

CONTENTS OF SUPPLEMENT.

PERSONAL	1
Obituary	1
ENGINEERING SOCIETIES	1
Coming Technical Meetings	1
NEW PUBLICATIONS	2
Trade Publications	2
CONSTRUCTION NEWS:	
Condensed List of Contracts Pending	2
Railways	3
Street and Electric Railways	3
Electric Light and Power	4
Bridges	4
Buildings	5
Water-Works	6
Sewerage	6
Garbage Disposal and Street Cleaning	6
Streets and Roads	6
Manufacturing Plants	6
Gas Plants	7
Miscellaneous Contracts	7
Contract Prices	7
INDUSTRIAL NOTES	8
PROPOSALS	8

PERSONAL.

Mr. W. K. Woodruff has resigned his position as City Engineer of Kankakee, Wis.

Col T. M. R. Talcott, of Richmond, Va., has been appointed Assistant to the President of the Seaboard Air Line.

Mr. R. J. Durley has been appointed Professor of Civil Engineering in McGill University, to succeed Prof. John T. Nicholson.

Mr. Joseph C. Turk, of the Pennsylvania Steel Co., sails for England this week accompanied by his wife and will make an extended trip in the far East.

Mr. C. A. Lichty has been appointed Superintendent of Bridges and Buildings of the Western Division of the Chicago & Northwestern Ry., with offices at Lake City, Iowa.

Mr. R. J. Swackhamer, Superintendent of Bridge Construction on the Central R. R. of New Jersey, and Mayor of Dunellen, N. J., has resigned from his former position after forty-seven years of service.

Mr. N. B. Livermore has resigned the local charge of the Government work in the harbor at San Diego, Cal., and has accepted the position of Superintendent and Chief Engineer of the San Diego Water Co.

Mr. H. F. Kenny has been elected President of the Philadelphia & Baltimore Central R. R., to succeed the late Mr. Frank Thomson. Mr. John C. Green was elected Vice-President, to succeed Mr. Kenny.

Mr. G. R. Henderson, formerly Mechanical Engineer of the Norfolk & Western Ry., will become Assistant Superintendent of Motive Power, after July 15, on the Chicago & North Western Ry., with office at Chicago, Ill.

Mr. Jeremiah O'Toole, of Fonda, N. Y., has resigned as Roadmaster of the division between Schenectady and Herkimer, N. Y., and will be succeeded by Mr. J. H. Silvernail, of Schenectady, N. Y., his former assistant.

John N. Faltborn, who was President of the St. Louis, Peoria & Northern Ry. Co. before it passed into the control of the Chicago & Alton Ry., has been elected Vice-President of the Chicago Terminal Transfer Co., and is expected to take office on Aug. 1.

Mr. J. M. Barr, Vice-President and General Manager of the Norfolk & Western Ry., has tendered his resignation, to take effect July 15, in order to accept a position with a western company. He will be succeeded by Mr. L. E. Johnson, General Superintendent of the Norfolk & Western.

Mr. Charles Evan Fowler, M. Am. Soc. C. E., will act as Consulting Engineer to the Terry & Tench Construction Co. on the erection of the new East River Bridge, the Boston Elevated Ry. and other heavy work. He will also continue his practice in structural engineering at 11 Broadway, New York city.

Mr. B. E. Wellendorf having resigned as General Superintendent of the Buffalo, St. Mary's & Southwestern R. R. and the Clarion River Ry., that office has been abolished, and all business heretofore transacted by that department will be handled through the General Manager's office, at St. Mary's, Pa.

Mr. E. E. Davis, Assistant Superintendent of Motive Power of the Philadelphia & Reading Ry., has been appointed to a similar position with the New York Central & Hudson River R. R. Mr. W. R. Otis, of Tivoli, N. Y., formerly General Roadmaster, has been again retained by this company and will superintend the new construction work.

Mr. L. B. Paxson, Superintendent of Motive Power and Rolling Stock of the Philadelphia & Reading Ry., has been appointed Consulting Mechanical Engineer, a new office with this company. He will be succeeded by Mr. S. F. Prince, Jr., who has been in the service of the Long Island R. R. Co. since 1892, first as Consulting Engineer, and since 1893 as Superintendent of Motive Power and Equipment.

Mr. Harvey Middleton has been appointed Mechanical Superintendent of the Baltimore & Ohio R. R., with offices at Mount Clare. Mr. Isaac N. Kalbaugh, Superintendent of Motive Power, has been appointed Assistant Mechanical Superintendent of the Trans-Ohio Division, with office at Newark, O. Mr. Ebenezer T. White, Superintendent of Motive Power, has been appointed Assistant Mechanical Superintendent of the lines east of the Ohio

River, with office at Mount Clare, Baltimore, Md. These appointments are the result of the Motive Power, Car Department and Maintenance of Way shops of the company having been merged into one department, to be known as the Mechanical Department.

Mr. J. H. Barrett has been appointed General Superintendent of the Southern Ry.; Mr. J. A. Dodson, Superintendent of Transportation, and Mr. D. W. Lum, Assistant General Superintendent of Maintenance, all with offices at Washington, D. C. These appointments are due to certain changes in titles and duties. Mr. Barrett is now General Superintendent of Transportation, and Mr. Dodson and Mr. Lum are Superintendents of Track, Bridges and Buildings.

Mr. Robert G. Erwin, of New York city, Vice-President of the Plant Investment Co., has been elected President of that company to succeed Mr. Henry B. Plant, whose death was noted in our last issue. Mr. M. F. Plant, Second Vice-President, has been elected Vice-President. For the Plant System of Railways Mr. Erwin was elected to the presidency of the following companies: The Savannah, Florida & Western Ry.; the Green Pond, Walterborough & Branchville Ry.; the Silver Springs, Ocala & Gulf R. R.; the Winston & Bone Valley R. R., and the Tampa & Thonotassa R. R. Mr. M. F. Plant was elected President of the Alabama Midland Ry. Co., and Mr. Lyude Harrison President of the Brunswick & Western R. R. Co.

OBITUARY.

Mr. John J. Hill, a contractor, of Jersey City, N. J., died at his home of heart disease, on July 3, aged 34 years.

Mr. Karl Sporck, Assistant Resident Engineer of the Kansas City, Fort Scott & Memphis R. R., died at his home in Kansas City on June 23, aged 45 years.

Mr. Hugh D. Scott, Superintendent of the Second Division of the Western Maryland R. R., died at his home at Gettysburg, Pa., on June 29, from Bright's disease, aged 54 years.

Mr. Sumner Hollingsworth, M. Am. Soc. M. E., of the Hollingsworth & Whitney Paper Co., died at his home at Milton, Mass., on June 26, from apoplexy. He was a graduate of the Massachusetts Institute of Technology, and was 45 years of age.

Mr. Edward P. Humphrey, C. E., died at San Carlos, Nicaragua, on June 6, from typhoid fever. Mr. Humphrey went to Nicaragua in 1897 with the Nicaragua Canal Commission, and at the time of his death was in charge of a hydrographic station maintained by the Commission at San Carlos.

Admiral Sir Wyndham Hornby, K. C. B., retired, died suddenly of apoplexy on June 28 while presiding at a meeting of the Hotchkiss Ordnance Co., of London, England. He was born in 1812, and received his education at the Royal Naval College at Portsmouth. He has had the rank of Admiral since 1877.

Major-Gen. Horatio Gouverneur Wright, U. S. Army, died at his home in Washington, D. C., on July 2, aged 79 years. He was born at Clinton, Mass., and graduated from the United States Military Academy in 1841. He entered the engineering department of the army, and at the outbreak of the Civil War was Assistant to the Chief Engineer at Washington. He served as commander of volunteer troops during the war, for which he was brevetted Major-General, and at the close of the war he became Chief of the Engineer Corps with the rank of Brigadier-General.

Mr. Henry Vignoles, M. Inst. C. E., well known to American engineers as the designer of the Vignoles section for railway rails, died at London, England, on June 16, aged 71 years. In early life Mr. Vignoles was associated with his father, the late Charles B. Vignoles, on the surveys for the Waterford & Limerick and other Irish railways. He also visited Russia, Poland and Spain, in which latter country he was for some time chief resident-engineer of the Bilbao & Tudela Ry. Mr. Vignoles was also chief engineer of the first railway constructed in the Isle of Man.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

MONTANA SOCIETY OF ENGINEERS.
July 8. Butte, Mont. Secy., A. S. Hovey, Nat'l Bank Bldg., Helena, Mont.

THE LOUISIANA ENGINEERING SOCIETY.
July 10. Secy., J. F. Coleman, 712 Union St., New Orleans, La.

WISCONSIN STATE CHEMICAL ASSOCIATION.
July 13. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.

CONNECTICUT ASSOCIATION OF CIVIL ENGINEERS AND SURVEYORS.
July 18. Holyoke, Mass. Secy., G. K. Cradall, New London, Conn.

AMERICAN BOILER MANUFACTURERS' ASSOCIATION.
July 24-27. Annual meeting, Cleveland, O. Secy., J. D. Farasey, Cleveland, O.

INTERNATIONAL ASSOCIATION FOR TESTING MATERIALS, AMERICAN SECTION.
Aug. 15, 16. Annual meeting at Pittsburg, Pa. Secy., Richard L. Humphrey, City Hall, Philadelphia, Pa.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
Aug. 17-19. Annual meeting, Columbus, O. Secy., Albert Kingsbury, Durham, N. H.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.
Aug. 21-26. Annual meeting at Columbus, O. Secy., Prof. Frederick Bedell, Ithaca, N. Y. Local Secy., Prof. B. F. Thomas, Columbus, O.

ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

Sept. 12. Annual meeting, Philadelphia. Secy., Wilson S. Howell, P. O. Box 114, Newark, N. J.

AMERICAN INSTITUTE OF MINING ENGINEERS.
Sept. 25. Annual meeting, San Francisco, Cal. Secy., R. W. Raymond, 99 John St., New York city.

EASTERN MAINTENANCE OF WAY ASSOCIATION.
Sept. 26. Portland, Me. Secy., F. C. Stowell, B. & M. R. R., Ware, Mass.

SCRANTON ENGINEERS' CLUB.—At the meeting of the club, held June 22, Mr. H. W. Rowley read a paper entitled "Municipal Ownership of Asphalt Plants." The paper compared the work done at Wilkesbarre, Pa., where the city owns its own plant, with that done by contract with one of the large asphalt paving companies in Scranton, Pa., and showed that the latter city obtained cheaper work by adhering to the contract system. Following the paper there was a general discussion of the subject of asphalt paving.

ASSOCIATION OF AMERICAN RAILWAY ACCOUNTING OFFICERS.—The eleventh annual convention of the Association of American Railway Accounting Officers, held at Montreal, Canada, June 28th and 29th, was one of the most successful ever held. The Secretary-Treasurer, Mr. C. G. Phillips, reviewed the work of the past ten years in a paper entitled: "What the Association has Accomplished." The officers elected were: President, H. D. Buikley, Comptroller, Baltimore & Ohio R. R.; First Vice-President, I. G. Ogden, Comptroller, Canadian Pacific Ry.; Second Vice-President, A. Douglas, Auditor, St. Louis & San Francisco Ry.; Secretary-Treasurer, C. G. Phillips. The next meeting will be held at Boston, Mass., on the last Wednesday in May, 1900.

AMERICAN INSTITUTE OF MINING ENGINEERS.—The seventy-seventh annual meeting of the Institute will be held in San Francisco, Cal., Sept. 25, 1899. The hotel headquarters will be at the Palace Hotel. The rates per day will be \$1.50 to \$3 on the European plan and \$2 extra on the American plan. An excursion party has been arranged for members from the East, as follows: A special train of sleeping cars will leave Chicago Sept. 10 and go via St. Paul, Butte and Anaconda, Montana and Portland, Ore., to San Francisco. The same special train will convey the party upon an excursion through California, visiting Grass Valley, Nevada City, Oroville, Jamestown, Sonora, Dutch Flat, New Almaden, etc., and will then proceed eastward from southern California through Arizona. An excursion will be made en route to the copper mines of Bisbee, Ariz., and the special train will then continue eastward to Chicago. There will be also opportunity for a trip to the Yosemite Valley, for which a special rate of \$38.50 has been secured, including transportation from and to the railway and hotel bills for four days. Throughout the trip, except during the meeting at San Francisco, the sleepers of the special train will be available for lodging, and the dining cars for meals.

It is estimated that the trip, including the meeting and all excursions, will occupy about 34 days, from Chicago back to Chicago, and that the cost for transportation, berth and meals, will be \$225 for each person. This does not include expenses in San Francisco or fees for personal service. It is expected that two dining cars will be attached to the train, and also a baggage car. The cost above stated provides for three regular meals daily, and it is necessary to include the cost of these in the estimate above given, because without a guaranty of this item it would be impossible to secure dining cars at all. Berths in this special train can be secured up to Aug. 15 by members and associates only, each application being accompanied with a deposit of \$50. Applications may also be made at the same time for other persons, and after Aug. 15 such applications will be considered in order of priority and places will be assigned, to the extent of the available accommodation, for one guest per member or associate, preference being given to a member of his family. It is quite possible, however, that room will be found for all, even to the extent of additional guests. The purpose of the above statement is to secure the accommodation of all members and associates who apply before Aug. 15. It is not practicable to reserve accommodations for those who desire to join the party en route unless they secure their berths from Chicago to Chicago, paying the full price, as above specified. Members who cannot conveniently join the party are recommended to purchase the usual excursion tickets to San Francisco. They should, however, promptly notify the Secretary of their intention to attend the meeting (even though they reside in California) in order that the Local Committee may make arrangements for their participation in excursions within the state.

