

OCTOBER 29, 1904

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NO. 1505



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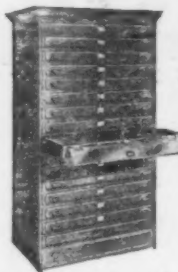
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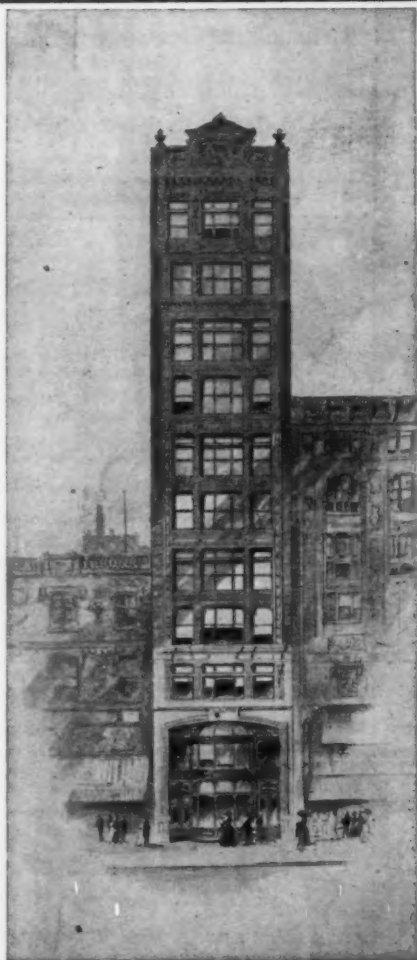
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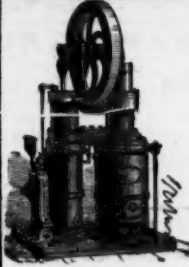
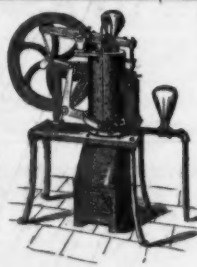
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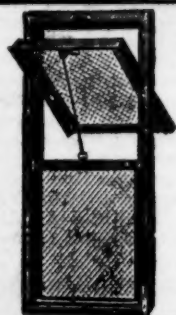
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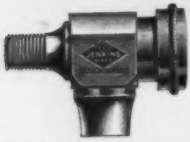
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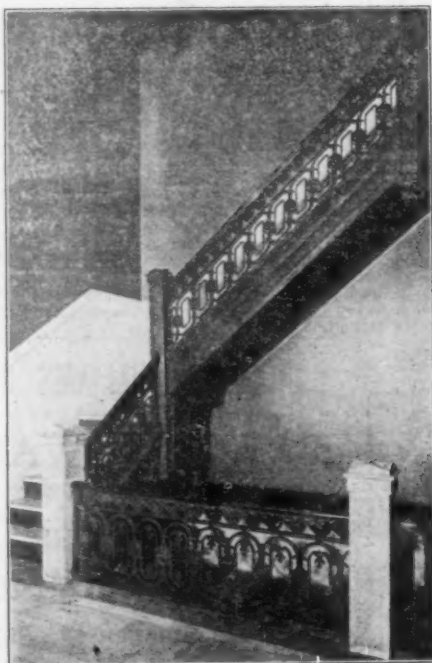
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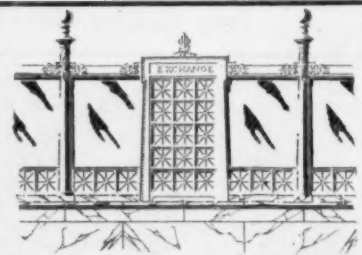
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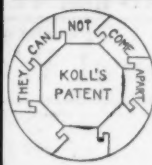
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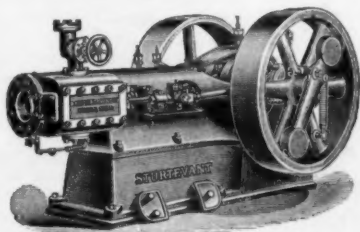
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

of vacant land on the corner of Albany and East Dedham Sts., South End, and will improve the same with a large brick warehouse.

A well-known real-estate syndicate has purchased property on Commercial St., near North St., and will improve.

William R. Hedges has purchased the property at 124-134 Cross St., near the corner of North, and intends to erect a brick and iron mercantile building.

It is stated that work on the new \$200,000 building for the Salvation Army will be started in the near future. Ground will be broken when \$75,000 has been secured, and \$50,000 is already in hand.

It is reported that the White Sewing Machine Company has plans for an automobile building it contemplates erecting on Boylston St., between Exeter and Fairfield Sts. Clinton J. Warren, 7 Water St., architect.

BROCKTON, MASS.—W. J. Anglin contemplates the erection of a \$60,000 mercantile and office building.

BROOKLYN, N. Y.—The members of the Central Congregational Church have purchased a site on New York Ave. and Sterling Pl., and will erect a stone chapel, to cost \$28,000.

CHICAGO, ILL.—The Harrison St. police station is to be torn down and on another site the city officials are planning to construct a fine new station. Advertisements call for a tract 100x125 feet in area, east of Clark, between Van Buren and 14th Sts., and bounded on the east by the lake. Estimated cost of the new building \$250,000, and it will probably be of modern steel construction.

It is reported that Apostle John Alexander Dowie is preparing to begin work on the new Zion City tabernacle, to cost \$600,000, and that ground will be broken Nov. 1. Dr. Dowie announces that after five or six years it will be converted into a college building. By that time Dowie believes he will have erected a third temple, to accommodate 30,000 persons.

Contracts will soon be let for the new Cyrus H. McCormick school, to be built at

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Sawyer Ave. and West 22d St. It will be a large three-story building, 204x121 feet, and will cost \$160,000.

The South United and First United Presbyterian congregations have joined together, being now the First United Presbyterians. They contemplate the erection of a new church.

The Russian Holy Trinity congregation, is having plans prepared by a Washington (D. C.) architect for a Greek Catholic church to be built at the intersection of Noble and Chapin Sts. Cost, \$150,000.

CINCINNATI, O.—The Union Terminal Depot Co., is contemplating the erection of a union depot at Court, Walnut, Canal and Plum Sts. Cost about \$8,000,000.

CLARKSBURG, O.—Leon H. Lampert, of Rochester, N. Y., is drawing plans for a six-story business block and theatre which the Main Street Building Company, of Morgantown, intend erecting at a cost of \$80,000.

CLARKSVILLE, ARK.—Report states that the business men of this city will erect a three-story brick hotel and opera house, at a cost of \$35,000.

CLEVELAND, O.—It is said that the heirs of the Marcus A. Hanna estate intend erecting a \$100,000 mausoleum.

CLIFTON, O.—A new brick high school building is to be erected here. It will be brick, three stories and basement, 87x170 feet. Cost, \$85,000.

COSHOCOTON, O.—The Coshocoton Glove and Garment Company will erect a factory on South Fifth St., opposite the Keagy & Lear Machine Company's plant. Construction will commence at once, and the building will be ready for occupancy by the first of the year. It will be brick, 48x170 feet. The company has purchased ground adjoining, to provide for enlargement in the future.

EAST BOSTON, MASS.—The contract for a \$100,000 school building for the City of Boston, at Paris and Marion Sts., has been secured by Henry McGahey, 216 Cambridge St., Cambridge, Mass.



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

EASTPORT, ME.—A new and modern hotel will be erected on the site of the Quoddy which was recently destroyed by fire.

EDNA, TEX.—The citizens are agitating the question of issuing \$50,000 bonds with which to erect a court-house.

GARDINER, ME.—Plans have been drawn by A. G. Wing, of Augusta, for an edifice for the First Christian Science Society, to cost \$12,000.

GREEN BAY, WIS.—It is stated that the erection of a \$40,000 theatre in this city is contemplated.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

GREENFIELD, MASS.—The corporation of the Franklin county public hospital at a special meeting at Greenfield, elected L. J. Gunn president of the corporation. Frank J. Lawler and George E. Rogers as a committee to consider and report on a site for and the cost of a new hospital.

HAVERHILL, MASS.—A new armory, the cost of which is not to exceed \$40,000, is contemplated for Co. F, 8th infantry, MVM, at Haverhill.

HOLYOKE, MASS.—Two six-story blocks are to be erected at the corner of High and Cabot Sts. for Louis A. Lafrance. G. P. B. Alderman & Co. are at work upon the plans.

KANSAS CITY, Mo.—Frankel, Frank & Co., wholesale milliners, will soon begin the construction of a seven-story brick building, just across the street from the Coates house, which will be used exclusively by them. The building will cost \$75,000. It will have a frontage of 72 feet on Broadway and will be 110 feet deep.

LONG BEACH, CAL.—The Signal Hill Improvement Company will begin work at once on the pavilion and railroad it is to build at Long Beach. A \$100,000 hotel is also to be erected.

LOS ANGELES, CAL.—The Building Committee of the Order of Elks, has decided to erect a five-story fireproof building at Fifth and Olive Sts. Cost, \$150,000.

A building permit has been granted to Thos. A. Bailey, 322 Byrne Building, for a three-story brick building to cost \$24,000. H. W. Patterson, Architect.

Richard Dillon is preparing to erect a fine business block on his lot at the corner of Seventh and Hill Sts.

T. E. Gobbon of the Salt Lake Railway Company will build a large apartment house on Grand Ave. near Tenth St. A. L. Haley, Architect.

MCKEESPORT, Pa.—Deaß & Stophlet, of Pittsburgh, have drawn plans for a five-story brick store and office building, which is to be erected in this city, at a cost of \$125,000.

MIDDLETON, N. Y.—Work has been started on the \$500,000 palace to be erected by E. H. Harriman at Arden. The house is to be of solid granite, 350 feet long and 180 feet wide. It will be two stories high, with several towers, observation piazzas and ballroom. There will be 50 rooms in the house.

MILWAUKEE, Wis.—Members of the Welsh Presbyterian Society, and one of the oldest and wealthiest Welsh societies in the Northwest, have decided either to enlarge the church edifice or erect a new one, and plans are now being considered.

MONTCLAIR, N. J.—The Montclair Board of Education has approved plans for a new

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

\$60,000 grammar school building. The new structure will be located on the plot purchased from the Wolff estate, in Hillside Ave., and will cost in the neighborhood of \$60,000.

NEWPORT, R. I.—Another hotel is to be erected here at a cost of about \$500,000.

OCEAN PARK, CAL.—The Home Telephone Company has begun the work of installing their system here and will erect a large building.

PALO ALTO, CAL.—The erection of a \$40,000 Masonic Temple is under consideration.

PORTLAND, ORE.—The Union Market Association will erect a market building to cost \$30,000. Work to be rushed.

The Columbia Basin Stockyards will erect a \$250,000 meat-packing plant here.

PROPOSALS.

ALTERATIONS.

[At New York, N. Y.]

Bids will be received November 9 by the Department Board of Health for furnishing material and making alterations to brick building at Riverside Hospital, North Brother's Island, Borough of Bronx. THOS. DARLINGTON, M. D., President. 1505

PLUMBING IMPROVEMENTS, ETC.

[At Willard, N. Y.]

Bids will be received until November 2 by the State Capitol Commission in Lunacy, at Albany, for plumbing improvements, detached building No. 2; cold air inlets and heater casings for present indirect stacks, north and south wings of main building at Willard State Hospital, Willard. 1505

BRICK PAVING.

[At Webb City, Mo.]

The undersigned will receive sealed proposals until November 7 for furnishing the labor and material and constructing the following: Vitrified brick pavement in Webb City, Mo., approximately 755 square yards on Church St., and 1,749 square yards on Webb St. The work to be done according to plans and specifications on file in the office of City Clerk. W. E. SMITH, City Engineer. 1505

PROPOSALS.

LIEUTENANTS' QUARTERS.

[At Fort Wright, Wash.]

Bids are wanted November 5 for constructing, including plumbing, steam heating, gas piping and electric light wiring a double set lieutenants' quarters here. Address QUARTERMASTER, Seattle. 1506

REMOVAL OF BUILDINGS.

[At St. Louis, Mo.]

Sealed proposals addressed to the Committee on Salvage and Sale of Buildings will be received at the office of the Director of Works, Administration Building, St. Louis, Mo., until November 10 for the wrecking and removal of certain Exhibit Building now on the World's Fair grounds. Specifications and instructions for the above mentioned work and drawings and specifications of the buildings to be wrecked can be seen at the office mentioned. ISAAC S. TAYLOR, Director of Works. 1506

ANNEX TO CITY-HALL.

[At New Orleans, La.]

Bids are wanted November 14 for erecting annex to city-hall on Carondelet and Lafayette Sts. V. TUJAGUE, City Compt. 1506

HEATING AND POWER PLANT.

[At Golden, Colo.]

The Directors of the Colorado School of Mines at Golden will receive bids about November 10 for a model heating and power plant to be built on the campus at the School. Cost about \$35,000. Plans may be seen after November 1 at the office of D. W. Dryden, Architect, Temple Court, Denver, Colo. 1506

ROAD CONSTRUCTION.

[At Jackson, Ind.]

Bids will be received until November 10 by the County Commissioners for constructing a road in Jackson township, by grading and graveling in a 1 about 10,612 feet. J. FRANK SMITH, Co. Aud. 1506

STONE DOMESTIC BUILDING AND CISTERN.

