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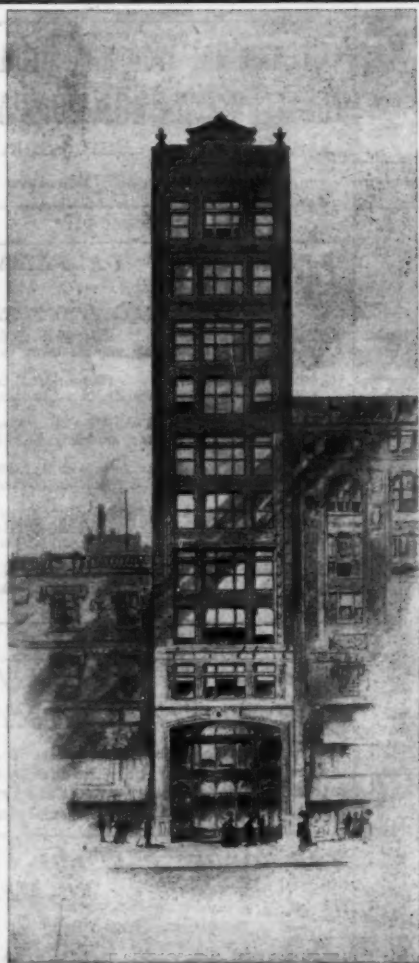
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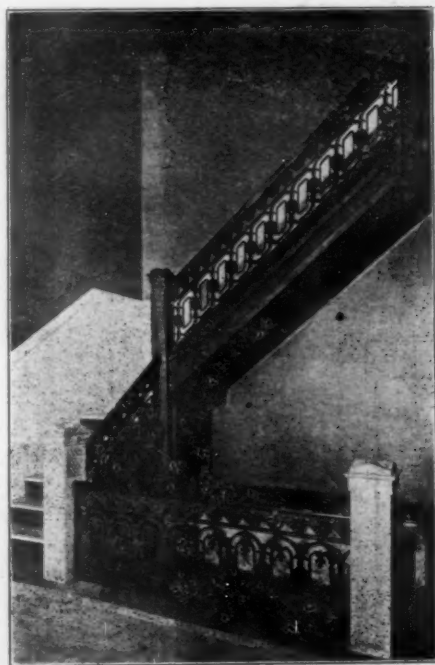
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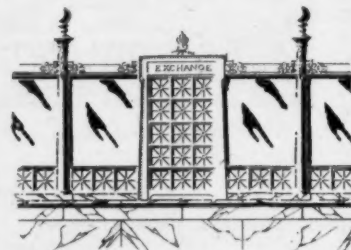
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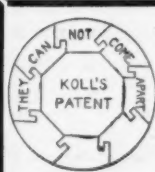
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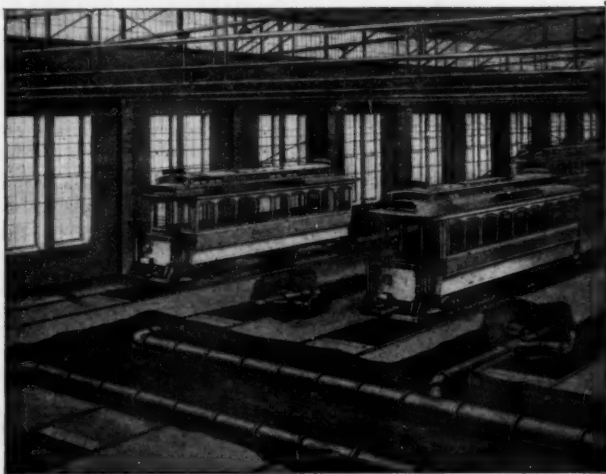
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B260-19

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See the first issue of the month for the following advertisements:—

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ADDRESSES WANTED.

We shall be obliged to anyone who can provide us with the present addresses of any of the subjoined parties.

American Architect Co.,
238 Tremont St., Boston.

Barlow, W. F., lately of Bar Harbor, Me.

Beeson, E. W., Jeffersonville, Ind.

Benkert, G. F., lately of 302 East Grace St., Richmond, Va.

Carpenter, R. W. E., lately of Pittsburgh, Pa.

Colbert, H. W., lately of Woodbury, Ga.

Cupperwell, E. W., lately of Union Stock Yards, Chicago, Ill.

Dans, F. L., lately of Ithaca, N. Y.

Hayes, Jas. T., lately of Syracuse, N. Y.

Knox, Pierce & Duryea, lately of Worcester, Mass.

Locke, S. E., lately of Los Angeles, Cal.

McCarthy, P. A., lately of Indianapolis, Ind.

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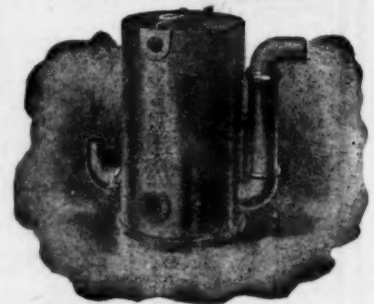
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Martling, J. H., lately of Kansas City, Mo.

Maydwell & McClintock, lately of 22 Sheldon Block, El Paso, Tex.

Novek, Bernard, lately of 914 Lumber Exchange, Minneapolis, Minn.

O'Brien, James, lately of Bridgeport, Conn.

Rice, Joe, lately of Beaumont, Tex.

Shaffer, Matthew, lately of Johnstown, Pa.

Stone, Edwin J., lately of Worcester, Mass.

Webster, W. H., lately of "The Naseby," Toledo, O.

Wilcox, F. O., lately of 614 Commercial St., New Orleans, La.

Wolf, James, lately of 125 Broadway, New York, N. Y.

ARCHITECTS' REMOVALS, Etc.

ANNOUNCEMENT.—George A. Ross and David H. MacFarlane announce that they have formed a partnership for the general practice of architecture under the firm name of Ross & MacFarlane, Room 51, Bank of Ottawa Building, St. James Street, Montreal. Telephone Main 237. They will be pleased to receive samples and catalogues.
1509

WANTED.

DRAFTSMEN.—I need two draftsmen, one must be first-class at preliminary work and rendering and the other good at working drawings. R. H. Hunt, Chattanooga, Tenn.
1507

WANTED.

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BUILDING INTELLIGENCE.

(Reported for the American Architect and Building News.)

(Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.)

ADVANCE RUMORS.

ABERDEEN, WASH.—The plans of Reid & Briggs have been accepted for the City-hall. Cost complete, \$20,000.

ARVERNE, L. I.—Stein, Cohen & Roth, 92 5th Ave., New York, have made plans for alterations, to cost \$5,500, to the dwelling of L. Hart, at Ocean and Meredith Aves. There will be added a three-story wing, 20x40 feet, and new plumbing. They also have drawn plans for converting the automobile storage house, belonging to Mr. Hart, at Meredith Ave. and the Boulevard, into a market, at a cost of \$6,000. Galvanized iron fronts, metal ceilings, electric wiring, etc.

ATHENS, GA.—The Athens Hotel Company have had plans drawn by J. W. Goulucke & Co. for the proposed six-story hotel. The building will be of buff brick, fireproof, having all modern improvements; cost to be about \$100,000. Address H. J. Rowe, of the company.

ATLANTA, GA.—College buildings are to

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

be erected at Butler and Armstrong Sts., by the Atlanta College of Physicians and Surgeons, at a cost of \$100,000.

ATTLEBORO, MASS.—J. Lyman Sweet's generous offer to give an additional \$9,000 toward the building fund for the proposed new public library building has aroused renewed interest in the project. There will probably be no difficulty in raising the additional \$9,000 required to make the sum of \$50,000. It is hoped that work on the building can be begun this fall.

BALTIMORE, MD.—The Consolidated Gas Company, Charles St., will erect a new office building at Lexington St. and Park Ave. It will be five stories, 60x125 feet, of stone, brick and iron construction, with steam heat, elevators, electric lights, tiling, plate and stained glass. Cost, \$100,000.

BELOIT, WIS.—The corner-stone of the new Second Congregational Church was laid recently. The cost will be \$30,000.

BOSTON, MASS.—It is reported that a valuable piece of property on Boylston St. has been sold, it being the intention of the purchasers to raze the present old building and erect on the site a new brick and stone mercantile structure with steel frame and to contain all the latest improvements.

J. Sumner Draper, Devonshire Building, has purchased the estate at 192 Beacon St. It is reported that he intends to expend a large sum of money in improving the property.

BRUNSWICK, ME.—Frederick K. Daggett, of Boston, has had plans prepared for a hotel to be erected in Brunswick, to contain 64 rooms. It will have all modern improvements and be adapted in every way to the needs of the travelling public. The site has not yet been decided upon, but several are available and under consideration.

CAMDEN, N. J.—Plans have been drawn for a handsome new bank building, to be erected at the corner of Broadway and Sycamore St., on a plot owned by the Camden National Bank, of Second and Kaighn Ave.

CHARLESTOWN, MASS.—It is reported that

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

a large wharf property on Medford St. will soon pass to the ownership of a prominent manufacturing concern of Boston, which intends to raze the present old structure and erect a large manufacturing plant. It is estimated that the total amount involved will figure, including the purchase of the wharf, about \$500,000.

CHICAGO, ILL.—Mandel Brothers have decided to erect a mercantile building at 417-423 Wabash Ave., for which Holabird & Roche are preparing plans. The building will be a fireproof structure of ten stories, costing \$400,000.

Fromman & Jebson have drawn plans for the new manufacturing plant of the National Enameling and Stamping Company, to be erected at 27-37 Kinzie St., which was recently purchased for the company. It will be a six-story structure, of mill construction, and will cost \$100,000.

St. Henry's Roman Catholic congregation will erect a new church at Ridge Boulevard and Devon Ave., after designs by H. J. Schlacks. It will be a brick and stone structure, 65x140 feet, and will cost \$55,000.

Mrs. Harriet Blair Borland has decided to improve her property at the corner of La Salle and Monroe Sts. by the erection of an eighteen-story structure, to be devoted to insurance office purposes. The cost will be in the neighborhood of \$800,000.

Two apartment buildings will be erected at Kenmore Ave. and Ainslie St., for H. W. Duncanson. Cost, \$80,000.

It is announced that the Northern Trust Company has definitely decided to improve the Bryan property, recently purchased by it, with a building for its own use. The proposed structure will, it is said, cost in the neighborhood of \$1,000,000.

An apartment building is to be erected at the corner of Drexel Boulevard and Forty-fifth St., by John W. Worthington. It will be three stories high, of colonial design, and will cost \$150,000.

Sherman T. Cooper will erect a three-story building at Prairie Ave. and Forty-fourth St., to cost \$60,000, and a three-story apartment building will be built at Forty-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

seventh St. and Greenwood Ave. by W. P. Doerr, to cost \$50,000.

CINCINNATI, O.—It is stated that bids for erecting a three-story building for the Soldiers' and Sailors' Memorial Building will be asked for in about a week.

CLEVELAND, O.—The Central Storage Warehouse Company has awarded the general contract for its new building on Wilson Ave., near Hough Ave., to George B. McMillan. It will be a six-story brick and stone block, of heavy mill construction, having a frontage on Wilson Ave. of 60 feet and running back 200 feet. The interior will be finished with iron posts and iron partitions. Three stories of the building will be completed for occupancy by Feb. 1, and the remaining three stories will be erected during the summer.

CONEY ISLAND, N. Y.—Charities Commissioner Tully is working over plans for a new hospital, which he hopes may be built at Coney Island, to take the place of the present Emergency Hospital building, which the city leases. He believes that for \$100,000 a suitable building meeting all requirements could be erected.