The Canadian Institute of Mining Engineers is to hold a meeting in British Columbia during September, in which the members of the Institute are invited to take part. It will be possible for any who desire to see under favorable conditions the mining districts of British Columbia to take part in that meeting, and subsequently reach San Francisco in time for the Institute meeting. According to the provisional programme, the Canadian party from the East will leave Montreal Sept. 1, or Toronto Sept. 2, by the Canadian Pacific, proceeding by way of Owen Sound, the Great Lakes, Fort William and Revelstoke, where it will arrive Sept. 8, after spending Sept. 7 at the Banff Hot Springs. After Revelstoke the party will go to Nelson, where three days will be spent, and to Rossland (Sept. 12), where it will stay two days. On Sept. 15 the smelting works of Trull will be visited, and the party will

UNIV. OF MICH.
JUL 8 1899

July 21. Dredging, Norfolk, Va.	June 22
July 21. Brick paving, St. Mary's, O.	June 29
July 21. Dredging, Norfolk, Va.	June 29
July 21. Advertisement, Eng. News, June 29 to July 13.	June 29
July 21. Embankment, Shawneetown, Ill.	July 6
July 21. Tubular boilers, Toledo, O.	July 6
July 21. Gas holder, Edinburg, Scotland.	June 29
July 22. Cement, Savannah, Ga.	June 29
July 22. Advertisement, Eng. News, June 29 to July 13.	July 6
July 22. Embankment, Lawrenceburg, Ind.	July 6
July 22. Lock approaches, Nashville, Tenn.	July 6
July 22. Advertisement, Eng. News, July 6 and 13.	July 6
July 22. Water franchise, Lancaster, Ky.	July 6
July 22. Water pumps, Willimantic, Conn.	June 22
July 24. Advertisement, Eng. News, June 22 and 29.	June 29
July 24. Dredging, Ogdensburg, N. Y.	June 29
July 24. Advertisement, Eng. News, June 29 to July 20.	July 6
July 24. Steam fire engine, Easton, Pa.	July 6
July 24. Brick paving, Fremont, O.	July 6
July 24. Brick paving, Columbia City, Ind.	July 6
July 24. Road building, Boylston, Mass.	July 6
July 24. Advertisement, Eng. News, July 6 and 13.	July 6
July 24. Dredging, Detroit, Mich.	July 6
July 24. Advertisement, Eng. News, July 6 to 20.	July 6
July 24. Brick paving, Findlay, O.	July 6
July 25. Jetty, Portland, Eng. News, May 25 to June 8.	May 25
July 25. Advertisement, Cincinnati, O.	July 6
July 25. Pavement, Ottawa, O.	July 6
July 25. Brick paving, Ottawa, O.	July 6
July 25. Cement works, Renfrew, Ont.	July 6
July 25. Water-works, West Bay City, Mich.	June 15
July 26. Advertisement, Engineering News, June 15.	June 15
July 26. Hospital building, Newport, R. I.	June 29
July 27. Municipal building plans, Plumstead, Eng.	May 18
July 27. Electric wiring, etc., Hull, Eng.	July 6
July 27. Advertisement, Milwaukee, Wis.	July 6
July 27. Garbage crematory, Eng. News, July 6 to 20.	July 6
July 27. Advertisement, Cheyenne, Wyo.	July 6
July 27. U. S. building, New York Harbor.	June 29
July 28. Advertisement, Eng. News, June 29 to July 20.	June 29
July 28. Dredging, Washington, D. C.	June 29
July 28. Advertisement, Eng. News, June 29 to July 20.	June 29
July 28. Bridge, Grand Rapids, O.	July 6
July 29. Court house, Lebanon, Ind.	June 22
July 29. Iron bridge, Barville, Ill.	June 29
July 29. Stone, Long Beach, Mass.	June 29
July 29. Advertisement, Eng. News, June 29 to July 20.	June 29
July 29. Exhaust fans (7), Baltimore, Md.	July 6
July 31. Advertisement, Tampa, Fla.	June 29
July 31. Advertisement, Eng. News, June 29 to July 20.	June 29
July 31. River work, Philadelphia, Pa.	July 6
July 31. Advertisement, Eng. News, July 6 to 27.	July 6
July 31. Removing wreck, Bath, Me.	July 6
Advertisement, Eng. News, July 6 to 27.	July 6
Aug. 1. Water bonds (\$25,000), Red Lodge, Mont.	July 6
Aug. 1. Plans for shops, Halifax, England.	July 6
Aug. 2. Jetty, Washington, D. C.	July 6
Aug. 2. Advertisement, Eng. News, July 6 to 27.	July 6
Aug. 2. Dredging, Portland, Me.	July 6
Advertisement, Eng. News, July 6 to 27.	July 6
Aug. 3. Portland cement, Mohle, Ala.	July 6
Advertisement, Eng. News, July 6 to 27.	July 6
Aug. 5. Dry-dock, Washington, D. C.	June 22
Aug. 8. Cranes, Brooklyn, N. Y.	July 6
Aug. 8. Water-works, Grand Junction, Colo.	July 6
Advertisement, Eng. News, July 6 and 13.	July 6
Aug. 12. Removing rock, San Francisco, Cal.	June 8
Advertisement, Eng. News, June 8 to 29.	June 8
Aug. 12. Rails (30 miles), Rio de Janeiro, Brazil.	June 22
Aug. 14. Bridge, Andalusia, Ala.	June 29
Aug. 15. Steel bridge, Glendive, Mont.	July 6
Aug. 15. Bridge, Laurel, Mont.	July 6
Aug. 23. Lease of water power, Chicago, Ill.	July 6
Advertisement, Engineering News, July 6.	July 6
Aug. 31. Railway (124 miles), Vera Cruz, Mexico.	July 6
Aug. 31. Steel bridge, Mexico, Mexico.	July 6
Aug. 31. City hall plans, Columbia, S. C.	June 15
Sept. 1. Mining claims, Ottawa, Ont.	July 6
Oct. 1. Electric street railway, Moscow, Russia.	Mar. 9
Nov. 1. Water-works, Nicolaiev, Russia.	June 15
Nov. 28. Quays, etc., Alexandria, Egypt.	July 6
No date. Electric plant, Seymour, Ia.	June 22
Advertisement, Engineering News, June 22.	June 22
" Electric railway (30 miles), Indianapolis, Ind.	June 22
No date. Light railway, Cape of Good Hope.	June 29
" Steam heating, Danville, Ill.	June 29
No date. Hotel building, Thamesville, Ont.	July 6

RAILWAYS.

ABERDEEN & ROCK FISH.—This line, now operated between Aberdeen and Raeford, N. C., is being extended from Raeford to a connection with the Yadkin branch of the Atlantic Coast Line at Hope Mills, N. C., about 15 miles. John Blue, Pres. and Mgr., Aberdeen, N. C.

ATLANTIC COAST LINE.—Reports state that this company is extending the Southwestern R. R. from Ashpole to Boardman, formerly Hub, N. C., where it will connect with the Wilmington & Conway Ry. It is expected to complete the line by the fall. F. Gardner, Ch. Engr., Wilmington, N. C.

BISMARCK, WASHBURN & FORT BUFORD.—Reports state that the contract for grading 12 miles of this road from Bismarck northwest towards Washburn, N. Dak., has been let to E. S. Page & Co., Anoka, Minn. Additional contracts will soon be awarded. W. D. Washburn, Minneapolis, Minn., is said to be interested.

CAIRO & KANAWHA VALLEY.—Reports state that this line, now in operation between Cairo and McFarlan, W. Va., will be extended through the oil fields of Ritchie, Pleasants and Wood counties to the Ohio River, near St. Mary's or Waverly, requiring the construction of about 15 miles of line. H. S. Wilson, Pres., Parkersburg, W. Va.

CAROLINA NORTHERN.—This line has been located from Lumberton to Marion, S. C., about 88 miles, and four miles of the road out from Lumberton have been graded. A trestle is being built over Lumber River, and it is expected to have five miles of line completed soon. Surveys are also being made for an extension from Lumberton to Goldsboro. J. H. McRee, Ch. Engr., Lumberton, N. C.

CEDAR RAPIDS, GARNER & NORTHERN.—This company has increased its capital stock from \$250,000 to \$300,000. It operates a line, in connection with the Burlington, Cedar Rapids & Northern, from Garner northwest into Kosautus county, about 25 miles. It is now proposed to further extend the line.

CHESAPEAKE & OHIO.—H. Pierce, Engr. Maintenance of Way, Huntington, W. Va., informs us that this company is building a second track between the following places: Backbone to Jerrys, Va., 3 miles, by Shanahan, Serpell & Co., Backbone, Va.; Tuckahoe to Howard, W. Va., 8 miles, by Lane Bro. & Co., White Sulphur, W. Va.; Brooks to Meadow Creek, W. Va., 7.6 miles, by Shanahan, Woolfolk & Co., New Richmond, W. Va.; Glade to Prince, W. Va., 5.7 miles, by C. D. Langhorne & Co., Prince, W. Va.; McKendree to Buffalo, W. Va., 3 miles, by J. C. Carpenter & Co., Slaters, W. Va. Grading has been started at all points and should be completed by Nov. 1.

CHICAGO & NORTHWESTERN.—Reports state that this company will build three miles of additional side tracks, a new roundhouse and a new water tank in Fond du Lac, Wis., this summer at a cost of between \$100,000 and \$125,000. Work has been begun on the tracks in North Fond du Lac and the roundhouse, which will have a capacity of twelve boilers, will soon be started. Pipes will be laid to carry the water to standpipes distributed in convenient points in the yards. J. E. Blunt, Ch. Engr., Chicago.

CHICAGO & WESTERN INDIANA.—This company is replacing about a mile of its single track trestle on the Belt Line on West 46th St., with a double track embankment, crossing the streets by girder bridges. This piece of work extends from Jackson Ave. north to Chicago Ave. E. H. Lee, Ch. Engr., Chicago.

CHINA.—We are furnished with the following direct information written from Tientsin in March: The imports of railway material into China amount to several million taels annually, the tael being worth about 65 cents in gold. Rails have never been imported from America; most of them have been made by the Barrow Hematite Co., Ltd., Fenwick, E. C., London, England. The mileage in North China is as follows: Tientsin, Shanhaikuan (Gulf of Peckhili), 179 miles; Shanhaikuan to Chung Hou So (Manchuria), 40 miles; Tientsin to Peking, 80 miles; Peking to Paoting Yu (Capital Province Chihli), 80 miles, making a total of 379 miles in operation. The road is being extended from Chung Hou So to Newchwang and will probably be opened for traffic in the spring of 1900. The lines are all owned by the government. The Belgians will build the road between Hankow and Paotingju, which, when built, will be known as the Lou-Han Line, or the trunk line between Hankow and Peking. The American China Development Co., 100 Broadway, New York, will build the line between Hankow and Canton, and will complete the line between Hankow and Paoting Ju if the Belgians fail to do so. A line is to be built between Tientsin and Ching-kiang, connecting with the line to be built between Shanghai and Hankow. The standard gauge is the only one used, and 85-lb. rails, Sandberg patterns, are used on the trunk lines. Wood ties are now used exclusively, of Oregon pine, California redwood, Japan pine and Korean pine. The American locomotive holds the market. In Northern China the roads are level, there are no tunnels and grades are light and curves easy. Hand labor is 25 cents, Mexican, a day for carpenters, blacksmiths and expert mechanics; 15 cents, Mexican, a day for each earth worker, tie and rail-layer. Steam is used in sinking pits. Pile-driving is done by man power, although the pile-driving is on modern principles. As yet there are no tunnels, and the few cuts have been done by means of hand drilling. Passenger cars are in compartments, but, as in America, entrance is at the ends of all new cars being built at the railway works at Tongsan, which place is about half way between Tientsin and Shanhaikuan. The Chinese Engineering & Mining Co. has extensive coal mines at Shanhaikuan, worked by machinery of modern principles. The output is 2,000 tons of soft coal daily. There are first and second-class cars, also private cars at \$12.00, Mexican, for 12 hours in excess of regular first-class tickets for each passenger in private car. The capacity of the freight cars is 30 tons. All the rolling stock is made at Tongsan. Wheels, springs, axles and couplers are the only articles imported. The trucks are made at Tongsan also. The Janney coupler is the only one in use. Air-brakes are as yet used only on locomotives. The closed cars are made of zinc. The company asks for tenders when it wishes to make a large purchase of rails, locomotives, etc., and they are opened publicly at the Tientsin railway office.

COLORADO MIDLAND.—This company is reported to have purchased the Buak Ivanhoe Tunnel for \$1,250,000. It was completed in 1895 at a cost of \$1,500,000, after three years of work. It is five miles long, and penetrates the Hagerman Pass at an altitude of 12,500 ft. G. W. Rinstine, Pres. and Mgr., Denver, Colo.

DANVILLE & WESTERN.—This company is stated to have decided to change the gauge of the line between Danville, Va., and Leaksville and Spray, N. C., from a narrow to a standard gauge, and to extend the road to Madison, N. C., 12 miles west. G. K. Griggs, Gen. Supt., Danville, Va.

GREAT NORTHERN.—Ross, Barry & McRea, the general contractors for the extension of this line, are pushing the work. Their sub-contractors on the 53-mile section from Montclair to Shawnegan, Que., are: J. R. McQuigg, 10 miles; Sherwood & Christin, 5 miles; Carroll & Gibson, 6 miles; Rogers & Quirk, 5 miles; D. R. McDonald, M. L. A., 15 miles; Scott & Son, 6 miles. The masonry is being done by Thos. Powers, Point Levis, Que., and Rousson Bros., Williamstown, Ont., are doing the timber work. On the other end of the line between St. Jerome and Grenville, Que., Keating & Stewart, Ottawa, Ont., are the contractors for the masonry. The three bridges on the St. Jerome end of the road are over the North River at Lachute, the Grenville canal and the Ottawa river at Hawkesbury, and the timber work at this end was given to John Brennan, Sand Point, Ont., while all the fencing will be done by the American Steel & Wire Co., Chicago. The section of this railway between St. Jerome and Montclair was constructed some years ago, but the present contractors are now at work rehabilitating, laying new ties, rebuilding culverts, and replacing a good part of the track with 70-lb. rails, the old ones weighing 56-lb. The entire extension will require 10,000 tons of steel rails, all of which has been bought in England through Jas. Cooper, Montreal, Que. One cargo has already reached Montreal, and the subsequent ones will be distributed from Quebec, Joliette, Lachute, and other points. Some 500 men and 200 teams are already at work on the several subsections of the line. The contract for the superstructure of all the bridges east of Joliette has been given to the Dominion Bridge Co., while the Hamilton Bridge Co. has those on the western section, which includes the heavy structure over the Ottawa. This bridge, which will be one of the finest in Canada, will have seven spans of 210 ft. each, together with a quarter of a mile of trestle work. J. M. Shanly, Engr., New Carlisle, Que.

GULF, BEAUMONT & KANSAS CITY.—Final estimates are about completed for the extension of this line from Newtonville to Wascom, Tex., 15 miles. Construction is expected to begin soon. J. F. Weed, Ch. Engr., Beaumont, Tex.

ILLINOIS & MISSISSIPPI VALLEY.—This company was incorporated in Illinois, June 23, with a capital stock of \$100,000, to construct a line from Alton to Edwardsville, East St. Louis, Belleville and East Carondelet, Ill. Wm. E. Smith, G. M. Lewis and H. H. Ferguson, Alton, Ill., are incorporators.

IOWA & MISSISSIPPI VALLEY.—Incorporated in Iowa, June 23, with \$300,000 capital stock, to build a line connecting Oakville, Burlington and Denmark, Ia. W. R. Stewart, Elrick, Ia., is said to be interested.

MISSISSIPPI, COLESBURG & MANCHESTER.—W. C. Kirchbeck, Secy., Colesburg, Ia., informs us that surveys have been made for this proposed line between Dryersville and Colesburg, Ia., via New Vienna and Petersburg, Ia.,

16 miles; the right of way has also been secured. A Boston syndicate has offered to take the bonds and to begin construction on the line between July 1 and July 15. James Prentice, Pres., Colesburg, Ia.

NORTH BALTIMORE & SUBURBAN.—John J. Geghan, Pres., 631 East Broadway, Toledo, O., informs us that the right of way has been secured for this line, which will at present extend three miles from North Baltimore to Galatea, O., where it will connect with the Toledo & Ohio Central Ry., near the Manhattan oil refinery. Eventually it is expected to extend to Put-in-Bay, on Lake Erie. The rails, angle bars, spikes, ties and rolling stock have been bought. J. L. McCullough, Ch. Engr., Lima, O.