[At Chillicothe, Okla.]

DEPARTMENT OF THE INTERIOR, OFFICE OF INDIAN AFFAIRS, WASHINGTON, D. C. Sealed proposals will be received at the Indian Office until November 10 for furnishing and delivering the necessary materials and labor required to construct and complete a stone domestic building with plumbing, electric light and steam heat, and two cisterns, as per plans and specifications and instructions to bidders. For further information apply to S. M. McCowan, Superintendent, Chillicothe, Oklahoma. W. A. JONES, Com. 1506

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PROPOSALS.

CAST IRON PIPE.

[At Salem, Mass.]
Sealed proposals for furnishing cast iron pipe and special castings will be received by the Sewerage Commission of Salem, Mass., at their office: City-hall, Salem, Mass., until November 4. The approximate quantities required are: 1,600 lin. ft. 60 in. pipe and specials. 10,000 lin. ft. 30-in pipe and specials. Forms of proposal and specifications may be obtained at the office of the Engineer, City-hall, Salem, Mass. JOSEPH N. PETERSON, Chairman; Ernest W. Bowditch, Engineer. 1505

DORMITORY.

[At Lac Du Flambeau, Wis.]
DEPARTMENT OF THE INTERIOR, OFFICE OF INDIAN AFFAIRS, WASHINGTON, D. C.
Sealed proposals will be received at this office until November 15 for furnishing materials and labor to construct and complete a frame dormitory building and to make certain additions to school-house, heating, water and sewer systems, at the Lac du Flambeau School, in strict accordance with the plans, specifications and instructions to bidders. For further information apply to this office, or to S. W. Campbell, Indian Agent, Ashland, Wis. W. A. JONES, Commissioner. 1506

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 26, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 17th day of November, 1904, and then opened, for the low pressure steam heating apparatus, complete in place, for the U. S. Post-office and Court-house at Athens, Georgia, in accordance with drawings and specification, copies of which may be obtained at this office, or at the office of the Superintendent at Athens, Georgia, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1506

Department of Agriculture, Office of the Building Committee, Washington, D. C., September 19, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 10th day of November, 1904 and then opened, for the general construction (except heating apparatus, elevators, electric wiring and conduit systems) of two laboratory buildings for the U. S. Department of Agriculture, Washington, D. C., in strict accordance with the drawings and specifications by Rankin, Kellogg & Crane, Architects, 1012 Walnut St., Philadelphia, Pa., copies of which may be had upon application to the Supervising Engineer, Capt. John Stephen Sewell, Corps of Engineers, U. S. Army, at the Department of Agriculture, Washington, D. C. One set only of drawings and specifications will be sent to any one bidder, but additional sets may be purchased of the printers designated by the Department, at cost of production of same. All applications must be accompanied by a certified check for \$250.00, made payable to the Disbursing Clerk of the Department of Agriculture, which checks will be retained until the return of all drawings and specifications, including those which may have been purchased from printers. B. T. GALLOWAY, Chairman. 1506

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 15, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 21st day of November, 1904, and then opened, for the construction complete of the U. S. Post-office at Ottawa, Illinois, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Ottawa, Illinois, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1505

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 15, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 23d day of November, 1904, and then opened, for the construction complete of the U. S. Post-office and Custom-house, Georgetown, South Carolina, in accordance with the drawings and specifications, copies of which may be had at this office or the office of the Postmaster at Georgetown, South Carolina, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1505

Treasury Department, Office of the Supervising Architect, Washington, D. C., October 17, 1904. Sealed proposals will be received at this office until 3 o'clock P. M. on the 15th day of November, 1904, and then opened, for the low pressure steam heating apparatus, for the U. S. Post-office Building at Kirksville, Mo., in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Kirksville, Mo., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1505

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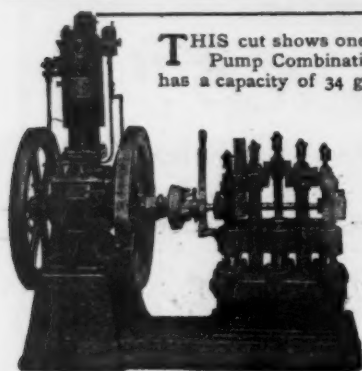
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ASPHALT ROOFING. Warren Chemical & Mfg. Co., N. Y...	CARPETS. Pray & Sons Co., John H., Boston...	CONSERVATORIES. Lord & Burnham Co., Irvington-on-Hudson, N. Y.....	DUMB-WAITER. Perry, W. J., Boston.....
BATH ROOM FIXTURES. Standard Sanitary Mfg. Co., Pittsburgh, Pa.....	CASTINGS. United States Foundry and Sales Company, South Norwalk, Conn.....	CONTRACTING. Flynt Building & Construction Co., Palmer, Mass..... Rutan, William L., Boston.....	ELECTRIC APPARATUS. Edison Light, Boston.....
BATH TUBS (Porcelain Enamelled). Standard Sanitary Mfg. Co., Pittsburgh, Pa.....	CEMENT. Atlas Cement Co., New York.....	CONTRACTORS AND BUILDERS. Rutan, William L., Boston.....	ELECTRICAL CONTRACTORS. Erickson Electric Equipment Co., Boston.....
BOOKS. Clifford & Lawton, New York, N. Y.	CLEAN-OUT. Craig, David, Boston.....	CORDAGE. Samson Cordage Works, Boston.....	ELECTRIC SIGNALS. Elevator Supply & Repair Co., New York.....
BLUE PRINTS. Moss, Chas. E., Boston..... Spaulding Print Paper Co., Boston...	CLOCKS. Blodgett Clock Co., Boston.....	CUTLER PAT. MAILING SYSTEM. Cutler Mfg. Co., Rochester, N. Y.....	ELEVATORS, ETC. Morse, Williams & Co., Philadelphia. Whittier Machine Co., Boston.....
	CLOSETS. Standard Sanitary Mfg. Co., Pittsburgh, Pa.....	DEAPENING QUILT. Samuel Cabot, Boston, Mass.....	

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THE most encouraging feature of the conviction of the man Weinseimer, until his indicting President of the Building Trades Alliance of New York, is that, from the time he was indicted up to the present time, there have been no sensational incidents connected with the prosecution of the case or the behavior of the indicted man or his associates. Evidently union men have learned, as individuals and as organizations, that such cynical and open disregard of public opinion and the ordinary observance of common decency as was exhibited by Weinseimer's predecessor as "grafter" and trouble-maker, the late and notorious Sam Parks, does not pay. It seems, too, impossible that union men should not be able to put two and two together and learn from the fact that their "leaders" are able to come suddenly into possession of large private bank accounts that they, the rank and file of Uniondom, are really but cats'-paws in the game that is going on. They eventually appreciate that they have been burned, and now it begins to look as if they might before long understand why it was.

THE righteousness of the "workingman's" dissatisfaction with his lot and the propriety of his seeking to better it through organized and joint effort are not to be gainsaid. A few figures will show any fair-minded disbeliever that his own position is the wrong one. At the time of the last census there were in this country a little over eleven and one-third millions of workingmen, and the average income of this vast body of men was somewhat under six hundred dollars per year. Of course, this low average is arrived at by including the common laborer, as well as the highly skilled mechanic. But even if the latter class, which constitutes less than one-third of the total body, be considered by itself, the average income can hardly be more than a thousand dollars a year; for, though a plasterer, plumber or mason may nominally be paid twenty-five or thirty dollars per week, he does not net that "*per diem*," since weather, strikes and the inevitable times of being "out of work" seriously scale down the average income. On the other hand, the lot of the common laborer would be shown to be still harder, if the

average income of his class be computed, since it would be found to be much nearer four hundred than six hundred dollars. If the man with an income of three thousand dollars, who finds it difficult to make ends meet, would ask himself how he could get along if that income were reduced by four-fifths, he will get a glimmering of the causes of the modern spirit of discontent that pervades the working classes.

OF course, the proper and logical cure is through the uplift of a progressive educational movement, which shall swell the ranks of the skilled workmen, while it enables the cream of that class to advance from the ranks of the employed to those of the employers. But this upward movement, though it is at work all the time, is inevitably sluggish and does not suit the cards of the great mass of workingmen, whose strength is in their hands, not in their heads; and it is not unnatural that they should seek to use their strength to reach at once, if they can, the goal of their ambitions. The thing that is most unnatural is the steadfast opposition, from within, to a beneficial educational uplifting which is shown by the consistent opposition of the skilled mechanics to the establishment of efficient trade-schools. Little by little, the trade-school is gaining ground everywhere, and perhaps, some time, the Franklin Fund may be available to give Boston a first-class institution of the kind. Meanwhile the Evening Trade School of the Massachusetts Charitable Mechanic Association is successfully doing what it can to supply the need. This school, which has just entered on its fifth term, conducts classes in plumbing, masonry and carpentry, the fee being twelve dollars for the term, a complete course varying between two and three terms of seventy-six evenings each. As accommodations are limited, the School only partially meets the situation; but it is far from being the least deserving undertaking that this beneficent organization has carried on.

EVER since labor unions in this country began to expand with such rank growth, observers have been dreading the coming of the day when they should undertake to interfere in politics. In minor ways attempts to affect matters political have been made from the very outset. We have known of instances where Members of Congress have been threatened and coerced by labor leaders, and very likely there is at this time considerable pressure exerted on political matters by the labor organizations. But thus far there has been nothing overt and widespread. The nearest approach to effective interference has recently come to light in connection with the new Pennsylvania State-house. Here the contractor, who made the lowest bid and secured the contract, appears to be a believer in the open shop, and has announced his intention of living up to his belief. This, of course, was nothing other than throwing down a gage of battle before the unions, and they had resort at once to their natural weapons. As striking was out of the question, since, not being employed, there was nothing they could strike against, they had to use the other arrow in their quiver, and so

declared a boycott; but a boycott, not against the contractor or any of his purveyors of building-material. No, they struck at the party in political control of the State's affairs, and have informed the Republican State Committee that, unless it finds a way of abrogating the obnoxious contract, organized labor, not only in Pennsylvania but in all other States, will vote the Democratic ticket. The long-expected possibility seems at length to have become an actuality.

FOR many years a rather interesting custom has been observed in Boston about the time when the first sharp frost drags its blighting harrow across the somewhat over-gorgeous beauties of the Public Garden. At that time the busy gardeners, who are potting the plants which are to go to the winter greenhouses, are glad to give the surplus to anyone who comes along and asks for it. In this way many a simple room in tenement or boarding-house is made more cheerful for its occupant through the winter, without causing a draft on a scantily furnished purse. A similar and no less commendable practice is brought to our attention for the first time—though possibly it may have been in existence for a year or two—through an announcement in the newspapers that, during the current week, the Superintendent of Public Grounds will give away two thousand nursery-grown shade-trees to anyone who may make written application four days before delivery is desired. This time-limit is required so that the Superintendent may inspect the proposed sites to determine whether it is desirable to have shade-trees in the selected spots and whether there is enough soil there to properly nourish the trees. This is a most proper precaution, for the indiscriminate planting of shade-trees along city streets has serious objections, and in Boston there is not that imperative need for shade that there is in Washington, for instance, where the residential streets are so embowered in leafage that it is almost impossible to see the character of the buildings across the way, and street photography, so far as architectural subjects are concerned, is a practical impossibility.

TREES which shut off the view and shut in stagnant air, which cause litter in the streets in autumn and give rise to the dangerous custom of street bonfires which prevails in some towns, as Albany, N. Y., are not the only instruments of Nature's beautifying which must be used with discrimination in cities, if a nuisance is to be avoided. When it was first introduced to urban life in this country, everyone was disposed to welcome the beautiful and clinging Japanese ivy (*ampelopsis tricuspidata*), which in its youth is as beautiful a creeping vine as anyone could wish for. Its rank and lawless habit of growth, however, soon proved that it called for constant attention, if it were not to create serious blemishes in street effects where improvements were really intended, and in Boston, where this vine was very popular, many a once vine-covered front is now bare, because the owner found it impossible to control the plant, and so had it all rooted up. Ordinarily an owner took care to prune back his vine so as to keep it from wantoning over his neighbor's front, except with that neighbor's permission; but now and then, when this was not done, trouble and a lawsuit sometimes resulted. Until recently, we believe, the law has never been called upon to secure to one of

these vines the right to wander where it would over other properties than that owned by the planter of the vine, but recently it has taken a decision of the Brooklyn Supreme Court, which incidentally dissolved an injunction against the Bishop of the Diocese of Brooklyn and others, to enable the proprietors of St. Casimir's Roman Catholic Church to remove from its wall the trespassing leaves and stems of a vine rooted in the ground of a certain maiden lady who owned the property adjacent to the church.

