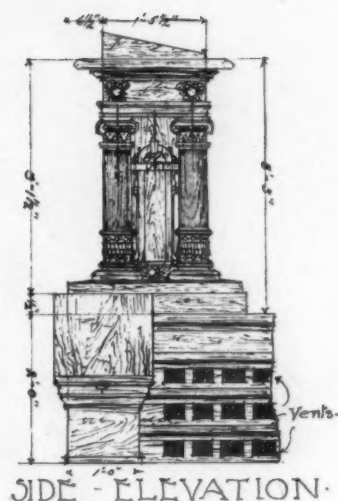
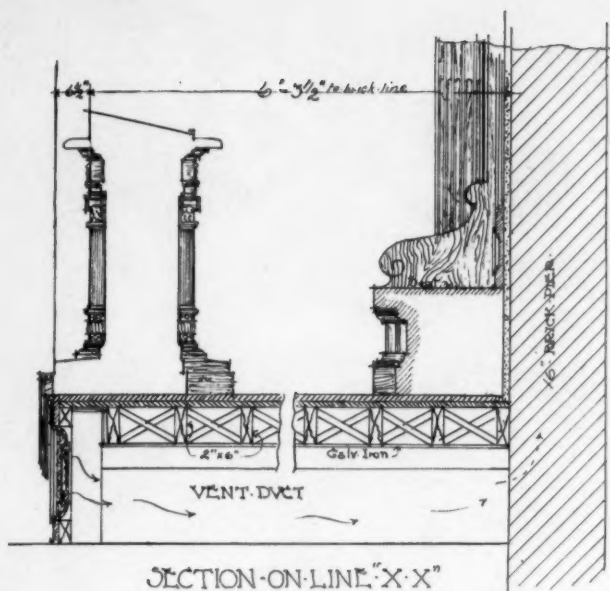
SECTION: CHURCH OF THE DISCIPLES, BOSTON, MASS.

James Purdon, Architect.

The American Architect and Building News.
Regular Edition.

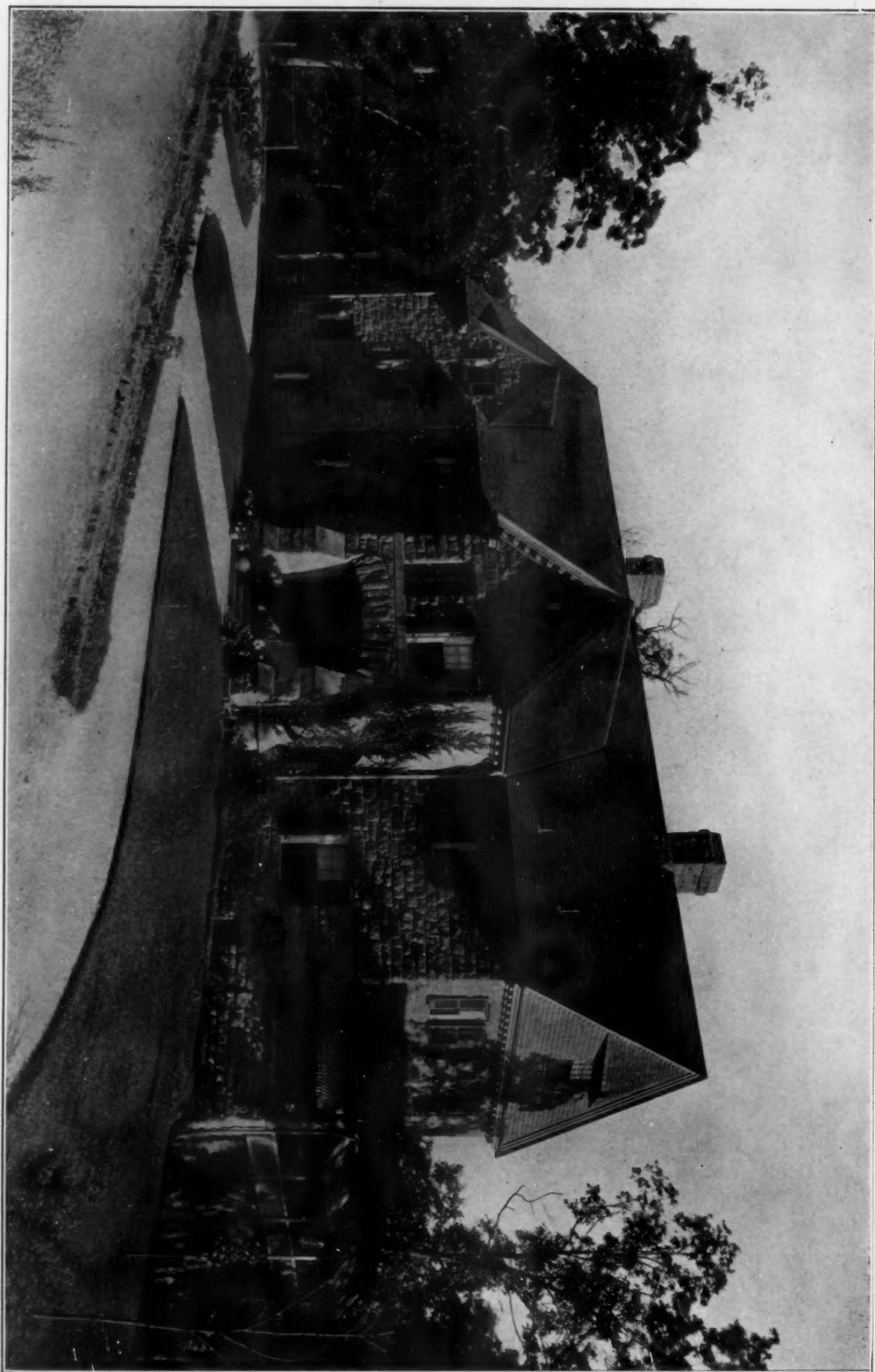
Volume XCI. Number 1638.
May 18, 1907.

Copyright, 1907, by The American Architect.



PULPIT: CHURCH OF THE DISCIPLES, BOSTON, MASS.

James Purdon, Architect.



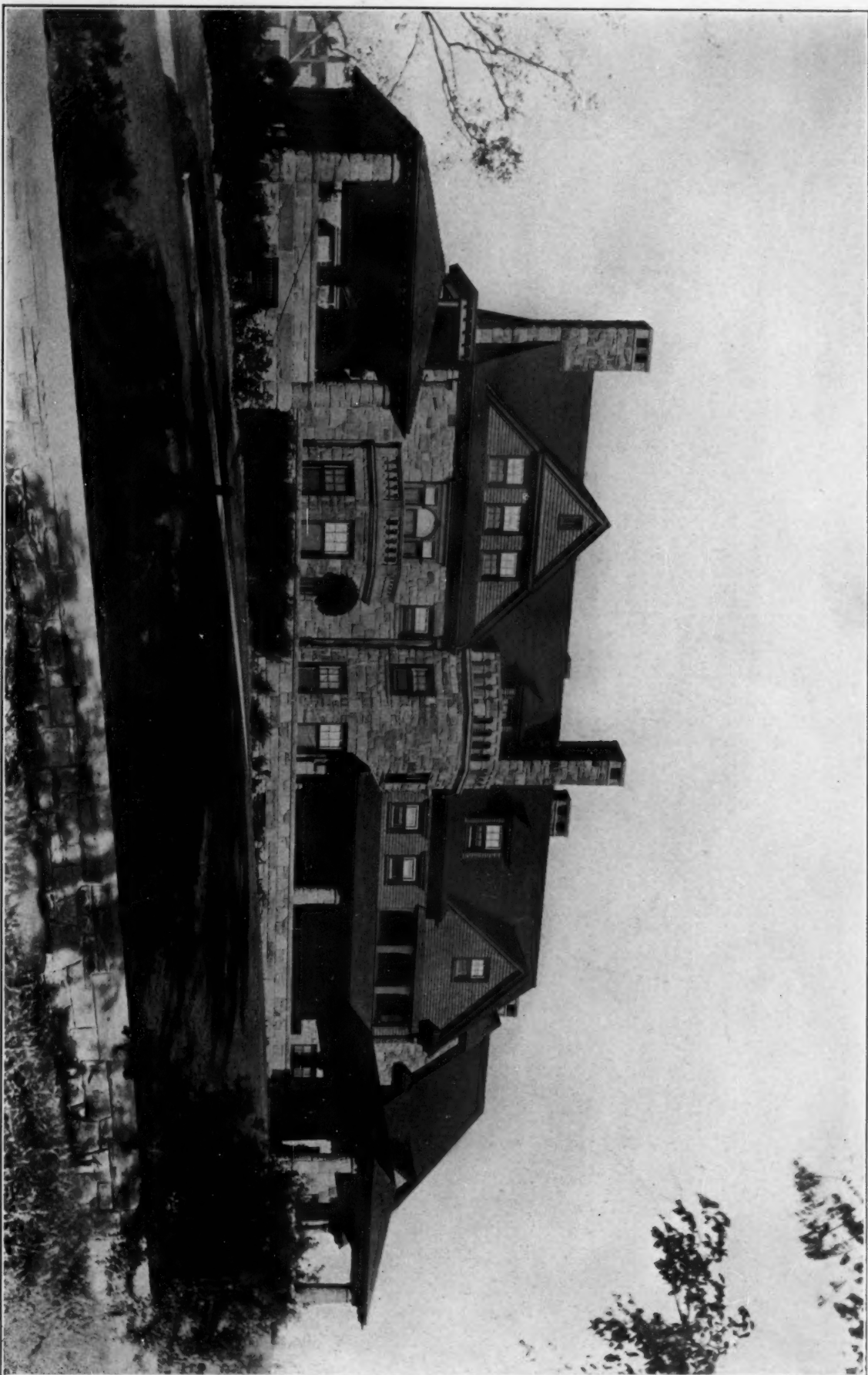
PONTERFRACT HOUSE, SEWICKLEY, PA.

Alden & Harlow, Architects.

The American Architect and Building News.
Regular Edition.

Copyright, 1907, by The American Architect.

Volume XCI, Number 1638.
May 18, 1907.