NORTHWEST.—Grading is being vigorously pushed on this line from Nagle to the Seven Devils' mining district via Conner Creek, Flickhar, Powder and Pine, Ore., 73 miles, including about 2,500 ft. of tunneling through lime rock. Isaac E. Blske, Pres., 11 Broadway, New York; Carlos Gillespie, Ch. Engr., Huntington, Ore.

OTIS.—This company was incorporated, June 26, with a capital stock of \$65,000, to operate a line in Greene county, N. Y. Wm. D. Baldwin and Chas. L. Rickerson, of New York, are directors.

PINE BLUFF & WESTERN.—This company was incorporated in Arkansas, June 24, with a capital stock of \$250,000, to construct a railway from Pine Bluff to Sheridan, Ark. W. E. Sawyers, Lacrosse, Wis.; E. L. Arnold, Minneapolis, Minn., and W. H. Langford, Pine Bluff, are incorporators.

SANTA FE & GRAND CANON.—P. F. Randall, Ch. Engr., Williams, Ariz., informs us that this proposed line will extend from Williams to copper mines at the Grand Canon of the Colorado River, a distance of 40 miles, and also 24 miles further in that district. Capital has been secured for constructing the first 30 miles. J. H. Richards & Sons, Holbrook, Ariz., received the contract June 1 for grading the first 15 miles, and have completed 5 miles. It is expected to commence buying iron about July 15, and to keep the track up to the front so as to furnish the graders with necessary supplies. L. W. Goode, Pres., of Lombard, Goode & Co., 11 Broadway, New York.

SEABOARD AIR LINE.—M. J. Condon, Knoxville, Tenn., confirms the report in our last issue that he had been awarded the contract for constructing an extension to this system from Cheraw to Columbia, via Camden, S. C., 81 miles. He will begin work at once. W. W. Gwathmey, Jr., Ch. Engr., Portsmouth, Va., reports state that the crossie contract from Cheraw to Lynch's River goes to Brown & Co., Barnwell, S. C., and from Lynch's River to Columbia to S. K. Adams, Camden.

SHANTUNG.—Press reports state that this company was incorporated at Berlin, Germany, June 14, with a capital stock of 54,000,000 marks, to construct a railway in Shantung, from Tsintau to Tsi-nan-fu, via Wei-hsin, with a branch to the coal fields in the Po-shan district, and with the subsequent right to continue the line from Tsintau to Tchau-fu.

SOUTH POTOMAC.—This company was incorporated in West Virginia, June 22, with a capital stock of \$1,000,000, to construct a line from Romney, Hampshire county, to Franklin, Pendleton county. J. W. Gilkeson, Moorefield, W. Va.; Wm. H. Boggs, Franklin, W. Va., and Samuel M. Mansfield, York, Pa., are incorporators.

STREATOR & CLINTON.—Incorporated in Illinois, June 21, with a capital stock of \$5,000, to construct a line from St. Clair, Ill., to Clinton, Ia. T. P. Shonts, Geo. H. Ross and R. P. Threns, of Chicago, are incorporators.

TEXAS & PACIFIC.—The Grishy Construction Co., Dallas, Tex., is reported to have been awarded the contract for constructing a branch line from Port Allen to New Rhodes, La., about 25 miles. B. S. Wathen, Ch. Engr., Dallas, Tex.

TIFTON, THOMASVILLE & GULF.—F. J. Ansey, Secy., Tifton, Ga., informs us that the right of way has been obtained, the capital secured and one-half of the grading completed for this proposed line from Tifton to Thomasville, Ga., via Moultrie, Ga., 56 miles. The Union Lumber Co. is the principal contractor, and S. T. Hanks, its sub-contractor. H. M. Atkinson, Pres., Atlanta, Ga.; S. Z. Ruff, Ch. Engr., Tifton, Ga.

TUNIS.—Consul Skinner at Marseilles, France, reports that the Compagnie des Phosphates et du Chemin de Fer de Gafsa, which is engaged in extensive enterprises in that protectorate, is in the market for all kinds of rolling stock, including locomotives, and that proposals have already been asked for in England. Mr. Skinner thinks that it is not too late for American manufacturers to compete for this order if prompt action is taken. The address of the company is 60 Rue de la Victoire, Paris, and for calling purposes it may be addressed as the "Compagnie Gafsa."

VERA CRUZ & PACIFIC.—Bids are asked until Aug. 31 for clearing and grubbing, grading, masonry, track-laying, steel bridges, etc., necessary to complete about 200 kilometers (124.2 miles) of standard-gauge railway between the Papaloapan River and Santa Lucrecia, on the Tehuantepec Ry. Sheldon T. Bent, Gen. Supt. and Ch. Engr., Cordova, Vera Cruz, Mexico.

WASHITA VALLEY.—This company has been incorporated in Oklahoma, with a capital stock of \$100,000, to construct a line from the Chickasha branch of the Chicago, Rock Island & Texas Ry., north and west through Washita, Custer and Mills counties, Okla.; a distance of about 100 miles. F. T. Cook, Pres.; W. H. Dean, Treas., of Cloud Chief, Okla.

STREET AND ELECTRIC RAILWAYS.

SOUTH FRAMINGHAM, MASS.—H. L. Brown, Ch. Engr. of South Middlesex St. Ry., South Framingham, informs us that surveys have been made for an extension from South Natick to Needham and franchise granted. The mason work on the addition to the power house will be done by A. D. Swan, and the carpenter work by E. S. Taylor. The engine will be a 13 x 19 x 15 ft. tandem compound McIntosh & Seymour, with a 200-HP. Westinghouse generator.

FAR ROCKAWAY (L. I.), N. Y.—The Long Island Electric Ry. Co. has applied to the municipal assembly of New York city for a franchise to use the streets in Far Rockaway, Borough of Queens. A public hearing will be held on July 14.

NEW YORK, N. Y.—It has been officially stated that the Manhattan Ry. Co. had secured a site at 74th and 75th Sts. and the East River for its proposed power house. The Lackawanna Steel Co. has been given the contract for 9,000 tons of 100-lb. steel rails, the delivery and installation of which will begin in September. Competitive bids were secured last week on engines and boilers. W. E. Baker, Electrical Engr.

WARRENSBURG, N. Y.—The Warren County Ry. Co. was incorporated June 28, with a capital stock of \$200,000, to construct an electric street railway from the Warrensburg Agricultural Association's fair grounds to the Delaware & Hudson R. R., at Caldwell, about seven miles.

A. B. Colvin and J. M. Coolidge, Glens Falls, N. Y.; J. H. Powers, Lansingburg, N. Y., and L. W. Emerson, Warrensburg, are incorporators.

ITHACA, N. Y.—The Renwick Park & Traction Association, of Ithaca, was incorporated June 23 with \$1,000 capital stock, by E. G. Wyckoff and R. C. Carpenter, of Ithaca. It is a reorganization of the old park and traction company.

LEWISTOWN, PA.—The Lewistown & Reedsville Electric Ry. Co. was organized at this place June 23 to build a line from Lewistown to Burnham, where the Standard Steel Co., a branch of the Baldwin Locomotive Works, and the Logan Iron Foundry Co., are located. The contract for construction has been awarded to the Tennis Construction Co., Philadelphia. J. I. Quikley, Pres.; Lewistown.

RANKIN, PA.—This borough has granted the United Traction Co. the right to build through this place, after an opposition for two years.

SOLEDERTON, PA.—Plans have been prepared, according to reports, for the proposed power house of the Inland Traction Co. to be erected at Souderston. It will furnish power for the new line between Lansdale and Perkasie. J. H. Pascoe, Allentown, Pa., is interested. M. B. B. Bean, Arch. Lansdale, Pa.

SCHUYLER, VA.—I. W. Foster, Mgr. of Virginia Soapstone Co., Schuyler, informs us that the right of way has been obtained and the preliminary survey made for the electric railway which this company proposes to construct from Schuyler to Rockfish Depot, four miles. No contracts will be let, but the work will be done by the company itself.

WHEELING, W. VA.—The Wheeling, Wellsburg & Lantzville Ry. Co., was incorporated June 23 to construct an electric line from Market and 10th Sts., Wheeling, to Wheeling Junction, opposite Steubenville, O. John S. Welty, E. Buckman, and Jas. K. Hall, of Wheeling, are incorporators.

COLUMBUS, O.—The Columbus, Winchester & Lancaster Traction Co. was incorporated June 30, with a capital stock of \$10,000, to construct a line from Columbus to Lancaster, via Groveport, Canal Winchester and Carroll. Thos. A. Simons and David C. Beggs, Columbus, and Theodore B. Beatty, New York, are incorporators.

DAYTON, O.—Edward Ryan, Springfield, Mass., is reported to have been awarded the contract for constructing the Dayton, Springfield & Urbana Electric Ry. from Springfield to Osborn. A franchise has just been granted to this company in Urbana, requiring the line to be built within six months. The Dayton & Xenia Traction Co. is reported to have awarded the contract to the Worcester Construction Co., Worcester, Mass., June 28, to construct this line to Xenia and to Spring Valley. Work is expected to be completed by Sept. 1. C. W. Ferneding, Pres.

FINDLAY, O.—Theodore Wentz has applied to this city for a franchise to build from the terminus of the Findlay St. Ry. to Fostoria.

YOUNGSTOWN, O.—The Mahoning Traction Co. has been incorporated, with \$10,000 capital stock, to construct an electric street railway from Warren to Youngstown. Struthers and Lowellville. Clarence E. Sanders, Chas. C. Owen and W. B. Whiting are incorporators.

ANDERSON, IND.—The Muncie, Anderson & Indianapolis Ry. Co. and the Union Traction Co. owning the Marion St. Ry., Marion & Anderson Interurban, Alexandria & Elwood Interurban, Elwood City Ry., Anderson City Ry., the Muncie City Ry. and the proposed Muncie, Anderson & Indianapolis Interurban, have consolidated and filed articles of incorporation. The new company represents a capital stock of \$4,000,000, and its purpose is to control all the street railway lines in north-central Indiana. Chas. L. Henry, Anderson, is interested.

INDIANAPOLIS, IND.—The Indianapolis, Plainfield & Western Rapid Transit Co. has been incorporated, with \$100,000 capital stock, to operate a street railway between this city and Danville, via Plainfield and Cartersburg. D. P. Erwin, D. M. Parry and D. M. Ramadell are incorporators.

CHICAGO, ILL.—Alderman Powers has introduced an ordinance in the council asking for a franchise for the Chicago Subway, Arcade & Traction Co., capitalized at \$250,000, to construct an underground transit system.

EDWARDSVILLE, ILL.—Reports state that the Mississippi Valley Electric Ry. will soon be constructed, as work must be begun by August or else the charter forfeited. Chas. E. Carroll and Henry Hoffhaus, St. Louis, Mo., are incorporators.

JOLIET, ILL.—The city council passed an ordinance June 27, giving to the Joliet St. Ry. Co. a 20-year franchise to extend its line through the West Side Park. The company is to pay the city \$3,000 cash and \$500 annually to be used to improve the park.

KANSAS CITY, MO.—L. E. Meyer, Chicago, Ill., is reported to have been awarded the contract by the Metropolitan St. Ry. Co. for extending the Edgerton branch of the elevated road, at a cost of about \$75,000. This is the first step in the changing of the motive power from cable to electricity.

GLASGOW, SCOTLAND.—Bids are asked until July 22 for furnishing 80 electric tramcar bodies for this corporation; also for supplying and erecting boilers, steam engines, generators, transformers, boosters and converters and surface condensers, feed pumps, circulating pumps and air pumps. J. D. Marwick, Town Clk.; John Young, Gen. Mgr., 88 Penfield St., Glasgow.

AUCKLAND, NEW ZEALAND.—This city has given a 30-year concession of its horse tramways to the Auckland Electric Tramways Co., Ltd. This is a sub-company of the British Electric Traction Co., with a capital of \$6,000,000 of which Sir Charles Rivers Wilson is president. P. M. Hansen, Attorney, states that as soon as all legal arrangements are completed, a competent electrical engineer will be sent from London to install a modern tram system, a work which he has undertaken to complete in three years. The company has decided to go in largely for operations in the colonies, and Auckland is the beginning thereof. Similar propositions will be made to the Wellington and Christchurch authorities. Mr. Bingham, who represented the New Zealand Electric Light & Traction Co., has secured an option on the tramways of Dunedin, and Mr. Hansen was to inspect that city's system and to report upon it to his company, to which the option has been offered.

ELECTRIC LIGHT AND POWER.

BOSTON, MASS.—Bids for the installation of a plant in the post office and sub-treasury at Boston, were opened last week at the Treasury Department, Washington. The lowest bids for four engines were submitted by the Ball Engine Co. at \$10,300; for four generators, by the Thresher Electric Co., \$4,800, and for switchboard, by the Chase Shawmut Co., \$3,275. For engines and generators the Thresher Electric Co. bid \$16,000.

SPENCER, MASS.—F. A. Durry, Treas., writes us that the Citizens' Gas & Electric Light Co. is to purchase the

property of the Spencer Gas Co. Some changes will probably be made later in the electrical equipment.

ALBANY, N. Y.—The Hudson River Power Transmission Co. has been granted permission to erect poles and to string wires along the tow path of the Erie Canal from Mechanicville to Albany. Francis V. Greene, Pres., 11 Broadway, New York.

GREENWICH, N. Y.—The Consolidated Electric Co. will enlarge its plant and install a 500-HP. water wheel, according to reports.

MOUNT MORRIS, N. Y.—An election will be held July 8 to vote on the question of building a new power dam to cost about \$30,000.

ROCKAWAY, N. J.—A franchise has been granted to the Rockaway Electric Light & Improvement Co.

SUMMIT, N. J.—The question of building a plant, it is reported, is being considered.

CHESTER, PA.—Information for putting in a plant is being collected by Councilman Bagshaw, Chm. Com.

DOVER, DEL.—The contract for the machinery for the plant has been let to the Westinghouse Electric & Mfg. Co., Pittsburg, at \$6,500. About 12 miles of wire, with poles, etc., will be required.

SOUTH GASTON, N. C.—The Northampton Electric & Water Power Co. is making arrangements for a plant on the Roanoke River, near Gaston, according to reports, by which it is proposed to develop about 30,000 HP. N. D. Williams, South Gaston, and Wm. J. White, Warrenton, N. C., are interested.

ABBEVILLE, S. C.—Lee & Sayer, of Anderson, S. C., have been awarded a contract for furnishing this place with 40 lights.

THOMASVILLE, GA.—W. S. Keefer has applied for a franchise for a plant.

LAKE PROVIDENCE, LA.—We are informed that bids for building the city plant and water-works will be received in August. Estimated cost, \$17,000. The plant will have a capacity for 10 2,000-c. p. arc and 400-c. p. incandescent lights. Arthur Hider, Des. Engr., Greenville, Miss.

CAMDEN, TENN.—Wm. E. McRae has let a contract for a plant.