CONSHOHOCKEN, PA.—It is reported that Alexander Martin & Son, of the firm of Martin & Rosenbaum, Real Estate Trust Building, Philadelphia, will erect eight houses at 10th Ave. and Fayette St., Conshohocken. They will be three stories high, 33x47 feet, of brick, rough-cast, and will have all modern improvements. Cost, about \$32,000.

DUBUQUE, IA.—Plans have been completed for a new \$100,000 building for the German Theological Seminary.

ELDRIDGE, CAL.—It is stated that bids will be received until Nov. 22 by the Board of Managers of the California Home for Feeble-minded, at Sacramento, for the erection of three cottages and a hospital building at the home here. Bids for heating, plumbing, gas fitting, etc., to be submitted separately.

ELY, MINN.—Report states that F. L.



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Young & Co., of Duluth have plans for a \$40,000 school to be erected here.

EVANSTON, ILL.—The German Roman Catholic congregation of Evanston will erect a new three-story church, 40x85 feet, designed by H. Gaul, to cost \$50,000.

FALL RIVER, MASS.—A bill is to be introduced in the next Legislature to permit the construction of a new Registry and Law Library in this city, north of and connected with the present court-house.

FOND DU LAC, MINN.—It is reported that local and outside parties contemplate erecting a modern three-story hotel building at Fond du Lac the coming season, to cost \$25,000 to \$35,000.

GREEN BAY, WIS.—Wm. Larsen will erect a three-story business block, 80x100, costing \$22,000. H. A. Foeller, architect.

HATTIESBURG, MISS.—Captain J. T. Jones, president of the Gulf & Ship Island Railroad Company, has purchased two building sites at Hattiesburg. One is to be used for a new depot and the other for a five-story hotel. The latter is to be quite extensive, modeled somewhat after the Great Southern Hotel at Gulfport, which was erected at a cost of \$200,000.

HAVERHILL, MASS.—The Aldermen of the city have unanimously concurred in the passage of the order for the erection of a \$40,000 State armory.

An appropriation of \$30,000 has been made by the city for a four-room brick schoolhouse, to be erected on the Rowley schoolhouse lot, and for a four-room brick addition to the Wingate School.

LOS ANGELES, CAL.—Louis E. Porter has purchased a site at Hill and Court Sts. It is said that he will erect hereon a \$100,000 hotel.

LOUISVILLE, KY.—The new Temple Adath Israel, when completed, will be one of the handsomest and most expensive structures of its kind in the South. The plans of McDonald & Shebllessy have been accepted, and the style of architecture will be Neo-Greek. The front will have a porch 66 feet wide, composed of six Greek Ionic columns, five feet in diameter, forty-three feet high. The front and sides of the auditorium will be faced with stone. There will be three main entrances, with bronze doors leading into the main vestibule. The interior of the structure will be carried out in full harmony with the exterior, and will have richly decorated ceilings. Estimated cost of the building, \$90,000.

MERION, PA.—John McShain, 631 North 17th St., Philadelphia, has the contract to build the new chapel and convent annex for the Sisters of Mercy, at this place. The new building will be of stone, with granite

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

trimmings, 560x150 feet, and will cost \$96,500. Edward F. Durang, 1200 Chestnut St., Philadelphia, architect.

MILWAUKEE, WIS.—H. M. Benjamin will erect a three-story apartment building at Kane Pl. and Prospect Ave. It will be of dark mottled brick, with stone trimmings. Cost, \$80,000. H. L. Newhouse, architect, Chicago.

John Hunholz has taken out a permit for the erection of an apartment building on 29th St., near Grand, to be four-story, 44x59, modern. Cost, \$29,000.

G. De Gelleke, 211 Grand Ave., and C. Leenhout, 102 Washington St. (associated), have drawn plans for a new brick edifice for the congregation of the First Dutch Reformed Church at 10th and Harmon Sts.

NEW HAVEN, CONN.—Brown & Von Beren, 421 Exchange Building, New Haven, have drawn plans and specifications for the new church to be erected on Whalley Ave., by the St. Luke's Episcopal Society. It will be a brick structure, 38x80 feet, with terra-cotta trimmings, galvanized iron cornices and a slate roof. The heating will be by steam.

NEWTON, MASS.—An addition is to be made to the factory of the Saxony Worsted Mills, on Chapel St., Nonantum. It will be of brick, 80x134 feet. The improvements include a new brick front to the present building. Cost, \$25,000.

NEW YORK, N. Y.—The Tontine Company, in which W. K. Astor is interested, have plans for a \$3,500,000 hotel, to be erected on lower Central Park West.

A gift of \$150,000 to the New York Historical Society is announced. This means the erection of a new building for the society in Central Park West. The donor, whose name is not given, will also pay for a granite front, costing an additional \$50,000.

The plans of C. B. J. Snyder, 500 Park Ave., for Public School No. 12, to be erected at a cost of \$345,000, at the corner of Madison and Jackson Sts., call for a six-story building, with gravel roof, light brick, terra-cotta and Indiana limestone façades, galvanized iron cornices, wire-glass and copper skylights, hot-air heat, hardwood interior trimmings and up-to-date plumbing. It will be of steel-skeleton construction.

C. B. Hewitt & Bro. have purchased the estate of W. Creighton Lee, 20-22 Ferry St. This property has been held by the Lee family since 1812. At the expiration of the present lease the property may be improved with a large mercantile building.

Press reports state that plans for a 12-story high-class apartment house, to be erected at the southwest corner of 7th Ave. and 55th St., for the Wyoming Apartment Company, of 137 Broadway, will be ready for bids in about two weeks. Architects, Rouse & Sloan, 396 Broadway. The cost, it is said, will be about \$900,000.

Charles F. Rose, 1 Madison Ave., is at work upon plans for a \$250,000 apartment house, to be built at 644 and 646 Madison

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Ave., for Robert W. Tailor, of 76 William St. Mr. Tailor will take entire charge of the work. The plot is occupied at present by two four-story and basement brown-stone dwellings.

Plans have been drawn by Jacob H. Amsler, 1159 East 169th St., for a six-story apartment-house, 75x100 feet, on the north side of 122d St., near Amsterdam Ave., for Mulligan & Tiernan. Estimated cost, \$100,000. The plans call for steam heat, electric lights, open plumbing, etc.

Neville & Bagge, 217 West 125th St., have prepared plans for a five-story livery stable, to be built on the north side of 147th St., near 7th Ave., for Patrick Reddy, contractor, of Lenox Ave. and 111th St. Cost, \$50,000. There will be elevators, electric lights, steam heat, sanitary plumbing devices, etc.

D. C. Weeks & Son, 289 Fourth Ave., have the contract for alterations to the building of the New York Tribune, at 154 Nassau St. The plans call for steel work, reinforcing the framework, cutting and repairing. Five stories will be added.

OCALA, FLA.—Plans have been drawn by H. J. Klutho, of Jacksonville, for improvements to be made to the Marion County Court-house, costing \$45,000.

PHILADELPHIA, PA.—Willis G. Hale, 1524 Chestnut St., is preparing plans for a six-story apartment-house, to be erected at 38th and Locust Sts. It will be of fireproof construction, with exterior walls of brick, with terra-cotta and granite trimmings. Cost, \$300,000.

C. A. Mahon, corner 10th and Columbia Ave., is to erect 35 houses in Germantown. They will be two stories high, of brick, with all modern conveniences. E. Hazelhurst, Girard Building, architect.

George W. Pleis, owner and builder, 1003 Real Estate Building, will erect 135 houses and stores at 5th and Pike Sts. They will be two and three stories high, of brick, with all modern improvements.

It is reported that Edwin Gilbert & Co. have received the contract to erect the new Rush Hospital for Consumptives at 33d St. and Lancaster Ave. Plans call for a four-story and basement building, of brick and stone, 150x150 feet. Brockie & Hastings, 328 Chestnut St., architects.

It is stated that Henderson & Co., 1215 Filbert St., have secured the contract to erect a branch library at Lehigh Ave. and 6th St., at \$80,000. The contract to erect a branch library on 42d and Walnut Sts. has been awarded to Wm. R. Dougherty, 1604 Sansom St., at \$57,000.

Rowland W. Boyle, 1530 Chestnut St., is drawing plans for a granite edifice which the congregation of Our Lady of Victory will erect at Vine and 54th Sts. Cost, \$150,000.

It is stated that the Philadelphia Battalion of the Sixth Regiment has purchased a portion of the old car barn at 20th St. and Montgomery Ave., and will remodel for an armory. Cost, \$80,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

PORTLAND, ME.—Sealed bids will be received at the office of the Constructing Quartermaster, 185 Middle St., until Dec. 7, for the construction of a Crematory, with building to enclose same, at Fort McKinley, Portland Harbor. Information furnished upon application to Capt. A. W. Yates, Quartermaster.

PORTSMOUTH, O.—The general contract for the construction of the Masonic Temple has been awarded to the Smith Lumber Company, at its bid of \$71,800. This estimate does not include elevators and one or two other minor portions of the work. Richards, McCarty & Bulford, architects.

WASHINGTON, D. C.—It is reported that the contract for erecting the almshouse has been awarded to Isadore Pavarini, 808 18th St., N. W., for \$121,400.

PROPOSALS.

HOTEL.

[At Victoria, B. C.]

Tenders are invited by the Canadian Pacific Railway Co. for the erection of a seven-story stone and brick hotel at Victoria, B. C. Plans and specifications may be seen at the offices of the Chief Engineer of the Company at Montreal and at Vancouver, also at the offices of F. M. Rattenbury, architect, Victoria, B. C. Tenders must be accompanied by a marked cheque equal to five per cent. of the amount of tender; this cheque to be forfeited in case any contractor fails to enter into a contract, and furnish bonds in accordance with the plans and specifications, if called upon to do so; but will be returned to all contractors as soon as the contract is signed. Tenders to be made out in duplicate upon the printed forms provided by the Company and addressed on or before December 29 to George H. Webster, Division Engineer, Vancouver. The Company reserves the right to reject any or all of the tenders. 1507

Sealed proposals will be received at the office of the Light House Engineer, Tompkinsville, N. Y., until 12 o'clock M., Thursday, December 1, 1904, and then opened, for furnishing the materials and labor of all kinds necessary for the erection and delivery of the Peck Ledge Light House, Cockenoe Island Harbor, Conn., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Lieut. Col. William T. Russell, Corps of Engineers, U. S. A., Engineer. 1507

Sealed proposals will be received at the office of the Light House Engineer, Tompkinsville, N. Y., until 12 o'clock M., Thursday, December 1, 1904, and then opened, for furnishing the materials and labor of all kinds necessary for the completion and delivery of the metal work of the Peck Ledge Light House, Cockenoe Island Harbor, Conn., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Lieut. Col. William T. Russell, Corps of Engineers, U. S. A., Engineer. 1507

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 31, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 14th day of December, 1904, and then opened, for the construction complete of the U. S. Post-office, Court-house and Custom-house, at Bloxi, Miss., in accordance with drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Bloxi, Miss., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1507

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 29, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 30th day of November 1904, and then opened, for the construction (including plumbing, heating apparatus, electric wiring and conduits), of the U. S. Post-office at Anderson, Indiana, in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Postmaster at Anderson, Indiana, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1507

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 29, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 12th day of December, 1904, and then opened, for the general construction of the United States Post-office, Court-house and Custom-house, Providence, Rhode Island, in accordance with the drawings and specification, copies of which may be had at the discretion of the Supervising Architect, on application at this office. Applications must be accompanied by a certified check for \$250, drawn to the order of the Treasurer of the United States, which will be held at this office until the return of the drawings and specification. JAMES KNOX TAYLOR, Supervising Architect. 1507