IT is a quite common thing to hear even intelligent men deride the varied utterances of the German Emperor, who seems ready at any time to express his views with magisterial aplomb on every conceivable subject. But the Emperor certainly is an unusually able and, more than this, a highly educated man; and it should always be kept in mind by his critics that, owing to his position, he is brought into contact with able men from every rank and every calling more often than the rest of us are, and this, alone, gives him an advantage over men in private life who may be just as competent and just as highly educated. That the Emperor should pose as himself an artist, as well as ruler, legislator, soldier, lawyer, divine, poet, composer and a lot of other things, is amusing enough, for everyone knows that, whatever may be his ability, he has not the sheer time to prepare himself to hold rightfully a place amongst professional artists. But he has a far better right than most of us to have "views" about art and express them, if he chooses. He has probably seen more paintings than most artists, he certainly has access to paintings few artists ever see, he has always lived amongst them, and he has discussed matters of art with the ablest men in the profession. On every score, then, when he inclines to express himself about art, his opinions are more than likely to be deserving of respect. What he said recently at the unveiling of the equestrian statue of his father, in front of the New Museum of Art in Berlin, last week, is sound beyond question. "Art and genius," said he, "must be allowed to draw from unknown and hidden depths. But this does not justify the younger artists in cutting loose from every tradition and school. The indefatigable zeal and holy striving with which the older masters wrestled with their ideal of art should present, even to the artists of this day, an unattained model, and should promote self-criticism, modesty and respect for the achievements of others on the part of the younger generation." Whether the recommendation of a Kaiser or a Nestor amongst art critics, this is sound and unexceptionable doctrine, and on reading it one is reminded how widely it differs from the foolish slogan the American draughtsmen's association fortunately declined to adopt a few years ago.

ONE of the results of the Engineering Congress held this month in St. Louis apparently is to be the formation of "an association composed of users of cement," as the preliminary announcement phrases it. As such a body would practically include the entire building fraternity, the scheme seems to be a little too comprehensive, and what probably is intended is an association of those persons actively engaged either in the manufacture or the special application of cement. Steps are being taken to hold the organizing convention in Indianapolis about the middle of January next.

THE STRUCTURAL DESIGN OF BUILDINGS.¹—III.

DETAILS OF CONSTRUCTION.

39.—*Minimum Thickness of Material.*—No steel less than $\frac{1}{4}$ inch thick shall be used, except for lining or filling vacant spaces.

40.—*Adjustable Members.*—Adjustable members in any part of structures shall preferably be avoided.

41.—*Symmetrical Sections.*—Sections shall preferably be made symmetrical.

42.—*Connections.*—The strength of connections shall be sufficient to develop the full strength of the member.

43.—No connection, except lattice bars, shall have less than two rivets.

44.—*Floor Beams.*—Floor beams shall generally be rolled steel beams, and the ends shall be attached to the webs of the floor girders with angle connections.

45.—For fireproof floors, they shall be arranged, as to spacing and length, so that the dead and live loads together shall not cause a greater deflection of the beams than one-thirtieth of an inch per foot of span. They shall generally be tied together with tie-rods at intervals not exceeding eight times the depth of the beams. Holes for tie-rods, where the construction of the floor permits, shall be spaced about 3 inches above the bottom of the beam.

46.—*Beam Girder.*—When more than one rolled beam is used to form a girder, they shall be connected by bolts and separators at intervals of not more than 5 feet. All beams having a depth of 12 inches and more shall have at least two bolts to each separator.

47.—*Wall Ends of Beams and Girders.*—Wall ends of a sufficient number of joists and girders shall be anchored securely, to impart rigidity to the structure.

48.—*Wall-Plates and Column Bases.*—Wall-plates and column bases shall be constructed so that the load will be well distributed over the entire bearings. If they do not get the full bearing on the masonry, the deficiency shall be made good with rust cement or Portland-cement mortar.

49.—*Floor Girders.*—The floor girders may be rolled beams or plate girders; they shall preferably be riveted or bolted to columns by means of connection angles. Shelf angles or other supports may be provided for convenience during erection.

50.—*Flange Plates.*—The flange plates of all girders shall be limited in width, so as not to extend, beyond the outer line of rivets connecting them to the angles, more than 6 inches, or more than eight times the thickness of the thinnest plates.

51.—*Web Stiffeners.*—Web stiffeners shall be in pairs, and shall have a close bearing against the flange angles. Those over the end bearing, or forming the connection between girder and column, shall be on fillers. Intermediate stiffeners may be on fillers or crimped over the flange angles. The rivet pitch in stiffeners shall not be more than 5 inches.

52.—*Web Splices.*—Web plates of girders must be spliced at all points by a plate on each side of the web, capable of transmitting the full strain through splice rivets.

53.—*Columns.*—Columns shall be designed so as to provide for effective connections of floor beams, girders or brackets.

They shall preferably be continuous over several stories.

54.—*Column Splices.*—The splices shall be strong enough to resist the bending strain and make the columns practically continuous for their whole length.

55.—*Trusses.*—Trusses shall preferably be riveted structures. Heavy trusses, of long span, where the riveted field connection would become unwieldy, or for other good reasons, may be designed as pin-connected structures.

56.—*Symmetrical Sections.*—Main members of trusses shall be designed so that the neutral axes of intersecting members shall meet in a common point.

57.—*Roof Trusses.*—Roof trusses shall be braced in pairs in the plane of the chords.

Purlins shall be made of shapes, or riveted-up plate, or lattice girders.

Trussed purlins will not be allowed.

58.—*Eye-Bars.*—The eye-bars in pin-connected trusses composing a member shall be as nearly parallel to the axis of the truss as possible.

59.—*Spacing of Rivets.*—The minimum distance between centres of rivet holes shall be three diameters of the rivet; but the distance shall preferably be not less than 3 inches for $\frac{7}{8}$ -inch

rivets, $2\frac{1}{2}$ inches for $\frac{3}{4}$ -inch rivets, $2\frac{1}{4}$ inches for $\frac{5}{8}$ -inch rivets, and $1\frac{3}{4}$ inches for $\frac{1}{2}$ -inch rivets.

60.—For angles with two gauge lines, the maximum shall be twice as great as given in Section 59 in each line with rivets staggered; and, where two or more plates are used in contact, rivets not more than 12 inches apart in any direction shall be used to hold the plates together.

61.—The pitch of the rivet, in the direction of the strain, shall not exceed 6 inches, nor sixteen times the thinnest outside plate connected, and not more than fifty times that thickness at right angles to the strain.

62.—*Edge Distance.*—The minimum distance from the centre of any rivet hole to a sheared edge shall be $1\frac{1}{2}$ inches for $\frac{7}{8}$ -inch rivets, $1\frac{1}{4}$ inches for $\frac{3}{4}$ -inch rivets, $1\frac{1}{8}$ inches for $\frac{5}{8}$ -inch rivets, and 1 inch for $\frac{1}{2}$ -inch rivets, and to the rolled edge, $1\frac{1}{4}$, $1\frac{1}{8}$, 1 and $\frac{7}{8}$ inches, respectively.

63.—The maximum distance from any edge shall be eight times the thickness of the plate.

64.—*Maximum Diameter.*—The diameter of the rivets in any angle carrying calculated strains shall not exceed one-quarter of the width of the leg in which they are driven. In minor parts, rivets may be $\frac{1}{8}$ inch greater in diameter.

65.—*Pitch at Ends.*—The pitch of rivets at the ends of built compression members shall not exceed four diameters of the rivets for a length equal to one and one-half times the maximum width of the member.

66.—*Tie-Plates.*—The open sides of compression members shall be provided with lattice having tie-plates at each end and at intermediate points where the lattice is interrupted. The tie-plates shall be as near the ends as practicable. In main members, carrying calculated strains, the end tie-plates shall have a length not less than the distance between the lines of rivets connecting them to the flanges, and intermediate ones not less than half this distance.

Their thickness shall be not less than one-sixtieth of the same distance.

67.—*Lattice.*—The thickness of lattice bars shall be not less than one-fortieth for single lattice, and one-sixtieth for double lattice, of the distance between end rivets; their width shall be in accordance with the following:—

For 15-in. channels, or built sections with $3\frac{1}{2}$ and 4-in. angles.	$2\frac{1}{2}$ in. ($\frac{7}{8}$ -in. rivets)
For 12, 10 and 9-in. channels, or built sections with 3-in. angles.	$2\frac{1}{4}$ in. ($\frac{3}{4}$ -in. rivets)
For 8 and 7-in. channels, or built sections with $2\frac{1}{2}$ -in. angles.	2 in. ($\frac{5}{8}$ -in. rivets)
For 6 and 5-in. channels, or built sections with 2-in. angles.	$1\frac{3}{4}$ in. ($\frac{1}{2}$ -in. rivets)

68.—Lattice bars with two rivets shall generally be used in flanges more than 5 inches wide.

69.—*Angle of Lattice.*—The inclination of lattice bars with the axis of the member, generally, shall be not less than 45 degrees, and when the distance between the rivet lines in the flanges is more than 15 inches, if a single rivet bar is used, the lattice shall be double and riveted at the intersection.

70.—*Spacing of Lattice.*—The pitch of lattice connections, along the flange divided by the radius of gyration of the flange angle about an axis, through its centre of gravity, perpendicular to the plane of the lattice, shall be less than the corresponding ratio of the member as a whole.

71.—*Faced Joints.*—Abutting joints in compression members when faced for bearing shall be spliced sufficiently to hold the connecting members accurately in place.

72.—All other joints in riveted work, whether in tension or compression, shall be fully spliced.

73.—*Pin Plates.*—Pin holes shall be reinforced by plates where necessary; and at least one plate shall be as wide as the flange will allow. Where angles are used, the plates shall be on the same side as the angles; they shall contain sufficient rivets to distribute their portion of the pin pressure to the full cross-section of the member.

74.—*Pins.*—Pins shall be long enough to insure a full bearing of all parts connected upon the turned-down body of the pin.

75.—Members packed on pins shall be held against lateral movement.

76.—*Bolts.*—Where members are connected by bolts, the body of these bolts shall be long enough to extend through the metal. A washer at least three-sixteenths of an inch thick shall be under the nut.

77.—*Fillers.*—Fillers between parts carrying strain shall have a

¹ A paper read by C. C. Schneider, M. Am. Soc. C. E., before the American Society of Civil Engineers, October 19, 1904 and published in its *Proceedings*. Continued from No. 1504, page 29.

sufficient number of independent rivets to transmit the strain to the member to which the filler is attached.

78.—*Temperature*.—Provision shall be made for expansion and contraction, corresponding to a variation of temperature of 150 degrees Fahrenheit, where necessary.

79.—*Rollers*.—Expansion rollers shall be not less than 4 inches in diameter.

80.—*Stone Bolts*.—Stone bolts shall extend not less than 4 inches into granite pedestals and 8 inches into other material.

81.—*Anchorage*.—Columns which are strained in tension at their base shall be anchored to the foundations.

82.—*Anchor bolts* shall be long enough to engage a mass of masonry, the weight of which shall be one and one-half times the tensile strain in the anchor.

83.—*Bracing*.—Lateral, longitudinal and transverse bracing in all structures shall be preferably composed of rigid members.

PART II.—MATERIAL AND WORKMANSHIP.

MATERIAL.

1.—*Steel*.—All parts of the structures shall be of rolled steel, except column bases, bearing plates or minor details, which may be of cast iron or cast steel. No cast iron shall be used in pieces which will have to resist tension or bending strains.

2.—*Process of Manufacture*.—Steel may be made by the open-hearth or by the Bessemer process.

3.—The chemical and physical properties shall conform to the limits given in Table 4.

TABLE 4.—SCHEDULE OF REQUIREMENTS.

Chemical and physical properties.	Structural steel.	Rivet steel.	Steel castings.
Phosphorus, { Basic... maximum } 'd... Sulphur, maximum.....	0.04 per cent. 0.08 per cent.	0.04 per cent. 0.04 per cent.	0.15 per cent. 0.1 per cent.
Ultimate tensile str'gth, Pounds per sq. inch.	Desired 60,000 1,500,000*	Desired 60,000 1,500,000	Not less than 65,000
Elongation: minimum percentage in 8 in.	Ult. tensile str'gth	Ult. tensile str'gth	
Elongation: minimum percentage in 2 in.	22	18	16
Character of fracture..	Silky	Silky.	Silky or fine granular.
Cold bends without fracture.....	180° flat.†	180° flat.‡	90

* See Paragraph 12.

† See Paragraphs 14 and 15.

‡ See Paragraph 16.

4.—The yield point, as indicated by the drop of beam, shall be recorded in the test reports.

5.—*Allowable Variations*.—Tensile tests of steel showing an ultimate strength within 5,000 pounds of that desired will be considered satisfactory.

6.—*Chemical Analyses*.—Chemical determinations of the percentages of carbon, phosphorus, sulphur and manganese shall be made by the manufacturer from a test ingot taken at the time of the pouring of each melt of steel, and a correct copy of such analysis shall be furnished to the engineer or his inspector.

7.—*Form of Specimens for Plates, Shapes and Bars*.—Specimens for tensile and bending tests, for plates, shapes and bars, shall be made by cutting coupons from the finished product, which shall have both faces rolled and both edges milled; or with both edges parallel; or they may be turned to a diameter of three-quarters of an inch for a length of at least 9 inches, with enlarged ends.

8.—*Rivets*.—Rivet rods shall be tested as rolled.

Pins and Rollers.—Specimens shall be cut from the finished rolled or forged bar, in such manner that the centre of the specimen shall be 1 inch from the surface of the bar. The specimen for the bending test shall be 1 inch by ½ inch in section.

9.—*Steel Castings*.—The number of tests will depend on the character and importance of the castings. Specimens shall be cut cold from coupons moulded and cast on some portion of one or more castings from each melt, or from the sink-heads, if the heads are of sufficient size. The coupon or sink-head, so used, shall be annealed with the casting before it is cut off. Test specimens shall be of the form prescribed for pins and rollers.