SEYMOUR, IND.—A. W. Wells, Mayor, writes us that a 10-year franchise has been granted to the Seymour Gas Light & Coke Co.

VINCENNES, IND.—Bids are asked until July 24 for furnishing 200 2,000-c. p. arc lights for 10 years. Chas. Laugel, Cy. Clk.

BAY CITY, MICH.—Clark & Munger, Archs., write us that bids are wanted for the general work in connection with the plant and water-works. The pumping station will cost about \$14,000.

DETROIT, MICH.—Bids are asked until July 14 for electric wiring, heating, ventilating, plumbing, etc., in the county court house. John Scott & Co., Archs., 67 Moffat Block, Detroit; W. H. Coats, Chm. Com.

GRAND RAPIDS, MICH.—Local papers state that work will soon be begun on the plant on the river front to cost about \$300,000. A new canal and dam will be built at a cost of about \$150,000. Frank B. Rae Engineering Co., Engr., Chicago; J. W. Spooner, Powers Block, Grand Rapids, and Costello Converse, of Boston, are interested.

MARSHALL, MICH.—Press reports state that C. P. Frisbee, of the Kalamazoo River Electric Co., who owns a large water power at Allegan, is making arrangements to develop the water power at Ceresco, which the company recently purchased. The Ceresco plant will be used to furnish power for the Battle Creek, Kalamazoo and Gull lake electric railway. The dam at Ceresco will be raised 14 ft., and work will commence as soon as the company obtains the right of flowage between here and Ceresco.

PLAINWELL, MICH.—It is proposed to build a water power plant at a point between this place and Otsego. The dam will be of concrete held by two rows of piles across the river. The dam will be 14 ft. high and 350 ft. long, with spillway of 200 ft., with independent tail and discharge of 150 ft. additional, and in the normal condition of the river should equal 1,500 ft. By running a tall race about 1,000 ft. down the river a head of 14 ft. is procured. Ten wheels will furnish the motive power for the dynamos. The necessary buildings will be located on the north bank of the river and will be 50 x 150 ft. W. R. Coats, Engr., Grand Rapids, Mich.; J. E. Botsford is interested.

CHICAGO, ILL.—Bids are asked until Aug. 23 for the development and lease of water power of the drainage channel, as stated in our advertising columns. Joseph F. Haas, Clk. Bd. Trustees, Security Bldg.

OMAHA, NEB.—A company is being organized to build a plant to utilize the water power of the Platte River and transmit it to Omaha and other cities near by. Surveys for two power canals and provisional contracts have already been made for the use of the power, according to reports. Estimated cost, \$2,000,000. Geo. B. N. King, Dayton, O., is interested.

KANSAS CITY, MO.—Jos. D. Wade, R. F. Gillham and C. D. Thompson, of St. Louis, have applied for a franchise for a plant.

BEVILLY, TEX.—It is stated that C. N. Dunlap proposes to build a plant here.

TACOMA, WASH.—New bids will be wanted by the council for furnishing electric power. A 5-year franchise will be granted. Address City Electrician Alden.

MONTAGUE, P. E. I., CAN.—A company is formed to light this town with electricity derived from water power within 1.100 yards of the place. Six hundred lights will be installed. This is but the commencement of a scheme to extend the electric service to a number of other towns on the island where power can be obtained from water. Geo. Wightman, Pres.

CABORCA, SONORA, MEX.—A light and ice plant is to be established here. D. E. Morineau is interested.

CHIHUAHUA, MEX.—A former American consul at this place is planning to utilize a waterfall in the vicinity to generate electrical energy for the use of the city. A Chicago engineer has estimated the cost of constructing a dam and the machinery at \$1,000,000 Mexican.

HULL, ENGLAND.—Bids are asked until July 27 for installing electric wire fittings and 360 incandescent lamps in a school building. D. J. O'Donoghue, Clk. School Bd.

RATHMINES, IRELAND.—Bids are asked until July 14 for installing a complete plant. Robt. Hammond, Engr., 64 Victoria St., Westminster, London; F. R. Fawcett, Clk.

BORDEAUX, FRANCE.—Press reports state that the Midi R. Co. will soon ask for bids for installing a lighting plant for its station and work shop; estimated cost of plant about \$180,000.

COLMAR, GERMANY.—It is stated that this place will put in a plant to cost about \$59,000. Population, 35,000.

SYDNEY, NEW SOUTH WALES.—The council committee has recommended that electric lights be installed for the streets and for private use at the earliest possible date. The Agent General, O. Victoria St., S. W. London, was instructed to find out from principal electric machinery houses of Great Britain if they would send an engineer to Sydney to see what is required.

NEW COMPANIES.—Mount Kisco Lighting Co., Mount Kisco, N. Y.; \$20,000; David Cromwell, K. B. Goodman, White Plains, N. Y.; T. Elwood Carpenter, Mount Kisco. Du Bois Electric Co., Du Bois, Pa.; \$42,000; J. E. Du Bois, E. W. Hetfield, Du Bois; S. W. Robinson, Punxsutawney, Pa.

Raritan Electric Mfg. Co., New Brunswick, N. J., successor of the Beacon Light Co., recently sold out in bankruptcy proceedings. It will manufacture electric light bulbs and furnish electricity for heating, lighting and power; \$150,000; Albert H. Gleason, Frederick W. Watriss, W. Russell Osborn, New York. Brown Electric Co., Little Rock, Ark.; \$30,000, with \$6,000 paid in; Geo. A. Heard, Pres.; Milton Hill, Secy. Electrical Association, Lynn, Mass., to build electric plants; \$300,000; C. H. Newhall, Pres.; H. P. Clough, La Salle Power & Land Co., Buffalo, N. Y.; \$200,000; Chas. A. Pooley, Jos. A. Oaks, W. M. Palmer.

Tehama Electric Co., San Francisco, Cal.; \$50,000; G. F. Hanson, M. F. Michael, C. W. Willard, A. H. Winn.

BRIDGES.

BOSTON, MASS.—The lowest bid received June 28 for the construction of a bridge over B St., on Summer St. extension, was from the Toledo Bridge Co., at \$29,750.

CANAJOHARIE, N. Y.—Reports state that a new steel two-span bridge is to be erected across the Central tracks at this place.

CHENANGO FORKS, N. Y.—Reports state that the town of Barker on June 21 voted to build a new iron bridge across the Chenango River, at an estimated cost of \$10,000. David B. King, Supt.

COHOES, N. Y.—Reports state that the contract for the construction of the bridge over the Mohawk River has been awarded to the Rochester Bridge Co., at \$20,700.

CAPE MAY, N. J.—The following bids were received June 29 for the construction of a bridge and abutments at Schellenger's Landing: Horseheads Bridge Co., Horseheads, N. Y., \$6,246; Groton Bridge & Mfg. Co., Groton, N. Y., \$6,162; Pittsburg Bridge Co., Pittsburg, Pa., \$6,293; Canton Bridge Co., Canton, O., \$6,052; F. R. Long & Co., New York (accepted), \$5,950; N. J. Steel & Iron Co., Trenton, N. J., \$6,310; J. E. Buddington, New Haven, Conn., \$6,463; Youngstown Bridge Co., Youngstown, O., \$6,100; Structural Iron Co., Baltimore, Md., \$6,500; King Bridge Co., Cleveland, O., \$6,190; Berlin Iron Bridge Co., East Berlin, Conn., \$6,186.

JERSEY CITY, N. J.—Bids are asked until 4 p. m. July 6 for the construction of a steel bridge over the Pennsylvania R. R. cut at Baldwin Ave. Jno. P. Egan, Clk.

PATERSON, N. J.—It is stated that at the meeting of the board of freeholders June 27 it was decided to erect a steel arch bridge over the Passaic River at the end of Main St.; estimated cost, \$60,000.

BREWTON, ALA.—Bids are asked until July 17 for plans and specifications and for the construction of two iron bridges over the Connetmet River. N. R. Leigh, Judge Probate.

BERGHOLZ, O.—Reports state that the County Commissioners have decided to erect bridges over the north fork of Yellow Creek near Bergholz, at Russell's Crossing in Brush Creek township, and one at Irondale.

GRAND RAPIDS, O.—Bids are asked by the County Commissioners of Lucas county until July 28 for constructing the superstructure of a bridge over the Maumee River, six spans of 108 ft. each and roadway 18 ft. Wm. M. Godfrey, Audr.

CLINTON, IND.—Bids are asked until July 17 for the construction of a bridge across the Wabash River, to cost \$400,000, according to reports. C. M. White, Mayor.

WINCHESTER, IND.—Bids are asked by the commissioners of Wayne and Randolph counties until July 8 for the construction of a 106-ft. county line bridge between Wayne and Randolph counties, over Greenville Creek. Wm. Horn, Comr. Randolph county.

NORTHVILLE, MICH.—Press reports state that the Detroit, Plymouth & Northville R. R. will build eight bridges between Northville and Plymouth.

WAUSAU, MICH.—It is stated that the county board has voted to appropriate \$10,000 for the construction of bridges.

CHICAGO, ILL.—It is stated that a new viaduct will be erected at Canal and 16th Sts., by the railway companies; estimated cost, \$46,000.

MANSFIELD, ILL.—Bids are asked until July 10 for constructing a 60 x 16 ft. steel highway bridge on 127 cu. yds. of stone masonry. Chas. Gordon, Town Clk.

SAUK RAPIDS, MINN.—A. E. Kasner, County Audr., informs us that the contract for constructing a three-span steel bridge across the Mississippi River at this place was awarded June 29 to the Lafayette Bridge Co.

BOULDER, MONT.—Bids are asked by the clerk of Jefferson county until July 17 for the construction of a 100-ft. span steel bridge across the Boulder River; also for the construction of a 76-ft. span wood or steel bridge across the Boulder River at Dudley's Crossing, according to reports. W. M. Fergus, County Clk.

GLENDIVE, MONT.—Bids are asked by the county commissioners of Dawson county until Aug. 15 for the reconstruction of the steel bridge over the Yellowstone River, by supplying two new spans, raising the bridge about six feet and constructing two or three concrete piers.

LAUREL, MONT.—Bids are asked by the county commissioners until Aug. 15 for the construction of a four-span Howe truss bridge across the Yellowstone River.

LIVINGSTON, MONT.—Bids are asked until July 15 for the construction of a bridge across the Shields River at the crossing on the Springfield Road. Chas. Angus, County Clk.

MONTICELLO, MO.—The following bids were received June 26 for the construction of iron bridges: J. T. Garrett, St. Louis, Mo., \$490 for a 42-ft. bridge; R. H. Phillips, St. Louis, Mo., \$1,852 for a 128-ft. bridge; Massillon Bridge Co., Massillon, O., \$3,008 for a 170-ft. bridge.

UNIONVILLE, MO.—Bids are asked until July 12 for the construction of five combination county bridges on pile foundations. Chas. E. Bailey, County Surv., Hartford, Mo.

LA JUNTA, COLO.—Bids are asked until July 15 for the construction of a bridge across the Arkansas River, according to reports. Addison J. McNamee, State Engr., Denver.

LOS ANGELES, CAL.—Bids are asked until July 17 for constructing a 300 ft. steel bridge over the Los Angeles River at 9th St.; a 225-ft. steel bridge over the Arroyo

Seco at Ave. 26, and a 130-ft. steel bridge over the Los Angeles River at the Los Felis road. The plans and specifications for these bridges are on file at the office of Engineering News, 220 Broadway, New York. Frank H. Olmsted, Civ. Engr.

BERLIN, ONT.—Bids are asked until July 11 for stone abutments for Ran's bridge in the village of New Hamburg. Herbert J. Bowman, Engr.

MEXICO, MEX.—Bids are asked by the General Superintendent of Vera Cruz & Pacific R. R. Co., Cordova, Mexico, until Aug. 31 for steel bridge erection and pile and timber trestle-work necessary to construct about 125 miles of standard gage railway lying between Papaloapam River and Santa Lucrecia of the Tehuantepec road.

NEW ZEALAND.—The council of Rangitikei county, New Zealand, has placed an order with the Berlin Iron Bridge Co., of East Berlin, Conn., for a highway bridge consisting of a single span of 204 ft., designed to carry a distributed load of 1,500 lbs. per lin. ft., or a road engine weighing forty tons. In transmitting this order the chairman of the council says: "As far as I know, this is the first order of the kind sent to the United States, and the experiment is being watched by other local boards." The bridge will be a pin-connected structure.

BUILDINGS.

AUGUSTA, ME.—Bids are asked until July 8 for erecting a 5-story brick building, 60 x 70 ft., on Water St., to be occupied by the Kennebec Journal. It will be of mill construction with steel beams, automatic sprinklers, fire-escapes, etc. Burleigh & Flynt, Owners.—The trustees of the Maine Insane Asylum propose to cover the roof of the coal pocket with asphalt. An addition, 60 x 100 ft., is now being built; size, when completed, 100 x 120 ft. M. S. Campbell, Treas.

HALLOWELL, ME.—Bids are asked until July 8 for rebuilding No. 1 at the Industrial School at this place. Andrew Hawes, Pres. Bd. of Trustees, Hallowell Savings Institution.

KENNEBEC, ME.—Bids are asked until 12 o'clock noon, July 10, for furnishing granite for tower and bridge piers at Doubling Point Light House, Kennebec River. Maj. W. S. Stanton, U. S. Engrs., 373 Washington St., Boston, Mass.

TAUNTON, MASS.—Bids are asked until July 13 for erecting an addition to the high school building; also for heating and plumbing the same. J. E. De Blois, Chn. Com. on Pub. Property.—Plans are being prepared for an addition to the county court house, to cost about \$6,500. N. C. Smith, Arch., Merchants' Bank Bldg., New Bedford.

BROOKLYN, N. Y.—The following bids were received by the board of education, New York, June 29, for heating and ventilating apparatus in the new Butler St. school, Brooklyn; all bidders of New York: E. Rutzler, \$25,700; Blake & Williams, \$26,065; Frank Dobson, \$26,887; New York Steam Heating Co., \$27,157; Wells & Newton Co., \$29,282.