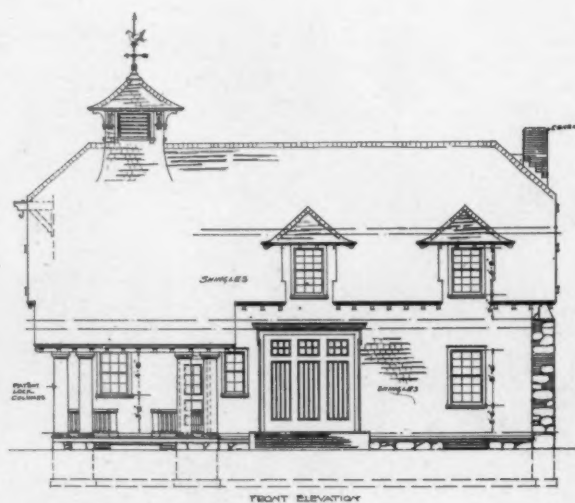
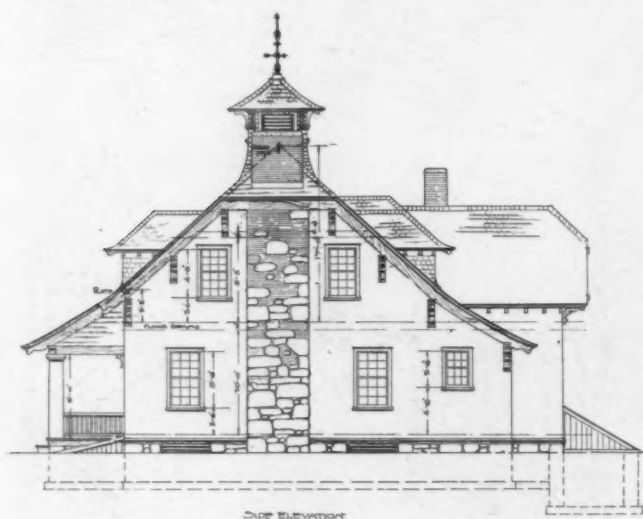
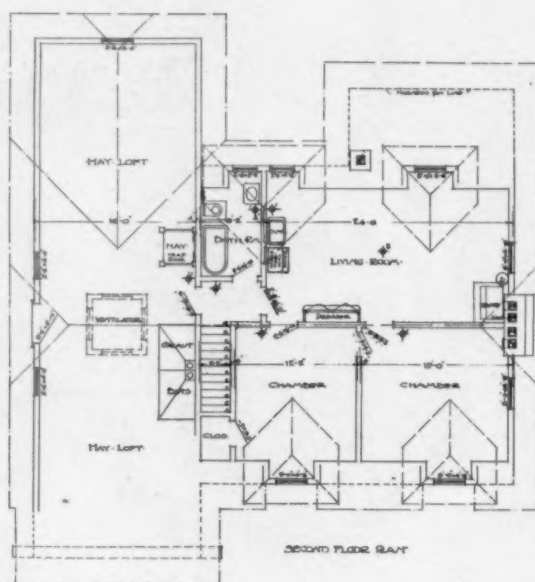
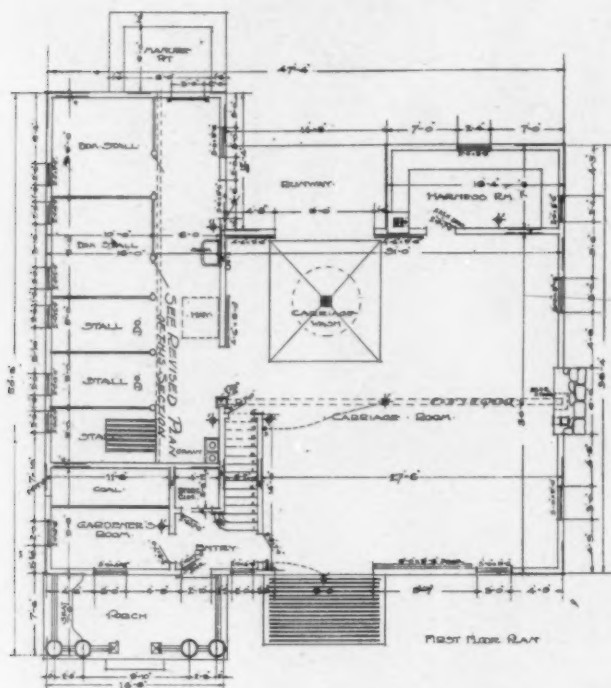
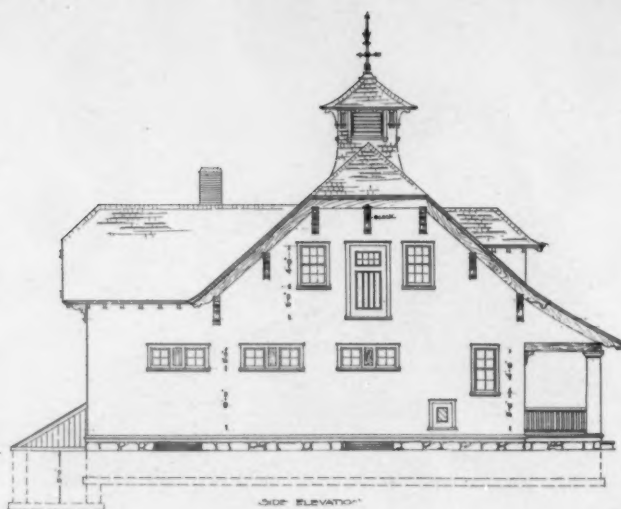
HOUSE OF W. L. MELLON, ESQ., PITTSBURGH, PA.

Alden & Harlow, Architects.

The American Architect and Building News.
Regular Edition.

Copyright, 1907, by The American Architect.

Volume XCI. Number 1638.
May 18, 1907.



STABLE FOR ASHBEL P. FITCH, ESQ., GREENWICH, CONN.

James E. Ware & Sons, Architects.



JOHN HANCOCK BUILDING, CONGRESS AND FRANKLIN STREETS, BOSTON, MASS.

Shepley, Rutan & Coolidge, Architects.

The American Architect and Building News.
Regular Edition.

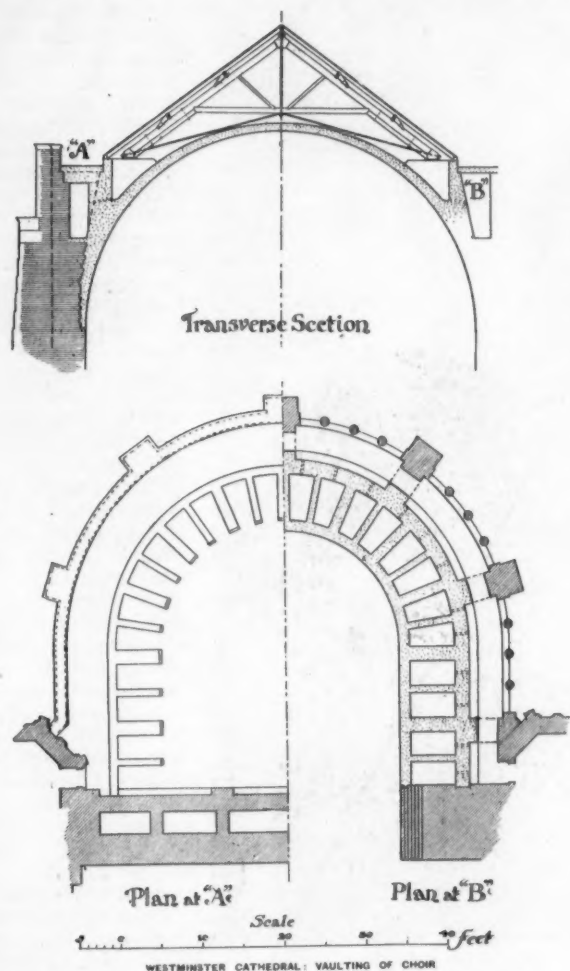
Volume XCI., Number 1638.
May 18, 1907.

Copyright, 1907, by The American Architect.

through the retaining wall to the gallery. To convey the water from the asphalt-flats throughout the building to the rain-water pipes a dish is formed in the concrete and at the bottom of the dish or cesspool a curved length of glazed earthenware drain-pipe is built in with the socketed end upwards, so that the asphalt could be turned down or dressed into the socket.

All rain-water conductors that are built into the brickwork are formed of glazed and socketed earthenware pipes.

But we must not linger over these details, neither have we time to ascend the campanile. We wish, however, before closing this section of our subject to draw your attention to two singularities in the construction that call for some explanation. First: Why should the vaulting in some cases be entirely of concrete and in others entirely of brick? Secondly: Why should some of the vaulting be protected by extraneous roofs while in other places its surface is fully exposed to the weather? Obviously, where the shell of the vaulting is of a graduated thickness, and curved on plan concrete is the strongest and most adaptable



material to use; the complications of groin-vaulting are also most readily cast in this material. So we find, for the pendentives and the domes, for the vaulting of the choir and chapels, for the more complicated vaulting of the crypt, aisles, baptistery, and porches concrete has been used, but for the vaulting of the transepts and the corresponding vaulting of the triforia brick is the material employed, in order that the deep soffits of the brick-supporting arches in front may appear as part of the vaulting behind and the line of junction between the two should not show, thus insuring a uniformity of surface texture until the unaffected dignity of the interior is impaired by the application of something more assertive and restless.

Respecting the contrariety of the roofing, it will be as evident to you as it was to the architect that a timber roof over the nave and sanctuary of low pitch would have been uncouth and harsh; such a roof would also have been commonplace; whereas these parts of the building have now a distinction not displeasing and

most interesting. Rising as they do from the mighty and unbroken podium afforded by the lateral chapels, they appear disdainful of protection and defy the elements.

But there is a law of contrast as well as of analogy. The limitations of this law are, however, easily exceeded and a watchful eye is necessary to prevent the intrusion of discordant elements. At the Westminster Cathedral the most striking instances of its application are afforded by the campanile and by the roofs and turrets of the transepts and the choir. Structurally, it would have been quite possible and more consistent to have exposed the vaulting outside throughout the building, and we can imagine what the effect would be. But the Greeks did not always expose their statues to the cold; they appreciated quite as much as we do the charm of the rippling garment; even Aphrodite was allowed the luxury of a pair of sandals. And so at the Westminster Cathedral the rounded surfaces of the vaulting are not everywhere exposed, but discreetly concealed in places by extraneous roofs suggestive in a measure of the forms beneath.

A piquancy and an interest are thus imparted to the design. We may theorize about discordant elements, but we are forced to acknowledge the refining influence of the artist's skill.

When we consider the execution of this great design, the way in which the various materials have been put together, it will be admitted that the extreme accuracy and neatness of the work are in striking contrast to that spontaneity and directness of purpose so evident in the Christian architecture of bygone times. These early buildings denote a readiness of execution resulting in a variation of texture quite unattempted, yet interesting and beautiful, and we like to think that this is not entirely due to the hand of time.

We also like to believe, though it may not be true, that when the ancient workman was bedding a stone or laying a brick or driving a pin through a tenon he was not ashamed to finish these slight operations before responding to the imperative call of the foreman's whistle. Nowadays it would seem a man may not do this; his work has no such fascination for him; at the shrill note of the clarion the implements of his toil drop from his hands like red-hot iron and he rushes from the scene as for very life. In these circumstances the architect feels that in the more tranquil atmosphere of his office, when the sublime and the beautiful are not forgotten, he must arrange for every stone and every brick throughout the building; nothing must be left to the workman's discretion or ingenuity, the serenity of the execution must not be impaired even by a putlog hole—and this reminds us that no such holes were permitted outside the Cathedral, where the scaffolding was arranged as for masonry.

The extreme precision of the execution just referred to, if it does not really betray the hand of the workman, is certainly expressive of Mr. Bentley's desire to soften down the asperities of architectural design. Anything harsh, uncouth, or "out of gear," as he termed it, was always avoided, and if this ultra carefulness sometimes led to a lack of vigor or directness it can truly be said that the mass of his buildings was never frittered away, the dignity of an unbroken roof or the surface of the walling was left unimpaired, the fenestration was faultless, the detail telling yet refined.

(To be continued.)

AN ISLAND CATHEDRAL FOR BOSTON.

MR. William Howe Downes, art critic of the Boston *Transcript*, has this to say in a recent issue of that newspaper: *

"Now that a cathedral for the Episcopal Church of this diocese seems assured, and the action taken by the diocesan convention in Boston on May 2 makes the project assume concrete form, with the munificent bequest of Miss Mary Sophia Walker as a million-dollar nucleus for the fund, it becomes a vital question whether there exists an appropriate site for the structure, or whether a site must be created. The choice of a site for a cathedral, as for any important edifice, is not an easy matter as one might suppose. In looking over the map of Boston and its suburbs, it will be found that cathedral sites do not abound, that there are very few open spaces suitable for such a purpose which are not objectionable, defective, or æsthetically impossible.