10.—*Annealed Specimens*.—Material which is to be used without annealing or further treatment shall be tested in the condition in which it comes from the rolls. When material is to be annealed or otherwise treated before use, the specimen for tensile tests representing such material shall be cut from properly an-

nealed or similarly treated short lengths of the full section of the bar.

11.—*Number of Tests*.—At least one tensile and one bending test shall be made from each melt of steel as rolled. In case steel differing three-eighths of an inch and more in thickness is rolled from one melt, a test shall be made from the thickest and thinnest material rolled.

12.—*Modifications in Elongation*.—For material less than five-sixteenths of an inch and more than three-quarters of an inch in thickness, the following modifications will be allowed in the requirements for elongation:—

a.—For each one-sixteenth of an inch in thickness below five-sixteenths of an inch, a deduction of 2½ per cent will be allowed from the specified elongation.

b.—For each one-eighth of an inch in thickness above three-quarters of an inch, a deduction of 1 per cent will be allowed from the specified elongation.

c.—For pins and rollers more than 3 inches in diameter, the elongation in 8 inches may be 5 per cent less than that specified in Paragraph 3.

13.—*Bending Tests*.—Bending tests may be made by pressure or by blows. Plates, shapes and bars less than 1 inch thick shall bend as called for in Paragraph 3.

14.—*Thick Material*.—Full-sized material, for eye-bars and other steel 1 inch or more in thickness, tested or rolled, shall bend cold 180 degrees around a pin the diameter of which is equal to twice the thickness of the bar, without fracture on the outside of the bend.

15.—*Bending Angles*.—Angles three-quarters of an inch and less in thickness shall open flat, and angles half an inch and less in thickness shall bend shut, cold, under blows of a hammer, without sign of fracture. This test will be made only when required by the inspector.

16.—*Nicked Bends*.—Rivet steel, when nicked and bent around a bar of the same diameter as the rivet rod, shall give a gradual break and a fine, silky uniform fracture.

17.—*Finish*.—Finished material shall be free from injurious seams, flaws, cracks, defective edges, or other defects, and shall have a smooth, uniform, workmanlike finish. Plates 36 inches and less in width shall have rolled edges.

18.—*Stamping*.—Every finished piece of steel shall have the melt number and the name of the manufacturer stamped or rolled upon it. Steel for pins and rollers shall be stamped on the end. Rivet and lattice steel and other small parts may be bundled with the above marks on an attached tag.

19.—*Defective Material*.—Material which, subsequent to the foregoing tests at the mills, and its acceptance there, develops weak spots, brittleness, cracks or other imperfections, or is found to have injurious defects, will be rejected at the shop, and shall be replaced by the manufacturer at his own cost.

20.—*Allowable Variation in Weight*.—A variation in cross-section or weight of each piece of steel of more than 2½ per cent from that specified will be sufficient cause for rejection.

21.—*Cast Iron*.—Iron castings shall be made of tough, gray iron, free from injurious cold-shuts or blow-holes, true to pattern and of workmanlike finish. Test pieces 1 inch square shall be capable of sustaining on a clear span of 12 inches a central load of 2,500 pounds or more, and deflect at least 0.15 of an inch before rupture.

WORKMANSHIP.

22.—*General*.—All parts forming a structure shall be built in accordance with approved drawings. The workmanship and finish shall be equal to the best practice in modern bridge works.

23.—*Straightening Material*.—Material shall be thoroughly straightened in the shop, by methods which will not injure it, before being laid off or worked in any way.

24.—*Finish*.—Shearing shall be done neatly and accurately, and all portions of the work exposed to view shall be finished neatly.

25.—*Rivets*.—The size of rivets called for on the plans shall be understood to mean the actual size of the cold rivet before heating.

26.—*Rivet Holes*.—The diameter of the punch for material not more than five-eighths of an inch thick shall be not more than one-sixteenth of an inch, nor that of the die more than one-eighth of an inch, larger than the diameter of the rivet. Material more than five-eighths of an inch thick, except minor details, shall be sub-punched and reamed or drilled from the solid.

27.—*Punching*.—Punching shall be done accurately. Slight inaccuracy in the matching of holes may be corrected with reamers.

Drifting to enlarge unfair holes will not be allowed. Poor matching of holes will be cause for rejection, at the option of the inspector.

28.—*Assembling*.—Riveted members shall have all parts well pinned up and firmly drawn together with bolts before riveting is commenced. Contact surfaces shall be painted. (See Paragraph 52.)

29.—*Lattice Bars*.—Lattice bars shall have neatly rounded ends, unless otherwise called for.

30.—*Web Stiffeners*.—Stiffeners shall fit neatly between the flanges of girders. Where tight fits are called for, the ends of the stiffeners shall be faced and shall be brought to a true contact bearing with the flange angles.

31.—*Splice Plates and Fillers*.—Web splice plates and fillers under stiffeners shall be cut to fit within one-eighth of an inch of flange angles.

32.—*Connection Angles*.—Connection angles for floor girders shall be flush with each other and correct as to position and length of girder.

33.—*Riveting*.—Rivets shall be driven by pressure tools wherever possible. Pneumatic hammers shall be used in preference to hand driving.

34.—Rivets shall look neat and finished, with heads of approved shape, full, and of equal size. They shall be central on the shank and shall grip the assembled pieces firmly. Recupping and caulking will not be allowed. Loose, burned, or otherwise defective rivets shall be cut out and replaced. In cutting out rivets, great care shall be taken not to injure the adjoining metal. If necessary, they shall be drilled out.

35.—*Turned Bolts*.—Wherever bolts are used in place of rivets which transmit shear, such bolts must have a driving fit. A washer not less than one-fourth of an inch thick shall be used under the nut.

36.—*Members to be Straight*.—The several pieces forming one built member shall be straight and shall fit closely together, and finished members shall be free from twists, bends or open joints.

37.—*Finish of Joints*.—Abutting joints shall be cut or dressed true and straight and fitted close together, especially where open to view. In compression joints depending on contact bearing, the surfaces shall be truly faced, so as to have even bearings after they are riveted up complete and when perfectly aligned.

38.—*Eye-Bars*.—Eye-bars shall be straight and true to size, and shall be free from twists, folds in the neck or head, or any other defect. Heads shall be made by upsetting, rolling or forging. Welding will not be allowed. The form of the heads will be determined by the dies in use at the works where the eye-bars are made, if satisfactory to the engineer, but the manufacturer shall guarantee the bars to break in the body with a silky fracture, when tested to rupture. The thickness of the head and neck shall not vary more than one-sixteenth of an inch from the thickness of the bar.

39.—*Boring Eye-Bars*.—Before boring, each eye-bar shall be perfectly annealed and carefully straightened. Pin holes shall be in the centre line of bars and in the centre of heads. Bars of the same length shall be bored so accurately that, when placed together, pins one-thirty-second of an inch smaller in diameter than the pin holes can be passed through the holes at both ends of the bars at the same time.

40.—*Pin Holes*.—Pin holes shall be bored true to gauges, smooth and straight; at right angles to the axis of the member, and parallel to each other, unless otherwise called for. Wherever possible, the boring shall be done after the member is riveted up.

41.—The distance from centre to centre of pin holes shall be correct within one-thirty-second of an inch, and the diameter of the hole not more than one-fiftieth of an inch larger than that of the pin, for pins up to 5 inches in diameter, and one-thirty-second of an inch for larger pins.

42.—*Pins and Rollers*.—Pins and rollers shall be turned accurately to gauges, and shall be straight, smooth and entirely free from flaws.

43.—*Pilot Nuts*.—At least one pilot and driving nut shall be furnished for each size of pin for each structure.

44.—*Screw Threads*.—Screw threads shall make tight fits in the nuts, and shall be United States standard, except at the ends of pins and for bolts more than 1½ inches in diameter, for which six threads per inch shall be used.

45.—*Annealing*.—Steel, except in minor details, which has been partially heated shall be properly annealed.

46.—*Steel Castings*.—All steel castings shall be annealed.

47.—*Welds*.—Welds in steel will not be allowed.

48.—*Bed-Plates*.—Expansion bed-plates shall be planed true and smooth. Cast wall-plates shall be planed at top and bottom. The

cut of the planing tool shall correspond with the direction of expansion.

49.—*Shipping Details*.—Pins, nuts, bolts, rivets and other small details shall be boxed or crated.

50.—*Weight*.—The weight of every piece and box shall be marked on it in plain figures.

PAINTING.

51.—*Shop Painting*.—Steelwork, before leaving the shop, shall be thoroughly cleaned and given one good coating of pure linseed oil, or such paint as may be called for, well worked into all joints and open spaces.

52.—In riveted work, the surfaces coming in contact shall be painted before being riveted together.

53.—Pieces and parts which are not accessible for painting after erection, shall have two coats of paint before leaving the shop.

54.—Steelwork to be embedded in concrete shall not be painted.

55.—Painting shall be done only when the surface of the metal is perfectly dry. It shall not be done in wet or freezing weather, unless protected under cover.

56.—Machine-finished surfaces shall be coated with white lead and tallow before shipment, or before being put out into the open air.

57.—*Field Painting*.—After the structure is erected, the metal-work shall be painted thoroughly and evenly with an additional coat of paint, mixed with pure linseed oil, of such quality and color as may be selected.

INSPECTION AND TESTING.

58.—The manufacturer shall furnish all facilities for inspecting and testing the weight, quality of material and workmanship. He shall furnish a suitable testing machine for testing the specimens, as well as prepare the pieces for the machine, free of cost.

59.—When an inspector is furnished by the purchaser, he shall have full access at all times to all parts of the works where material under his inspection is manufactured.

60.—The purchaser shall be furnished with complete copies of mill orders, and no material shall be rolled and no work done before he has been notified as to where the orders have been placed, so that he may arrange for the inspection.

61.—The purchaser shall also be furnished with complete shop plans, and must be notified well in advance of the start of the work in the shop, in order that he may have an inspector on hand to inspect the material and workmanship.

62.—Complete copies of shipping invoices shall be furnished to the purchaser with each shipment.

63.—If the inspector, through an oversight or otherwise, has accepted material or work which is defective or contrary to the specifications, this material, no matter in what stage of completion, may be rejected by the purchaser.

FULL-SIZED TESTS.

64.—Full-sized parts of the structure may be tested at the option of the purchaser. If tested to destruction, such material shall be paid for at cost, less its scrap value, if it proves satisfactory.

65.—If it does not stand the specified tests, it will be considered rejected material, and be solely at the cost of the contractor, unless he is not responsible for the design of the work.

66.—In eye-bar tests, the ultimate strength, the elastic limit and the elongation in 10 feet, unless a different length is called for, shall be recorded.

67.—In transverse tests, the lateral and vertical deflections shall be recorded.

(To be continued.)

GRAND PRIX DE ROME.—1904.

PROGRAMME.—NATIONAL WORKSHOPS FOR THE MANUFACTURE OF RUGS AND TAPESTRIES.

THESE workshops, situated near Paris, would replace those that now exist on the Avenue des Gobelins. They would consist of ateliers, buildings appropriate for educational purposes, offices for the administration, accommodations both in lodgings and isolated dwellings for the entire force of artists and workmen, as well as a museum of considerable importance, containing the finest specimens of tapestries of the famous establishment founded by Colbert, together with the oldest varieties and those of foreign make.

There must be provided:

First—Two ateliers for the making of tapestries (*Haute-lisse*).

Second—Two ateliers for the making of tapestries (*Basse-lisse*).

Third—Two ateliers for the making of rugs.

The ateliers placed at the first floor level and lighted to the north should be 50 metres in length by 10 in breadth. Storage space for raw material and a room for stock supplies are the necessary dependencies of each atelier. Covered communication must be contrived between these different parts.

Fourth—A museum of tapestry, easily accessible to visitors with vestibule, grand staircase, salon, waiting-room, etc.

This will consist, first, of a great gallery for the hangings of the XVI and XVII centuries. This gallery, which may be subdivided, should have an area of approximately 1,000 square metres. Light admitted through high windows is preferable to ceiling light. Second, other galleries with lateral light for tapestries of the XIV and XV centuries, as well as for those of the XVIII and XIX. Three or four small rooms for tapestry specimens; three or four others for stuffs, samples, furniture covering, etc.

Fifth—The administration will provide offices for the director and manager, and also for the clerks; a suitable residence for the director, with private garden. The buildings for the administration, the museum, and the ateliers of *haute* and *basse lisse*, as well as those for rugs, will be connected with covered communications.

Sixth—An atelier for making repairs, entirely separate from the ateliers of tapestry and rugs.

Seventh—An atelier for dyeing, installed in an isolated building will include a room containing five or six tanks, ovens, basins, storage, dryers, and some dependencies. In communication and on the floor above, a chemical laboratory and room for experiments, with several accessory rooms. An atelier for photography will complete the laboratory equipment. The service entrance and communications will be along the river front, adjoining part of the ground belonging to the establishment.

Eighth—A house for the manager; a few others for some of the employés; eighty (80) lodgings for families, thirty (30) for bachelors, a few accommodations for clerks, messengers and laborers.

These lodgings should be disposed in several buildings surrounded with gardens. A gymnasium and space for games in the open air should also be provided.