NEW YORK, N. Y.—Bids are asked by the board of education, at 585 Broadway, until July 7 for erecting an addition to Public Schools 30 and 64 and the Eastern District High School, Brooklyn; for erecting new Public School 120 at Barren Island, Borough of Brooklyn; for alterations in and erecting additions to Public Schools 2, 32, 48 and 58, Borough of Queens; also for alterations, repairs, etc., to annex to Girls' High School and Public School 34; for electric bell systems at Public Schools 25, 77 and 85; improving sanitary condition of Public Schools 67, 90 and 146; for alterations, repairs, etc., at Public Schools 2, 10, 17, 22, 26, 27, 29 and 38; for improving sanitary condition of Public Schools 8, 45, 60, 65, 76 and 78; for alterations, repairs, etc., at Public Schools 2, 4, 7, 8, 9, 15 and 31; for alterations and additions to heating and ventilating apparatus at Public School 71, Borough of Queens; also for heating and ventilating apparatus for Public School 12.—Bids are asked until July 10 for sanitary work at Public School 173, Borough of Bronx; for alterations, repairs, etc., at Public School 42, Borough of Brooklyn; for improving sanitary condition of Public Schools 21, 37, 49 and 51, Borough of Brooklyn; also for completing the work of erecting new Public Schools 14, 33 and 34, Borough of Queens, as per plans and specifications of Boring & Tilton, Archs. The work to be completed by Sent. J. Nichols. Plans have been filed by G. J. McGuire, 908 St. Nicholas Ave., for two 7-story brick and stone flat buildings at 122d St. and Mount Morris Ave., to cost \$215,000. H. T. Howell, Arch.; by Burstein & Reiss, 179 Henry St., for seven 5-story brick flat buildings on 111th St., near 5th Ave., to cost \$195,000. Saxe & Smallheller, Archs., 23 Park Row; by W. W. & T. M. Hall, 11 East 42d St., for three 5-story brick and stone dwellings at 5th Ave. and 82d St., to cost \$255,000. Welsh, Smith & Provost, Archs.; by the B. C. Wandell Estate, 150 East 83d St., for a 6-story brick and stone flat building at 83d St. and 3d Ave., to cost \$90,000. Henry Anderson, Arch.; by Alfred Blumenthal, 206 East 126th St., for four 5-story brick flat buildings on 3d Ave., near 174th St., to cost \$80,000. Moore & Landstedt, Archs., 2861 3d Ave.; by Amanda McMahon, 151 West 106th St., for a 7-story brick flat building on R. S. 106th St., near Amsterdam Ave., to cost \$70,000. R. S. Townsend, Arch., 29 East 19th St.—The following bids were received by the board of education, June 29, for heating, ventilating, electric lighting, elevators, plumbing, etc., in the new hall of the board of education in this city; all local bidders: Thomas Cockerill & Son, \$153,303; Baker, Smith & Co., \$154,900; Gillis & Geoghan, \$156,650; E. Rutzler, \$157,425; Frank Dobson, \$162,100.—The following bids were received June 26 for constructing addition to Public School 138, Manhattan: John H. Geochins, \$17,698; Patrick Sullivan, \$23,870.—The following bids were received June 26 for constructing an addition to Public School 12, Borough of Richmond: John Seaton & Son, Staten Island, \$28,282; Henry Sprach & Son, Staten Island, \$29,500; Charles Binat, Staten Island, \$32,900; Philip Wolf & Son, Staten Island, \$33,300; John Thacher, Brooklyn, \$35,450; Maps-Rive Const. Co., New York, \$49,787.—The following bids were received June 29 for heating and ventilating Public School 44, Borough of Manhattan; all local bidders: Frank Dobson, \$30,540; Baker & Williams, \$30,874; E. Rutzler, \$30,880; Evans Almlrall & Co., \$31,900; Wells & Newton Co., \$33,882; New York Steam Fitting Co., \$34,150; James Curran Mfg. Co., \$34,700.

SYRACUSE, N. Y.—The following bids were received by the supervisors of Onondaga county June 26 for erecting a new penitentiary building for this county: Frederick E. La Strange, Syracuse, \$191,954; Champion Iron Co., Canton, O., \$193,780; O'Brien & Hoollhan, Syracuse, \$212,194; C. & L. Merrick, Syracuse, \$213,956; Pauley Jail Co., St. Louis, Mo., \$227,000; Mr. Van Waggoner, Syracuse, \$227,315; Jeremiah H. Leamey, Syracuse, \$229,953; William F. Sherlock, Syracuse, \$231,425; Van Dorn Iron Works, Cleveland, O., \$239,000.

TUXEDO PARK, N. Y.—Plans have been prepared by E. C. Gildersleeve, 150 5th Ave., New York, according to reports, for a 3-story brick and timber country club house for the Tuxedo Country Club; to cost about \$50,000.

BURLINGTON, N. J.—Bids are asked by the board of education until July 10 for alterations and additions to four school buildings and the erection of one new building. John K. Mallory, Pres.; W. D. Hewitt, Arch., 310 Bullitt Bldg., Philadelphia, Pa.

OVERBROOK, N. J.—Bids are asked until July 7 for erecting and completing additions to the Essex County Hospital at this place. C. W. Heilman, Chn. Bd. of Freeholders; Edward A. Wurth, Arch., 748 Broad St., Newark, N. J.

RAHWAY, N. J.—Bids are asked until July 18 for erecting additional buildings and finishing present buildings heating and ventilating equipment and electrical equipment of the New Jersey State Reformatory at Rahway, as stated in our advertising columns. Thos. M. Goppsil, Secy. Bd. of Bldg. Comrs., Exchange Place, Jersey City, N. J.; John M. Thomas, Arch., 160 Broadway, New York.

HARRISBURG, PA.—Bids are asked by the commissioners of Dauphin county until July 15 for remodeling the county prison. F. J. Osterling, Arch., Times Bldg., Pittsburg, Pa.

PHILADELPHIA, PA.—Estimates are being received by Edwin F. Durang, Arch., according to reports, for erecting the proposed normal school building for the Mount St. Joseph's Catholic Academy at Chestnut Hill; estimated cost, \$175,000.—John R. Wiggins, Contractor, has been granted a building permit to erect an 8-story addition to the Parkside apartment house on 40th St., to cost \$70,000.

PITTSBURG, PA.—Plans are stated to have been completed for the additional stories which are to be built on the Westinghouse building. Thomas Rodd, Arch.—A building permit has been granted to Dr. Ogden M. Edwards, Jr., for a new 17-room brick and stone residence on 5th Ave., near South Negley Ave., to cost \$100,000.—Henry Schenck, Erie, Pa., is reported to have been awarded the contract for erecting the superstructure of the new Pittsburg & Lake Erie R. R. station; estimated cost, \$300,000.

WASHINGTON, D. C.—Bids are asked by the district commissioners until July 15 for constructing an 8-room school building on Columbia Heights.

ROCKHALL, MD.—E. M. Noel has been awarded the contract for erecting a new hotel building, 250 x 105 ft., at this place for Calvin Chestnut and others of Baltimore, Md., to cost \$50,000. Geo. C. Haskell, Arch., Baltimore.

NORFOLK, VA.—Plans are being prepared by J. E. R. Carpenter, Norfolk, for a new 4-story business building to be erected at Granby St. and Brooke Ave. for Mrs. A. R. Taylor.

TALLAHASSEE, FLA.—Gilmore & Davis are reported to have been awarded the contract for erecting a passenger and freight station for the Carrabelle, Tallahassee & Georgia R. R. Co., to cost about \$25,000. S. D. Chittenden, Gen. Mgr., Tallahassee, Fla.

BIRMINGHAM, ALA.—Miles & Bradt, Atlanta, Ga., are reported to have been awarded the contract, June 22, for erecting a 5-story brick and terra cotta business building for Rich & Biederman, to cost about \$40,000. Hodgson & Colignon, Archs., Birmingham.

NEW ORLEANS, LA.—Bids are asked until July 10 for erecting two school buildings in this city. W. S. Douglass, Comptroller.

DURANT, MISS.—W. H. Mullen, Civ. Clk., informs us that this city will soon issue \$10,000 in bonds for erecting a new school building.

MEMPHIS, TENN.—A fire in this city, July 4, destroyed the establishment of the Memphis Paper Co., at Gayoso and Front Sts., and the Gayoso Hotel; reported loss, \$400,000.

CLEVELAND, O.—Bids are asked by the Board of Education until July 15 for erecting an 18-room school building at Woodland Ave. and Harmon St. H. Q. Sargent, School Director.

TOLEDO, O.—Bids are asked by the trustees of the Toledo State Hospital until July 21 for furnishing and installing six horizontal tubular boilers, six stokers and one purifier, and for removing ten old boilers. H. A. Tohey, Secy.

HUNTERTOWN, IND.—Bids are asked until July 10 for erecting a brick church building for the Methodist Episcopal Church at this place. Geo. V. Kell, Secy.

INDIANAPOLIS, IND.—The First Presbyterian Church is contemplating the erection of a new church building which will cost about \$60,000.

CENTERVILLE, MICH.—Crenkahn & Somers, Ionia, Mich., are reported to have been awarded the contract for erecting the new St. Joseph county court house at this place, at \$29,431.

CHICAGO, ILL.—The Chicago Telephone Co. contemplates the erection of a fireproof telephone station on Union St., near Root St., to cost about \$30,000 without the equipment.—The Union Stock Yards & Transit Co. will erect a new building, 188 x 60 ft., at the main entrance to its yards.

CHICAGO, ILL.—Bids are asked by the board of education, Schiller Bldg., until July 14, for the work required in erecting a school building at Calumet Ave. and 26th St.; also for cement floors, etc., for other buildings. W. B. Mundle, Arch., 1117 Schiller Bldg.

EVANSTON, ILL.—The Williams estate proposes to erect an apartment house, 60 x 160 ft., at Chicago Ave. and Church St., Evanston, to cost about \$50,000. Myron Hunt, Arch., 17 Van Buren St., Chicago.

MILWAUKEE, WIS.—Reports state that Ephraim Mariner will erect a 3-story gymnasium and bath building, 47 x 150 ft., on Second St., to be occupied by William Lachenmaier; estimated cost, \$50,000. Crane & Barhausen, Archs.

MILWAUKEE, WIS.—Bids are asked until July 10 for plumbing, sewer work and asphalt floors in a number of schools. Henry E. Legler, Secy. Bd. of School Directors.

ANOKA, MINN.—The following bids were received June 17 for building a wing to the Anoka Asylum: W. B. Dunnell, Arch., Minneapolis, Minn.; James Leek, Minneapolis (accepted), \$25,167; E. J. Davis & Son, Minneapolis, \$25,930; R. McMillan & Co., Minneapolis, \$26,597; P. H. Donovan & Son, St. Paul, Minn., \$27,411; J. & W. A. Elliott, Minneapolis, \$27,738; Hennessey & Co., St. Paul, \$28,470.

MINNEAPOLIS, MINN.—Pike & Cook have been awarded the general contract for erecting the Hale Bldg. on First Ave., South, to cost about \$150,000.

OTTAWA, MINN.—Bids are asked until July 14 for erecting a town hall. Conard Gray, Town Clk.

PAWNEE CITY, NEB.—Bids are asked until July 11 for erecting a steam-heating plant to heat an 8-room school building, with a 4-room addition. F. A. Barton, Secy. Bd. of Education; James Tyler & Son, Archs., Lincoln, Neb.

JUNCTION CITY, KAN.—Bids are asked until July 18 for erecting a court house and jail for Essex county. W. B. Spurlock, County Clk.; J. C. Holland & Co., Archs., Topeka, Kan.

KANSAS CITY, MO.—Geo. L. Brown & Son have been awarded the contract for erecting a new building for the Swofford Bros. Dry Goods Co., at 8th St. and Broadway, to cost \$125,000, without plumbing and fixtures. This city decided, June 22, to issue \$400,000 in bonds for new school buildings.

ST. LOUIS, MO.—The following bids were received by the supervising architect, Washington, D. C., June 27, for a new isolation ward and disinfecting room at U. S. Marine Hospital at St. Louis, all local bidders: Wm. H. Derby, \$2,219, 90 days; Danl. Evans, \$2,895, 90 days; Jas. C. Murray, \$2,400, 75 days; Richard Shimmich, \$2,393, 75 days; Wm. Daman & Son, \$2,467, 90 days; Wm. Lohmann, \$2,000, 3 months; C. Stafford, \$2,374, 90 days.

CHEYENNE, WYO.—Bids are asked by the supervising architect, Washington, D. C., until July 27 for the superstructure, interior finish, plumbing, approaches, etc., for the U. S. building in this city.

SALINAS, CAL.—The board of education has accepted plans for a new high school building to cost about \$25,000. Louis Stone, Arch., 544 Parrot Bldg., San Francisco.

THAMESVILLE, ONT.—Bids are asked by Geo. J. Watts, Proprietor, Thamesville, for erecting a 3-story brick hotel building, including heating and plumbing separately. Jas. L. Wilson & Son, Archs., Chatham, Ont.

VICTORIA, B. C.—Bids are asked by the commissioner of lands and works until July 7 for erecting school buildings at the following places: Greenwood, Ashcroft, Slokan, Revelstoke, Fernie, B. C. Specifications may be seen at government offices.

HALIFAX, ENGLAND.—Competitive plans are asked until Aug. 1 for about 12 shops to be erected on Commercial St.; premiums, £50 (\$250) and £25. Address Barstow & Midgley, Solicitors, 8 Harrison Road, Halifax.

WATER-WORKS.

LEWISTON, ME.—The following bids were received June 29 for supplying the city with 606 tons of 36-in. pipe, 1,178 tons of 24-in. pipe, 15 tons of 24-in. flanged pipe, 2 tons of 8-in. pipe, and 30 tons of special castings: U. S. Cast-Iron Pipe & Foundry Co., \$55,750; R. D. Wood & Co., \$54,226; Warren Foundry & Machine Co., \$53,993; M. J. Drummond & Co., \$53,936 (accepted). E. H. Gowling, Engr., Boston, Mass.

WHITMAN, MASS.—The people, at a town meeting on June 26, voted against securing an additional water supply from Silver Lake, Plymton, at a cost of about \$160,000. C. M. Dyer, Chn. Com.

WATERTOWN, CONN.—Bids are asked until July 15 for constructing two reservoirs and about 11 miles of pipe for the Watertown Water Co.; estimated cost, including land damages, about \$60,000. E. W. Wheeler, Secy.

NYACK, N. Y.—G. N. Houston, Engr. Water Commissioners, writes us that the following bids were received June 27 for constructing filter-beds for the water supply: Alex. Whan, Hoboken, \$17,905; Kelley & Kelly, New York, \$17,176; Jas. Duell & Co., Tarrytown, \$14,328; R. B. Lewis, Herkimer, exclusive of sand, \$13,671.

NEW BRUNSWICK, N. J.—The Barr Pumping Engine Co., Philadelphia, has been awarded the contract for a 4,000-gallon high-duty crank and fly-wheel pumping engine for the works.

DARBY, PA.—The city proposes to sink a system of artesian wells for an additional water supply.

MOUNT UNION, PA.—The Mount Union Water Co. has been incorporated with a capital stock of \$12,500 by D. Rife, Duncannon, Pa., and D. Briner, New Bloomfield, Pa.

PHOENIXVILLE, PA.—Hawman & Bros., Reading, Pa., are reported to have been awarded the contract, at \$27,724, for building the 5,500,000-gallon subsiding reservoir, raising of the power house, building of the river wall and other improvements to the works. Alex. Potter, Engr., 137 Broadway, New York.

VALLEY FORGE, PA.—The American Pipe Mfg. Co., Philadelphia, has let to M. P. Quinn & Co., Pottsville, Pa., the contract for building a 2,000,000-gallon distributing reservoir near here. J. W. Ledoux, Ch. Engr.

WASHINGTON, D. C.—Bids are asked by the aqueduct commission until July 20 for delivering broken and riprap stone at the Howard University reservoir, as stated in our advertising columns. A. M. Miller, Lt.-Col., U. S. Engrs.