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 31, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 15th day of December, 1904, and then opened, for the construction complete of the U. S. Post-office at Norristown, Pa., in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Postmaster at Norristown, Pa., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1507

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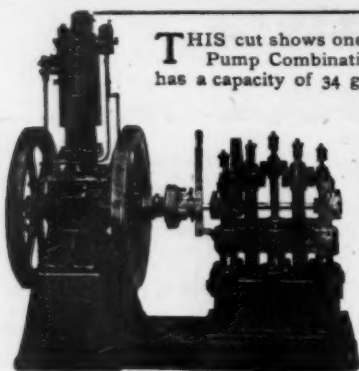
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SATURDAY, NOVEMBER 12, 1904

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IT is announced that the "atelier system" has been adopted by Columbia University for its School of Architecture, but as yet we have no details as to the manner in which this seemingly signal change has been applied. If, as at Paris, the present classes are to be divided up between several official ateliers, each with its salaried patron, whose function it is solely to oversee the pupils' advancement in architectural design, the change appears to be radical, whether the new patrons are secured from the present teaching force or from the ranks of practising architects. Possibly it may mean only that some working alliance has been arranged between the School and the several private ateliers which have come into being during the last few years under the ægis of the Society of Beaux-Arts Architects, an alliance which would not disturb materially the established system of instruction in the School itself. But as we have not the information needful to enable a full consideration of the matter, we will simply say that, in our opinion, the strength of the atelier system, as operating in Paris, lies more in the influence of les anciens than in anything else, not excepting the personal prowess of the patron himself. At present, we do not quite see how this influence of the elders is to be secured at Columbia. There is a vast difference between the influence that may be exercised by a Fourth Year man upon the work of a Third Year man and that which is acknowledged in Paris when a Second Class man is benefiting by the advice and suggestion of one who may have been doing First Class projects for three or four years, and the difference is still greater when one of the veterans returns to the atelier to work out under the patron's eye some bit of private work, maybe, or to prepare for the Prix de Rome itself.

WHERE is one thing, however, that the partisans of the Ecole des Beaux-Arts system are apt to overlook. The success of Americans at Paris is so marked as to have attracted general attention and not a little jealousy on the part of French students, and probably also students of other nationalities, who desire to benefit by the generous hospitality of the great French School of Fine Arts. American students have

less difficulty than any others in passing the entrance-examinations, and an equal difference is shown by the ease and rapidity with which, nowadays, they pass through the required grades and secure the coveted diploma. Throughout their course they exhibit a maturity and self-comprehension which is quite different from the juvenescence that is ordinarily exhibited by the French students of the Second Class. This difference we apprehend to be due entirely to the fact that American students are generally graduates from American architectural schools, and have already had the benefit of the drill of class-room and lecture-hall at home, and hence are ready to approach the matter of architectural design with a maturity of appreciation which the less educated Frenchmen themselves do not have. For this reason, we feel that any change which should materially affect, or reduce, the character and amount of class-room drill that has obtained till now in all our architectural schools would be distinctly a step in retrogression.

A DERRICK accident at the new Trinity Building, New York, last week was remarkable for two things; first, for its cause and character, and second, because of the small amount of damage actually done. Powerful and well-designed as the modern building derrick is, accidents are by no means a rarity, and they are generally of a serious and often fatal character. The snapping of a steel guy-rope under strain is generally productive of the most harm, for it not only implies the downfall of the derrick itself, but the recoil of the parted guy is apt to work mischief on its own part. In the case of a snapped boom, due to overloading, it means the more or less unimpeded descent of the load and the crushing of whatever happens to be in its way. In the Trinity Building accident, the twelve-by-twelve-inch boom of a derrick on the fifteenth floor, to which was suspended an eight-hundred-pound stone, suddenly shot across the floor through the giving way of some of the ironwork that connected its butt to the mast. Fortunately no workmen were in the line of the kick, and the boom itself was kept from falling by the stays and halyards, while the rapidity of the stone's fall was somewhat checked by the halyards. It was an unusual but lucky accident, which, however, offers one more warning to those who carelessly and needlessly pass below loads hoisting by derricks which are naturally subject to the wear and tear of use and elemental decay, and so should be always considered proper subject of suspicion.

THE most unpleasant position in which a man can find himself is to discover that he has innocently become the possessor of stolen goods and must surrender them without compensation to the rightful owner, his only satisfaction being that he is free to seek redress from the thief, if he can catch him. The familiar precept, caveat emptor, throws on the purchaser a responsibility he cannot avoid morally, even if, at times, he can avoid it legally. One of the most interesting cases of a purchaser's being divested of

property acquired under no unusual circumstances has just resulted in the return to the Italian Government by Mr. J. Pierpont Morgan of the fœtal cope which was stolen from the little-known cathedral at Ascoli, in 1902. It was through Mr. Morgan's kindness in consenting to have his new acquisition exhibited at the Victoria and Albert Museum, in London, that the cope was accidentally identified and its owner ascertained. But for this chance, it is probable that Mr. Morgan would never have had to debate with himself what should be his line of conduct. Whether any "representations" were made to him by anyone does not appear, but it is more than likely that its return was purely the voluntary act of a right-feeling man. If the photographer arrested as the actual thief—who wrote a note before he committed suicide, declaring in it that he was innocent, but had knowledge that the theft was committed by someone "higher up"—told the truth, it may some day come to light how and by whom the trick was turned, and in this way an interesting light be thrown on the way in which genuine works of art get out of Italy in spite of the Paca edict and its modern reënforcing statutes.

AN increase in the public interest in architecture might be argued from what appears to be a growing habit on the part of novelists to select architects as their heroes. For a long time Martin Chuzzlewit was practically the only architect known to English fiction, and his qualifications and attainments were of the very slimmest. Then, about a score of years ago, Thomas Hardy, himself educated as an architect, not only made the hero of "The Laodiceans" an architect, but gave his plot an architectural setting and development. Later still, this fall in fact, appears Robert Herrick's "The Common Lot," where everything, hero, plot, incident and development, is architectural, the whole being one of the most depressing tales that can be read by one who would still retain his respect for modern practitioners of the art in this country. These literary facts are, of course, known to many, but we question whether it is commonly known that about twenty-five years ago Professor Robert Kerr, who has just died in his eighty-second year, wrote a novel, "The Ambassador Extraordinary," in which, in the person Master Georgius Oldhousen, F. S. A., the marked peculiarities of two of the author's contemporaries, William Burges and Edward W. Godwin, were mercilessly caricatured. Professor Kerr's writings were generally of a more serious character, for he wrote many essays and a few books, perhaps his most serious undertaking being the editing and practical rewriting of Ferguson's "History of Modern Architecture." While Professor Kerr's career as a practising architect did not result in any building of signal importance, he was a most useful and influential member of the profession, and as he was by instinct a "kicker" and was endowed with very unusual oratorical gifts, he was able to bring about many reforms and improvements in professional practice during his half-century's membership in the Royal Institute of British Architects, and in the Architectural Association, of which he was elected the first President, ten years before he became F. R. I. B. A. In 1861 he was appointed Professor of the Arts of Construction at King's College, London, retiring from that position in 1900.

IN New York City and vicinity considerable public interest is shown in the controversy carried on between those interested in the preservation of the sanitary and artistic state of the Subway stations, and those interested in obtaining an income by the exhibition in those stations of advertisements more or less objectionable in appearance. The Municipal Art Society, the Chief Engineer and his architects have protested to the Rapid Transit Commission against these bills, and their posting has been temporarily stopped. Legal advice upon the interpretation of the advertising contracts is now being obtained, but the situation is as follows: The Interborough Company was empowered by the Rapid Transit Commission to use the wall space of the stations for advertising purposes, providing that the city property was not injured, and that the posters did not interfere with the easy identification of the stations by the patrons of the road. The Interborough Company then let a contract empowering an advertising company to so use this wall space. As, in addition to the chief title at the centre of each station, the names of these stations appear in mosaic in many places along their walls, it would be impossible to post any advertisement which would not appear within a few feet of some title, and prevent its easy identification by the occupants of cars at that point. The posters do certainly injure the artistic appearance of the stations and permit dust and germs to collect where no purifying sunshine can reach them. The architects present this artistic view of a utilitarian fact, while the poster company claims it is empowered to cover with gaudy advertisements every inch of the walls not occupied by a station title. It is difficult to foretell the outcome of such a controversy, but the poster company will probably be forced to limit its advertising space to certain portions of the walls, either arranging the posters in a frieze or in panels, the position of which may be determined by the architects. Upon the walls of the catacombs at Naples appears a fine fresco of St. Paul, dating from the early Christian era. Across the face, cut deep into the stone, are the words, "I. Asop, Boston." Since the inscription of this, guides conduct the visiting American. "I. Asop" has advertised, but others will not do so there, and if advertisements must exist in the New York Subway, it is hoped that those posting them may be supervised.

SOME criticism of the odors and so-called "impure" atmosphere in the New York Subway has arisen.

Upon leaving the fresh air of the street to descend the Subway steps a disagreeable odor is certainly encountered. This odor, however, is of different variety in the various portions of the passage, that of fresh paint and chloride of lime predominating. It is naturally very objectionable, but it is not necessarily injurious, and in time will probably disappear. In at least one other city, provision was made for the installation of fans to ventilate a similar subway, but, finding that they were not needed after the odors of paint and building materials had disappeared, they were never introduced, and the condition of the atmosphere is satisfactory. The New York Subway is now ventilated in the up-town sections, and if the moving trains in the down-town portions do not force out sufficient air at the station exits, artificial ventilation can at any time be introduced.

PASSENGER ELEVATORS.¹—I.

It is not the writer's intention to describe the multitude of details used in passenger elevator practice, but to outline the steps of their general evolution, and the results attained, or sought to be attained, in the effort to improve their efficiency, service and safety.

Until the advent of the first steam passenger elevator, nearly half a century ago, buildings were limited to a few stories, and, while this type of elevator stimulated increased height, its operation was too slow to create a very marked effect, and it was not until the hydraulic elevator was introduced that much increase in the height of buildings was noticeable.

The water-balance elevator was introduced at an early date, and was installed in a few buildings throughout the country; one in the Western Union Building, New York City, survived until destroyed by fire about twelve years ago.

This elevator consisted of a car suspended by cables passing over a sheave at the top of the building and attached to an iron bucket weighing less than the car. At the will of the operator, the bucket could be filled with water or emptied by a hand cable, attached to a water-supply valve at the top of the building and to an exhaust valve in the bottom of the bucket. The bucket worked in an iron stand-pipe. When sufficient water was admitted to the bucket to overbalance the car and its load, the bucket descended and the car ascended, and when the water was allowed to discharge from the bucket the car descended.

The machine was controlled by a brake acting on the guide strips. This elevator was not provided with any automatic controlling devices, could move at great speed, and the passengers were entirely at the mercy of the operator. It soon fell into disfavor, and the field was left to the slower steam elevator.

In 1878 the vertical-cylinder type of hydraulic elevator, the invention of Cyrus W. Baldwin, was introduced in New York City, and installed in the Boreel Building. This elevator became the standard hydraulic type, and remains so to-day, though greatly improved in detail.

Its introduction at once increased the height of buildings, until the limit of height of brick bearing walls was reached, when there was a short period of rest. Then came the steel-framed structure, causing a rapid advance in the height of buildings, as yet apparently unchecked, until, while the skill of the elevator constructor formerly set the task for the builder, the structural engineer now gives the elevator engineer a problem not easy of solution; but the commercial limits of height will be reached long before the resources of either are exhausted.