Ninth—Concierge, police station, stables, carriage-houses, and small plant for gas and electric lights.

The greatest dimension of the ground for the use of the establishment will not exceed 300 metres. Avenues and a river will bound the grounds.

M. HÉBRARD is the winner of the Grand Prix of this year. His solution of the problem is characterized by great clearness and simplicity, the grouping being excellent and the values well considered. The programme, which is most comprehensive, by its broad utilitarian and decorative scope admits of a certain monumental treatment. The requirements almost forcibly suggest well-balanced masses in dominant groups and an interesting play of contrast in the indication of those parts appropriate to the subordinate features. The solution of the problem embodied the expression of three distinct elements: First, the decorative, as found in the museum or show-room; second, the utilitarian, as applied to the ateliers, and third, the domestic, as requisite in the houses and lodgings of the workmen, clerks and employés. M. Hébrard has been very successful in typifying these elements in his plan. His grouping is masterful: circulation and approaches are well conceived; and the technique and presentation brilliant. He might be reproached with forcing the decorative note throughout in a pretty high key, an exaggeration which for an establishment of this kind somewhat strains the truth;—yet that note is well sustained. Once adopted, he holds the pitch and charms with the play and value of his contrasts. The three groups of twin ateliers, cleverly associated by their enclosed gardens, are given a striking setting in the most conspicuous part of the plan and receive an abundance of uni-lateral (north) light. The museum, occupying the first plane and rightly given the place of prominence, to "*faire façade*," is in direct proximity to the public square and, so, readily accessible to visitors. Flanking it are found the small administration building and house for the director. To the rear and adjoining the opposite street the "*quartier des habitations*" is provided, consisting of lodgings, apartments, and small isolated dwellings for all those employés connected with the establishment. Large open spaces for exercise and recreation complete this feature of the programme, and the author, M. Hébrard, has shown much ingenuity in his arrangement of roads and gardens. About the ateliers are grouped the dye-houses, store-houses, mechanical plant, repair shops, etc., and the study given to these portions, both as to disposition, accessibility and isolation from the living quarters is most successful.

Throughout, a fine academic thought pervades M. Hébrard's work, and shows much of that clearness, sobriety and proportion so typical of French art. His elevation is thoroughly characteristic and expressive, although here, too, he may have insisted

somewhat beyond measure. The architecture has almost the precious qualities of a building devoted to the fine arts, and whereas it is most true that, in a sense, nothing can be superior in art to a tapestry or rug of the great epochs, yet we are wont to attach to things that serve some utilitarian purpose a different symbol than to those of pure aesthetic, we might say abstract, value. So it is that the clothing of the walls enclosing works of decorative art should appear in a less ostentatious manner, than that housing those masterpieces which are so purely the concrete forms of the highest flights of the imagination. The one is the reticule for the lace handkerchief, the *poudre de riz*, the *vinaigrette*,—the other the jewel-case for necklace, rings and brooches. In one case art decorates a need, in the other a luxury. M. Hébrard's interpretation leans strongly to luxury, yet he has found a character that is unmistakable and readily associated with the programme. The value of centre pavilion and wings is most happy, and the terminal motives are models of fine proportion. The great central arch is bold, characteristic and splendidly treated and the roof is well massed and silhouetted. A generous and finely balanced distribution of light is felt throughout and the base is particularly well handled with piers and segmental openings. The other elements of plan finding expression in this façade are equally well portrayed and a beautiful sense of scale is felt in the entire composition.

Now this sense of scale, one of the highest qualities of the artist's mind, is far less manifest in the work of M. TAUZIN, the winner of the Second Grand Prix, whose plan, though expressive, often brilliant, wants the spirit of coordination of parts. The buildings flanking the museum seem particularly faulty in this respect. They appear as large buildings reduced, and not in the same scale as the central feature. They themselves are composed of too many parts, and this is the palpable criticism of the entire plan. It lacks simplicity, clearness, unity of expression. No dominant and supreme idea subordinates the whole. There is a strong suggestion of composition by piecemeal. The pieces are almost invariably excellent in themselves, but are lost in the *ensemble*, which appears vague, undecided, indeterminate; and yet these pieces are sometimes superior in indication to those of the Grand Prix itself. There is often a greater appreciation of reality than M. Hébrard has shown, *i. e.*, a closer knowledge of material conditions. But this appreciation does not persist. If on the one hand M. TAUZIN thinks soberly in search of the truth, in another moment he abandons himself to a mere whim of irrelevant imagination. And this seems to be the cause of a result which is so little satisfying, because so uneven. His elevation has much the same faults as his plan. The side buildings flanking the museum appear as offspring of the second generation. It is the same architecture at a reduced scale, and such a result in composition is certainly heresy in the first degree. The silhouette of the masses is too uniform and uninteresting, and the charm of detail and originality shown in some of the motives cannot redeem a manifest want of clear purpose on the part of the designer.

M. LEPRINCE-RINGUET, who received a "*mention*" for his solution of the programme, produced a work by no means lacking in interest of the first order. His plan is well combined and accentuated and disposed with considerable freedom and originality. The elements are, however, neither distinct nor well expressed in themselves. There is some monotony of indication, and the grouping of the ateliers by twos, end to end, most unfortunate;—such a disposition is unnecessarily awkward and impractical. The elevation has much charm and distinction, but is rather more in the character of a princely residence than a decorative-arts museum. The proportions are, however, well studied and pleasing, and the presentation not wanting in marks of high merit.

The three competitors, thus recompensed by the jury, all seem young men gifted with architectural talent of fine quality, and are doubtless fired with the highest ideals. In M. Hébrard, the winner, the Académie de France will be represented in Rome by a man, thoughtful and studious in his work and possessing a strong architectural vocabulary, which I know to be the product of years of hard work.

THEODORE WELLS PIETSCHE.

LHASSA.

TODAY we have come in under the very walls of the Forbidden City. This is perhaps only a conventional expression, for Lhasa has no city walls. They were pulled down in 1721 by a depen named Karpi, and the sand embankment which was built at the same time by him to protect the western gate from inundation is one of the first things that attract the eye as

one rides in toward Potala. The road runs straight in from the west. It passes the high white and red wall which incloses Norbuling, the summer palace of the Grand Lama, about six hundred yards on the right. A little farther on it runs beneath the tangled and overgrown plantations attached to Kundeling Monastery, which stretch out green and cool beside the gusty Ling-kor, the little worn lane which has become famous throughout the Buddhist world. Even as one approaches it two trabas, one of them of extreme age, come along twirling their prayer-wheels and muttering incessantly the one phrase of Lamaism as they go. From the heights of the neck above, which almost joins Potala and Chagpori, there is to be seen at last the great view of Lhasa, to the traveler the most fascinating and, perhaps, also the most beautiful, city panorama in the world.

There is nothing missing from this splendid spectacle. Architecture, forest trees, wide spaces, rivers and streams, mountains, everything lies out before one looking down from the height upon Lhasa immediately at one's feet. Nor is this quite all the charm. There has been nowhere along the journey a hint of what the end was to be. The dark, forbidding spurs and ravines of the valley interlocking one behind another promised nothing of this, and the delight of Lhasa's beauty is doubled by its utter unexpectedness.

It is true that we had passed through green fields and marshes cloaked shoulder-high with rushes; it is true that here and there a densely matted plantation had moved out to view from behind a projecting spur, or, seen afar, had slowly grown in size beside the road as we came along. But there was nothing—less, perhaps, in the maps of Lhasa than anywhere—to promise us in the heart of a city these wild stretches of dense wood, this close-cropped grazing land and this marshy grass, ringed and delimited by high trees, or the lazy streamlets of brown, transparent water over which the branches almost meet.

In Lhasa there is in this belt of interposing woodland a mile-wide green belt between the palace and the town. Round the fringes of the town itself and creeping up between the houses of the village at the foot of the Potala there are more trees—trees numerous enough to give it a reputation as a garden city. But in this stretch of green, unspoiled by house or temple and almost roadless, Lhasa has a feature which no other city on earth can rival. It is all a part of that splendid religious pride which has been the making and may yet prove the undoing of Tibet. It was right that there should be a belt of nature around the palace of their incarnate king-deity, and there the belt is, wrapping the Potala inside the city with something of the isolation which guards from the outer world the whole of this strange and beautiful town. That one-third of the whole available space within the Ling-kor was thus lost mattered nothing; it may even have been an additional reason for the ordinance.

Between and over the glades and woodland the city of Lhasa itself peeps, an adobe stretch of narrow streets, and flat-topped houses ensigned here and there with a blaze of golden roofs or gilded gyan-tsen. But there is an actual difficulty in looking at it. Beside one, the Potala drags the eye of the mind like a lodestone. For, indeed, sheer bulk and magnificent audacity with which simplicity has wrought a marvel in stone could do no more than they have done in this huge palace temple of the Grand Lama. It would dominate London; Lhasa it simply eclipses. By European standards it is impossible to judge it. There is little to which comparison can be made. Perhaps, in the austerity of its huge stretches of blank, unveiled, unornamented wall, and in the flat, unabashed slants of its tremendous southeastern face, there is a suggestion of the massive grandeur of Egyptian work; but one only thinks of the likeness to dismiss it again. This is not only a product of Lamaism, but of Lamaism as it could only be exhibited in the capital of the faith. The contrast of color is no small part of the spectacle, and it also is as unlike Tibet and the gaudy preferences of its inhabitants as could be imagined. The vivid white of the buttressing curtains—each a wilderness of windows and the home of hundreds of crimson-clad dwarfs, who stand in the sun at the stair heads, or, pygmy-like, man the roof-tops—strikes a clear and harmonious note with the sea of green which washes up to their bases. But one is hardly ready for the perfect taste which not only decided for the rich maroon color of the central building, resting—three times as large as Stafford House—upon and between its white supporting bulk of masonry, but added, with the sparing hand of the old illuminator, the golden finials which recompose the whole from roof to roadway. It is in such perfect taste that the glistening tops of the Jokang, visible enough a mile away across the trees, seem a trifle overdone and even a trifle vulgar in comparison.

The topmost gyan-tsen of Potala is 436 feet above the ground.

The extreme width of the main building, exclusive of the outlying portions, is about 900 feet, and it may thus be possible to conceive the mere dimensions of a pile of masonry which it is almost impossible to describe, in spite of the simplicity, which, after all, remains its most imposing feature. And imposing it is; in Lhasa there is nothing else. In a way it recalls the domination of the Shwe Dagon over Rangoon, though in every aspect of construction, ornamentation and surroundings it would be hard to imagine two buildings more entirely distinct and different in every detail than the two greatest erections of modern Buddhism. The utter disproportion between the palace and the town remains a wonder, but a wonder devoid of a trace of ostentation. The petty town which peeps about between the trees a mile away only emphasizes the tremendous gulf that in Tibet yawns between the people and their priests. The fearful sanctity which hedges the person of their mysterious ruler receives in Lhasa an optical illustration that must impress the dullest pilgrim. The weapon which the Pope in the Vatican, overlooking the magnificence of Rome, has used with doubtful success the Grand Lama has long known and incorporated in his armory. The policy of isolation has in Lhasa received a justification startling in its sufficiency, and the doves of the Potala are perhaps more fluttered by their inability thus to impress the white foreigners than by anything else. Perhaps to his fellow-politicians of the Tsongdu the Dalai Lama has come of late to loom with less important sanctity, but, if so, the secret has been well kept, and the yoke of the priests presses no less on the neck of the wretched "misser" in the fields.—*London Times*.



PITTSBURGH CHAPTER, A. I. A.

At a meeting of the Pittsburgh Chapter of the American Institute of Architects held Tuesday, the 18th inst., the following resolutions were unanimously adopted as voicing the opinion of the members in regard to the proposed changes in the Allegheny County Court-house. Will you kindly publish the same, as the members desire their views to be placed on record before the public.

Resolved: By the Pittsburgh Chapter of the American Institute of Architects that the contemplated action of the County Commissioners of an addition of several stories to the Allegheny County Court-house is hereby condemned, and we wish to record our most emphatic protest against it, and we sincerely hope the proposed action will not be permitted.

The building, from an architectural standpoint, is considered by all, both at home and abroad, as a masterpiece of the highest order, as one of the finest examples of Modern Romanesque Architecture, and as an honor not only to its author but to our community and our profession. We feel satisfied that any change made on the plan proposed by the published drawings would completely ruin the unity, dignity and proportions of the building, and that as an example of the best in architecture the building should be preserved in its present condition.

We also feel that from a practical standpoint the remodelling of the building as proposed will be an expensive and difficult undertaking, entirely out of proportion to the results secured, and that the same results could be attained in a more satisfactory manner by the erection of a separate building, conveniently located, and of the same style of architecture.

GEO. S. ORTH, *Secretary*.



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

DETAILS OF THE OLD CHAIN BRIDGE, NEWBURYPORT TO AMESBURY, MASS. MEASURED AND DRAWN BY MR. A. K. MOSLEY.

THIS drawing illustrates an old type of bridge—claimed locally, in fact, to be the oldest chain suspension bridge in America, being built, or rather rebuilt, about 1810. The structure is certainly one of the most picturesque and quaint that I have seen or heard of, and its general principles might well be reproduced for some

present-day bridges, where economy of outlay is a primary consideration and the traffic of an ordinary character.