"Under these circumstances, it is natural to revert to the recent suggestion of the architects who, in the report of the committee on municipal improvements of the Boston Society of Architects, proposed the creation of an island in the Charles River Basin.

This scheme probably struck most of those who read the report as somewhat fantastic. The more it is considered, however, the more it appeals to the imagination as possessing great possibilities. As a site for a great cathedral, nothing could be better than an island in the middle of the Charles River Basin.

"It is natural to suppose that the idea was suggested by the Ile de la Cité in the Seine at Paris, but it makes no special difference how or where it had its birth, so long as it serves our own purpose and is feasible. An island extending from a point nearly opposite Deerfield Street to a point just below the Harvard Bridge, or to a point just below Dartmouth Street, would be equally accessible from Boston and Cambridge. It would occupy the strategic centre of what we hope is to be the future court end of the city. Being public land, the island could be made subject to whatever real estate restrictions might be deemed expedient for it. No other site would offer for a cathedral the unequalled advantage of perfect isolation, with the absolute impossibility of ever being hid from view by surrounding buildings.

"If, as I hope, the cathedral is to be a Gothic building, it ought to have a very lofty, beautifully outlined and well-proportioned stone tower, in which case the island site would insure perpetual and uninterrupted view of this tower from every point of view, with the reflection of it in the surrounding waters. Very many of the best Gothic cathedrals in the world suffer greatly from the encroachment of squalid surrounding structures. On the mainland the only means of guarding against such a deplorable condition would be to obtain control of a large amount of surrounding territory at vast expense.

"It seems to have been assumed by some persons that the Church of St. Botolph at Boston, England, would afford a desirable model for a cathedral in this city. This is an interesting suggestion, but it seems to me, on serious reflection, that it would be a mistake to copy any existing church. The old Boston "Stump" is a fine landmark, but what we want is a landmark of our own, and there is no reason in the world why we should not have it.

"We have in Ralph Adams Cram an architect of the first order, who is capable of giving us a Gothic cathedral plan worthy of the diocese of Massachusetts, an architectural monument which travelers would come from foreign countries to see, even as we go to Lincoln, York and Canterbury to-day. I do not say that this gigantic work could be done in a day or a year; cathedrals are not built in that way; but it can be done, and done in the right way, to last.

"Time is a matter which is of little importance. Most of the great cathedrals were from two hundred to four hundred years in the building, and when you see them you wonder it did not take longer.

"Plan No. 1 for an island in the Charles river (figure 36 in the Report of the Boston Society of Architects) is signed by R. A. Cram, and plan No. 2 (figure 39) is signed by Arthur S. Shurtleff. The only essential difference between these two plans is that Mr. Shurtleff's proposed island is longer than Mr. Cram's, extending eastward to a point just east of Dartmouth Street. The proposed site for the cathedral is the same in both plans—the west end of the island, about opposite Deerfield Street, Boston.

"The width of the Charles River Basin at the point where it is crossed by the Harvard Bridge is 2,200 feet. The proposal is to make the island 1,000 feet wide at its broadest part, leaving a 750-foot waterway on the Boston side, and a 450-foot waterway on the Cambridge side. The architects reason that the creation of the new land would pay the cost of the filling; besides this, they argue that it would save eventually an immense sum

in bridge-building by shortening the length of the bridges to be built in the future. They foresee that bridges will one day be needed at Dartmouth Street and at Deerfield Street, and under the conditions of Mr. Shurtleff's plan these two new bridges would be about 1,000 feet shorter by the creation of the island. If Harvard Bridge is ever to be replaced by a heavier and more adequate bridge, this, too, would be shortened by the same distance, nearly one-half its length.

"Mr. Cram's proposed island follows closely the Ile de la Cité in Paris. Mr. Shurtleff's island is about thrice as large. It would, in fact, create some six million square feet of new land. This would be an enormous undertaking, and its expense would be formidable. No attempt is made by either of the architects to estimate the cost of making the proposed islands. A compromise plan might be expedient; that is to say, two islands might be created, one in accordance with Mr.

Cram's scheme, and a second one opposite Dartmouth Street, with a wide gap between the two islands, extending, say, from opposite Exeter Street to opposite Hereford Street. If the creation of new land should be found to pay for itself, it would be easy to continue the filling-in-work in the future, so as to connect the two islands, as in Mr. Shurtleff's plan.

"At present I think not one Bostonian in a hundred realizes the marvellous possibilities of the Charles River Basin as a central metropolitan feature of our Greater Boston landscape. The dam is as good as an accomplished fact, and the fresh-water basin which ten years ago seemed like an iridescent dream "has come to stay." No town in the world ever had such an opportunity to make itself world-famous for stately beauty as Boston has in this Charles River Basin, and if it takes a century to develop the feature as it ought to be developed, it will still pay a thousandfold.



CHURCH OF THE DISCIPLES, BOSTON, MASS.
James Purdon, Architect.

"Now in all this magnificent scheme the island, which Mr. Cram's imagination pictures forth for us as a reality, with a cathedral at its western extremity, and the executive buildings of the Greater Boston (which is surely coming) at the other end—this island is a crowning detail and an essential factor. And why not make an island, since the whole Back Bay is "made" land? Was there ever a real estate operation which paid better returns than the filling-in of the Back Bay?"

"Notre Dame de Paris is the sole example of a great metropolitan cathedral built upon an island. The emplacement of Notre Dame is certainly very fine, but it would have been still finer if the space to the north and south of it had been kept open. The west front has a large square in front of it, which affords a good view of the rich façade and towers, and the east end, with its superb flying-buttresses is advantageously seen from both banks of the river; but the sides of Notre Dame, which are very rich and interesting, are masked by a crowd of buildings no farther away from the cathedral than the width of a street. The proposed site for the Boston cathedral on St. Botolph's Island would be better in several ways than the actual site of Notre Dame de Paris. In the first place, it is put on the west end of the island. The west front would face the river, with nothing between it and the water but a great open place planted with trees and shrubbery. If the western towers were approximately two hundred and twenty-five feet high they would be at about the same distance from the water on either hand as their height. The island would gradually narrow to a point at this end, bringing the shores near enough to the cathedral on the north and south to warrant the exclusive use of all the land at this extremity of the island by the cathedral grounds and buildings. Mr. Cram happily places the proposed Deerfield Street Bridge to the westward of the cathedral site, and arranges for a circle (or a circus, as they call it in London) in front of the cathedral. His sketch shows cloisters, chapter-house, lady-chapel, library and other customary connected structures appertaining to a cathedral. These extend both north and south of the main edifice, which has a long nave, a square apse, a rather faintly defined transept, and a lofty square tower at the crossing—not a mongrel pyramidal tower like that in the plan of the New York cathedral, but a true Gothic tower of the English type which our good friend Baedeker always refers to as 'Perp.'

"Mr. Shurtleff has apparently committed the solecism of making his cathedral face the east. He also suggests a building too small in scale, relatively to the size of the island. On the whole, Mr. Cram's plan has been more thoroughly studied, as will appear when one makes a comparative examination of the plans, and his island is better proportioned. It looks very real and feasible. Mr. Cram wishes his island to have high stone embankments crowned by balustrades, broken by statues, 'with domes and towers of public buildings, civil and ecclesiastical, rising above a circle of trees, the whole reflected in the still water,' etc. The vision is attractive, and, although it is now but a vision, it is to be remembered that no great public improvement of any kind ever created in the history of the world would have been realized if it had not been first conceived in the imagination of someone.

"Great schemes are always called visionary when they are first broached. It was not so very long ago that the Charles River Basin improvement was called visionary. 'Your old men shall dream dreams, your young men shall see visions,' said the Prophet Joel. There would be no progress if it were otherwise. It is the dreams and the visionaries, after all, that make possible great achievements. The imagination of the architect, who can see in his mind's eye how a plan is going to work out, is the endowment that makes him an artist."

COMMUNICATION

THE CATHEDRAL OF ST. JOHN THE DIVINE: A CRITICISM.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs:—I do not know much about the organization which is directing the work of building this edifice, but I notice in *Scribner's* April number an article by Mr. C. Grant La Farge which appears to be written in justification of the design, or in reply to certain criticisms, though I do not know from whom they emanated. Interest in such work prompts me to offer a few notes for publication, if you can grant the space.

Taking the article as it stands, I find at the outset the state-

ment that "the average American [which I suppose means the client here] demands a building like something [presumably ancient] already extant in Europe." [By the way, he has no difficulty in getting it; but, generally speaking, in piecemeal form taken from books and photographs, and combined in a more or less consistent entity. The Cathedral of St. John is no exception apparently, but the homogeneity it will present when completed is, to say the least, a moot point.]

The views given show very important characteristics differing from anything that Europe can show. A church tower 100 feet or more square capped by a spire, and Perpendicular windows 50 feet wide and about 60 feet high, over and among round-arch work, are suggestive of three and a half centuries difference in period and style. And practically, unless another Carnegie when these windows are made is at hand, willing to present stained glass to modify the light they admit, it will be very troublesome to the eyes of our descendants, not to mention the extra cost of warming in perpetuity which so much cold surface necessitates. This will be no small item, coupled with the cubical contents of a crossing and lantern to warm, comprising alone about two and a quarter million feet!

In analyzing the design generally, we find huge structural work at the last named point, already executed on the lines of Santa Sophia; suitable, and apparently intended to support a similar dome; an arrangement of pier unsuited altogether for a Gothic building, the principle of which is, never to provide a structural feature which is not absolutely required for the work to be done.

Next, we find an apsidal-ended choir in the style of the fifteenth century *as to its shell*, with enormous Perpendicular windows lighting chiefly blank and unseen wall-space; but giving so little light upon the altar—the focus of all eyes—that *skylights*, such as one would use in a factory, or studio, seem imperative though anomalous. I know of nothing in the cathedrals of Europe justifying such an apologetical procedure. The waste of money in the upper third part of this outer wall seems self-evident; and if, externally, it adds to importance, it certainly does not to either architectural fitness or beauty.

Then, within this fifteenth-century shell, a Romanesque arcade of colossal columns placed close together carries, by narrow stilted arches, a ramped semi-dome, ill-lighted, nearly all its contour in shadow, and very ill-adapted for display of mosaic. Too little light here, and far too much in the nave. The contrast between plain, huge columns of granite—a material indistinguishable a little way off—and highly ornate paneled screenwork and window is questionable, both as destroying scale, by dissimilarity in size, and by suggesting two epochs of construction, which is spoken of now as "falsifying history." As if intended to mark the contrast still more, the lower arcade of the choir is of less height than the triforium opening over it.

Another variation from general European practice (although there are precedents) is in making the choir vaulting about forty feet loftier than the nave. Scarcely any architect would assert that the useful Guastavino principle of roofing complies with the dictum laid down by Mr. La Farge that "true vaulting is the only possible thing," though, *per se*, a legitimate enough material. "The average American" may question it, even as I venture to do.

In regard to the plan shown, it is stated that it may be revised, and I venture to think that it is desirable; but, without pulling down the huge piers, nothing much can be done to the crossing to lessen obstruction. True, it will contain a large congregation, if hardy enough to sit through a service under a vast column of cold air, but most people in the nave and transepts beyond will not get much, or any, view of the choir or altar, even if they hear the sermon. The circular fronts to the transepts as a matter of taste have a questionable effect, and on account of height and width resemble a fortress church. In round apses in Europe the outer wall is low, and the inner one (over the arcade), which is concentric, leads the eye inwards and upwards, and retains the pyramidal effect of stability. The suggestion that these transepts will "serve to receive memorials" is unsatisfactory. It is now felt that the huge groups or life-sized statues, such as are seen in Westminster Abbey, are quite out of place in a church, and that the mural or flat brass on the floor is sufficient record. In this case, only the first named would doubtless be entertained, and walls, say 100 feet high, in any case are not needed for them. The outer part might as well be screened off at half distance from the crossing, so far as its possibility as part of the auditorium is concerned.