Up to 1893, the hydraulic elevator, of either the vertical or horizontal type, had held the field for high-speed passenger service, although electric elevators had been invented and built some years before.

In 1884 Mr. William Baxter, Jr., had invented an electric elevator using constant current, and had installed one in a building in Baltimore in 1887, yet it attracted but little attention, and was not introduced further.

In 1885 Schuyler S. Wheeler, M. Am. Soc. C. E., took out a patent for an electric elevator, in which it was proposed to use

constant-potential, shunt motors and magnet brakes, general features now used universally.

In 1889 Mr. Norton P. Otis, in conjunction with Messrs. Rudolph Eickemeyer and R. C. Smith, designed an electric elevator of the drum type, two of which were installed at Fifth Avenue and Thirty-third Street, New York City. This elevator was successful, and other installations followed rapidly.

In Europe, the elevator, or "lift," most used was the direct-acting ram, or "plunger" elevator; but suspended lifts were being introduced rapidly, as their use avoided the great expense of boring the deep wells required for the plunger type.

The introduction of high-pressure hydraulic systems, in London and other large cities of Great Britain, created a demand for hydraulic elevators to be operated from the street-pressure systems, which had been established at pressures of 750 pounds per square inch; and many such elevators were installed by English makers, and a number were built by Otis Brothers & Co. and exported to England, although the advantages of high pressure were not yet generally understood in the United States, notwithstanding that there had been a gradual increase of hydraulic pressures from about 60 to about 125 pounds.

At the Columbian Exposition of 1893, at Chicago, the exhibits of the various makers of elevators covered the art as it existed in America at that date. A few types were exhibited which have never been put to practical use, and therefore need not be discussed. Of those in practical use, there were exhibited the two standard types of hydraulic-elevator machine, viz., the vertical-cylinder and horizontal-cylinder machines, and a machine for a pressure of 750 pounds per square inch, designed for the London hydraulic service, and parts of a similar machine, but on a larger scale, installed later at the Glasgow Harbor Tunnel.

The electric elevators exhibited were mainly of the drum type, and essentially the same as the one before mentioned, designed by Messrs. Otis, Smith and Eickemeyer.

HYDRAULIC ELEVATORS.

The vertical hydraulic elevator of 1893 consisted of a cylinder and piston attached by piston rods to a traveling frame, carrying sheaves, around which passed the cables supporting the car. Standing sheaves were placed high enough in the shaft to allow room for the stroke of the piston. The ends of the cables were made fast at the standing sheaves and were passed under each traveling sheave and over each standing sheave, alternately, then passed to the top of the building and over fixed overhead sheaves down to the car, where they passed through a curved beam or spreader (technically called a "Girdle"),

where they were spread and passed down at the sides of the car, and were fastened under the car bottom to an iron beam, or iron timber carrying the safety devices, and technically known as the "Safety Plank."

The cables passing around the traveling and fixed sheaves formed a "Tackle" and multiplied the stroke of the piston an amount equal to twice the number of traveling sheaves. This ratio was called the "Gear," and represented the ratio of car travel to piston travel. The dead weight of the car was counterbalanced partially by the weight of the piston and traveling sheaves, to which cast-iron weights were added, leaving just sufficient unbalanced weight to enable the car to descend at a proper speed when empty, and to overcome the momentum of the entire

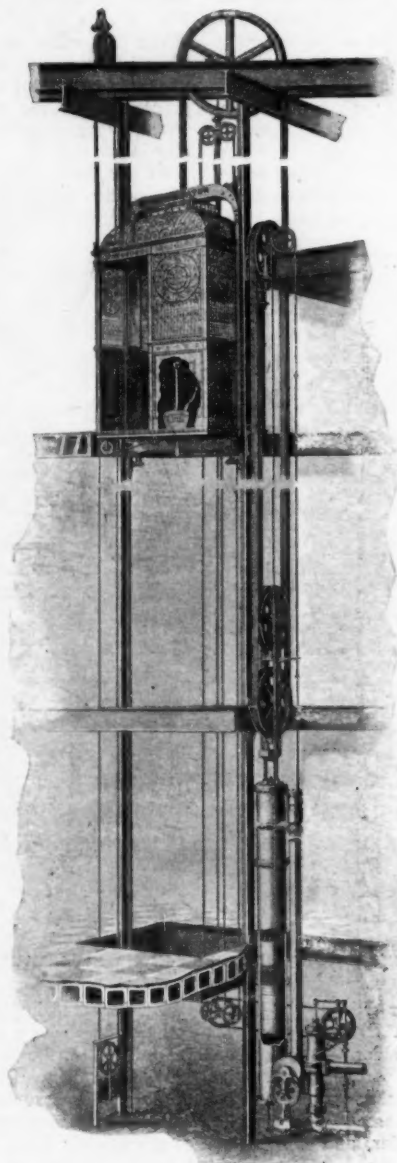


PLATE I.—STANDARD VERTICAL-CYLINDER ELEVATOR.

¹ A paper by Mr. Thomas E. Brown, M. Am. Soc. C. E., read before the International Engineering Congress at St. Louis, October, 1904, and published in the *Proceedings of the Society*.

moving mass when ascending and bring it to rest within a proper distance when the power was cut off.

The horizontal machine of the pulling type was essentially the same as the vertical machine laid on its side, but, to save space, was of higher gear, and the traveling sheaves, as also the standing sheaves, were placed side by side on single fixed shafts, the sheaves revolving independently on bushings.

The horizontal pushing machine differed from the pulling machine in that the standing sheaves were supported on the back head of the cylinder, and the piston was connected to the traveling sheaves by a column or strut and the sheaves were pushed, instead of being pulled apart.

The usual gear of horizontal machines was 10:1, and the stroke was varied to suit the rise of the car, while the length of the vertical cylinders, being only limited by the height of the building, could be made as low as 4:1, and with low buildings even 2:1.

With the horizontal machine, the weight of the piston and traveling sheaves could not assist in balancing the car, hence, an independent counterbalance weight, attached to the car by separate cables, was used.

With the horizontal cylinders, pressure water was admitted to the cylinder to cause the car to ascend, and was discharged when the car descended, the unbalanced weight of the car being suffi-

The piston valves were packed with leather cups, and had metal tapered followers of such form as to produce a very gradual cut-off to bring the machine to rest without shock. These valves were usually operated by a rack and pinion, and an endless rope passing through the car, wound on a wheel on the pinion shaft; but the higher pressures and greater speeds necessitated by the higher buildings then being constructed had caused such an increase in the size of the valves that they were beyond the power of the attendants to move with ease and certainty, and a secondary or pilot valve was required to control a motor piston, which in turn moved the main valve. The pilot valve was moved by a wheel or lever in the car, connected to the pilot valve by a cable device, of which the "Standing Rope" and "Running Rope" devices were the principal types.

The pilot valve and main valve stems were connected by a system of levers, such that the movement of the main valve tended to control the pilot valve, making the motion of the main valve proportional to the motion of the pilot valve, and in turn proportional to the movement given to the wheel or lever by the operator in the car.

At this date (1893), no special attention was paid to economy of operation of elevator plants. Practically all hydraulic elevators were operated by compound, duplex, direct-acting, steam pumps,

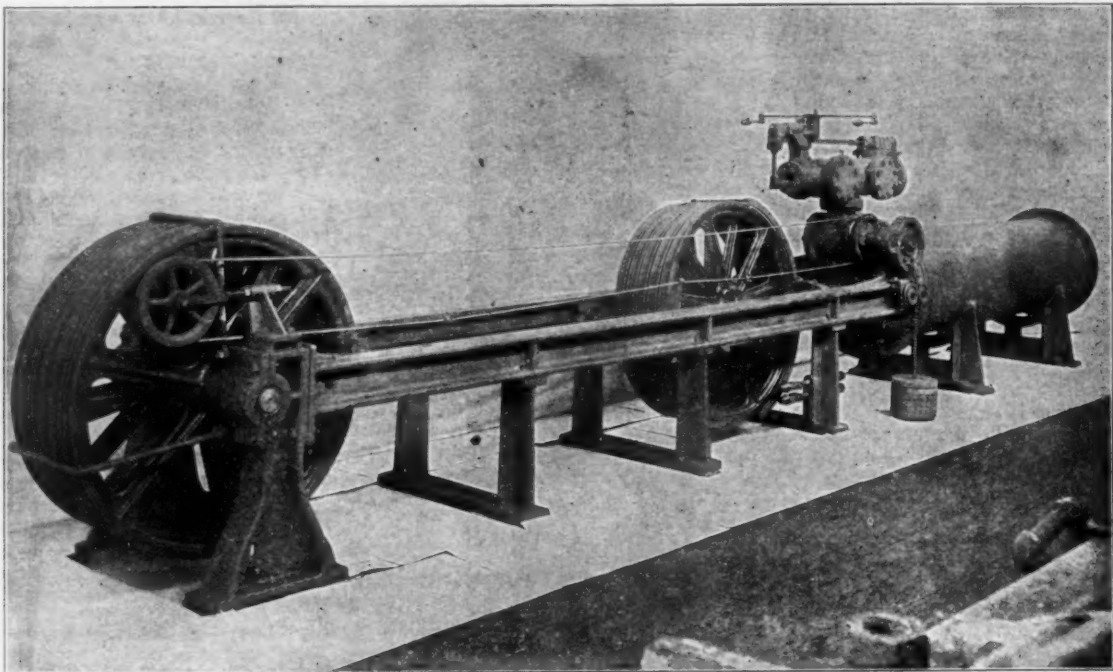


PLATE II.—LOW-PRESSURE ENGINE, WHITTIER TYPE.

cient to overcome friction, and force the water through the ports and discharge pipe to the discharge reservoir.

The same arrangement with the vertical cylinder would involve a variation in the head equal to the stroke of the piston. To avoid this, these machines were circulating, that is, water was carried under the piston, and when the car ascended pressure-water was taken in at the top of the cylinder, and the water under the piston was discharged. When the car descended, and the piston rose, the water circulated from the top of the cylinder through a pipe at the side of the cylinder into the bottom of the cylinder under the piston, to be discharged again during the down stroke of the piston. Thus the effective pressure was uniform during the stroke. As the atmospheric pressure is depended upon to keep the water up under the piston, the length of stroke is limited to the height due to atmospheric pressure, or at sea level to about 33 feet above the surface of the discharge reservoir. Longer strokes could be accomplished by siphoning the discharge pipes, involving a loss of head equal to the height of the siphon. Hence, wherever practicable, it was usual to limit the stroke to about 33 feet, and arrange the gear to suit the car travel.

The operating valves of the three machines described were essentially the same, and consisted of balanced piston valves in cast-iron barrels with perforated brass linings.

which delivered into compression tanks placed either in the basement or at the top of the building. In either case dependence was placed on the supply of compressed air in the tanks to take care of the fluctuations of pressure due to momentary variations of power. Where buildings were high enough, the roof tanks had the great advantage of less fluctuation of pressure, due to the constant static head, and therefore caused greater steadiness in the operation of the pumps and corresponding economy in consumption of steam.

Such was the state of the hydraulic elevator art in 1893; and the general types of low-pressure hydraulic elevators remain the same up to the present day. Increased duties, requiring increased pressures and more powerful machines, have resulted in changes in details and the general strengthening of parts.