BALTIMORE, MD.—Bids are asked until July 12 for furnishing water-pipe and castings for the year, as stated in our advertising columns. Wm. L. Kenly, Ch. Engr.

NORFOLK, VA.—The Norfolk County Water Co. has been incorporated with a capital stock of \$100,000 by J. W. Hawley, Media, Pa. H. Bayard Hodge, 1319 Filbert St., Philadelphia, and others.

ELBERTON, GA.—F. W. Auld writes us that an election will be held Aug. 10 to vote on the question of building works to cost about \$20,000. Alber & Byrne, Engrs., Birmingham, Ala.

ONEONTO, ALA.—We are informed that Alber & Byrne, 1821 Second Ave., Birmingham, have men engaged to prepare plans for works, and to superintend the construction of the same. The contract for sinking the well has been let, and that for the machinery will be let when the well is complete. A. J. Ketchum, Mayor.

APALACHICOLA, FLA.—It is stated that an election will soon be held to vote on the question of issuing bonds for works.

LAKE PROVIDENCE, LA.—We are informed that bids will be asked in August for building the works and electric plant to cost about \$17,000. The water supply will be secured from 6-in. artesian wells. Arthur Hider, Des. Engr., Greenville, Miss.

ABERDEEN, MISS.—Jas. M. Acker, Mayor, writes us that plans for works and a sewerage system are being prepared.

JACKSON, MISS.—The Jackson Light, Heat & Water Co. is considering the question of putting in a filter plant. W. F. Wilcox, Mgr. and Supt.

LANCASTER, KY.—Bids are asked until July 22 for the purchase of a franchise for 5, 10 or 20 years for operating works. The water must be secured from Disc River, 2½ miles distant. The city will contract for about 50 fire plugs for 20 years. J. C. Thompson and J. E. Stornes, Comrs.

GLENVILLE, O.—An election will be held July 15 to vote on the question of issuing \$20,000 in bonds for extending the mains.

URBANA, O.—Councilman Brennan has introduced a resolution authorizing the preparation of plans for city works, and that bids be asked for the construction. The contract with the Urbana Water Co. expires Aug. 6.

VERSAILLES, O.—We are informed that this place has voted to issue \$25,000 in bonds for works, and an electric plant. Nothing more will be done until plans are decided upon. C. O. Lucas, Engr., Greenville, O.

CAPAC, MICH.—This place is reported to have voted against issuing \$10,000 for works.

MANISTEE, MICH.—E. W. Muenschler, Cy. Engr., writes to us that the city and the Manistee Water Co. have agreed to submit the question of the price to be paid by the city for the works to arbitration. Rudolph Hering, 100 William St., and J. J. R. Croes, 68 Broad St., both of New York, and Peter Milne, 1241 Deane St., Brooklyn, N. Y., have been appointed arbitrators. They are expected to meet here July 10. At the spring election in 1898 the city voted in favor of issuing \$200,000 in bonds for the purchase and the improvement of the works.

WEST BAY CITY, MICH.—The McLean Contracting Co., Chicago, submitted the only bid, June 27, for building the works at \$147,638. The bid has been rejected. J. D. Cook, Engr., Toledo; J. H. Bloomfield, Cy. Engr.

CHICAGO, ILL.—A resolution will be introduced in the council by the finance committee, July 6, authorizing the lowering of water mains in a number of streets at a cost of about \$300,000.

CHICAGO, ILL.—Bids are asked until July 14 for removing the Lake View Intermediate crib. L. E. McGann, Comr. Pub. Wks.

BENTON, WIS.—Bids are asked until July 14 for constructing works. J. Beck, Village Clk.; M. Techirgi, Jr., Engr., Dubuque, Ia.

SUN PRAIRIE, WIS.—This place voted June 26 to issue \$12,000 in bonds for works. J. C. Fitch, Clk.; W. G. Kischeffer, Engr., Baraboo, Ia.

NEBRASKA CITY, NEB.—It is reported that improvements on the works of the Nebraska City Water & Light Co. will be made at once. W. S. Downs, Secy.

RED LODGE, MONT.—Bids are asked by the city treasurer until Aug. 1 for the purchase of \$25,000 of 5% bonds for the proposed works. Geo. C. Morgan, Engr., Royal Insurance Bldg., Chicago.

ST. LOUIS, MO.—The following bids were received June 27 for furnishing and constructing two high duty pumping engines for the Baden station: Edward P. Allis Engineering Works, Buffalo, N. Y., \$195,000; Holly Mfg. Co., Lockport, N. Y., \$203,700. The lowest bid for the reconstruction of the high-service pumping house, No. 1, at Bissell's Point, was made by William McCully & Co., \$15,180.

CORSICANA, TEX.—The committee will soon report on the question of either purchasing the works of the Corsicana Water Co., or of constructing new works.

GRAND JUNCTION, COLO.—Bids are asked until Aug. 8 for the erection and completion of a system of water-works, as stated in our advertising columns. M. O. Delaplaine, Cy. Clk.

NEVADAVILLE, COLO.—A. C. Bourk, Mayor, is reported to have been directed to engage an engineer to prepare plans for works. P. O., Bald Mountain.

PAONIA, COLO.—Milton Spencer, Secy., Paonia Water & Light Co., writes us that arrangements for building the works will not be completed before Aug. 1; population, 500.

WALLA WALLA, WASH.—This city voted June 20 to issue \$133,000 in bonds to purchase the works of the Walla Walla Water Co., for which the city will pay \$250,000.

SAN BERNARDINO, CAL.—Bids are asked until July 18 for sinking three wells to depths of 600 ft., 700 ft. and 800 ft. Legare Allen, Clk.

SAN FRANCISCO, CAL.—The Spring Valley Water-Works Co. has let the contract for a canal 3,000 ft. long to A. A. Buckman, and that for excavating for a filter basin to John Beck, of Livermore, Cal.

GENESEE, IDAHO.—J. L. Conant, Mayor, writes us that an engineer will be wanted to prepare estimates for works.

MONTREAL, QUE.—Bids are asked until July 11 for repairing a wall of the low-level reservoir, furnishing service boxes, 1/2 to 6-in. water meters, and for the purchase of the scrap iron. J. O. A. Laforest, Supt. W.-W.

IROQUOIS, ONT.—The pumping station of the works owned by Buchanan & Serviss was destroyed by fire June 27 at a reported loss of about \$8,000.

LONDON, ONT.—Bids are asked until July 10 for constructing a concrete dam, flume and sluiceway at Springbank. W. M. Jones, Chn. Comr.; J. M. Moore, Ch. Engr.

RENFREW, ONT.—An election will be held July 17 to vote on the question of issuing bonds for works and for extending the sewerage system.

CHATHAM, N. B.—The question of building works and a sewerage system is again being considered, according to reports.

SEWERAGE.

NEW YORK, N. Y.—Bids are asked until July 12 for constructing sewers in 140th st., Manhattan, and in two streets in Brooklyn. Jas. Kane, Comr. of Sewers.

SOUTH NYACK, N. Y.—G. N. Houston, of Nyack, has been appointed engineer to board of trustees of South Nyack for the construction of a trunk sewer, and the design and construction of main outfall sewer. Bids will be asked for soon.

SYRACUSE, N. Y.—It is proposed to construct a 90 to 30-in. brick sewer in several streets, at a cost of about \$96,000. G. J. Metz, Cy. Clk.

FRANKLIN, PA.—The question of putting in a system is being considered. Address Councilmen Henderson and Montgomery.

PHILADELPHIA, PA.—The loan bill includes an item of \$500,000 for extending sewers, and of this \$200,000 is appropriated for extending the Aramingo Ave. sewer in the Delaware River.

PETERSBURG, VA.—The council has appropriated \$3,000 for cobble-stone paving and \$1,080 for sewers.

NEWMAN, GA.—An election will be held Aug. 5 to vote on the question of issuing \$20,000 in bonds for a system.

VALDOSTA, GA.—The bonds for constructing the system are reported to have been sold, and now an engineer will be engaged to prepare plans, etc.

ABERDEEN, MISS.—Jas. F. Acker, Mayor, writes us that plans for a system and water-works are being prepared.

BUCYRUS, O.—The council has voted to build sewers in Gallon and Prospect Sts.

CLEVELAND, O.—It will be necessary to issue \$500,000 additional bonds to complete the intercepting sewer which it was at first estimated to cost \$2,000,000, but it is now found that to complete it it will cost about \$2,500,000.

ALEXANDRIA, IND.—J. S. Humphrey, Cy. Engr., has submitted a report and plans for a system, to be composed of about 10,000 ft. of 24 to 8-in. pipe sewers. Address Councilmen Marrs, Baker or Phillips.

MOUNT VERNON, IND.—Geo. F. Lawrence, Mayor, writes us that the city next year, and not before, will consider the question of building a system; estimated about \$35,000.

SOUTH MALESTER, IND. TER.—The U. S. government will build a system for the Choctaw Indian school at a cost of about \$23,000.

DELRAY, MICH.—A hearing will be given July 8 on the question of building certain sewers. G. P. Moog, Village Clk.

FENTON, MICH.—The question of issuing bonds for a system will soon be voted upon.

WHEATON, ILL.—Information for a sewage disposal plant is being secured. J. F. Fox, Mayor.

CHARLES CITY, IA.—Bids are asked until July 17 for constructing about 440 ft. of 36-in. brick and about 12,000 ft. of 24 to 10-in. pipe sewers. W. D. Lovell, Engr., Equitable Exchange Bldg., Des Moines, Ia.; W. W. Dennis, Cy. Clk.

WASHINGTON, IA.—The council has voted to build about 13,000 ft. of pipe sewers at a cost of \$8,000. Address Councilman McCall, Chn. Comr.; G. M. Walker, Engr., Keokuk, Ia.

WILLIAMS, IA.—The question of building a system to cost \$10,000 is being considered.

BOONVILLE, MO.—Bids are asked until July 18 for constructing sewers. W. A. McPherson, Cy. Clk.

BROOKFIELD, MO.—Bids are asked until July 10 for laying about 16,500 ft. of 18 to 12-in. pipe sewers. S. P. Hartman, Chn Comr.; Hiram Phillips, Engr., St. Louis.

GALVESTON, TEX.—R. H. Peek, Cy. Engr. and Supt. Water-Works, writes us as follows, regarding the sewerage system: Some time ago arbitrators were appointed, one by the city and one by the Galveston Sewer Co., these two appointing a third. The arbitrators have met from time to time to hear testimony, etc., and on June 23 decided upon an award of \$93,600 as the price to be paid by the city for the Sewer company's plant. The articles of agreement accepted by the city and Sewer company makes this award final and binding. As soon as this matter is settled, which will probably be in a short time, the city will be prepared to begin arrangements for the construction of its own system, for which \$300,000 of bonds have been authorized, and will probably be issued and realized upon as soon as possible. No plant has been, as yet, adopted by the council. A new mayor and a board of aldermen have just been elected, and some time will probably be taken in filling the offices of the various heads of departments. For the department of engineering Mr. Peek has been re-elected, others have not yet been filled.

COLFAX, WASH.—Plans for 18,745 ft. of sewers to cost about \$10,236 have been submitted.

BELVEDERE, CAL.—The town trustees have voted to build the system, to cost \$10,000. C. E. Grunsky, Engr., 530 California St., San Francisco.

OTTAWA, ONT.—The city proposes to borrow \$50,000 to build sewers in Dalhousie Ward. Stewart & O'Leary, Ottawa, have been awarded the contract for building section 4 of the main sewer at \$91,177.

GARBAGE DISPOSAL—STREET CLEANING

LONG BRANCH, N. J.—The commissioners have granted a 20-year franchise for collecting and disposing of the garbage to David A. Graves and Edward Handy, according to reports.

PATERSON, N. J.—The question of building a plant is reported as under consideration.

LANCASTER, PA.—The following bids were received, June 28, for a disposal plant: Dixon Garbage Crematory Co., Toledo, O., presented four propositions. No. 1—A five-manhole crematory, with dryer; site of building, 72 x 24 ft.; capacity, 50 tons a day; work to be begun ten days after signing of contract and to be completed in 90 days; cost of operating, 30 cts. a ton; built after specifications No. 1, \$15,000; No. 2, \$13,500; No. 3, \$13,000. No. 2—A four-manhole crematory, with dryer; 65 x 34 ft.; 40 tons; cost of operating not to exceed 30 cts. Built after specifications No. 1, \$13,300; No. 2, \$12,000; No. 3, \$11,500. No. 3—A three-manhole crematory with dryer; 58 x 34 ft.; 30 tons; cost of operating not to exceed 30 cts. After specifications No. 1, \$11,000; No. 2, \$10,000; No. 3, \$9,500. No. 4—A four-manhole crematory, without dryer; 56 x 40 ft.; 40 tons; cost of operating not to exceed 45 cts. Built after specifications No. 3, \$7,950. Specifications No. 1 provides for a brick building with concrete floors; No. 2 for brick work to the second floor only, and the upper part of the building to be corrugated iron; concrete floor in first story, while second floor is constructed of wood. In No. 3 the building is to be composed of wood covered with corrugated iron. The proposition of the Davis Garbage Furnace Co., Lancaster, is that the city erect two of its plants, capable of consuming 25 tons each a day. The company agrees to erect the plant for \$8,000. The General American Reduction Co., New York, offers to erect a 25-ton plant for \$25,000.

MILWAUKEE, WIS.—Bids are asked by the board of public works until July 27 for furnishing and constructing a garbage disposal plant, as stated in our advertising columns.

STREETS AND ROADS.

BOYLSTON, MASS.—Bids are asked by the Metropolitan Water Board, No. 3 Mt. Vernon St., Boston, Mass., until July 24, for building road about 15,000 ft. long, as stated in our advertising columns. Henry H. Sprague, Chn.

SOMERVILLE, MASS.—Bids are asked by the Metropolitan Park Commission, 14 Beacon St., Boston, Mass., until July 24, for building road about 15,000 ft. long, as Mystic Ave. to Broadway. Wm. T. Pierce, Engr.

HAMDEN, CONN.—It is stated that the town has voted \$9,000 for improving the roads.

BROOKLYN, N. Y.—Bids are asked by the Department of Highways, 13 to 21 Park Row, New York, until July 18 for constructing granite block pavement on four streets.

BUFFALO, N. Y.—Reports state that the following bids for paving Curtis St. were received June 29: Barber Asphalt Paving Co., asphalt, \$46,549; P. B. McNaughton, brick, \$30,680; Christopher Smith, Medina sandstone, \$47,000.

BUFFALO, N. Y.—Bids are asked until July 13 for repaving asphalt pavement, according to reports. R. G. Parsons, Secy. Bd. Pub. Wks.

JOHNSTOWN, N. Y.—Bids are asked until July 6 for 25,000 sq. yds. of brick pavement on North Perry and Washington Sts., according to reports. Jas. W. Miller, Cy. Engr.

NORWICH, N. Y.—The lowest bid received June 28 for the paving of Main St. was from J. K. Van Campen, of Olean, N. Y., at \$27,500.

ROCHESTER, N. Y.—Bids are asked until July 7 for asphalt and macadam paving in three streets and for cement walks in ten streets. Chas. M. Beattie, Clk.