The bridge is approached through both straining towers by two separate archways, and actually forms two separate and distinct carriage-ways, with about a foot's space separating them—one now being devoted to electric traction and the other to ordinary traffic. What the original object was I cannot suggest, but it is a feature which meets modern requirements. However that may be, if the floor of the bridge had been built in one block instead of two, it would have added greatly to the stiffness and rigidity of the carriage-ways, and would largely obviate the oscillation which would be unnoticed at the time it was built—but the exigencies of modern traffic and street railway cars evidently caused the carriage-way down stream to be much reinforced with additional cables and timbering—the little turrets on the top of the straining towers being the only evidence of this so far as my drawing is concerned—the up-stream carriage-way remaining untouched.

The bases of straining towers are 50x25 feet at water-level, and the span between about 230 feet. Granite is used up to a couple of feet above road-level—with dry open joints. Above this level oak is used for the main timbers of the straining towers, with fir rafters and finished with shingles.

The chains are of inch-square iron links, two-foot centres, three chains to each side of each carriage-way.

The drawing illustrates the method of hanging up the weight of carriage-way from the chains and various other interesting details of construction.

A. K. M.

COMPETITIVE DESIGNS FOR NATIONAL WORKSHOP FOR THE MANUFACTURE OF RUGS AND TAPESTRY SUBMITTED FOR THE GRAND PRIX DE ROME, BY MM. HEBBARD, TAUZIN AND LE PRINCE-RINGUET.

For description see elsewhere in this issue.

PLANS OF THE SAME: TWO PLATES.

THE unusual inferiority of these reproductions is due to the fact that M. Lampue, the official photographer to the École des Beaux-Arts, could not make satisfactory negatives from the huge drawings, wrinkled by being cut off from the stretchers.

Additional Illustrations in the International Edition.

THE OLD CHAIN SUSPENSION BRIDGE, NEWBURYPORT, MASS. SKETCHED BY MR. A. K. MOSLEY.

THE SCHLOSS AT ROTH AM SAND, BAVARIA.

THIS and the following plates are copied from *Blätter für Architektur*.

THE RATHAUS, WITTSTOCK, PRUSSIA.

THIS structure, erected in the fourteenth century, was remodelled in 1529, while the tower dates only from about 1716.

HOUSE ON THE KAISERPLATZ, WILMERSDORF, PRUSSIA. HERR WILHELM LUBKE, ARCHITECT.



IS SAND A MINERAL.—Some years ago an important action was taken against the Glasgow Corporation which turned on the question whether clay was a mineral. In purchasing land for one of the reservoirs the usual reservation was made concerning minerals. A bed of fire-clay was found on adjoining land belonging to the same proprietor, and he insisted on his right to work it, although it was beneath the reservoir. The lawsuit was carried through all the Scottish Courts until it was settled in the House of Lords. A corresponding case recently came before the Supreme Court of Pennsylvania. A railway company obtained a right of way, but all minerals in, under or upon the lands were reserved to the owners. A bed of sand or gravel might for years be considered as having little or no value except as ballast. But railways lead to the creation of towns or cities, and then the sand and gravel become most valuable material. A Pennsylvania land-owner therefore brought an action to prevent sand being treated otherwise than as a mineral which remained his property. In such a case judges generally give interpretations which might seem to favor future litigation. They did so in the Pennsylvania Court. Sand was described as being sometimes a mineral and sometimes not. When it consisted of grains of silica, then it was a mineral; but if it were simply detritus and of a mixed nature, then it would only be considered as grains of rock. The court's definition of a mineral was, any inorganic substance found in nature having sufficient value when separated from its sur-

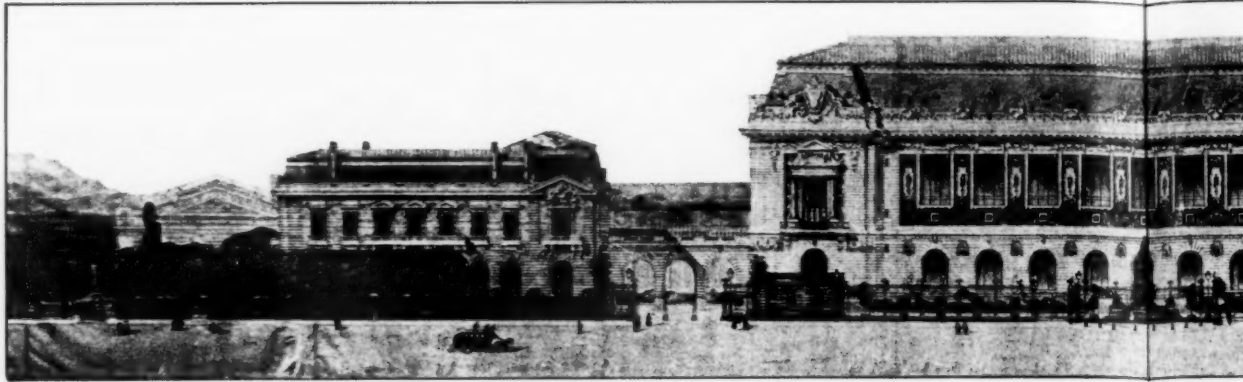
roundings to be mined, quarried or dug for its own sake or its own specific uses. Sand may or may not come under this head. A deposit of pure white quartz sand suitable for making glass or for some other use would be considered a mineral under this definition. But mixed sand, although useful for roads and many other purposes, could not be considered as being sand either in a scientific or commercial sense.—*The Architect*.

A GREAT AFRICAN BRIDGE.—Victoria Falls, in Rhodesia, twice the width and more than double the height of the far-famed Niagara, are to be spanned by an enormous bridge to form a link in the Cape-to-Cairo Railway. The bridge will be 600 feet high, with a span of 500 feet, which would be high enough to permit nearly two of America's tallest sky-scrapers to rest under it. The falls are on the Zambesi River, and were discovered by Livingstone in 1855, during his African explorations. Plans for the great bridge have already been prepared in London, and work is to begin without delay.—*Exchange*.

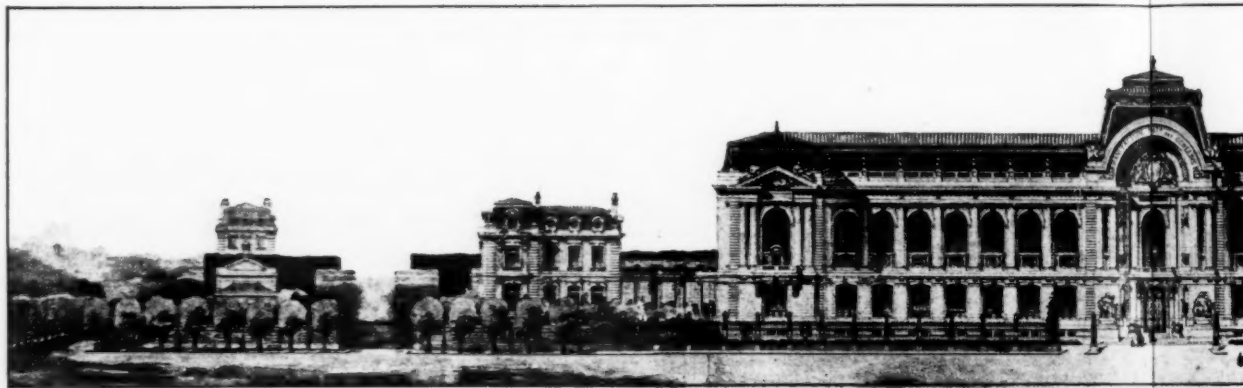
RED GUM WOOD.—Because it warps and stains in seasoning red gum was long neglected, but now 60 per cent. of the barrels and boxes made in the South are made of red gum. The wood is also shipped to Europe, where it is made into furniture, and it is also used there in paving blocks. When steamed, it is easily bent, and it thus becomes available for carriage rims and carriage-wood stock. It has been found that lumber from logs that have been in water six weeks stains very little, and steam-kilning prevents both warping and staining. The timber is thoroughly soaked in live steam for forty-eight to seventy-two hours, and is then dried by steam radiation. The boards are then air-dried from two to three months. This method enables lumbermen to supply a good grade of red gum, and this is why the use of the once despised wood is extending. The Bureau of Forestry has a timber-testing laboratory at Lafayette, Ind., and red gum has there been subjected to various tests. It has there been demonstrated that red gum has a high degree of strength. It is almost wholly free from knots, and a joist of red gum, it has been ascertained, will carry as great a load as a joist of North Carolina pine. At present its use is confined chiefly to narrow boards, but if in larger sizes warping and twisting can be prevented the wood will come into general use, supplanting in many cases hickory, oak and ash. The Bureau of Forestry says that swampy bottom-lands should be kept planted in red gum trees. The tree is a rapid grower, is not subject to fire waste, and it is probable that no crop on lands subject to overflow will pay better, for it is already well established that red gum will soon become commercially valuable. It will have to serve to lengthen out our stock of hardwoods.—*Birmingham Age-Herald*.

THE ASSUAN DAM AND THE ISLAND OF PHILAE.—A British blue-book dealing with the irrigation problem and other matters has revived the fears of archaeologists concerning the safety of some of the most notable ancient monuments in Egypt. It appears, from a dispatch of Lord Cromer, that the first new work in connection with future irrigation of Egypt is almost sure to be the heightening of the dam at Assuan. When this is effected the river level of water stored in the reservoir will be 112 metres, or six metres higher than the present level, and a further submersion of the temples on the Island of Philae will ensue. Sir William Garstin, in another report, points out that this will destroy much of their picturesqueness and will impair much of the beauty of the present landscape, especially at a time when tourists and others visit Assuan. He also alludes to the damage, through the action of deleterious salts, to the lower parts—the stone walls and columns of the temples; but does not allude to the damage likely to occur through submersion of their upper parts, the great blocks of stonework lying horizontally above the columns. Neither Lord Cromer nor Sir William Garstin refers to the almost inevitable damage which must occur to the splendid temple thirty miles south of Assuan, at Kalabsheh. This is a stone temple of the Roman period, built upon a brick base, which will be submerged, and is likely to decay quickly, involving the fall and ruin of the stone superstructure. The temple at Dakkeh is twenty-five miles or so south of Kalabsheh and its massive towers are in finer preservation than any others in Egypt. With the raising of the dam, however, this monument will also be submerged and more rapidly ruined than the temple at Kalabsheh. These and other considerations are to be submitted at once to the Egyptian authorities, but the necessities of the country are pretty certain, in the end, to outweigh all historical and artistic sentiment.—*N. Y. Evening Post*.

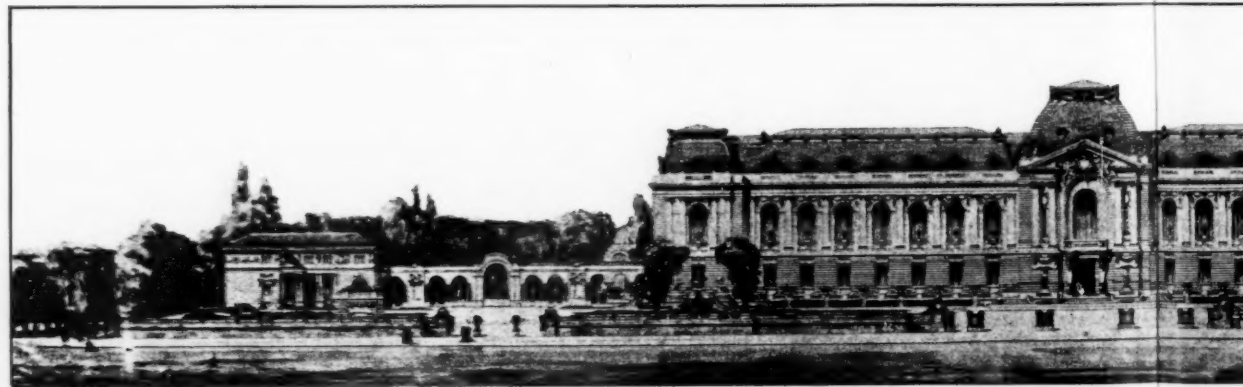
WHY THE EUCALYPTUS IMPROVES SWAMPY LAND.—The Australia eucalyptus tree is being grown on a large scale in Southern Europe and Northern Africa because of its tendency to drain swamps. This was formerly supposed to be due to abundant exhalation of watery vapor from its leaves; but it has been shown that actually the transpiration of the eucalyptus is only one-half or one-third that of willows, birches, and other trees, and it is therefore assumed that the phenomenon in question is due simply to the rapid growth of the eucalyptus.—*Exchange*.