The old, forged-strap traveling-sheave frame, hung in the air without guides, has given way to a rigid, riveted frame traveling in metal guides. The light, cast-iron cylinders, with flat-faced joints, have been superseded by heavy cylinders, still of cast-iron, but with heavy and strongly-bolted flanges, with carefully fitted male and female joints. The light pistons, formerly packed with large leather cups reinforced with a wearing surface of canvas and rubber rings, have been replaced by hemp and flax-packed pistons with bronze follower glands. The present types of ver-

tical and horizontal hydraulic elevator engines are shown on Plates I and II.

When the electric elevator came into general use, such claims were made as to its great economy, in that it used power proportional to the actual work done, and in that electric power could be produced more cheaply than hydraulic power—claims which experience has not yet substantiated—that makers of hydraulic elevators turned their attention to economy of operation. The first step was to compensate the variation of power due to the change of position of the cables during the run, which, for elevators of even moderately high rise, was an important percentage of the work to be done.

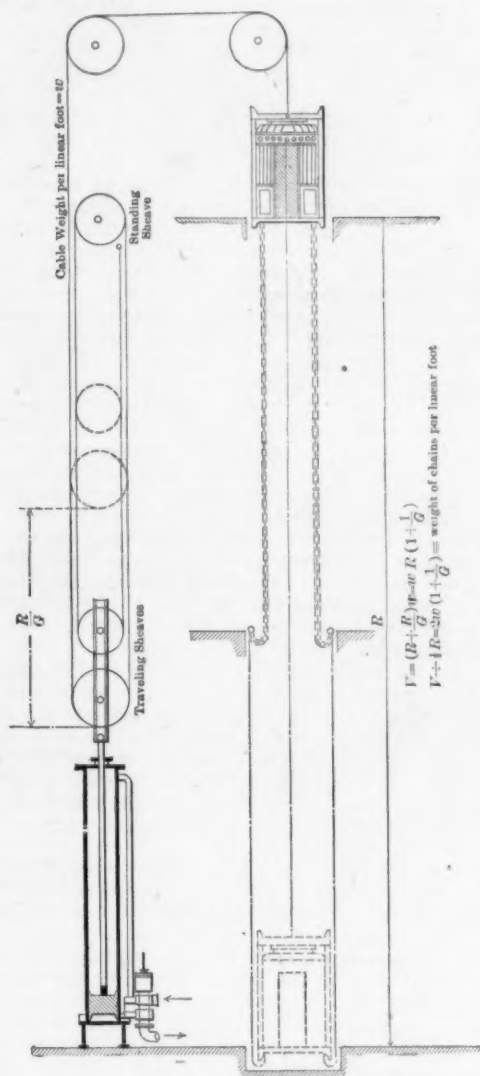


DIAGRAM ILLUSTRATING COMPENSATION OF ROPE VARIATION BY CHAINS
FIG. 1.

For a standard vertical machine, counterbalanced on piston, this variation amounted to:

$$V = \left(R + \frac{R}{G} \right) \times w = R w \left(1 + \frac{1}{G} \right),$$

in which

R equals rise of the elevator;

G equals the gear, or ratio of car travel to piston travel;

w equals the weight of the cables per unit of length.

For a standard horizontal machine, with independent counterbalance weight:

$$V = R w + 2 R w^1 = R (w + 2 w^1)$$

in which

w equals weight per unit of length of lifting ropes, and

w^1 equals the weight per unit of length of counterbalance ropes.

The car, when at the top of its travel, having to descend by gravity, its unbalanced weight required to be sufficient to overcome this cable variation, besides the overbalance required for other reasons. The magnitude of this for a rise of, say, 180 feet, and the usual load of 2,500 pounds can be seen readily by an example: Such an elevator, of the vertical-cylinder type, would usually be provided with four $\frac{3}{4}$ -inch cables, each weighing 0.7 pound per foot, equalling 2.8 pounds total, equalling w , and would be geared 6:1; hence, the cable variation would amount to

$$\left(180 + \frac{180}{6} \right) \times 2.8 = 588 \text{ lbs.}$$

or about 23.5 per cent of the net load to be lifted. A horizontal

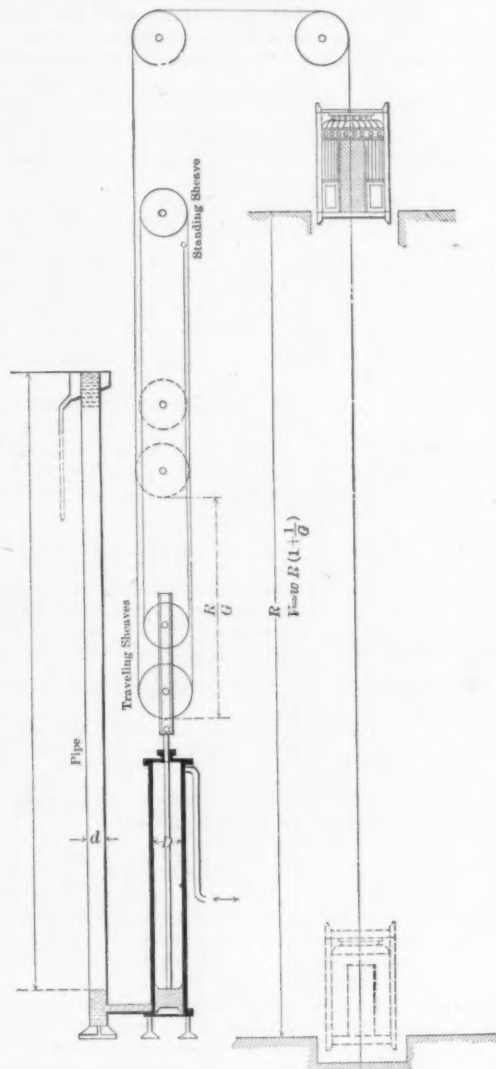


DIAGRAM ILLUSTRATING COMPENSATION BY WATER COLUMN
FIG. 2.

machine, for a similar rise and duty, would usually be provided with two $\frac{3}{4}$ -inch lifting cables, each weighing 0.9 pound per foot, or 1.8 pounds for the two, and two $\frac{3}{4}$ -inch cables weighing together 1.4 pounds per foot, carrying the counterbalance weight. The cable variation would amount to:

$$(180 \times 1.8) + (2 \times 180 \times 1.4) = 828 \text{ lbs.}$$

or about 33 per cent of the net load lifted.

It seems strange that for many years elevators should have been operated subject to this unnecessary and extravagant tax on the coal pile, when it could have been remedied by the simple expedient of hanging to the cars chains or cables or counterbalance weights, of such weight per unit of length as to compensate for the cable variation.

The present practice is to hang chains in the shaft. These are attached at one end to the wall of the shaft, at about the middle

of the elevator run, and at the other end to the bottom of the car, thus the chains hang in a loop in the shaft and travel up and down with the car. When the car is at the bottom of its travel the chains hang on the wall of the shaft; when the car is at the top of the shaft the chains hang on the car; hence the total weight of chain must equal the cable variation, V , or as the length is half

the rise, R , the weight per unit of length must be $= \frac{V}{2R}$

When an independent counterbalance is used, the same result is obtained if the chain is fastened to the independent weight instead of the car, with the further advantage that the weight of the chain acts as and can replace part of the counterbalance. A still better method is to fasten one end of the chain to the counterbalance, and the other to the car, in which case the chain has double effect; hence its total weight need be but half the cable variation, V , and, as its length is R , its weight per unit of length is $\frac{V}{2R}$, or one-quarter of the size required by the first case.

Space conditions rarely admit of attachment of the chains to the counterbalance; hence the first method (Fig. 1), though requiring chains four times as heavy, and of twice the total weight, is the general practice. Objection is made to the chains on account of their unsightliness and noise, but otherwise they are perfectly effective.

A method of compensating the cable variation hydraulically was applied at the St. Paul Building, New York City, in 1895, and has been used since in several other buildings; and, while a more elegant method than the chains, doing away with their disadvantages, it requires additional space, which cannot often be obtained.

It consists of a vertical pipe, connected to the bottom of the cylinder, of such relative volume to the volume of the cylinder as to cause the water when discharged from the cylinder to rise in the pipe and produce a back pressure under the piston, increasing in proportion as the cable balance varies. It is illustrated in Fig. 2.

As the piston travels $\frac{1}{G}$ times the distance traveled by the car, the total variation of pressure on the piston, to compensate for the rope variation, V , must equal GV ; or, the water must rise in the pipe a height, $H = \frac{GV}{0.434 A}$, in which A is the area of the piston; but, as the volume swept through by the piston must equal the change of volume in the pipe,

$$\frac{GV}{0.434 A} \times \pi d^2 \frac{S}{4} = S \times \pi D^2 \frac{D}{4}$$

in which d and D are the diameters of the pipe and cylinder, respectively, and S equals the stroke of the piston:

$$\text{or } d = D^2 \sqrt{0.1085 \pi \frac{S}{GV}} = 0.584 D \sqrt{\frac{S}{GV}}$$

The pipe is open at the top at the exact height required, and is provided with a catch-basin and drain; hence any surplus of water due to leakage through the piston is ejected, and the apparatus adjusts itself on each trip.

The rope losses having been taken care of, builders turned their attention to still further economics. The hydraulic engines in themselves were highly efficient as machines, as from 75 to 90 per cent of the work done on the pistons was transformed into actual work on the cables. The friction of the piston packings was small, and no means could be suggested to decrease it; also the axle friction of the multiplying sheaves was low, as the ratio of sheave diameter to axle diameter was usually 10 or 12, and the coefficient of axle friction was about 0.05. The losses due to bending the cables over the sheaves were very small, as the ropes were pliable and of small diameter, relatively to the sheaves.

Roller and ball bearings were tried on the sheave axles, but with too little effect to warrant their general use. Hence little was to be expected from attempts to decrease the mechanical friction of the apparatus, and the efforts for improvement were directed toward decreasing the percentage of hydraulic losses in the pipes and valves, increasing the efficiency of the pumping engines producing the hydraulic power; and in regulating the consumption of the power to the needs of the work actually being done at the moment.

The decrease of hydraulic losses was accomplished by the use of higher pressures, from 175 to 200 pounds, and by a slight increase in the sizes of pipes and valves used. The gain by this

latter method, however, was but slight, as these details were already as large as space conditions in buildings would allow.

(To be continued.)

PHOTOGRAPHY AS APPLIED TO ARCHITECTURE.¹

IF I commence my paper this evening with a few remarks on the ethics of "Photography as applied to Architecture," or, in other words, architectural photography, I must at once disclaim any intention of raising that wearisome and unprofitable controversy over the respective merits of sketching and photography as a means of depicting buildings. I recognize that very exhaustive claims have been made on both sides—claims not supported by any substantial basis of fact; and while my personal sympathies naturally tend towards work with a camera, I am quite willing to grant that the use of the pencil by the architect and student is a very necessary and proper thing.

But architectural photography has its field. The late John Ruskin, no enthusiast concerning photography in general, said "it was the foremost means of translation or reproduction in a graphic form of architecture." I do not affect a belief that by this utterance the great art critic excluded all other methods of depiction; his own exquisite drawings of architecture would at once dispel such a claim. But I do believe that by this utterance he recognized the supreme claim of the architectural photograph—its impersonality. A drawing must necessarily be tinged with the individuality and perception, or want of perception, of its author; in short, you do not receive an impression of the building through your own eyes, but through the eyes of the artist—nay, it is but an impression of his impression. So that whatever pleasure you derive from the drawing as a drawing you do not necessarily receive from it the impression of the building that would result from a sight of it in the substance. Some medium is therefore required for affording an impersonal depiction of a building from which each beholder can draw his own deductions and impressions. Such an impersonal basis is accorded by the photograph, which I claim is the only effectual means for the exhibition of architecture; and by exhibition I not only mean a public display of architectural views but also their publication in books and magazines, or any other method intended to appeal directly to the criticism and judgment of the individual. The first case is even more important than the second, because if ever an impersonal basis is needed, it is required by a judge who has to decide the merits, not of drawings or photographs, but the buildings depicted in them. That I am not alone in my contention is shown by the efforts that have been and are still being made by some of the leading architects to obtain a revision of the Royal Academy rules with regard to architectural exhibits; a revision that would permit architects to show their work by means of photographs, geometrical drawings and models, as well as or instead of perspective drawings, to which they are at present practically restricted.