TROY, N. Y.—Bids are asked until July 15 for the improvement of 5,280 ft. of the stone road in Brunswick, Rensselaer county. Edward A. Bond, State Engr. and Surv., Albany, N. Y.

BLOOMFIELD, N. J.—Reports state that the contract for certain macadamizing has been let to Osborne & Marsellis, Montclair, at \$75,000.

ELIZABETH, N. J.—Bids are asked until July 15 for constructing about 3,250 sq. yds. of asphalt pavement. N. L. Thompson, St. Comr.

PATERSON, N. J.—Bids are asked by the Board of Freeholders until July 18 for delivering broken stone and screenings on certain roads. Geo. W. Botbyl, Clk.

RED BANK, N. J.—Press reports state that the following bids were received June 24 for the construction of the stone road from Eatontown to Red Bank: M. R. Van Keuren, \$24,222; J. W. Rehill, \$22,520; H. J. Mullen & Co., \$22,136; J. Irwing Hillipet, \$21,804; James Holmes & Co., \$23,202; E. L. Ragonett, \$24,086; Stone & Thurston, \$20,207; W. C. Shanley, \$20,457.

McKEES ROCKS, PA.—Press reports state that R. F. Hunter, Borough Engr., is completing the survey of the proposed new boulevard from McKees Rocks through Sheraden to the West End.

PITTSBURG, PA.—Bids are asked until July 8 for grading, paving and curbing in three streets. Edw. M. Bigelow, Dir. Pub. Wks.

BUCYRUS, O.—Bids are asked until July 11 for constructing about eight miles of pike roads.

CINCINNATI, O.—Bids are asked until July 25 for asphalt paving in East Third St. George H. Spellmire, Clk.

CLEVELAND, O.—Bids are asked until July 19 for grading, draining and brick paving on Berea road. Julius C. Dorn, Clk. Bd. County Comrs.

FINDLAY, O.—Bids are asked until July 24 for brick paving in Lima St. A. W. Ray, Clk.—The following bids have been received for Hancock St. improvement: C. B. Metcalf, Townsend, \$4,815; Hallwood, \$4,737; Bolan, B. G., \$4,737; Trimble, \$4,621; Wassall, \$4,776. H. J. Hall (accepted), Wassall, \$4,516; Trimble, \$4,516; Townsend, \$4,652. C. H. Barton, of Columbus, Townsend, \$5,625.

FREMONT, O.—Bids are asked until July 24 for grading, curbing, draining and paving with vitrified brick on Court St. E. Schwartz, Chn. Imp. Com.

GREEN SPRING, O.—It is stated that Main St. is to be paved at a cost of \$15,000.

LANCASTER, O.—Specifications are on file in the City Engineer's office for paving a part of Main St.

MARIETTA, O.—Press reports state that resolutions have been passed providing for brick paving in three streets. Carl Becker, Cy. Clk.

OTTAWA, O.—Bids are asked until July 25 for 1 1/2 miles of brick street paving; estimated cost, \$23,000; bonds for same will be sold July 24. J. S. Cartwright, Cy. Engr.; M. P. Goetschins, Cy. Clk.

BLOOMINGTON, IND.—Bids are asked by the Auditor of Monroe county until July 10 for the construction of nine gravel roads. Fred. Matthews, Audr.

COLUMBIA CITY, IND.—Bids are asked until July 24 for brick pavement on Jefferson St., according to reports. Benj. F. Menaugh, Mayor.

INDIANAPOLIS, IND.—Bids are asked until July 10 for brick paving in seven streets, and until July 12 for brick paving in ten streets. M. A. Downing, Chn. Pub. Wks.

RENSSELAER, IND.—Bids are asked until July 10 for furnishing material and improving 13 streets. S. C. Irwin, Cy. Clk.

PONTIAC, MICH.—Bids are asked until July 10 for 26,555 sq. yds. of asphalt paving, as stated in our advertising columns. Wm. J. Plesher, Cy. Engr.

DES MOINES, IA.—Bids are asked until July 12 for 11,622 yds. of brick pavement on Forest Ave. and West 18th St. G. A. Eberhart, Chn. Pub. Wks.

ST. PAUL, MINN.—Press reports state that it is proposed to construct nearly 50 miles of cement and wooden walks.

BARABOO, WIS.—Bids are asked until July 13 for constructing 2,000 sq. yds. of macadam pavement on Oak St. E. P. McPetridge, Chn. Street Com.

BUTTE, MONT.—It is reported that Thomas R. Hinds has been awarded a contract for paving at \$50,000.

HANNIBAL, MO.—Bids are asked until July 17 for brick paving, stone curbing, etc. C. F. Shepherd, Cy. Clk.; A. C. Moltz, Cy. Engr.

DENVER, COLO.—The following bids have been received for paving 8th Ave: Bermudez-Blake Asphalt Co., \$45,447; Colorado Paving Co., \$45,919; Denver Paving Co., \$46,410.

MONTREAL, QUE.—Reports state that a contract for grading, draining and macadamizing certain streets in Viauville has been awarded to U. Panzè & Son at \$139,000.

OTTAWA, ONT.—Bids are asked until July 7 for constructing asphalt pavement on Wellington and McLaren Sts. James Davidson, Chn. Bd. Wks.

RENFREW, ONT.—Bids are asked until July 25 for the construction of about 16,000 sq. ft. of cement-concrete walks. W. E. Smallfield, Chn. Streets Com.

MANUFACTURING PLANTS.

PROVIDENCE, R. I.—It is reported that a large 4-story brick machine shop and an additional foundry will soon be erected for the Brown & Sharpe Mfg. Co.

CARTHAGE, N. Y.—The paper mill of W. P. Herring, about four miles from Carthage, has been destroyed by fire; reported loss, \$70,000.

TARRYTOWN, N. Y.—It is announced that Amzi L. Barber and John B. Walker, who are interested in the automobile factory at Newton, Mass., have bought a site here and will possibly remove the plant to this place.

CAMDEN, N. J.—Henry G. Morse, Pres. of New York Shipbuilding Co., is stated to have said that this company has bought about 120 acres at the lower end of Camden for the construction of its proposed plant, and that over 7,000 tons of steel have been bought for the buildings, about 3,000 tons of which has been rolled and delivered at the Pottstown Bridge Co.'s works at Pottstown, Pa.

ILCHESTER, MD.—The Thistle Mills Co. is reported to have definitely decided to double its present capacity. Contracts will soon be let for erecting a 2-story addition, 250 x 380 ft., to cost complete about \$100,000. Lynn & Greenway, Boston, Mass., are interested.

VALDOSTA, GA.—E. W. Lane, E. P. S. Denmark and others, of Valdosta, are interested in the erection of a cotton mill at this place, to cost about \$100,000.

LYNCHBURG, VA.—Wilson & Seay, Lynchburg, are stated to have been awarded the contract for erecting an addition 130 x 400 ft. to the Lynchburg Cotton Mill, to cost about \$50,000. J. M. B. Lewis, Archt., 211 9th St.

SANFORD, N. C.—W. H. Watkins, T. L. Chisbom and others expect to establish a cotton mill here in August, with \$100,000 capital stock.

LEAVENWORTH, KAN.—Ryan & Richardson are reported to have bought the site of the old glucose works, upon which they will erect a cold storage plant for the storage of apples, to cost about \$200,000.

WAGONER, IND. TER.—It is reported that a 4-story cotton gin, 150 x 200 ft., will be erected here, at a cost of \$80,000; work to be completed by September.

LEWISTON, WASH.—C. Weisgerber is reported to have decided to build a cold storage and ice plant at this place, to cost about \$20,000.

GAS PLANTS.

WESTCHESTER, N. Y.—Press reports state that the Kerr-Murray Mfg. Co., of Fort Wayne, Ind., has been awarded a contract for constructing an additional set of purifying boxes and a storage holder rated to a capacity of 150,000 cu. ft., by the Bronx Gas & Electric Co.

PHILADELPHIA, PA.—The United Gas Improvement Co. has awarded the contract for the erection of the two-story valve house, 65 x 48 ft., on 22d St., to George F. Payne & Co., according to reports.

PLYMOUTH, PA.—The Plymouth Light, Heat & Power Co. has awarded the contract for constructing a set of standard double-superheater Lowe water gas apparatus to the United Gas Improvement Co., Drexel Bldg., Philadelphia, Pa.

TOLEDO, O.—Bids are asked until July 10 for the lease or purchase of all or any part of the city natural gas plant, together with all its appurtenances, including all pipes and connections laid in the city. Wm. O. Hoist, Clk.

WILLIAMSBURG, IND.—Reports state that the voters of the town have indorsed the proposition that the authorities shall construct and operate a gas works on municipal account.

CHICAGO, ILL.—It is stated that the Chicago Pipeline Co. is about to erect a \$200,000 pumping station in the southern part of Adams county, Ind., also that it will expend about \$2,000,000 in constructing a pipe line in this city.

ROCKFORD, ILL.—It is reported that a gas plant will be erected by the Rockford Gas Light & Coke Co. on the flat just south of the C. M. & St. P. roundhouse, early in the fall.

MILWAUKEE, WIS.—Press reports state that Wm. Franzen, proprietor of the Northern Glass Works in Bay View, will make improvements to cost \$50,000, including the erection of a gas plant.

FRESNO, CAL.—It is reported that the Standard Oil Co. has filed application to rebuild their storage, depot on the former site; the plan provides for a gas engine house, 6 x 8 ft.

NEW COMPANIES.—Vicetas Oil Co., Fresno, Cal.; \$500,000; W. H. Shatter, J. E. Whitson, G. A. Damron. Elwood Oil Co., Fresno, Cal.; \$100,000; D. S. Snodgrass, V. S. Willis, Frank H. Short. Mercy Oil Co., Fresno, Cal.; \$200,000; J. J. Mercy, G. Herminghaus, G. S. Hoxie.

Pennsylvania Development Co., Lock Haven, Pa.; \$10,000 with \$1,000 paid in; Louis Hoover, T. H. Harmon. Depew Lighting & Fuel Co., Depew, N. Y.; \$30,000; S. O. Mingle, Abel H. Gilbert, of New York; S. Jay Ohart, Los Angeles Suburban Gas Co., Los Angeles, Cal.; \$500,000; T. S. C. Lowe, L. P. Lowe, S. Lowe. San Joaquin Oil Co., Hanford, Cal.; \$50,000; C. E. Garner, R. F. Covert, W. J. Garner.

Big Tar Oil Co., Vistalia, Cal.; \$100,000; M. J. Burns. Petrolia Oil Co., Tuiare, Cal.; \$50,000; C. L. Russell.

MISCELLANEOUS CONTRACTS.

DREDGING—Toronto, Ont.—Bids are asked until July 13 for dredging Palsen's slip and City slips. John Shaw, Mayor.

EXHAUST FANS.—Baltimore, Md.—Bids are asked until July 29 for 7 electric exhaust fans at Hawkins Point, Md. Col. Peter C. Hains, U. S. Engrs.

DRY-DOCK.—Baltimore, Md.—It is stated that the Delaware Construction Co. has been awarded the contract for the construction of a \$500,000 dry-dock.

DRY DOCK—Mare Island, Cal.—The contract for the construction of the Mare Island dry dock was let June 30 to the Atlantic, Gulf & Pacific Co. at \$729,000.

CHANNEL—Horseheads, N. Y.—The contract for improving the channel of Newtown Creek was let June 29 to Gillette, Hay & Gillette, Rochester, at \$3,945.

DRY DOCK—St. John, N. B.—It is stated that a resolution has been passed granting a subsidy of \$20,000 for 20 years for the construction of a dry dock at this city.

SEA WALL—Boston, Mass.—Bids are asked by the Metropolitan Park Commission until July 10 for building sea wall and grading Winthrop Beach. Wm. T. Pierce, Engr.

REMOVAL OF WRECK—Alloway Creek, N. J.—The contract for the removal of wreck of sloop "John W. Elliott" has been awarded to Virden & Ross, Lewes, Del., at \$220.

DREDGING.—Portland, Me.—Bids are asked until Aug. 2 for dredging Cocheo River, N. H., as stated in our advertising columns. Major S. W. Roessler, U. S. Engrs.

STEEL WIRE.—Boston, Mass.—Bids are asked until July 11 for furnishing a quantity of galvanized steel wire. A. S. Kenny, Paymaster-General, U. S. N., Washington, D. C.

DREDGING.—Brooklyn, N. Y.—Bids are asked by the department of docks, Pier A, North River, until July 17 for dredging in the Wallabout Canal. J. Sergeant Cram, Chn. Comr.

JETTY.—Washington, D. C.—Bids are asked until Aug. 2 for constructing jetty at Nomini Creek, Va., as stated in our advertising columns. Lieut.-Col. Chas. J. Allen, U. S. Engrs.

CONVEYOR.—Indianapolis, Ind.—Bids are asked until July 12 for constructing a conveyor at the mouth of the main interceptor at White River. M. A. Downing, Chn. Bd. Pub. Wks.

FIRE ENGINE—Easton, Pa.—Bids are asked by the Fire Committee until June 24 for steam fire engine and for combination chemical and hose wagon. James E. Hanck, Cy. Clk.

EMBANKMENT.—Shawneetown, Ill.—Bids are asked until July 21 for repairing and strengthening embankment at Shawneetown, Ill. Maj. W. H. Bixby, U. S. Engrs., Cincinnati, O.

MINING CLAIMS.—Ottawa, Ont.—Bids are asked until Sept. 1 for placer claims and fractions of claims on Dominion Creek, reserved for the crown. John R. Hall, Secy. Dept. of the Interior.

EMBANKMENT.—Lawrenceburg, Ind.—Bids are asked until July 22 for repairing and strengthening Great Miami embankment at Lawrenceburg, Ind. Maj. W. H. Bixby, U. S. Engrs., Cincinnati, O.

HARBOR WORK—Fremantle, West Australia.—It is stated that the Government has decided to expend \$500,000 on the improvement of the harbor by extending North Mole, a distance of 1,200 ft.

SIGNAL TRANSMITTER.—Pittsburg, Pa.—Bids are asked until July 7 for a 3-dial 4-number electro-automatic signal transmitter for the Bureau of Electricity. J. O. Brown, Dir. Dept. Pub. Safety.

DAM—Marysville, Cal.—It is stated that John McCann and Col. Hubert Vischer have viewed the site of the restraining wall to be constructed by the United States Debris Commission at Deguerre Point.

RIVER IMPROVEMENT.—Philadelphia, Pa.—Bids are asked until July 31 for removing rock in Delaware River opposite Petty Island, as stated in our advertising columns. Lieut.-Col. C. W. Raymond, U. S. Engrs.

DOCKS—Hoboken, N. J.—It is stated that the North German Lloyd Steamship Co. has acquired 2 1/2 ft. of additional water frontage, and that it is proposed to make improvements and to enlarge the docking facilities.

DREDGING, ETC.—St. Petersburg, Russia.—Reports state that Vice-Admiral Tyrton, Minister of Marine, has assigned the sum of 1,000,000 roubles for dredging and for the construction of two moles at Port Arthur.