Mr. La Farge writes of the great obstruction by columns at Rheims. That cathedral was intended for the Romish ritual and not for Anglican. In spite, however, of their number, the actual blocking of the choir in that large and broad area is much less than it is at St. John's. The same fault applies to the choir itself. One notes eighteen columns crowded in that portion and only eight in the nave, where the very wide bays go to the opposite extreme of expansion, destroy the scale, and take off from the appearance of length also. As to the walls of the nave going up "in one unbroken line," it breaks the "traditions of Gothic," which is said at the outset to give us the best motif. It is an absolutely Classic method and wasteful of material, while the placing of clerestory upon the inner wall would give not only the same floor area, but admit also ample light. With seven chapels at the east end, and a crypt available if needed, chapels each side of the nave are unnecessary in a Protestant church. If a large morning chapel were required, one of the transepts could be adapted without being missed.

Although important collaterally, space forbids much reference to details. The "sort of pendentive vaulting," as the method of passing from square to octagon sides of lantern is little better than a sham; while the general design of string-courses, ornaments, and general "trim" is weak, and out of harmony with a round-arch style of architecture.

To sum up the result of a consideration of the building in its present state, it seems that much of the huge framework is a needless outlay, superfluous in a Gothic cathedral; that a great mistake has been made by changing a possibly good Byzantine design into a bad Gothic one; that matters have gone too far to rectify them in choir or crossing, and that a reconsideration of the nave should be made before it is too late, to save money, and avoid a still more hybrid effect. The suggestion to leave all judgment to a future generation is a shirking of responsibility. Suppose that "an enlightened people's" judgment is adverse when the mischief is of years standing! Is this not likely to be the case, when constant changes are made, and there is, and has evidently been from the outset, *no settled plan*, worked out, laid down, and adhered to? In the hands of the talented and autocratic Richardson the present state of things could not have happened, and under contract the work would by this time have been two-third's completed, before the public lost interest. I am no captious critic, have no interest to serve beyond the desire to see a monument of the twentieth century worthy of a great city. The architects, having to deal with committeemen with different fancies, need to take a firm stand, repress and guide them, or failure must result.

Yours obediently,

CANDIDUS.

ILLUSTRATIONS

CHURCH OF THE DISCIPLES, PETERBORO AND JERSEY STREETS, BOSTON, MASS. MR. JAMES PURDON, ARCHITECT, BOSTON, MASS.:
FOUR PLATES.

PONTEFRAC HOUSE, SEWICKLEY, PA. MESSRS. ALDEN & HARLOW, ARCHITECTS, PITTSBURGH, PA.

STABLE FOR ASHBEL P. FITCH, ESQ., GREENWICH, CONN. MESSRS. JAMES E. WARE & SONS, ARCHITECTS, NEW YORK, N. Y.

HOUSE OF W. L. MELLON, ESQ., PITTSBURGH, PA. MESSRS. ALDEN & HARLOW, ARCHITECTS, PITTSBURGH, PA.

JOHN HANCOCK BUILDING, CONGRESS AND FRANKLIN STREETS, BOSTON, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, BOSTON, MASS.

Additional Illustrations in the International Edition.

M'KINLEY HIGH SCHOOL, ST. LOUIS, MO. MR. W. B. ITTNER, ARCHITECT, ST. LOUIS, MO.

FIRST CHURCH OF CHRIST, SCIENTIST, AND THE LINDELL EXCHANGE OF THE BELL TELEPHONE CO., ST. LOUIS, MO. MESSRS. MAURAN, RUSSELL & GARDNER, ARCHITECTS, ST. LOUIS, MO.

ENTRANCE TO JOHN HANCOCK BUILDING, BOSTON, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS.

PUBLIC LIBRARY, RACINE, WIS. MESSRS. MAURAN, RUSSELL & GARDNER, ARCHITECTS, ST. LOUIS, MO.

NOTES AND CLIPPINGS

THE WATERLOO VASE.—The first Napoleon adopted several measures to celebrate his victories, and in that way painters and sculptors obtained many important commissions. He was not satisfied with statues, and he resolved to have the biggest vase in the world fashioned in marble as a field for the representation of his victories. He obtained three of the finest blocks which Italy could yield. But before they were handed over to the sculptor the French Empire collapsed. The Grand Duke of Tuscany considered they would be an acceptable present for George IV., who, recognizing the purpose for which they were originally intended, gave a commission to Sir Richard Westmacott for a colossal Waterloo vase, and the marble would thus by one of the ironies of fortune be made to represent the downfall rather than the triumph of Napoleon. When the work was completed it was about 16 feet in height, the largest diameter was about 10 feet, and the weight was no less than 20 tons. When King William IV. came to the throne the vase appeared to him to be a sort of white elephant in stone. The National Gallery, which was then a new institution, was considered a suitable depository for it, and in 1835, before Wilkins's building was completed, the vase was placed in the hall. It was soon recognized as a nuisance, for it was an obstacle to the ingress and egress of visitors; and besides, in days when iron or steel girders were not available, a dead weight of 20 tons on a confined area was fraught with danger. The opening of the South Kensington Museum afforded an opportunity which was seized. But it was even more dangerous in its new abode, and the resolute Henry Cole had it taken to pieces and put out of sight. The trustees of the National Gallery were, however, in an official sense its possessors, and inquiries about the manner in which they discharged so onerous a trust were made from time to time. But the area of the National Gallery was more insufficient than before, and the dangerous gift was kept at a distance. Then the subject was brought under the consideration of the Office of Works, without avail. Finally, His Majesty, with his customary good nature, graciously offered to allow the unfortunate vase to be set up in the grounds of Buckingham Palace, and there it is, for the present at least.—*The Architect*.

THE EXCAVATION OF HERCULANEUM.—The Under Secretary for Public Instruction, Signor Ciuffelli, replying in the Chamber of Deputies on April 24 to a question on the subject of the excavations at Herculanum, said the Government intended soon to begin the work. It would be given a thoroughly national character, but the advice of foreign experts would be gratefully accepted. Signor Ciuffelli explained that the nature of the work will not permit of extensive operations. It would be necessary to proceed gradually and thus find out the best way to continue the work. If the present, ordinary appropriation turns out to be insufficient, the Government will present a demand for further funds.—*Exchange*.

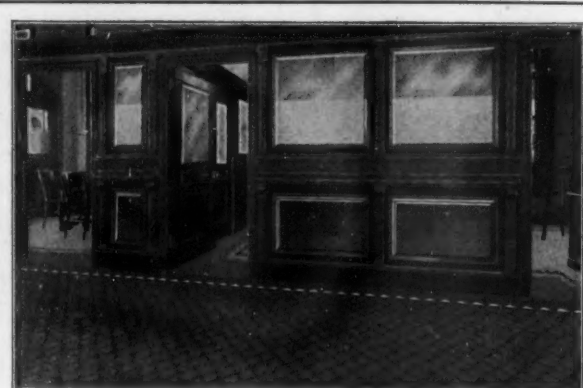
CAST-IRON AND ITS QUALITIES.—The strength of cast-iron has recently been the subject of a discussion by the Birmingham Association of Mechanical Engineers. To some engineers all cast-iron is alike; but, as Mr. F. J. Cook, who introduced the subject, showed, those who are brought much into contact with foundry work know that the strength, hardness, and ability of cast-iron to resist corrosion vary enormously. Much depends upon the conditions attending the casting, and in particular upon the rate of cooling after running the molten metal. It is a matter of common knowledge that cast-iron can be made exceedingly hard and strong by casting it in an iron mould, the iron of which acts as a chill. The rate of cooling, and hence also the hardness and strength of a casting, is greatly influenced by the shape and thickness of the metal, and in general a heavy casting is weaker than a fairly small one run from the same metal. The amount of carbon present in the iron is of importance, and especially so the form in which it exists, whether combined or in the separated (graphitic) form. The latter iron is the softer and easier to work. Silicon up to about 2 per cent. has a marked effect on iron, increasing the strength. Sulphur tends to make iron hard but brittle by increasing the combined carbon. Manganese has a somewhat similar effect. Either too high or too low a casting temperature leads to weak castings, whatever the quality of the iron used.—*The Building News*.

INTERLOCKING RUBBER TILING

Made in One Quality Only—THE BEST

Noiseless, non-slippery, sanitary and extraordinarily durable, the finest floor that can be laid in business offices, banking rooms, court rooms, vestibules, halls, billiard rooms, cafes, libraries, churches, hospitals and hotels. It is specially adapted for steamships, yachts, etc., standing without cracking or separating, the

Manufactured under our Patent and sold only by us and our Authorized Agents. BEWARE OF INFRINGERS



As laid by us in the office of the Empire Trust Co., 42 Broadway, N.Y. City

straining and racking of the ship. Each Tile is interchangeable and distinct, but shaped so as to lock firmly into the surrounding Tiles. The interlocking feature produces a solid rubber floor, unlimited in size or shape, with all the durability of the hard tile, without its liability to damage

Estimates, Designs and Samples furnished on application. Send for Special Catalogue

PATENTED AND MANUFACTURED SOLELY BY

NEW YORK BELTING & PACKING CO., Ltd.,

91-93 Chambers St., New York City

Philadelphia, 116-120 N. Eighth St.; Chicago, 150 Lake St.; San Francisco, Oakland, Cal., 918 Broadway; Boston, 232 Summer St.; Buffalo, 600 Prudential Building; Pittsburg, 528 Park Building; Indianapolis, Ind., 220 South Meridian St.; St. Louis, 218 Chestnut St.; Baltimore, 114 West Baltimore St.; London, Eng., Arthur L. Gibson & Co., 10 to 21 Tower St., Upper St. Martin's Lane, W. C.

POSITIONS OPEN.

WANTED—Architectural draughtsman; state experience and salary expected. Pollmar & Ropes, Architects, Detroit, Mich. (1637-1638)

WANTED—Architectural draughtsman well up in details. White & Hussey, Architects, Lansing, Mich. (t.f.)

POSITION WANTED.

YOUNG ARCHITECT desires re-engagement; 27 years of age, over 10 years' general experience; design, working and detail drawings, perspectives. Reply, Box 583, Wilmington, N. C. (1638)

POSITION WANTED—Architectural draughtsman, American (29), with 8 years' experience on fine city and country work, also industrial plants, desires engagement in a first-class office as draughtsman or outside superintendent; salary \$25-\$30 per week. Address 20-B, care American Architect. (1638)

ARCHITECT—Age 34; 17 years' experience in U. S. Government and private work; expert in sanitation, hydraulics, heating, specification and superintendence; will consider assuming charge of business management of large office; salary only, or salary and interest in business; Chicago preferred. Address 20-A, care American Architect. (1638)

PROPOSALS.

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 4, 1907. Sealed proposals will be received at this office until 3 o'clock p. m., on the 13th day of June, 1907, and then opened, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. Post Office building at Meriden, Connecticut, in accordance with drawings and specifications, copies of which may be had at the office of the Custodian of the site at Meriden, Connecticut, or at this office, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1637-1638)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 6, 1907. Sealed proposals will be received at this office until 3 o'clock p. m., on the 17th day of June, 1907, and then opened for the construction (complete) of the U. S. Post Office at Webster City, Iowa, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Webster City, Iowa, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1637-1638)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 13, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 11th day of June, 1907, and then opened, for the steam heating and ventilating apparatus, etc., complete in place, for the U. S. Court

PROPOSALS.