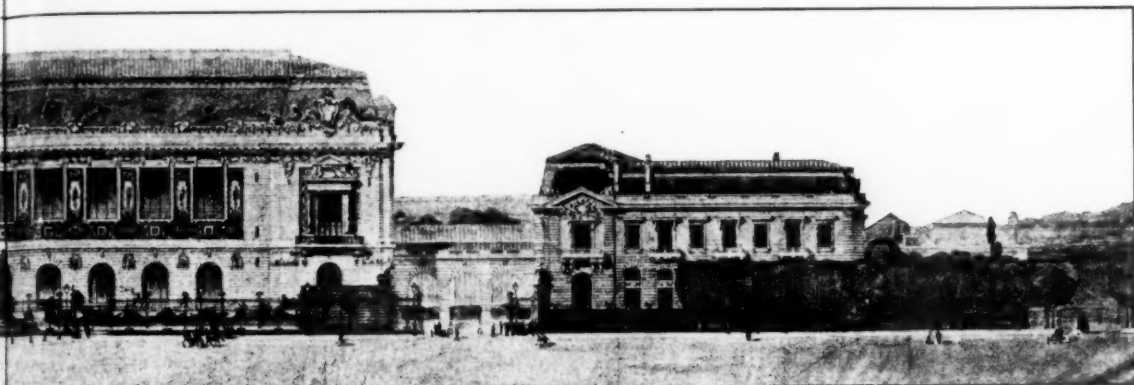
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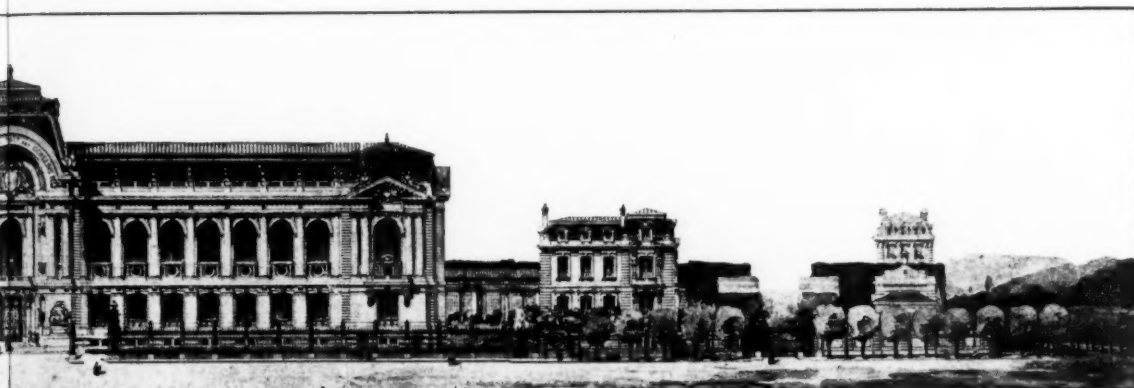
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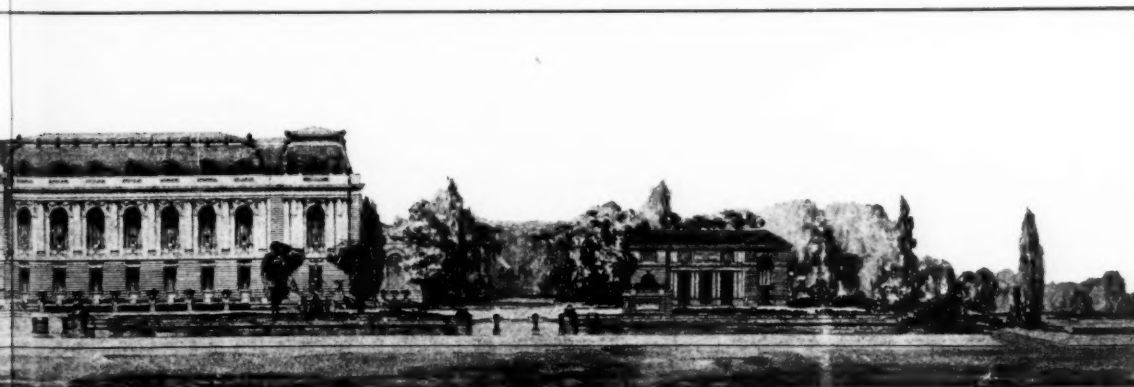
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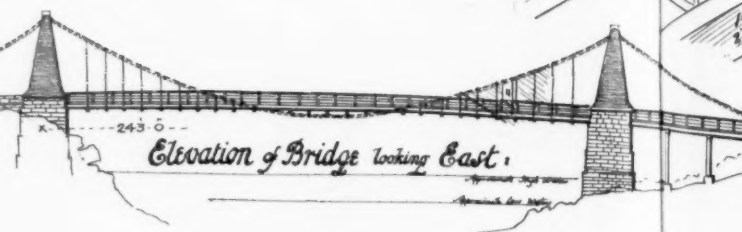
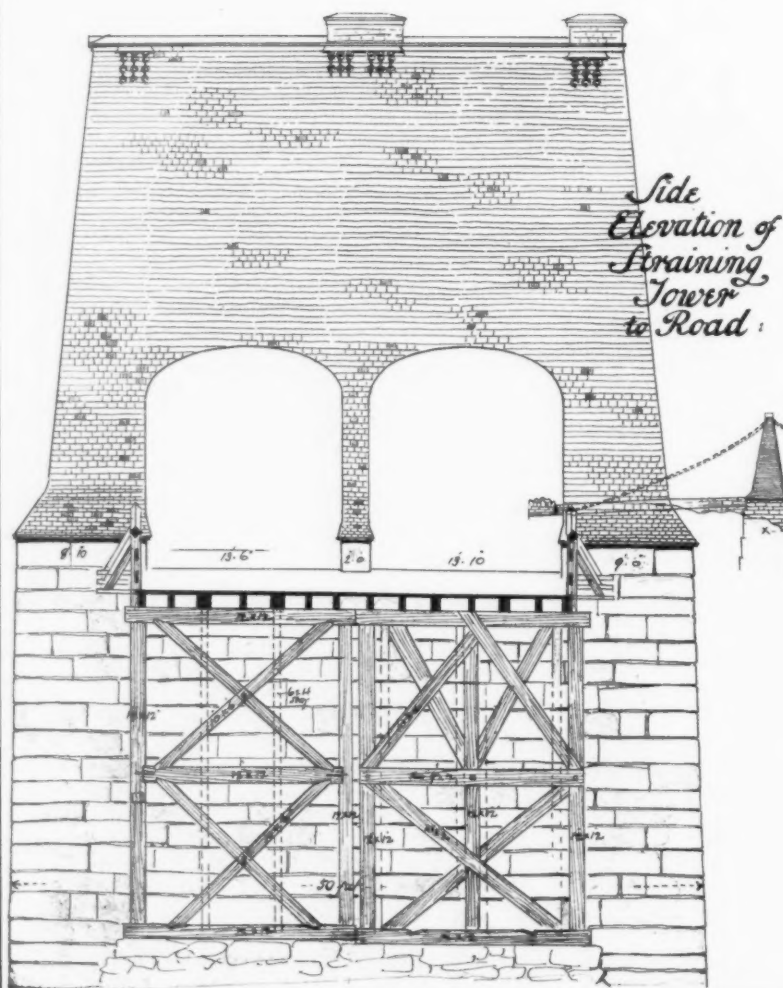
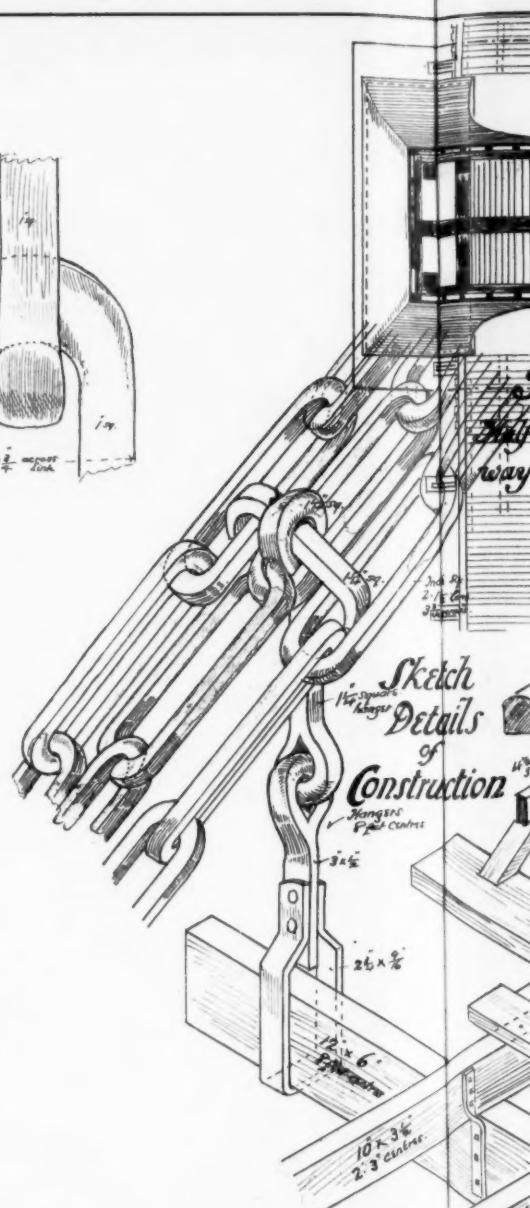
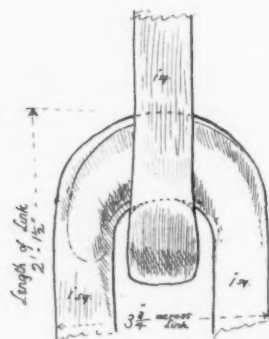
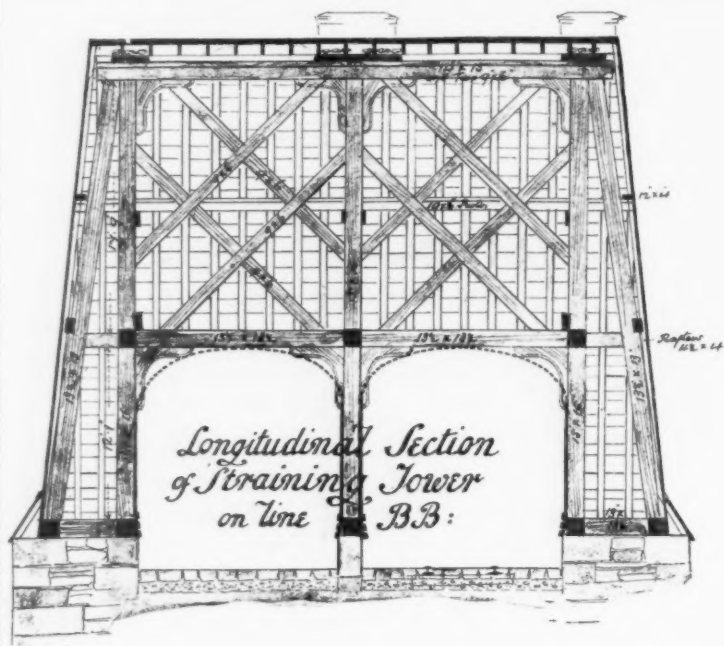