My claim for the photograph as the best means of exhibiting a building will doubtless be met by two objections: (1) That the photographs can be "faked;" (2) that buildings seen in photographs are frequently distorted and are not truly represented. Both these objections must be admitted; in regard to the first I might rest content to say, so can drawings. One has only to study perspectives at the Royal Academy for this fact to be self-evident. But if absolutely sharp, clear detail be insisted upon in a photograph, it will be exceedingly difficult, if not impossible, to fake it without detection. Only fuzziness or impressionism will disguise the effects of manipulation. And architectural photographs in general cannot be too sharp. In regard to the second objection the fault lies entirely with the operator: if you see a distorted building or one in impossible perspective, blame, not the science, but the photographer.

For the benefit of architects employing professional photographers I should mention that many of the monstrosities in architectural photography that one sees are due entirely to the architect, whose orders the photographer is naturally obliged to carry out, however much they go against his better judgment. The most common causes of failure are:—

(1) The architect desires to get too much in one plate; he wants "to look over his head" or "round a corner"—in short, tries to achieve the impossible—in which amiable endeavor the photographer collaborates. Occasionally, for a special purpose, it may be necessary to take a somewhat distorted view. For instance, one of the photographs of Westminster Cathedral which

¹ A paper read by Mr. E. Dockree before the Architectural Association on the 14th ult.

is hung on the wall to-night is a very sharp perspective of the campanile from the roof of the nave. This photograph, which took me three hours to focus and get into position, was specially asked for by Professor Lethaby, who selected all the points of view. In general, the photographer should resist a request for a view he knows will appear distorted.

(2) The operator receives instructions to do "the best he can" (a favorite form of request), and with some operators the best does not amount to much. In this case the photographer goes blindly to work, never pointing out drawbacks or defects (from a photographic standpoint) in the views suggested or offering a workable alternative.

I am tempted to add a third reason—a want of knowledge on the part of the operator of either the science of optics or the laws of perspective, or both.

I do not wish to pose as an authority on architecture; there are too many already; but in more than one instance I have succeeded in bringing the architect round to a point of view widely differing from his original idea, although still retaining the same angle of the subject that he required to be taken. Some subjects are quite impossible to render in a pleasing way, and unless they are required for litigation purposes I strongly urge that they be left alone.

Concerning size, the larger the photograph of an architectural subject can be made, the better in every respect: the details and the proportions of the structure are shown to a greater advantage. A small picture may be a gem of photography in its way, but you instinctively feel you would like to see it done larger. Of course, you can enlarge by means of one of various apparatuses on the market, but why make two bites at a cherry? The resulting picture lacks that "quality" and "vim" only to be obtained by working direct. An enlarged negative is another alternative, but that requires a skill and power of manipulation far beyond the average amateur, who only requires one or two prints of the subject he is interested in.

Again, small plates are "small" in price, and tend to carelessness and slipshod work; whereas a large plate and its after manipulations compel you to walk round and study your subject—consider every standpoint—the final one being selected only after mature deliberation.

I would like, while still speaking generally, to say a word about artificial light. For architectural work artificial light should never be resorted to if it can be avoided. Though an interior may appear absolutely dark to the naked eye, there are always rays sufficient to act upon a sensitive plate if time be given. Thus my view of the Chester crypt had to be focussed on a torch, consisting of a newspaper rolled up, lighted and held a certain distance in front of the camera. The plate was exposed for five hours, and a slide of the result obtained you will see later. Such prolonged exposures are not always possible, and one is frequently forced to employ some sort of artificial aid. Though I have never employed it, I believe acetylene gaslight is the best for photographic purposes, as the spectrum of this light most closely approximates to that of the sun. I have invariably used electric arc lamps when photographing the auditoriums of theatres and other dark interiors. In the case of All Hallows' Church, Lombard Street, the very dark interior of which I photographed in foggy February last year, the building was not wired for electric light and electric arcs could not be utilized. I therefore employed six lime boxes, using the oxy-hydrogen light, the gas being contained in portable cylinders. The resulting photographs are shown on the walls this evening. One light I warn you not to use for architectural purposes, and that is the one most commonly resorted to—flashlight, magnesium. Its use results in a white glare over the objects nearest to the camera and the elimination of detail in the background so that delicate undercut carving looks as flat and formless as a stencil pattern on a wall. Unfailing patience and effort are required to obtain success in architectural photography. One must be prepared to work at it at all hours of the day and night. I have secured excellent negatives by exposing plates in the subdued light between 3 a. m. and 7 a. m. But as the fascination of the work gets a firmer hold of the worker, so the various difficulties are overcome and in the end practically disappear, the intervening stages serving to encourage the earnest enthusiast. There are obstacles to be overcome, undoubtedly, but none of such magnitude as cannot be surmounted by care and application.

In dealing with my remarks on photographic apparatus and photographic processes, which I include in this paper for the benefit of those of you who are or intend to become architectural photographers, I have endeavored to eliminate as far as pos-

sible technicalities or technical terms, hoping that my lay hearers may also understand and join in the discussion which I hope will arise.

Bearing in mind my remarks as to size, I would recommend nothing less than a whole plate or a 10-inch by 8-inch; personally, I use a 12-inch by 10-inch, and would use a 15-inch by 12-inch if I could get about with it and all its appurtenances in a comfortable manner. The camera should possess double extension; that is, the "front" and "back" should be capable of being adjusted by means of a pinion and rack-work, the bellows slightly tapering; and the "front" carrying the lens should have a "rising movement" and, better still, a sliding movement in addition. All up-to-date cameras have a "swing-back" capable of two movements, "to" and "from" the lens, and a "reversing back" to carry the dark slide so that oblong and upright pictures can be obtained. Some workers find fault with the "turn-table;" they assert "focussing" is a difficulty in a dark interior—what light there is coming up through the same from the ground or floor and detracting from the visibility of the image on the "focussing screen." This may be so, but personally I have found no inconvenience of any moment up to the present. To my mind the turn-table has advantages over the solid base-board; it reduces the weight of the camera, it facilitates your movements in finding the desired view, and gives rigidity to the whole apparatus, the latter a most important feature when working with lenses of long foci and in exposed positions. The tripod stand, or tripod used with the turn-table, should be folding, with a sliding leg—two or three-fold, if of the right weight, is immaterial; the camera and tripod when set up for use should not exceed 5 feet 6 inches to 5 feet 10 inches in height, this being an average sight-line. A slow-moving spirit level, circular in shape, should be fixed on the "base-board" of the camera just at the side of the front; on the front itself at the top of the side a "plumb index" should be placed, and another one on the side of the "swing-back." These three, working together accurately, place beyond dispute the absolute verticality of the resulting photograph.

The next thing to be considered, and certainly the most important one concerning architecture, is lens or lenses. One lens will not do everything required of it; and before deciding what to get I would strongly urge the enthusiast to consult someone well versed in the matter, and, if the pocket will allow, to purchase the best make possible. Then, should your results be not satisfactory, blame yourself and not the lens. I hold no retainer, so cannot advertise, but whatever make is selected let it be a lens giving no wider angle than 65 degrees for an interior subject, whereas 60 to 65 degrees is a very pleasing range for exteriors of buildings. If I quote "focal lengths" of lenses it will possibly only tend to confuse, so I will merely state that lenses for architectural work must be of the rectilinear type and possess great covering power and marginal definition; those of the genuine "anastigmatic" series are absolutely the finest procurable for the purpose. I am afraid I must depart from my original intention to avoid "technical terms," but I have no alternative in giving the following particulars. Where the purse will allow I strongly recommend the earnest worker to procure a "battery" of lenses for his use: for instance, for a whole-plate camera a 6½-inch, 9-inch and 12-inch focal lengths; for a 10-inch by 8-inch camera an 8-inch, 11-inch and 14-inch focal lengths; and for a 12-inch by 10-inch camera a 10-inch, 13-inch and 16-inch focal lengths. And to the last-named I would add an 8½-inch lens.

The apparatus complete, the first operation after the selection of your view is the "focussing." The screen upon which this is effected should be ruled into small squares, say, of an inch; this will facilitate the worker in composing his picture. In "focussing" get your subject as sharp as you can, roughly so at first; see your vertical lines are vertical, and not, as one sometimes sees, converging to meet at some point. Your "uprights" not being true, the camera must be generally "levelled" and the "swing-back" manipulated until the said lines are vertical, the levels all working true to each other; your picture should then be dead "upright." Now re-focus, fixing upon some object midway between the camera and the middle of your subject; note the appearance of the same at the top, bottom and sides of your screen, using the lens's stops to bring the whole view into general sharpness—and in architectural work I have already said it cannot be too sharp.

The knowledge of the exposure to be given is only gained by experience; there is no fixed rule, subjects, light, and shade varying to an enormous degree. But bear this in mind: always give plenty—look after the shadows, the "high lights" will look after themselves. Better "over-exposure" than "under-exposure":

the former can be modified in development, but no amount of development will give detail which through "under-exposure" is not in the plate. Bear in mind that each consecutive stop requires twice as much exposure as the one immediately preceding it.

Plates having a medium rapidity will be found the most serviceable, satisfactory, and easy to work. Some workers like one make of plate, others prefer another; personally I think the Imperial Company's or Elliott's Barnet give all that is required of them, but every plate used must be "backed." The difference in the resulting picture obtained from a "backed" and an "unbacked plate" is most marked; in fact, in some cases, especially where windows assert themselves in an interior, a "backed" plate is an absolute necessity, otherwise "halation," the bugbear of photography, will be so evident as to quite mar the picture, though everything else is quite satisfactory.

A developer of pyro, in combination with potash or soda as the accelerator, is, to my idea, the best for the class of work under consideration. It yields, if properly adjusted in its components, a negative soft but vigorous, the class best suited for printing in either "silver" or "platinum." In development the watchwords should be "Detail first, density afterwards," not the reverse; to obtain the correct gradation keep your pyro down to a minimum, to start with; it can easily be increased as development proceeds. All detail out and the desired stage of density reached, rinse the negative well and fix in the usual manner—say, for ten to fifteen minutes—in hypo 10z. to each 40z. of water; remove; well wash under running water for forty minutes to an hour; drain and stand to dry in a place free from dust and draught. The negative now obtained, when dried, should be carefully examined, and the various defects, such as pin-holes, etc., remedied, and the shadows, if too pronounced, should be strengthened by one of many devices, such as papering, etc., on the glass side.

I have no doubt that the numerous printing processes are known to you; each one has his own particular idea in that direction. But a note on prints intended for reproduction by the Press may not be amiss. A print to give the finest block for reproduction is the "silver print." By that I mean that done on one of the various P.O.P. papers and toned with gold. I prefer that "toning" which includes the "sulphocyanide of ammonium"; the range of tones, the latitude it gives is excellent. The "process worker"—by that I mean the "block maker"—likes a good plucky "blue-black" print full of "vim" and "contrast"; it yields a block far superior to any other class of print. In bad or dull weather one of the numerous "gas-light papers" must be employed; no toning is required, the image being developed by one of the various "Metol" formulas. For framing and keeping for show purposes there is no process equal to the "carbon" or "platinum," but suitable negatives are required to give the finest results—any class of negative will not do; for carbon a strong, plucky negative, and for platinum a soft but vigorous one.