House, Custom House and Post Office building at Seattle, Washington, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Seattle, Washington, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1638-1639)

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 13, 1907.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 24th day of June, 1907, and then opened, 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, Utah, in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Custodian at Ogden, Utah, at the discretion of the Supervising Architect.—James Knox Taylor, Supervising Architect. (1638-1639)

SUMMER SCHOOL OF PAINTING

VINEYARD HAVEN, MASS.
(Island of Martha's Vineyard) Conducted by
ARTHUR R. FREEDLANDER
Third Season, June 15th to Sept. 15th
Special course for Students of Architecture to develop facility in the handling of color. Three criticisms per week. For prospectus, address
A. R. FREEDLANDER, 80 W. 40th St., New York

of 638 Hudson Street, Hoboken, for a five-story brick building, 50x75 feet, to be erected on Garden and Third Streets, Hoboken. The front is to be of pressed brick, with limestone trimmings. Cost, \$50,000.

HOUSTON, TEX.—James Bute is having plans prepared by Ollie J. Lorehn for erection of building, 175x200 feet, four stories and basement, brick or reinforced-concrete; cost, \$75,000 to \$85,000. Structure will be occupied by the James Bute Company for central warehouse.

Plans for the construction of a new building by Mr. James Bute are now being made by Architect Lorehn. The building will be located at the corner of Main and Commerce Streets, and will cover a ground space of 175x200 feet, and will be four-story and basement. It has not been definitely

decided whether the building will be built of brick or of reinforced-concrete. The estimated cost is \$75,000 to \$85,000.

INDIANAPOLIS, IND.—P. H. Fitzgerald has ordered plans prepared by C. A. Wallingford, Central Trust Building, for an apartment-house to be erected on St. Clair and Meridian Streets. Bids will be received as soon as plans are completed. The estimated cost is \$200,000.

Philander H. Fitzgerald has ordered plans and will soon ask for bids for the erection of a 615-room flat on corner St. Clair and Meridian Streets. Estimated cost, \$200,000. C. A. Wallingford, architect.

IRONVILLE, O.—C. A. Parsons, Cleveland, O., is organizing a company for \$200,-

000 for the erection of a steel plant at Ironville

JAMESTOWN, N. Y.—A \$75,000 building for the Y. M. C. A. is contemplated.

JEFFERSONVILLE, IND.—It is stated that plans are being prepared for a hospital which it is proposed erecting here for the Sisters of Mercy (Sister Regina, Sister Superior). The cost is to be about \$50,000.

JOLIET, ILL.—It is stated that a new prison is to be erected, at a cost of \$500,000.

KANSAS CITY, Mo.—It is said that a \$75,000 church will be built by the Dominican Fathers on Twenty-third Street. Reverend Father M. A. Horrigan may be addressed.

In all Modern Building Operations

WHETHER CONSTRUCTION, REMODELLING OR IMPROVEMENT, THE LUXFER SYSTEM OF PRISM LIGHTING PLAYS AN INCREASINGLY IMPORTANT PART.

The day has passed when architects or builders looked upon Luxfer installations as experiments.

LUXFER has proven its worth and efficacy in solving daylighting problems whether involving overhead or underground illumination.

Another development is equally marked. Luxfer no longer is confused with so-called "glass prisms," but stands alone as a dependable medium for the transmission and scientific diversion of daylight to a given point to supply an evident deficiency.

LUXFER is a "prism" and LUXFER is "glass," but no "glass prism" other than our own is "Luxfer." The difference is the difference between results and dissatisfaction—between science and guesswork—which facts most architects and builders are fully aware of.

AMERICAN LUXFER PRISM CO.

160 Fifth Ave., New York

BOSTON. CLEVELAND. CHICAGO. SAN FRANCISCO

ARCHITECTS who are unfamiliar with the economical, durable, sanitary, artistic and fireproof qualities of Tiling as a covering for floors and walls in hospitals, railroad stations and all public buildings, and for the bath-rooms, kitchens, laundries, mantels, fireplaces, vestibules and porches of private residences, should write for

Tile in Economical Building

Durability of Tile

and other booklets, sent free to any architect by the

Information Bureau of Tile Industry

70 Corcoran Building
WASHINGTON, D. C.

Orient Building Company, H. A. Garvey, manager, will erect office-building after plans by John H. Stem, Indianapolis, Ind.; 96x115 feet, sixteen stories, 400 or 500 rooms, copper window frames, elevators, fireproof, roof garden, having an area of 9,200 square feet; cost, \$700,000.

Chas. F. Smyth will erect apartment-house after plans by John W. McKecknie; four stories, 136 feet frontage, twenty-four apartments, vitrified brick and cut stone, ornamental-iron porch rails, tile roof; cost, \$70,000.

Congregational B'nai Jehudah has awarded contract to Taylor & Winn Construction Co. for erection of temple; Bedford limestone; cost \$150,000.

Victor H. Laederich awarded contract to George L. Brown for erection of office-building after plans by Frank S. Rea; 37½x130 feet, eight stories, steel construction, finished in gray brick and terra-cotta trimmings, 75 rooms; cost, \$200,000.

LANCASTER, O.—Bids are asked by trustees Boys' Industrial School, C. B. Adams, secretary, until noon, May 23, for labor and materials required in the erection of a cottage at the Boys' Industrial School, near Lancaster. Plans and specifications at the office of Richards, McCarty & Bulford, Ruggery Building, Columbus, O., and with Mr. Adams at Lancaster.

LEWISTOWN, MONT.—Bids are asked by the County Commissioners of Fergus County, until May 15, for the erection and completion of a Court-house, fireproof construction. C. L. Myersick, County Clerk.

LEXINGTON, KY.—Press reports state that the trustees of the Bible College are preparing to erect dormitory to cost from between \$50,000 to \$60,000. J. W. McGarvey is president.

LINCOLN, NEB.—C. R. Richards, Dean of Engineering, University of Nebraska, writes that it is proposed to erect a building to be used for laboratories of the Department of Mechanical Engineering. It will probably be of brick, with reinforced-concrete floor construction. Probable cost, \$100,000. J. S. Dales, secretary Board of Regents.

LITTLE ROCK, ARK.—H. A. Bowman, Little Rock, Ark., is preparing plans for office-building; nine stories, 75x140 feet, steel construction with brick and stone walls, fireproof; cost, \$125,000.

Announcement was made last week that H. A. Bowman, a Little Rock real estate dealer, is having plans drawn for a nine-story steel office building to be erected on this property, on the southeast corner of Fourth and Main Streets. As planned, the building will cost \$125,000 and will be a steel fireproof structure with brick and stone walls. The lower four floors will be equipped for a department-store business, while the upper five floors will be for offices. The building is planned to occupy the entire lot, which is 75 feet wide and 140 feet deep.

LONG ISLAND CITY, N. Y.—Reports state that a ten-story brick and steel terminal station and office-building is to be erected by the Degnon Real Estate Terminal Com-

pany at the corner of Van Alst and Hunter's Point.

LOS ANGELES, CAL.—Harrison Albright is said to be preparing specifications for a ten-story 150x123-foot fireproof store and office-building which is to be erected by the Consolidated Realty Company on Hill and Sixth Streets, at a cost of about \$450,000. Bids for the construction are to be asked, according to reports, as soon as the specifications are completed.

H. Albright, architect, Laughlin Building, has prepared plans for a ten-story office-building for the Consolidated Realty Company, on Sixth and Hill Streets, to cost about \$400,000.

LOUISVILLE, KY.—It is reported that W. H. Labb and associates are planning the erection of building combining theater and office here, to cost \$250,000.

A fifteen-story office building, to cost \$600,000, is to be erected here, according to reports. Arthur E. Mueller & Co. can give details.

LYNN, MASS.—The erection of a \$400,000 Court-house is reported contemplated. No site selected; details undecided.

MAYESVILLE, KY.—First National Bank will have plans prepared by Richards, McCarty & Buford, Columbus, O., for bank building; five stories, fireproof, forty-eight offices; cost, \$75,000.

MEMPHIS, TENN.—It is stated that \$125,000 has been raised with which it is proposed erecting a Y. M. C. A. building.

MENOMINEE, MICH.—The Methodist Church (Rev. W. M. Todd) is considering a \$50,000 church.

Modern! Reliable! Accessible!



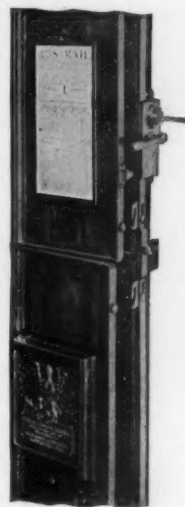
SECURITY MAIL CHUTE

¶ The interior of the chute presents a continuous smooth surface to a letter moving downward. One lock controls the letter inserts and admits to the inside of the chute, which is accessible only to government officials as provided by law. :: ::

¶ Thoroughly modern. We are willing to install our mailing system for less money. A considerable item in any building. Have you seen our new catalog?

U. S. MAIL CHUTE EQUIPMENT CO.
Fullerton Bldg. ST. LOUIS

THE CUTLER MAILING SYSTEM



MODEL C, OPEN.

IS EXPLICITLY AUTHORIZED BY THE POST OFFICE DEPARTMENT UNDER PROVISION OF A SPECIAL ACT OF CONGRESS AND SHOULD BE SPECIFIED WHERE THE STANDARD AUTHORIZED MAIL CHUTE EQUIPMENT IS DESIRED.

DESIGNATE "MODEL C" IF THE VERY LATEST AND BEST FORM AS ILLUSTRATED HERewith IS REQUIRED. INTERIOR UNDER GOVERNMENT LOCK BUT INSTANTLY ACCESSIBLE TO AUTHORIZED PERSONS.

INSTALLED IN CONNECTION WITH THE U. S. FREE COLLECTION SERVICE UNDER THE CUTLER SERIES OF MAIL CHUTE PATENTS ONLY BY THE SOLE MAKERS,
THE CUTLER MANUFACTURING CO.
CUTLER BUILDINGS, ROCHESTER, NEW YORK.

MILWAUKEE, WIS.—Kirchhoffer & Rose, 201 Grand Avenue, are reported to have prepared plans for a residence to be erected for Jos. Uihlein on the Lake Drive, at a cost of about \$60,000.

MINNEAPOLIS, MINN.—Mrs. E. C. Gale will erect a six-story store and flat-building at Tenth Street. Estimated cost, \$100,000.

E. J. O'Brien will erect a new \$50,000 store-building at Nicollet and Seventh Streets.

MOBILE, ALA.—The erection of a \$35,000 edifice for the St. Francis Street Baptist Church is reported under consideration.

It is said that the University of Alabama, Tuscaloosa, Ala., has adopted plans by Rudolph Benz & Sons for improving buildings of Medical Department at Mobile. Plans call for the erection of two wings on the east and west sides of present building, respectively, to be used for clinical and pharmacological purposes. Electric lights and gas will be installed. Dr. Rhett Goode, Mobile, dean.

MONTCLAIR, N. J.—Boards of School Estimates on April 28 adopted a motion recommending the appropriation of \$175,000 for the building of 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.—The City Council is reported to be considering the erection of a city hospital, at a cost of \$75,000.