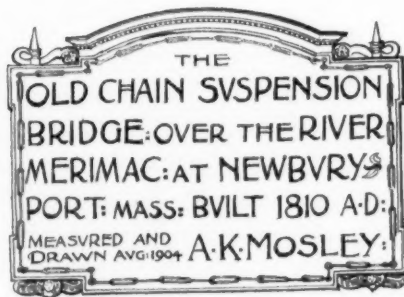
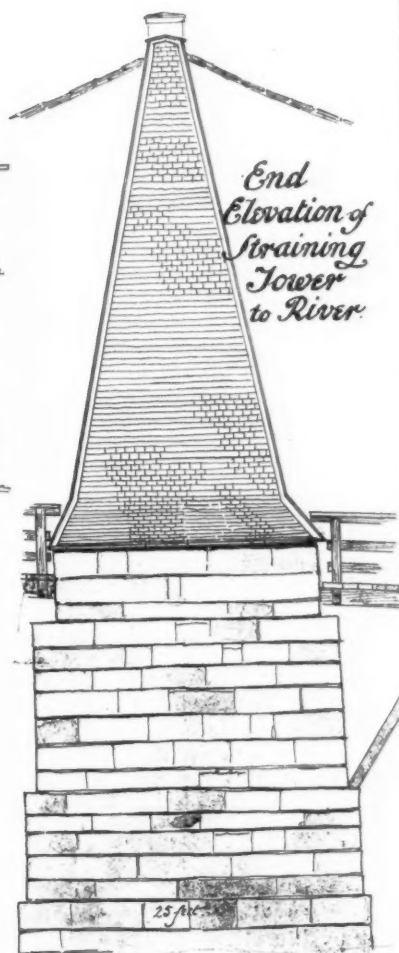
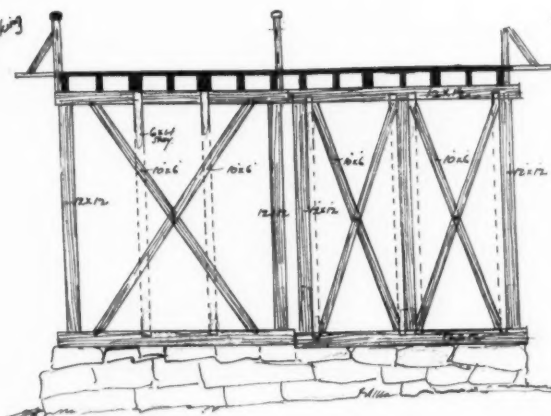
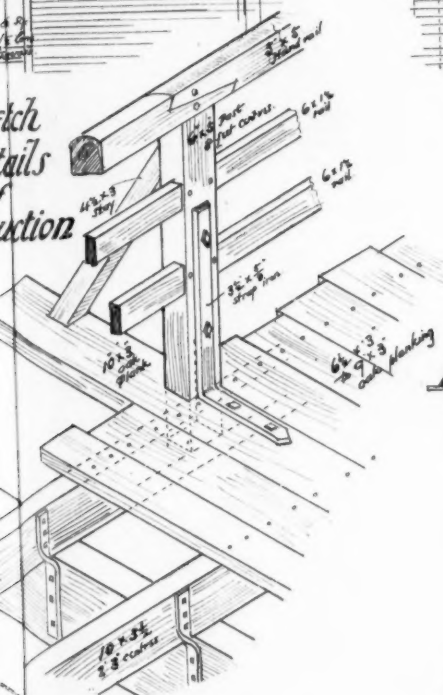
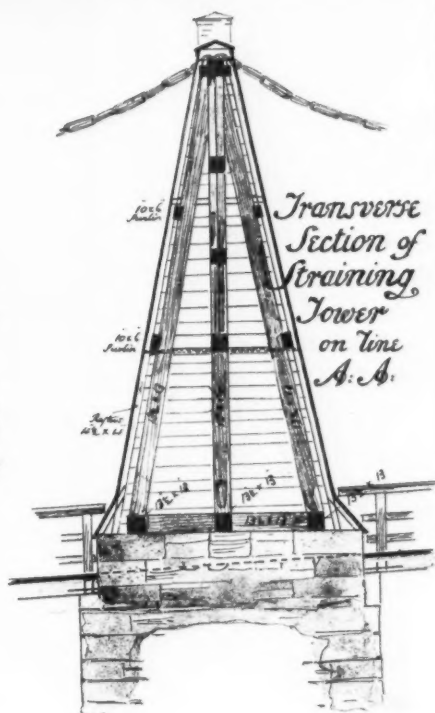
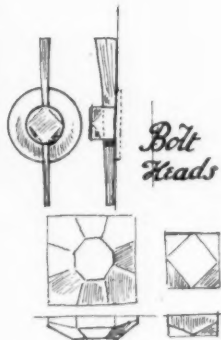
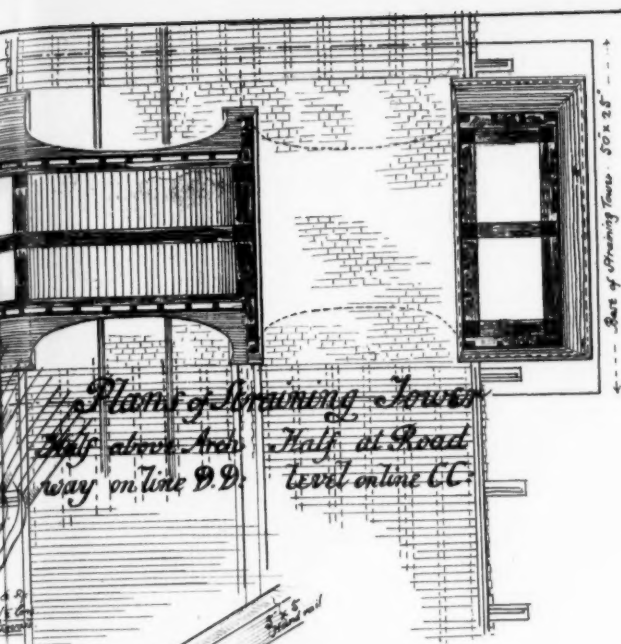
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MANUFACTURE OF RUGS AND TAPESTRY.

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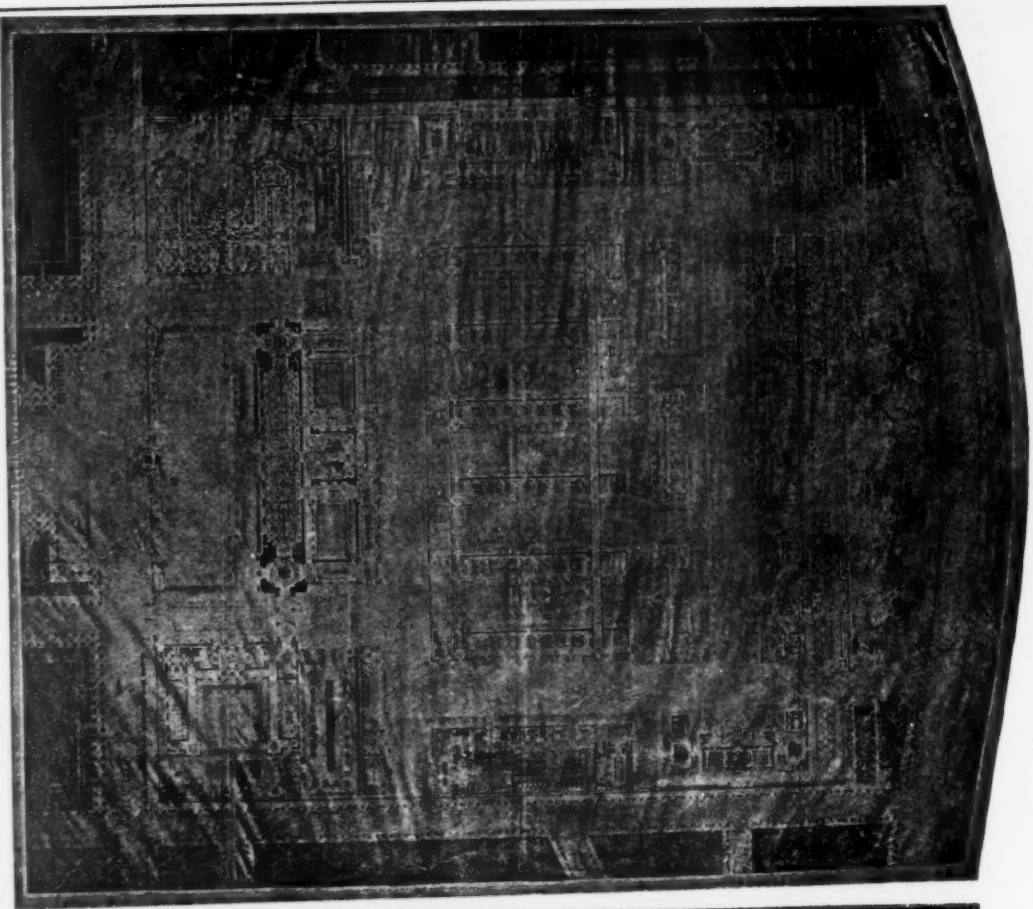
THE GRAND PRIX DE ROME.

The American Architect
Oct. 29, 1904.
No. 1505.



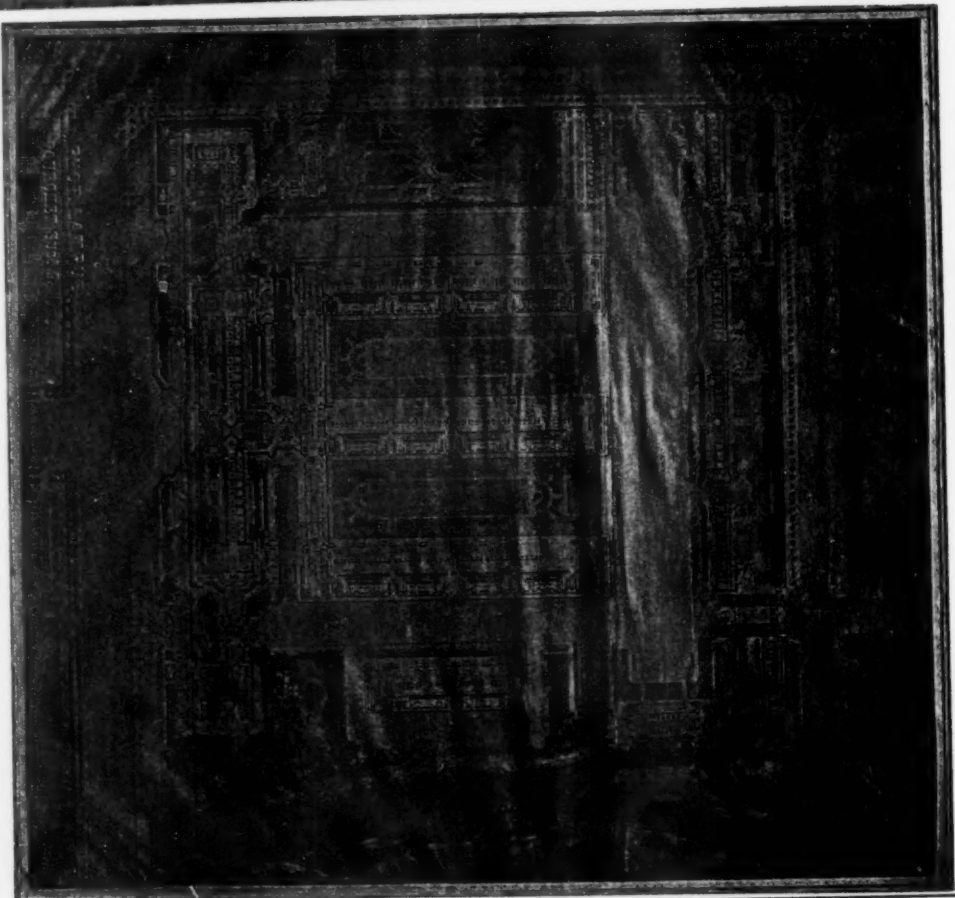


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M. TAUBIN'S PLAN.

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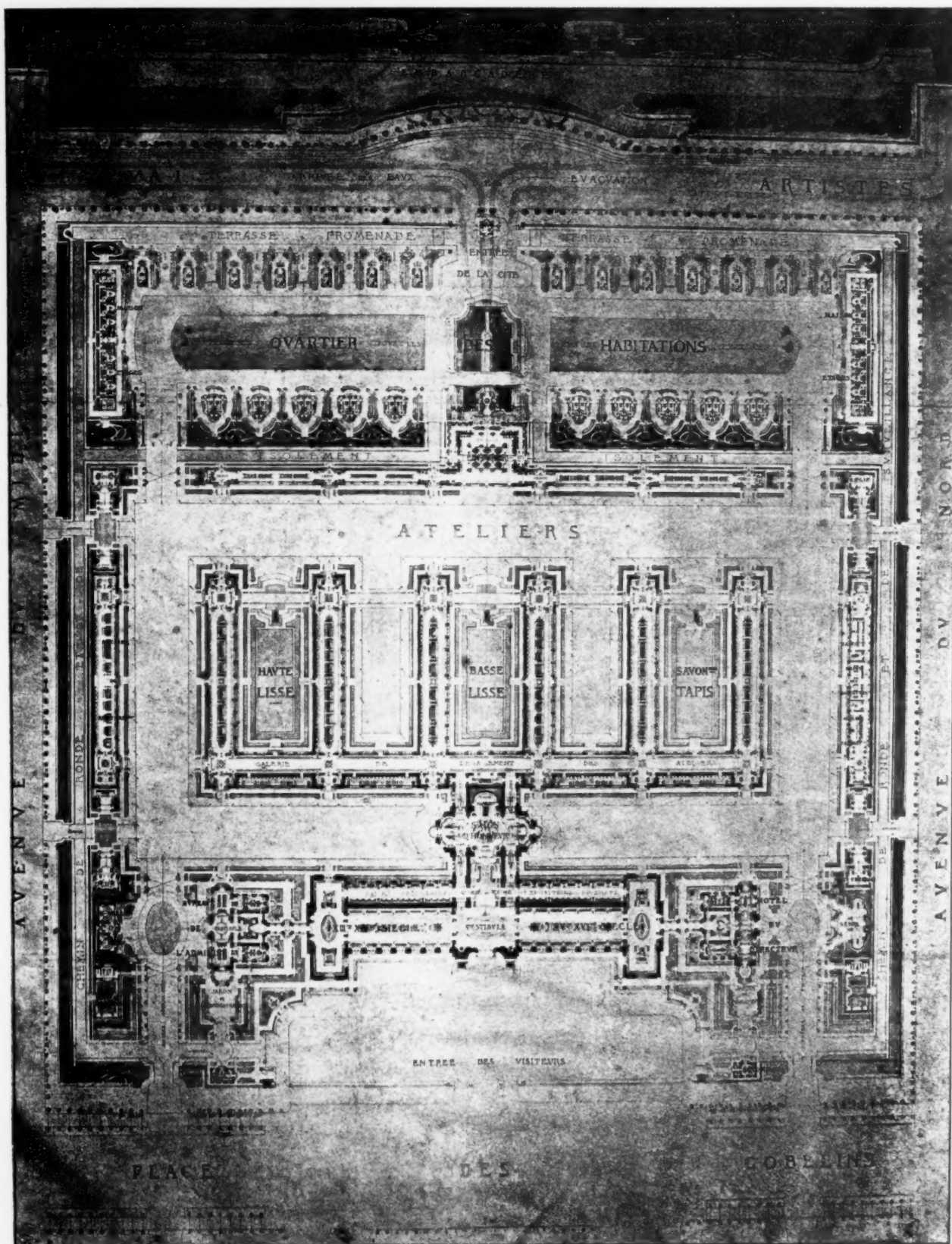
M. LEPRINCE — RINGUET'S PLAN.

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M. HÉBRARD'S GRAND PRIX PLAN.

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