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

EASTERN FEMALE HIGH SCHOOL, BALTIMORE, MD. MESSRS. SIMONSON & PIETSCH, ARCHITECTS, BALTIMORE, MD.

PLANS AND ELEVATIONS OF THE SAME.

OFFICE BUILDING OF THE BERLINER TAGEBLATT, BERLIN, PRUSSIA. HERREN CREMER & WOLFENSTEIN, ARCHITECTS.

This plate is copied from the Russian periodical *Stroitel*.

HOUSE OF J. B. WESTBROOK, ESQ., CLINTON ROAD, BROOKLINE, MASS. MESSRS. CHAPMAN & FRAZER, ARCHITECTS, BOSTON, MASS.

HOUSE OF THE BROTHERS BECKH, BREWERS, PFORZHEIM, BADEN. PROF. H. BILLING, ARCHITECT.

This plate is copied from *Deutsche Bauzeitung*.

Additional Illustrations in the International Edition.

ENTRANCE TO THE ARNOLD ARBORETUM, ROXBURY, MASS.

THE HUNNEWELL BUILDING: ARNOLD ARBORETUM, ROXBURY, MASS. MESSRS. SHAW & HUNNEWELL, ARCHITECTS, BOSTON, MASS.

S. GIOVANNI EVANGELISTA AND THE TOWER OF S. PAOLO, PARMA, ITALY.

The façade of S. Giovanni was built about 1604-7, after the design of Simone Moschino, while its tower was built in 1614 by Giovanni Battista Magnani. S. Paolo was also built in the seventeenth century, but by an unknown architect. The subjects are copied from *Blätter für Architektur*.

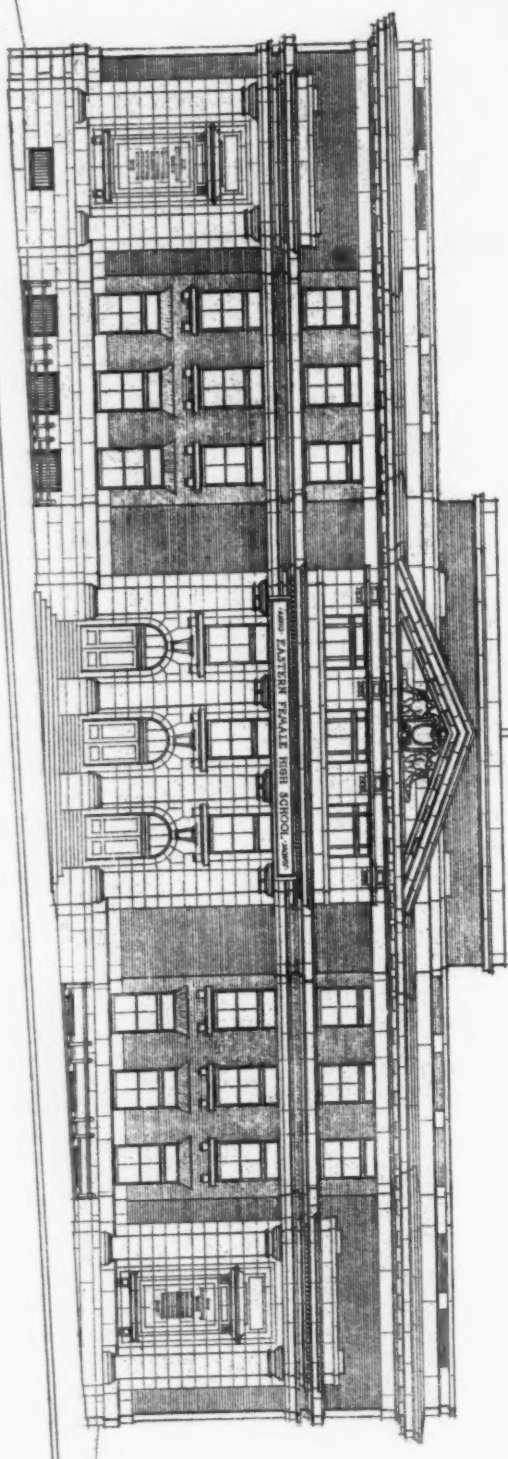
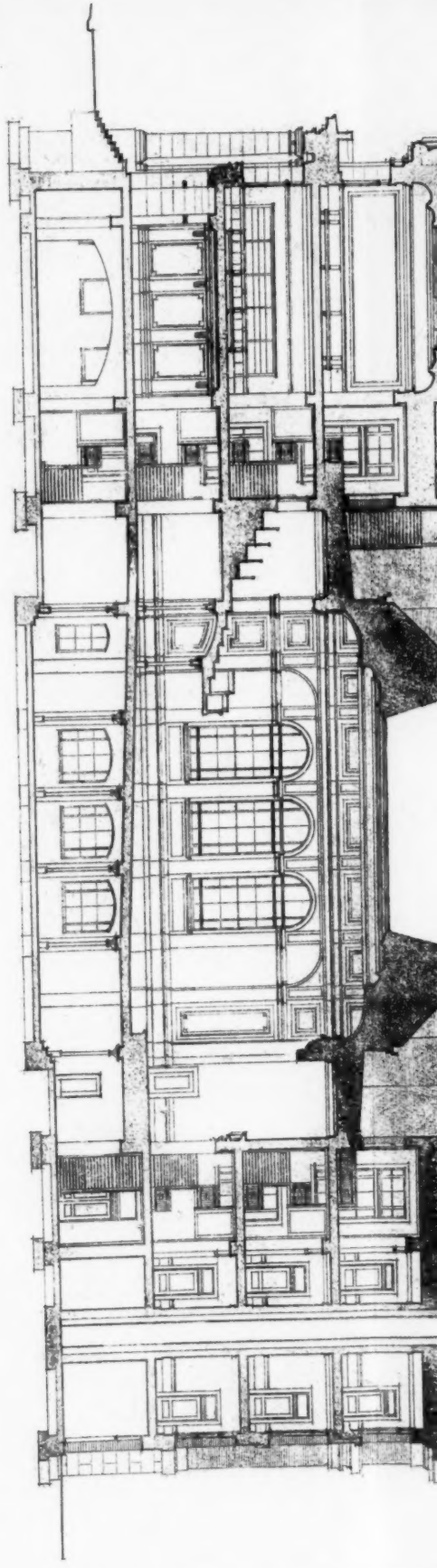
HOUSE OF G. N. STONE, ESQ., BUCKMINSTER ROAD, BROOKLINE, MASS. MESSRS. CHAPMAN & FRAZER, ARCHITECTS, BOSTON, MASS.



ENGLAND'S HISTORIC COUNTRYSIDE.—Anyone, says the *New York Evening Post*, who has read Kipling's story "They" must know how deep is his interest in the automobile as an engine of exploration. Now, in a letter printed in Mr. Filson Young's "Complete Motorist," he gives another reason for admiring the machine; this is its moral aspect as a temperance reformer. The argument is simple: A horse has intelligence and may contrive to get a man home, even though he stops too often at public houses on the way, but a motor car demands a steady brain: Of the automobile as an instrument of discovery, he says: "On a morning I have seen the Assizes, javelinmen and all, come into a cathedral town; by noon I was skirting a new-built convent for expelled French nuns; before sundown I was watching the Channel fleet off Selsea Bill, and after dark I nearly broke a fox's back on a Roman road. You who were born and bred in the land naturally take such trifles for granted, but to me it is still miraculous that if I want petrol in a hurry, I must either pass the place where Sir John Lade lived, or the garden where Jack Cade was killed. In Africa one has only to put the miles under and go on; but in England the dead, twelve coffins deep, clutch hold of my wheels at every turn, till I sometimes wonder that the very road does not bleed. That is the real joy of motor-ing—the exploration of this amazing England."

THE LAWS OF HUMAN BEAUTY.—As would be expected, Maurice Maeterlinck's paper on "Rome," in the *Fortnightly Review* for October, is rather a rhapsody than a distinct appreciation. One paragraph we may quote in part: "And these lead us back to the little cities of Hellas, which discovered one day, and fixed forever, the laws of human beauty. The beauty of earth, except for some spots that our sordid industries have ravaged, has altered but little since the days of Augustus and Pericles. The sea is infinite still, still inviolate. The forest, the plain, the harvest, the villages, rivers, and streams, the mountains, the dawn, and the evening, stars, and the sky, vary as these all may according to climate and latitude, offer us still the same spectacle of grandeur and tenderness, the same soft, profound harmonies, the same fairy-like scenes of changing complexity, that they showed to the Athenian citizens and the people of Rome. Nature remains more or less as it was; and besides, we have grown more sensitive, and to-day can admire more freely. But when we turn to the beauty special to man, the beauty that is his own immediate aim, we find that, owing perhaps to our too great wealth or excessive application, to the scattering of our efforts, lack of concentration, or to the want of a certain goal and an incontestable starting-point, we appear to have lost almost all that the ancients had been able to establish and make their own. In all that regards purely human æsthetics, in what concerns our body, our gestures, our clothes, the objects we live with, our houses and gardens, our monuments, even our landscapes, we are groping so timidly, we display such confusion and inexperience, that one might truly believe our occupation of this planet to date but from yesterday."

WHAT GOES WITH A LONDON LEASE.—"It was a few days after that we remembered an American friend who had kept house in London for ten years," says a correspondent of the *New York Evening Post*, "and went immediately to call on her and tell her of our lucky escape from a madman. It was by conversation with this established matron that we learned that houses are rented in London according to the rule of seven. You rent for seven years or any multiple of seven that happens to be remaining of an unexpired lease. It seemed that the house we desired had seven times seven more years to remain on the ground. It also seemed that when people moved in London they took their own door-knobs, locks, keys, bell-handles, gas fixtures, hardwood floors, dog-stoves, tiles, etc., along with them, or else charged the incoming tenant a good round sum for leaving them behind. All these things, we were informed, were modern improvements and were not put in the houses at the time they were built. An enthusiastic master of the house has had them put in at large expense, beautified his home, then wishing to dispose of the remainder of a ninety-nine-year lease, rents it at the same price he is paying for it plus a valuation on the 'fixtures.'"