The Greater University bill, recently passed at Montgomery, Ala., includes ap-

propriations for the following: \$400,000 for buildings at the University; \$224,000 for buildings at Technological Institute, Auburn; \$200,000 for buildings at the Girls' Industrial School, and \$50,000 for buildings at the Boys' Industrial School.

MONTREAL, CAN.—Ross & Macfarlane, architects, Bank of Ottawa Building, Montreal, have prepared plans for the new school building to be erected on Westmount Avenue. The building will be 165x65 feet, two stories and basement, constructed of pressed brick with stone trimmings, and is estimated to cost \$125,000.

The authorities have decided that the medical building of McGill University will be rebuilt, at a cost of about \$750,000, immediately. W. Peterson is principal.

MUSCATINE, IA.—It is stated that plans are being prepared for an edifice which is to be erected for the members of the First Congregational Church, at a cost of about \$50,000.

NASHVILLE, TENN.—Mr. S. Hartman has received plans and specifications from Architect G. L. Lockhart, and the actual construction work on the big six-story reinforced-concrete building that is to be built at 919-921-923 Broadway, will be started within the next few days.

NEWARK, N. J.—Rev. Michael J. White, pastor of St. Columbia R. C. Church, is stated to have announced that in the spring a school is to be erected at South and Thomas Streets, to cost about \$50,000.

The congregation of the Oheb Shalom, it is stated, has secured a site and intends erecting a synagogue, to cost about \$70,000.

NEWARK, O.—The vestry of St. Paul's Episcopal Church, it is reported, propose erecting a \$40,000 edifice.

NEW BEDFORD, MASS.—Plans are being drawn by Architects Maginnis, Walsh & Sullivan, of 100 Boylston Street, Boston, for a \$100,000 Roman Catholic church, owned by the parish of St. John the Baptist, of New Bedford, and to be erected on Wing and Fifth Streets. Details are undecided.

NEW BRUNSWICK, N. J.—The American Concrete-Steel Company, of Newark, N. J., has secured the contract for the construction of a three-story and basement office-building for the New Brunswick Fire Insurance Company. The building will be 50x156 feet, and constructed entirely of reinforced-concrete, at a cost of \$100,000. Geo. K. Parsell, supervising architect.

NEW HAVEN, CONN.—Reports state that plans are on foot looking towards the erection of a \$700,000 hotel, to be a nine-story steel structure, containing 300 rooms.

NEW YORK, N. Y.—Estimates are receivable by Messrs. Clinton & Russell, 32 Nassau Street, for the twenty-story office structure which Edward Holbrook, 6 East Fifty-second Street, will erect at 15-19 Maiden Lane, running through to 18-22 John Street, to cost in the neighborhood of \$750,000. Five old buildings will be demolished. No contracts have yet been issued.

Architect L. A. Goldstone, 110 West Thirty-fourth Street, has plans under way for a high-class apartment-house to be



The
Northwestern
Terra Cotta Co.
CHICAGO
manufactures the
Highest Grades of
ARCHITECTURAL
TERRA COTTA
ENAMELED
WORK
A SPECIALTY

ARCHITECTURAL ORNAMENTS

OF THE HIGHEST ORDER

Papier-Mache, Compo, Staff and Plaster

also

Wood Carving and Modeling



CHARLES EMMEL

(ESTABLISHED 1884)

383 Albany St.,

Boston, Mass

Cornices, Modillions, Friezes,
Capitals, Consoles, etc.

Models made for Wood and Stone
Carving, Cement and Metal Castings

EXECUTING WORK FROM ARCHITECTS' DRAWINGS IS OUR
SPECIALTY

situated on Riverside Drive, the southeast corner of 139th Street, at an estimated cost of \$225,000. The Ludlow Realty Company, 100 Broadway, is the owner.

The whole block front on the west side of Broadway, between Eighty-sixth and Eighty-seventh Streets, owned by Charles T. Barney, is to be improved by the erection of a high-class elevator apartment-house, for which Messrs. Clinton & Russell, 32 Nassau Street, have been commissioned to prepare plans.

Messrs. Clinton & Russell, 32 Nassau Street, are now receiving figures for the handsome new structure which the Lawyers' Title Insurance and Trust Company, of 37 Liberty Street, will erect at once on the site of the old Guernsey Building, covering 160 to 164 Broadway, running through with a frontage at 6 Maiden Lane. C. H. Southard, Wrecking and Trucking Company, Ninth Avenue and Fifteenth Street, is rapidly tearing down the old structure, which is immediately opposite the new Singer Building tower and the Broadway entrance of the new City Investing Company's building, in Broadway and Cortlandt Street. The new building will be eighteen stories high. No contracts have yet been issued.

The Horn & Hardart Baking Co., 818 Chestnut Street, has purchased the properties at 232 to 210 South Tenth Street, and rear, and upon the combined lot, measuring 78x188 feet, will be erected a four-story reinforced-concrete and brick restaurant and bakery building, as soon as plans are complete. The cost will be \$125,000.

In addition to a restaurant on the first floor, 40x60 feet, the roof will be finished as a garden and restaurant.

Rouse & Sloan, architects, 11 East Forty-third Street, have prepared plans for an annex to the apartment-building "Hendrik Hudson" at corner of Riverside Drive, 111th Street and Broadway, for the Hendrik Hudson Company, Geo. F. Johnson, Sr., president. The building will be twelve stories high, 175x90 feet; Roman light brick, Flemish bond, limestone and terracotta, Italian villa style, with steel skeleton, fireproof construction, iron stairs, marble treads, electric wiring, etc. Cost, \$500,000.

OAKLAND, CAL.—H. J. Hardenburgh, of New York City, is said to be preparing plans for a \$2,000,000 hotel which is to be erected here.

OKLAHOMA CITY, OKLA.—C. F. Colcord is said to be contemplating the erection of an eight-story office-building or hotel on Grand Avenue and Harvey Street.

OKMULGEE, I. T.—A \$60,000 modern hotel is to be built here by the citizens of the town. Address the Town Clerk for particulars.

OMAHA, NEB.—Plans have been prepared by Architect John Latenser for the new memorial hospital at Twenty-second and Howard Streets. Cost, \$75,000.

The Sisters of the Good Shepherd, it is said, will erect a private chapel at Fortieth and Jones Streets, to cost \$50,000.

Fisher & Lawrie, architects, have plans about completed for the new office and exchange building for the Independent Telephone Company, near Twentieth and Har-

ney Streets. It will be two-story and basement, 50x110, dark Roman pressed brick, Bedford cut-stone, modern throughout. Cost, \$60,000.

PAINESDALE, MICH.—It is said that a high school, to cost \$100,000, will be erected.

PHILADELPHIA, PA.—Henry E. Batton, it is reported, will erect for J. G. Brill Company a \$50,000 steel and galvanized-iron building at Sixtieth Street and Woodland Avenue.

Reports state that a new parish house will be built at the northeast corner of Fifty-first and Spruce Streets for the Church of the Reconciliation, from plans and detailed specifications by Churchman & Thomas, architects.

It is said that a large factory will be built at the southwest corner of Twelfth and Callowhill Streets for Wolf Brothers, from plans and detailed specifications by Stearns & Castor, architects. Designs show eight story building, measuring 100x130 feet. It will be built of brick, stone, and iron, fireproof, and have steam heat, electric light, elevators, etc. Cost, \$200,000.

PITTSBURG, KAN.—Plans for the new Century building, at Pittsburg, as drawn by Architect C. W. Terry, have been accepted, and bids opened. The building is to be 50x170 feet and five stories in height, with a full basement. The plans call for a steel and stone structure below the second floor and steel and brick above. The basement will be the feature of the building, which is to cost \$100,000. It will be fitted for a billiard hall and barber shop. Marble stairs, tile floors and marble wainscoting will be

Unsightly Coal Windows

ARE EYESORES



Pat. Oct. 16, 1906.

Showing chute closed and door automatically locked inside. The door being closed flush with the wall.

door to close flush with the wall. Also has a self-locking device for holding door open and for locking when closed. Can be placed in old walls as well as new. Write for Catalogue.

THE CHAPPELL FURNACE COMPANY

MORENCI, MICH.

The Majestic Coal Chute

A sure cure for Smashed Sash, Broken Glass, Splintered Siding, and Soiled Foundation.

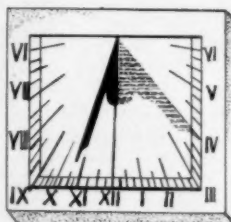
No. 1.
19 x 15, \$8.00

No. 2.
24 x 15, \$10.00

No. 3.
30 x 20, \$15.00

Freight allowed to points east of the Mississippi River.

Made of heavy wrought steel, and has an adjustable hopper, which swings into the chute, allowing the



SUN DIALS

for
BUILDINGS

Marble, Granite or Stone
Write for Special Propositions to Architects
SUN DIAL Box 434 Pittsburgh, Pa.

PHOTOGRAPHY

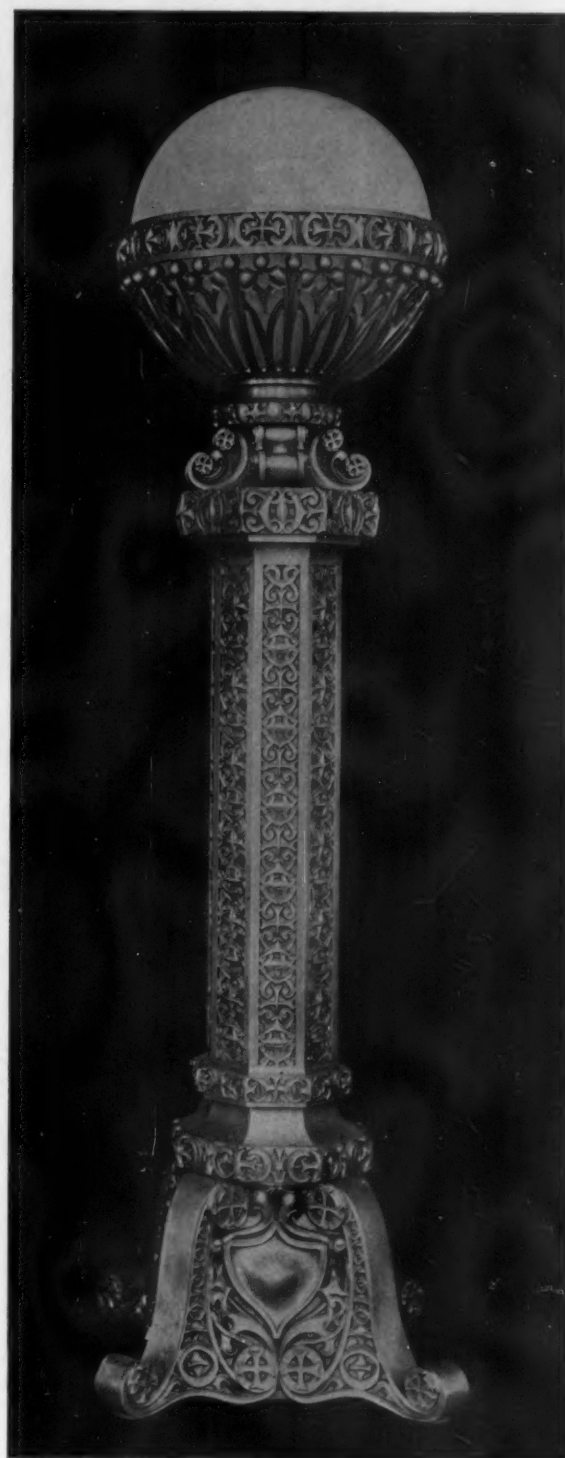
We are now prepared to execute high class photographic work at a moderate price.

- ¶ OUTDOOR AND INDOOR VIEWS
- ¶ COPIES OF DRAWINGS IN LINE, MONOCHROME OR COLOR
- ¶ NEGATIVES UP TO 11x14 INCHES
- ¶ PRINTS OF ANY KIND

FOR PARTICULARS ADDRESS

THE AMERICAN ARCHITECT

No. 12 West 40th Street, New York



BRONZE ELECTROLIER

ROCKEFELLER BUILDING, CLEVELAND, O.

KNOX & ELLIOTT, Architects

The Winslow Bros. Company

ORNAMENTAL IRON
and BRONZE

CHICAGO

NEW YORK

Modern Hot Water

Supply for Residence Use secured
by means of the

MONARCH WATER HEATER

Instantaneous supply to every faucet in the house, within 30 seconds. No waits. No waste of gas or water. No storage boiler needed, but can be used with kitchen boiler when desired.



Everything modern in gas water heaters—with agents in all parts of the country. Be sure the Lion's Head is cast in relief, which is a guarantee of quality secured in no other heater.

MONARCH WATER HEATER CO.
Pittsburg, Pa.

WRITE US FOR NEAREST BRANCH

Special Extra Numbers to International Studio

Limited Editions

No Reprints

The publishers reserve the right to advance price
after the date of publication

Paper Wrappers, \$2.50 net; Post, 25 cts. Cloth, \$3.00 net; post, 35 cts.

English Country Cottages

223 Illustrations

15 Color Plates

Studio Year Book of Decorative Art, 1907

A Guide to the Artistic Furnishing of the House.
Many Hundreds of Illustrations, including
Numerous Colored Plates

"Full of suggestions and admirable hints."—*The House Beautiful* on 1906 issue

The Art Revival in Austria

MODERN PAINTING

ARCHITECTURAL REVIVAL

MODERN PLASTIC ART

DECORATIVE ART

220 Illustrations, 18 Special Color and
Photogravure Plates

JOHN LANE COMPANY, NEW YORK

NEW ADDRESS:

110-114 WEST 32d STREET

incorporated. The interior of the entire building will be finished in quartered oak. The promoters are A. H. Greef, F. H. Fitch and A. H. Schlanger.

POTTSVILLE, PA.—A large Y. M. C. A. building will be erected at Pottsville, Pa., from plans and detailed specifications by Paul A. & Seymour Davis, architects of this city. The new building will be constructed of brick and stone, and have steam heat, electric light, and latest appliances in all lines. Cost, \$100,000.

PROVIDENCE, R. I.—It is stated that plans for the contagious ward and the other buildings which are to constitute a part of the City Hospital have been completed by Martin & Hall, Union Trust Building. The cost of the work complete, it is reported, is to be about \$175,000.

RABUNGAP, GA.—It is reported that it is proposed to erect a \$50,000 dormitory at the Rabungap Industrial School as a memorial to the late Judge Logan E. Bleckley. Prof. Andrew J. Ritchie, director of the school.

REDWOOD CITY, CAL.—Plans have been prepared by Glenn Allen, 330 Turk Street, San Francisco, Cal., for the new San Mateo County Court-house. Cost, \$120,000.

RENO, NEV.—Frank Boulden is reported to be arranging to establish a hotel, estimated to cost \$400,000.

RICHMOND, IND.—A fund of \$100,000 has been raised for the construction of a Y. M. C. A. building, plans for which have been approved and, it is stated, bids will be invited soon.

ST. LOUIS, MO.—Central Presbyterian

Church (Rev. J. L. Mauze, pastor) will erect edifice, 96x172 feet, three stories, brick, Carthage stone and terra-cotta; gas and electric lighting, steam heat; cost, \$50,000. Plans have been prepared by Mariner & Le Beaume.

The Delmar Real Estate Company, 4738 to 4744 McPherson Avenue, will erect a business house, at a cost of \$75,000.

ST. PAUL, MINN.—Plans have been prepared by Architects Thori, Alban & Fisher for a hotel building at Ninth and St. Peter Streets. Cost, \$150,000.

ST. PETER, MINN.—The State Legislature appropriated \$587,000 to the State Insane Hospital here. Several new buildings will be erected at once.

SALT LAKE CITY, UTAH.—The Salt Lake Security Trust Company has decided to increase the cost of the new apartment-house which it will erect on Second East Street, between Second and Third South Streets, from \$125,000 to \$150,000.

SAN ANTONIO, TEX.—The hotel to be erected here by L. I. Hart and associates is estimated to cost \$1,000,000. It will be nine to ten stories. Alfred Giles, architect.

SAN FRANCISCO, CAL.—The Lent Estate Company will build a \$250,000 four-story Class A structure at the corner of Post Street and Grant Avenue, and has applied for a building permit.

E. I. Delger will erect a four-story Class A \$150,000 building at the southwest corner of Market and Sixth Streets. H. Barth, 2500 Fillmore Street, is architect.

A building will be erected on the block bounded by Beach, Jefferson, Hyde and

Leavenworth Streets. It will be a four-story brick building for the California Fruit Cannery Association, to cost \$200,000.

The C. A. Schmitt estate has applied for a permit to erect an eight-story Class A office-building, to be located on Bush Street, between Kearny Street and Clara Lane, and to cost \$175,000.

SEATTLE, WASH.—A. W. Gould, architect, has plans for a seven-story concrete building for the Gaffney estate and J. M. Buttneck. Cost, \$100,000.

The members of the Westminster Presbyterian Church, it is stated, are considering the erection of an edifice, to cost about \$50,000.

SELMA, ALA.—It is said that the members of the Harmony Club will erect a club-house, to cost about \$50,000.

ST. LOUIS, MO.—The English Lutheran Society proposes the erection of a church, to cost \$50,000.

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

Trustees of the First Presbyterian Church, of Spokane, have bought a site, 50x142 feet, at Fourth Avenue and Lincoln Street and will erect a new building, to cost \$100,000. Dr. G. Wm. Giboney is

— WATER —

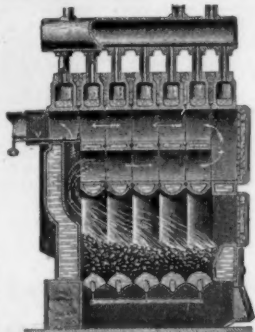
**Rider & Ericsson
Hot-Air Pumping Engines**

If water is required for household use, lawn, flower beds or stable, no pump in the world will pump it so safely, cheaply and reliably. No danger, as from steam. No complication, as in gasoline engines. No uncertainty, as in wind-mills. Prices reduced. Catalogue "B" on application.

RIDER-ERICSSON ENGINE CO.

35 Warren Street, New York.
239 Franklin Street, Boston.
234 Craig Street, West Montreal, P. Q.
22 Pitt Street, Sydney, N. S. W.

40 Dearborn Street, Chicago.
40 North 7th Street, Philadelphia.
Amargura 90, Havana, Cuba.



THE H. B. SMITH CO.
133-135 CENTRE ST. NEW YORK

MANUFACTURERS

**Steam and Water
Heating Apparatus**

Factory: Westfield, Mass.

ESTABLISHED 1853. NEW YORK, PROVIDENCE,
Send for Catalogue. PHILADELPHIA.

EG. SOLTSMANN
DRAWING MATERIALS
125 E. 42ND ST. NEW YORK

Write for Price List No. 12 of
DRAWING MATERIALS
and Samples of Papers



ELECTRIC LIGHT PRINTS

Prices for LARGE PRINTS
up to 4 1/2 x 12 ft.

BLACK PRINTS	on Paper	Sq. Ft.	3c
BLUE PRINTS	on Paper	" "	2c
BLACK } or Blue }	on Cloth	" "	5c

Write for Sample Prints

— Mention this Journal when ordering —

pastor of the congregation. The chairman of the building committee is William Burnes.

August Paulson has awarded contracts for \$20,000 to John Zirngibi for the excavation and steel construction of an eleven-story office-building with three-story cupola, to be erected at Stevens Street and Riverside Avenue, to cost \$750,000. J. K. Dow, architect, of Spokane, who prepared the plans, has arranged for a modern building on a concrete foundation.

C. E. Bray, of Chicago, personal representative of Martin J. Beck, of the Orpheum Theatrical Circuit, announces that the company will expend \$175,000 on a new vaudeville house in Spokane this season; also that in the neighborhood of \$1,000,000 will be invested in the five houses to be erected in Spokane, Tacoma, Portland, Seattle and Vancouver. Mr. Bray added that his principal has options on several desirable building sites and that upon his return from the Coast to Chicago the contracts will be closed and work begun soon afterward.

SPRINGFIELD, ILL.—It is stated that an \$80,000 addition is to be erected to the convent of the Lady of the Sacred Heart.

SPRINGFIELD, MASS.—Fred. S. Hinds, 19 Milk Street, Boston, has been selected as architect and engineer for the proposed building of the Phelps Publishing Company. It will be built entirely of reinforced-concrete, with its façade of about 300 feet on Worthington Street, 100 feet frontage on Broadway and a like frontage on Water Street.

SUSANVILLE, CAL.—The erection of a jail, at a cost of \$15,000, or the erection of a combined Court-house and jail, at a cost of \$60,000, is reported under consideration.

SYRACUSE, N. Y.—Plans have been completed by Architect A. L. Brockway, Syracuse Savings Bank Building, for the Yates Hotel annex. Cost, \$300,000.

TELEDO, O.—E. O. Fallis, The Nasby, is stated to have prepared plans for a seven-story reinforced-concrete building which is to be erected, at a cost of \$125,000.

It is reported that plans are being prepared for the seven-story pressed-brick and concrete building which is to be erected on Superior Street for Ralph King.

Architects Bacon & Ruber, Spitzer Building, are making plans for a seven-story office-building which is to be erected on Superior Street by Ralph King, of Cleveland, O.

One hundred and twenty-five thousand dollars is to be raised, two-thirds of that amount having already been subscribed, for the erection of a newsboys' building and auditorium in this city. John E. Gunkel is president of the Newsboys' Association. Architects Bacon & Huber have prepared sketches for the above building.

The local Young Women's Christian Association has raised \$100,000 by popular subscription and will shortly begin the erection of a building costing that amount. No architect has yet been selected.

Architect H. W. Wachter, Nasby Building, has awarded the contract to the Columbia Construction Company, Cleveland, O., for erecting a three and six-story flat and apartment-building for Miss Mary Calkings, Monroe and Scottwood Avenue. The estimated cost of the building is \$150,000. It is to be of pressed brick, fireproof, be equipped with elevators and finished in hardwoods.

TORONTO, CAN.—It is stated that a five-story warehouse is to be erected by D. McCall & Co., at a cost of \$70,000, on Wellington Street.

TRENTON, N. J.—Hampton W. Cook proposes to erect a Y. M. C. A. building, 100x

65 feet, at Greenwood and Olden Avenues. Estimated cost, \$150,000.

WASHINGTON, D. C.—The following architects, it is stated, have been invited to submit plans before June 15 for the proposed building to be built for the Bureau of American Republics, at Washington: Carrere & Hastings, 28 East Twenty-first Street, New York; Eames & Young, Chestnut and Seventh Streets, St. Louis; Cass Gilbert, 79 Wall Street, New York; Hornblower & Marshall, 1516 H Street, northwest, Washington; Thomas R. Kimball, Omaha; Peabody & Stearns, Exchange Building, Boston; Whitfield & King, 160 Fifth Avenue, New York, and Wood, Donn & Deming, Washington.