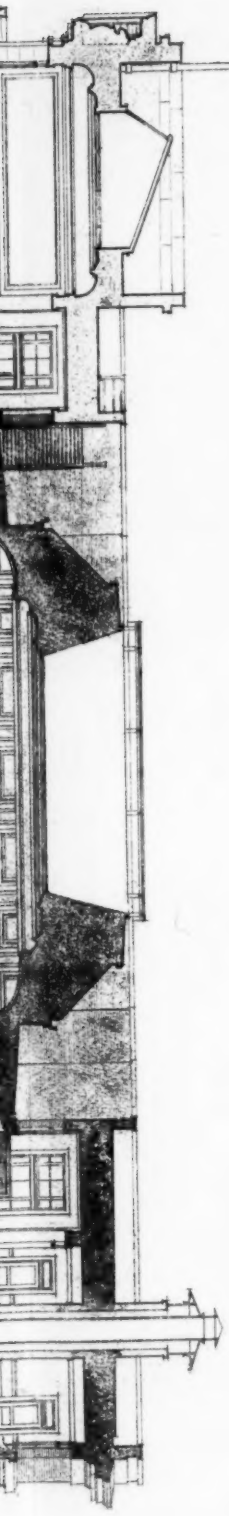
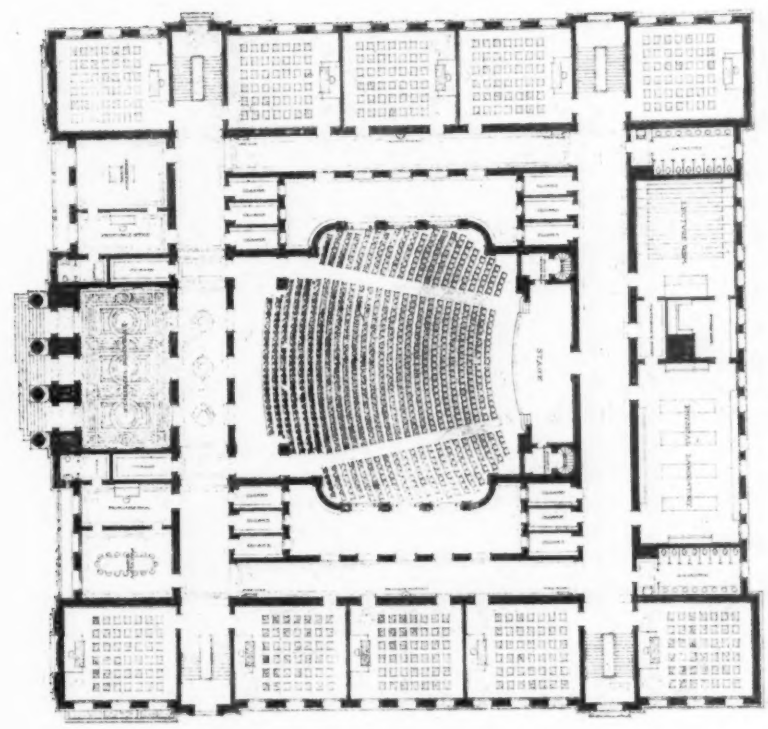
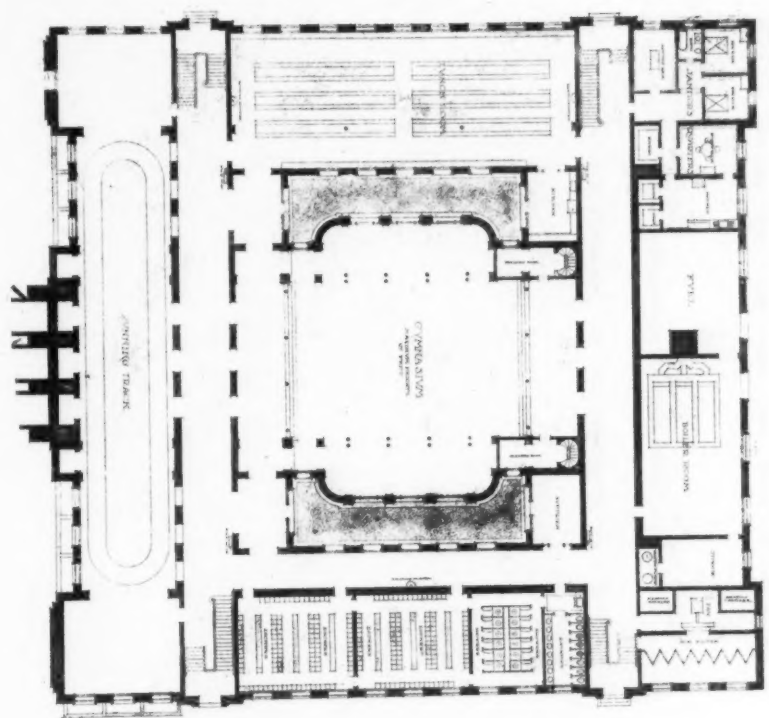


NEW EASTERN FEMALE HIGH SCHOOL, BALTIMORE, MD.
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The American Architect
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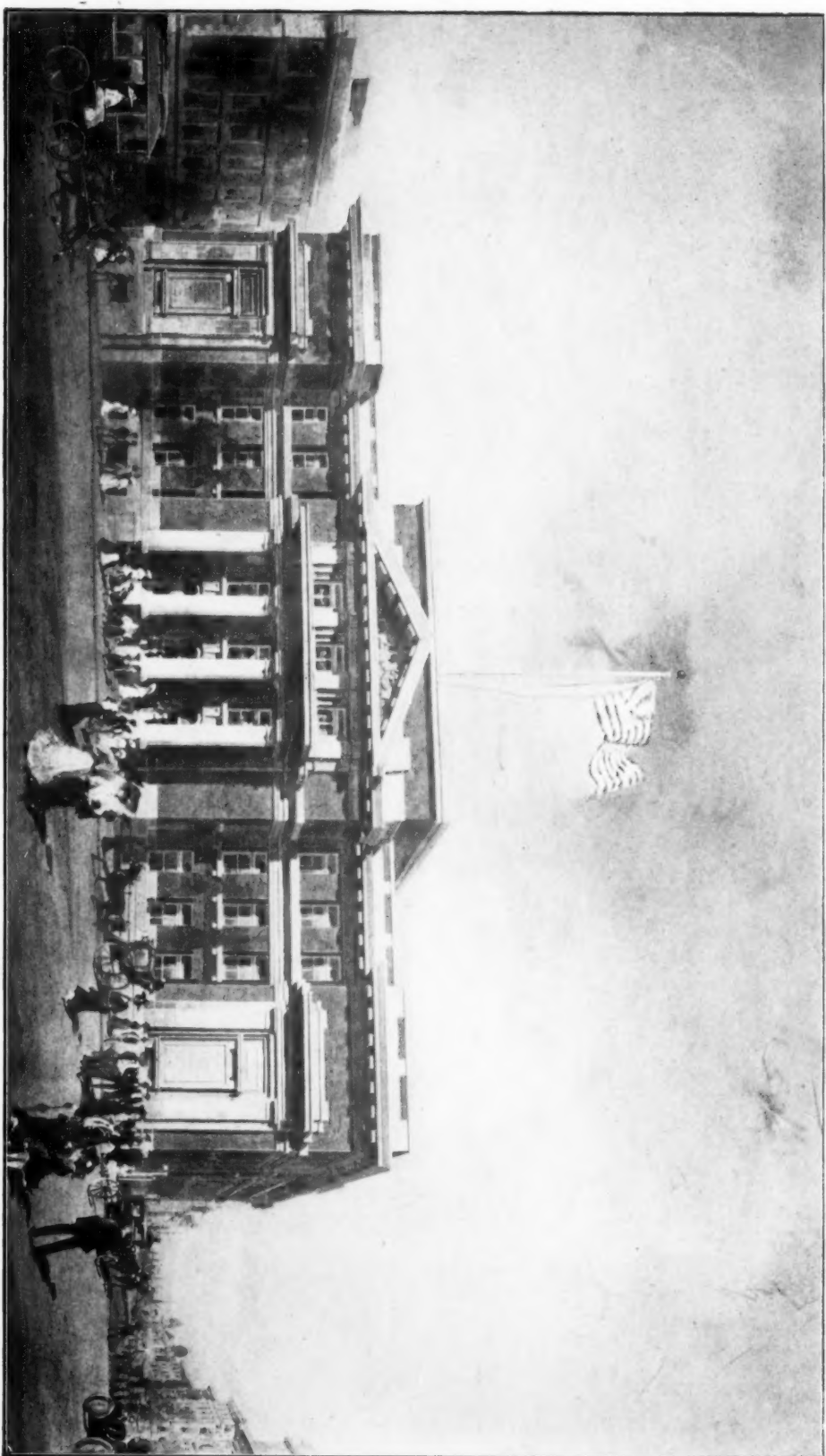
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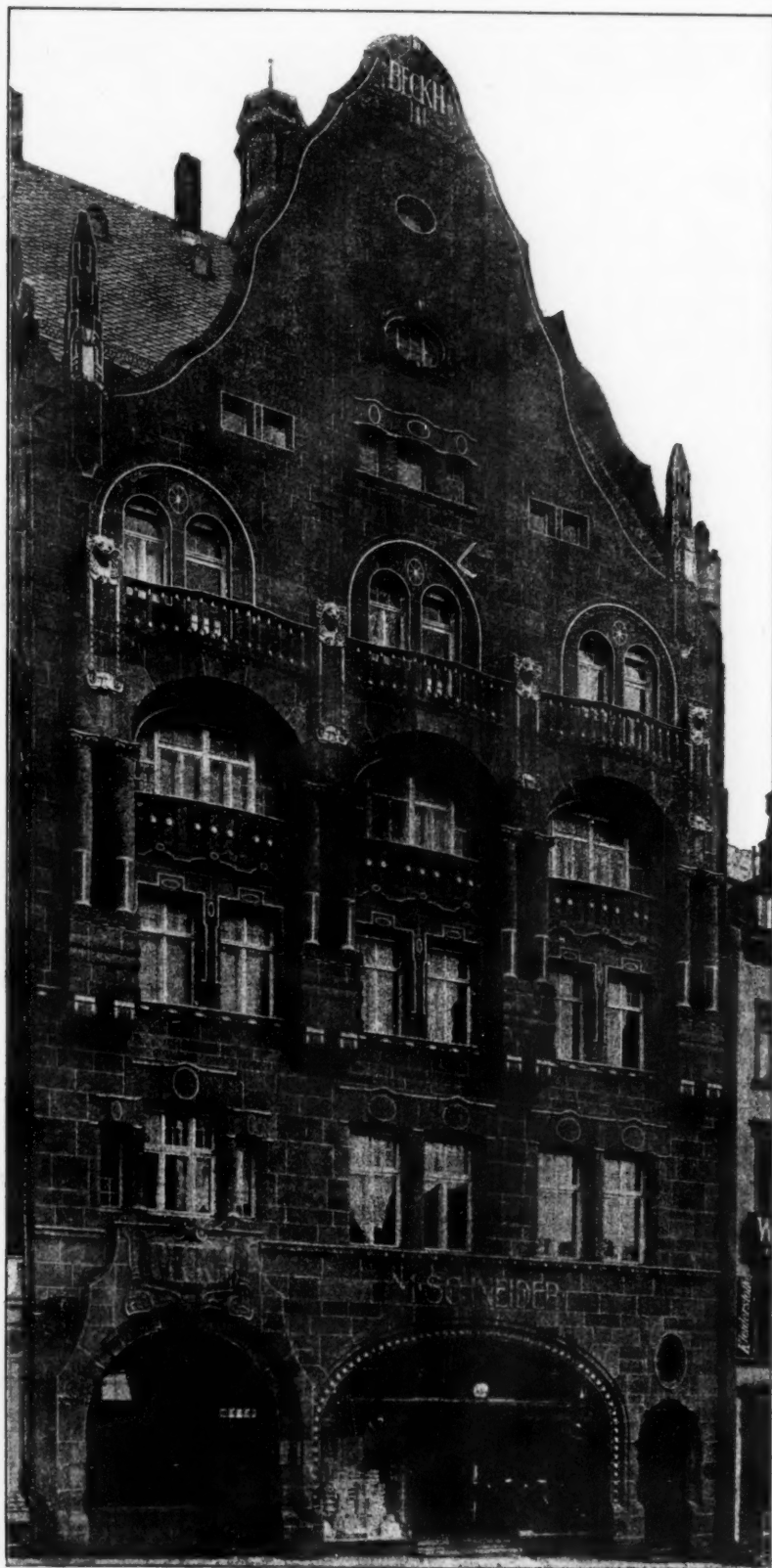
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