It is stated that the members of the Cosmopolitan Baptist Church are considering the erection of a \$100,000 edifice.

Mrs. A. C. Barney has been granted a permit to erect a brick and stone residence at 2223 R Street, northwest, to cost \$45,000. Geo. O. Totten, Jr., architect.

Plans are being prepared by Bruce Price & de Sibour, architects, of New York and Washington, for a nine-story office-building to be erected for W. O. N. Scott, at the northeast corner of Fifteenth and F Streets, Washington, D. C., which, when completed, will form one of the most important improvements made in the business section. The building complete will cost about \$300,000. It is the intention of Mr. Scott, however, to erect only half of the structure at the present time. The building is planned in the Louis XVI. style of architecture. Its exterior will be constructed entirely of limestone, with a roof laid in blue slate with copper.

Plans are being prepared by Architect Horace Trumbauer, Land Title Building, Philadelphia, Pa., for a residence at 1620 New Hampshire Avenue, for Perry Belmont. Cost, \$500,000.



The "GLOBE" Ventilator

IN BRASS, COPPER, GALVANIZED IRON
AND WITH GLASS TOPS FOR SKYLIGHT PURPOSES

SIMPLE SYMMETRICAL STORM-PROOF EFFECTIVE

FOR PERFECTLY VENTILATING BUILDINGS OF EVERY CHARACTER

Smoky Chimneys Cured  Globe Ventilated Ridging

MANUFACTURED BY

SEND FOR MODEL AND PAMPHLET

GLOBE VENTILATOR COMPANY, TROY, N. Y.

AMERICAN

ALSEN CEMENT

Yearly Capacity, over 2,000,000 Barrels

"THE ABSOLUTELY SAFE"

45 BROADWAY, NEW YORK

GERMAN

Classified Index to Advertisements

(FOR ALPHABETICAL LIST SEE PAGE 42)

- AIR DIFFUSERS.**
New York Blower Co., Chicago.....
- ARCHITECTURAL ORNAMENTS.**
Emmel, Charles, Boston.....
Knoche & Steves, Cincinnati, Ohio.....
Plastic Relief Mfg. Co., Chicago, Ill.....
- ARTIFICIAL MARBLE.**
Mycenian Marble Co., New York.....
- ASPHALT.**
Barber Asphalt Paving Co., Philadelphia, Pa.....
Neuchatel Asphalt Co., New York.....
- ASPHALT ROOFING.**
Barber Asphalt Paving Co., Philadelphia, Pa.....
Bird, F. W., & Son, East Walpole, Mass.....
- BRONZEWORKE (Ornamental).**
Gorham Mfg. Co., New York.....
Jackson, Wm. H., Co., New York.....
Winslow Bros. Co., The, Chicago, Ill.....
- CAPITALS AND COLUMNS.**
Hartmann Bros. Mfg. Co., Mount Vernon, N. Y.....
- CARPETS, RUGS.**
W. & J. Sloane, New York.....
- CEMENT.**
Alsen's Cement Works, New York.....
Atlas Cement Co., New York.....
Chicago Portland Cement Co., Chicago.....
St. Louis Portland Cement Co., St. Louis, Mo.....
Universal Portland Cement Co., Chicago.....
- CHIMNEYS.**
Weber Steel Concrete Chimney Co., Chicago, Ill.....
- COAL CHUTES.**
Chappell Furnace Co., Morenci, Mich.....
- COLUMNS (Lock Joint).**
Hartmann Bros. Mfg. Co., Mount Vernon, N. Y.....
- CONCRETE PILING.**
Ailing Construction Co., Chicago.....
Corrugated Concrete Pile Co., New York.....
Engineering Contracting Co., Baltimore.....
Miller, William L., Boston.....
Raymond Concrete Pile Co., Chicago, Ill.....
- CONTRACTORS AND BUILDERS.**
Frank B. Gilbreth, New York.....
Underwriters' Engineering and Construction Co., New York.....
- CORDAGE.**
Samson Cordage Works, Boston.....
- CORRESPONDENCE SCHOOLS.**
American School of Correspondence, Chicago.....
- DETAIL PAPER.**
Mittineague Paper Co., Mittineague, Mass.....
- DOORS (Inlaid Wood).**
E. J. Davis Mfg. Co., Chicago.....
- DOORS (Fireproof Metal-covered).**
Thorp Fire Proof Door Co., Minneapolis, Minn.....
- DRAUGHTSMEN'S SUPPLIES.**
Favor, Ruhl & Co., New York.....
Soltmann, E. G., New York.....
- ELECTRIC SIGNALS.**
Elevator Supply & Repair Co., New York.....
- ELEVATORS, ETC.**
Otis Elevator Co., New York.....
- ENGINES (Hot Air).**
Rider-Ericsson Engine Co., New York.....
- FILTERS.**
Loomis-Manning Filter Co., Philadelphia, Pa.....
- FIREPROOFING.**
Associated Expanded Metal Co., New York.....
Clinton Wire Cloth Co., Clinton, Mass.....
Expanded Metal and Corrugated Bar Co., St. Louis.....
Gilbreth, Frank B., New York.....
Imperial Expanded Metal Co., Chicago.....
National Fireproofing Co., Pittsburgh, Pa.....
Trussed Concrete Steel Co., Detroit.....
Underwriters' Engineering and Construction Co., New York.....
- FIREPROOF LATHING.**
Hayes, Geo., New York.....
- FLOOR POLISH.**
Butcher Polish Co., Boston.....
- GLASS GLOBES.**
Holophane Glass Co., New York.....
- GRATES, MANTELS, ETC.**
Wm. H. Jackson Co., New York.....
- HARDWARE.**
Stanley Works, New Britain, Conn.....
Yale & Towne Mfg. Co., Stamford, Conn.....
- HEATING APPARATUS (Hot Water).**
Gurney Heater Mfg. Co., Boston.....
H. B. Smith Co., New York.....
- HEATING APPARATUS (Steam).**
Smith Co., H. B., New York.....
- INSULATED WIRE.**
The Okonite Co. (Ltd.), N. Y.....
- INTERLOCKING RUBBER TILING.**
See Tiles (Interlocking Rubber).....
- IRONWORK (Ornamental).**
Jackson, Wm. H., Co., New York.....
W. H. Mullins Co., Salem, Ohio.....
Winslow Bros. Co., The, Chicago, Ill.....
- LAUNDRY MACHINERY.**
Troy Laundry Machinery Co., Troy, N. Y.....
- LIGHTNING RODS.**
T. W. Jones, New York.....
- MAIL CHUTES.**
Cutler Mfg. Co., Rochester, N. Y.....
U. S. Mail Chute Equipment Co., St. Louis, Mo.....
- MARBLE-WORKERS.**
Batterson & Eisele, New York.....
The Robert C. Fisher Co., New York.....
- METAL CEILING.**
The Berger Mfg. Co., Canton, Ohio.....
W. H. Mullins Co., Salem, Ohio.....
See also Fireproofing.....
- METAL LATHING.**
American Rolling Mill Co., Middletown, Ohio.....
G. Hayes, New York.....
Truss Metal Lath Co., New York.....
- MINERAL WOOL.**
U. S. Mineral Wool Co., New York.....
- MORTAR COLORS.**
Sam'l. H. French & Co., Philadelphia, Pa.....
- PAINT.**
Joseph Dixon Crucible Co., Jersey City, N. J.....
Keystone Varnish Co., Brooklyn, N. Y.....
National Lead Co., New York.....
- PHOTOGRAPHS.**
J. W. Taylor, Chicago, Ill.....
- PLASTER ORNAMENTS.**
Samuel H. French & Co., Philadelphia, Pa.....
- PLUMBING GOODS.**
Standard Sanitary Mfg. Co., Pittsburgh, Pa.....
Wolf, L., Mfg. Co., Chicago.....
- PNEUMATIC TANKS.**
Kewanee Water Supply Co., Kewanee, Ill.....
- PRISM LIGHTING.**
American Luxfer Prism Co., Chicago.....
Holophane Glass Co., New York.....
- PUMPS.**
Rider-Ericsson Engine Co., New York.....
- REFLECTORS.**
I. P. Frink, New York.....
Holophane Glass Co., New York.....
- REINFORCED CONCRETE.**
Clinton Wire Cloth Co., Clinton, Mass.....
Expanded Metal and Corrugated Bar Co., St. Louis.....
Gabriel Concrete Steel Co., Detroit, Mich.....
Gilbreth, Frank B., New York.....
Trussed Concrete Steel Co., Detroit.....
Turner Construction Co., New York.....
Underwriters' Engineering and Construction Co., New York.....
W. N. Wight & Co., New York.....
- ROOFING MATERIALS.**
American Sheet & Tin Plate Co., Pittsburgh.....
Barber Asphalt Paving Co., Philadelphia, Pa.....
Bird, F. W., & Son, East Walpole, Mass.....
Keasbey & Mattison Co., Ambler, Pa.....
See also Asphalt Roofing.....
- SASH-CORD.**
Samson Cordage Works, Boston.....
- SCHOOLS OF ARCHITECTURE.**
Lawrence Scientific School, Harvard University, Cambridge, Mass.....
- Massachusetts Institute of Technology, Boston.....
Ohio State University, Columbus, Ohio.....
Society of Beaux-Arts Architects, The, New York.....
University of Michigan, Ann Arbor.....
University of Pennsylvania, Philadelphia, Pa.....
Washington University School of Engineering and Architecture, St. Louis, Mo.....
- SHEET-METAL WORK.**
Berger Mfg. Co., Canton, O.....
W. H. Mullins Co., Salem, O.....
J. S. Thorn Co., Philadelphia, Pa.....
- SKYLIGHTS, ETC.**
Burt Mfg. Co., Akron, Ohio.....
George Hayes, New York.....
W. H. Mullins Co., Salem, O.....
Vaile & Young, Baltimore, Md.....
- STAIR TREAD.**
American Mason Safety Tread Co., Boston.....
- SUN DIALS.**
Sun Dial, Pittsburgh, Pa.....
- TAPES AND RULES.**
Lufkin Rule Co., Saginaw, Mich.....
- TERRA-COTTA.**
The Northwestern Terra-Cotta Co., Chicago, Ill.....
- TILES.**
Information Bureau of Tile Industry, Washington, D. C.....
Jackson, Wm. H., Co., New York.....
- TILES (Interlocking Rubber).**
N. Y. Belting and Packing Co., Ltd., New York.....
Pennsylvania Rubber Co., Jeannette, Pa.....
- TIN AND TERNE PLATES.**
American Sheet & Tin Plate Co., Pittsburgh.....
- VACUUM CLEANING.**
General Compressed Air & Vacuum Machinery Co., St. Louis, Mo.....
- VALVES AND PACKING.**
Jenkins Bros., New York.....
- VENTILATING APPARATUS.**
New York Blower Co., Chicago.....
Thomas & Smith, Chicago.....
- VENTILATORS.**
Burt Mfg. Co., Akron, Ohio.....
Globe Ventilator Co., Troy, N. Y.....
- WATER HEATERS.**
Monarch Heater Co., Pittsburgh, Pa.....
- WATERPROOFING.**
Bird, F. W., & Son, East Walpole, Mass.....
- WATER SUPPLY SYSTEMS.**
Kewanee Water Supply Co., Kewanee, Ill.....
- WEATHER VANES.**
T. W. Jones, New York.....
- WINDOW LINE.**
Samson Cordage Works, Boston.....
- WIRE GLASS WINDOWS.**
George Hayes, New York, N. Y.....
James A. Miller & Bro., Chicago, Ill.....