CRANES.—Brooklyn, N. Y.—Bids are asked until Aug. 8 for furnishing one power plant complete and six electric traveling cranes at the new York navy yard. A. S. Keuny, Paymaster-General, U. S. N., Washington, D. C.

DRY DOCKS.—New York, N. Y.—Press reports state that preparations are being made on the property of the New York Dry Dock & Repair Co., foot of Pike st., East River, for the installation of three additional dry docks.

PORTLAND CEMENT.—Mobile, Ala.—Bids are asked until Aug. 3 for furnishing and delivering Hydraulic Portland cement and gravel at Fort Gaines, Ala., as stated in our advertising columns. Maj. W. T. Rosell, U. S. A.

REMOVING WRECK.—Bath, Me.—Bids are asked until July 31 for removing wrecked schooner "Lavinia Bell," sunk in Kennebec River at Bath, Me., as stated in our advertising columns. Major S. W. Roessler, U. S. Engrs.

MACHINE TOOLS.—New York, N. Y.—It is stated that Eugenio Gavazzi, staying at the Hotel Martin, is in the market for machine tools for an electrical machinery and locomotive works at Milano, Italy, which he represents.

Bids Received at Easton, Pa., June 3, 1899, for Constructing Eight Miles of Macadam Roadway.

Table with columns: Bidder, Blue lime stone, Trap rock, 10-in. pipe, 12-in. pipe, 16-in. pipe, 18-in. pipe, 20-in. pipe, 24-in. pipe, Mile stones. Bidders include B. D. Pierce Co., J. W. Riehl, Fred. W. Spading, Geo. A. Rogers, John F. Dolan, H. J. Mullien, Alleutown Paving Co., Delaware River Const'n Co., C. H. Lutjens & Son.

QUAYS—Alexandria, Egypt.—Bids are asked until Nov. 28 for the construction of Quays, etc.; the coal mole is to be widened, five lines of railway laid, and machinery erected capable of unloading from 800 to 1,000 tons of coal in ten hours.

DREDGING.—Detroit, Mich.—Bids are asked until July 24 for dredging at Cheboygan and Alpena Harbors, and Saginaw, Sebewang, Pine and Belle Rivers, Mich., as stated in our advertising columns. Col. G. T. Lydecker, U. S. Engrs.

LOCK APPROACHES.—Nashville, Tenn.—Bids are asked until July 22 for constructing lock approaches and abutment protection, Lock No. 1, Cumberland River, as stated in our advertising columns. Lieut.-Col. M. B. Adams, U. S. Engrs.

LAND TUNNEL.—Chicago, Ill.—Press reports state that the contract of Weir, McKelney & Co. for constructing the northwest land tunnel has been cancelled and that the city proposes to purchase \$50,000 worth of machinery and to employ about 600 men to do the work.

CULVERT PIPE.—Cleveland, O.—Bids are asked by the board of park commissioners until July 12 for furnishing about 34, 12-ft. lengths of 48-in. cast-iron culvert pipe, and for constructing stone masonry in Cedar division of Rockefeller Park. C. W. Pratt, Jr., Ch. Engr.

LANTERNS.—Tompkinsville, N. Y.—The following bids were received by the U. S. Engineers June 28 for three 4th order iron lanterns: Atlanta Machine Works, Atlanta, \$3,369; Ellicott Machine Co., Baltimore, \$3,465; Tacony Iron & Metal Co., Philadelphia, \$3,600; West Side Foundry Co., Troy, \$4,000.

DREDGE PUMP.—Portland, Ore.—The following bids were received June 22 for making a new pump for the dredge "Portland": Willamet Iron Works, \$4,800; Portland Iron Works, \$3,191; Smith Bros. & Watson, \$3,365; John Honeyman & Co., \$3,170; Risdon Iron Works, \$3,040; Moran Bros., Seattle, \$3,900; Wolff & Zwicker, \$2,160.

TAINTER GATES.—St. Paul, Minn.—The following bids were received June 27 for furnishing five steel Tainter gates: St. Paul Foundry Co., St. Paul, Minn., f. o. b. St. Paul, Minn., \$8,210; New Jersey Steel & Iron Co., Trenton, N. J., f. o. b. Trenton, N. J., \$7,800; Pittsburg Bridge Co., Pittsburg, Pa., f. o. b. Pittsburg, Pa., \$8,450; Ritter-Conley Mfg. Co., Pittsburg, Pa., f. o. b. Allegheny, Pa., \$8,000; The J. G. Wagner Co., Milwaukee, Wis., f. o. b.

Milwaukee, Wis., \$7,500. The Massillon Bridge Co., Massillon, O., f. o. b. Massillon, \$8,300. Universal Construction Co., Chicago, Ill., f. o. b. Chicago, Ill., \$7,150; Henry William Jack, Archt., 3442 Columbus Ave., Minneapolis, Minn., f. o. b. Canton, Ohio, \$4,397; Chicago Bridge & Iron Co., Chicago, Ill., f. o. b. St. Paul, Minn., \$7,970.

CONTRACT PRICES.

DREDGING—Tampa, Fla.—Capt. Henry Jervey, U. S. Engr., received the following bids June 29, 1899, for dredging in Tampa Bay, as advertised in Engineering News; (1) being for 3,700,000 cu. yds. dredging in bay, and (2) for 450,000 cu. yds. dredging at bar:

Table with columns: Bidder, 1. cts., 2. cts. Bidders include National Dredging Co., Stewart Contracting Co., Alabama Dredging & Jetty Co., Atlantic, Gulf & Pacific Co., International Contracting Co., Frederick W. Dashi, The Stewart Contracting Co., and National Dredging Co.

EXCAVATING AND REMOVING.—New Jersey.—The following bids were received June 8, 1899, by Lieut.-Col. C. W. Raymond, U. S. Engr., 815 Witherspoon Bldg., Philadelphia, for excavating and removing in New Jersey, (A) being work in Hancock River of 6,800 cu. yds. of excavating and (B) Alloway Creek, 16,500 cu. yds.:

Table with columns: Bidder, A. cts., B. cts. Bidders include American Dredging Co., River & Harbor Impt. Co., John L. Mills, Delaware Const'n Co., Philadelphia (Pa.) Construction Co., ASPHALT PAVING—Cortland, N. Y.—The Warren-Scharf Asphalt Paving Co. has been awarded the contract for asphalt paving in Tompkins St., at \$2.50 and in Lincoln Ave., at \$2.10; total, \$29,385, and \$8,014, respectively. The guaranty is for 10 years.

MACADAM ROAD.—Easton, Pa.—The following bids were received June 3 for constructing 8 miles of macadam road; the telford macadam is 14 ft. wide with 2-in. layer of blue limestone, and trap rock, respectively; the roadway has 2-in. layers of blue limestone and trap rock respectively:

Table with columns: Bidder, Blue lime stone, Trap rock, 10-in. pipe, 12-in. pipe, 16-in. pipe, 18-in. pipe, 20-in. pipe, 24-in. pipe, Mile stones. Bidders include American Dredging Co., River & Harbor Impt. Co., John L. Mills, Delaware Const'n Co., Philadelphia (Pa.) Construction Co., ASPHALT PAVING—Cortland, N. Y.—The Warren-Scharf Asphalt Paving Co. has been awarded the contract for asphalt paving in Tompkins St., at \$2.50 and in Lincoln Ave., at \$2.10; total, \$29,385, and \$8,014, respectively. The guaranty is for 10 years.

WALL.—Newburgh, N. Y.—The following bids were received June 29, 1899, by the superintendent of public works for building a wall at Washington's Headquarters, Newburgh:

Table with columns: Bidder, Masonry, Rock, Ex-cava-bank, Em-cava-bank, c.yds., c.yds., c.yds., c.yds., Total. Bidders include Sullivan & Clark, G. A. Rogers, P.F. Pidgeon, J. Twomey.

BRUSH AND RIP-RAP.—Upper Mississippi River, Minn.—The following bids were received June 21, 1899, and were recommended for acceptance, for furnishing brush and rip-rap on U. S. barges on the Upper Mississippi River: Brush—Alma to Winona, 50,000 yds., Matthew Ahern and Jas. Ahern, Hastings, Minn., 24¢ cts. a cu. yd.; Winona to Lansing, 100,000 yds., Charles Ott, Genoa, Wis., 13 1/2 cts.; Hannibal to Hamburg, 52,000 yds., B. H. Veto, Clarksville, Mo., 5¢ cts.; 22 cts.; G. L. Nichols, Hannibal, 5,000 yds., 21 cts.; 10,000 yds., 22 cts.; Mason & Winters, Fort Madison, Ia., 15,000 yds., 21 1/2 cts.; J. W. Nason, Hannibal, 6,000 yds., 21 cts.; Hamburg to St. Louis, 60,000 yds., Marshall Rust, Harrison, Mo., 27 cts. Rip-rap—Alma to Winona, 25,000 yds., John Polowski, Winona, 6,000 yds., 54 cts.; W. L. Adams, Minneapolis, Minn., 5,000 yds., 60 cts.; Cordova to Le Claire, 8,000 yds., Le Claire Stone Co., Davenport, Ia., 60 cts.; Hannibal to Louisiana, 17,000 yds., C. C. Pratt and G. N. Cash, Louisiana, Mo., 15,000 yds., 53 1/2 cts.; Louisiana to Hamburg, 19,000 yds., Jos. Knimes, Hamburg, Ill., 10,000 yds., 49 cts.; Pratt & Cash, Louisiana, 9,000 yds., 54 cts.; Hamburg to Grafton, 40,000 yds., Jas. Short, St. Charles, Mo., 20,000 yds., 50 cts.; Jos. Kimmes, 10,000 yds., 49 cts.

LAYING WATER PIPE.—Schenectady, N. Y.—The following contract was let June 24, 1899, to Jos. H. Clements, of this city, for laying about three miles of new water mains: Laying 4-in. pipe, 25 cts. a lin. ft.; 6-in., 23 cts.; 8-in., 35 cts.; 12-in., 38 cts.; 16-in., 43 cts. W. J. Mariette, Secy. Water Comrs.

SEWERS.—New York, N. Y.—The following bids were received by the department of sewers June 28 for sewers in 7th Ave., between Harlem River and 153d St., east side, and between 147th and 153d Sts., west side:

Bids Received at New York, N. Y., June 28, 1899, for Sewers in Seventh Ave.

Table with columns: Bidder, 48x32-in. brick sewer, 17 in. ft., 48x32-in. brick sewer, 383 in. ft., 42x28-in. brick sewer, 1,253 in. ft., 15-in. vitrified glazed stone pipe, 185 ft., 12-in. pipe culvert, 100 in. ft., Rock excavations, 200 cu. yds., Receiving basins, 6 each., Foundation (11 ft. B.M.), Timber for piling, 5,000 ft. B.M., Total. Bidders include J. Pilkington, The United Co., Frawley & Rooney, Bart. Dunn, R. C. Nicholson, D. W. Hemming, Thos. Murray, N.Y. Sewer Const'n Co., P.F. Brennan, Norton & Dalton, Wm. J. Moore, Walter J. Ford.

RANDOM STONE.—Key West, Fla.—We are informed that Roderick J. Ross, Jacksonville, Fla., submitted the only bid to the U. S. Engineers, June 29, 1899, for 15,000 tons of random stone at \$2.17 a ton.

ASPHALT PAVING.—Spokane, Wash.—The following bids were received June 19, 1899, for asphalt paving in Howard St., from Riverside to the Northern Pacific Ry.; (1) being for concrete a cu. yd., (2) wearing surface a yd., (3) binder a cu. yd., (4) granite curbs, (5) excavation a yd., (6) embankment a yd., (7) catchbasins each, (8) drains for the track, each; (9) catchbasins, (10) header block a ft.: Northwest Asphalt Co., (1) \$7.50, (5 and 6) 40 cts.; City Street Improvement Co., (1) \$7.75, (2) 75 cts., (3) 35 cts., (4) \$1.18, (5 and 6) 40 cts., (7 and 8), \$27.50, (10) 40 cts.; Alcatraz Asphalt Paving Co., (1) \$7.40, (2) \$1.00, (3) 35 cts., (4) \$1.20, (5 and 6) 42 cts., (7 and 8), \$30.99, (10) 30 cts.

SEWERS.—New York, N. Y.—The following bids were received by the department of sewers, June 28, for sewers in Elm, in various blocks from Duane to Great Jones St.:

Bids Received at New York, N. Y., June 28, 1899, for Sewers in Elm St.

Table with columns: Bidder, 42 x 24-in. sewer, 12-in. pipe culvert, 470 lin. ft., 6-in. house drain, 300 lin. ft., 6-in. iron or stone pipe, 100 lin. ft., Receiving basins, 2 each, Timber, 20,000 ft. B.M., Total.

WATER PIPE AND VALVES.—Allentown, Pa.—The following bids were received by the water board, June 17, 1899, for furnishing valves and pipe: W. H. Taylor & Co., Allentown, 6-in., \$11; 8-in., \$17; 10-in., \$23; 12-in., \$30. Chapman Valve Mfg. Co., Indian Orchard, Pa., 6-in., \$11.45; 8-in., \$17.67; 10-in., \$24.61; 12-in., \$33.46. Williamsport Valve & Hydrant Co., Williamsport, 6-in., A, \$13.39; B, \$11.22; 8-in., A, \$19.20; B, \$17.60; 10-in., A, \$20.20; B, \$18.10; 12-in., A, \$28.10; B, \$25.10. Kesselsmeyer Mfg. Co., Troy, N. Y., (accepted), 6-in., \$10.80; 8-in., \$16; 10-in., \$22.85; 12-in., \$29.75. Ludlow Valve Mfg. Co., Troy, N. Y., 6-in., \$11.20; 8-in., \$16.80; 10-in., \$24; 12-in., \$30.40. Cast-iron water pipe, the bids were as follows: K. D. Wood & Co., of Philadelphia, 6 and 8-in., \$25.50 a ton of 2,000 lbs.; 10 and 12-in., \$24.50 a ton, f. o. b. Allentown; Donaldson Iron Co., Emaus, Pa., (accepted), 6, 8, 10 and 12-in. pipes at \$28.40 a ton of 2,240 lbs., f. o. b. Allentown. Bell and spigot specials 2 1/2 cts. a lb.

beam. The company has a contract for building two ships for the New York & Cuba Mail Steamship Co.

THE AMERICAN WOOD FIREPROOFING CO., 11 Broadway, New York, has secured from the Ordnance Department of the U. S. Navy, an order for fireproofed wood to be used in finishing a new building, which is being erected for storing high-power explosives, this being the first order of the kind let by the Ordnance Department.

THE H. K. PORTER CO. is the successor to the firm of H. K. Porter & Co., Pittsburg, Pa., and will continue the manufacture of light locomotives. The officers are as follows: H. K. Porter, President; W. E. Lincoln, Vice-President; W. E. Martin, Treasurer; C. L. McHenry, Secretary; E. P. Lord, Genl. Mgr. and Supt., and D. E. Ferguson, Purchasing Agent.

THE L. SCHREIBER & SONS CO., Cincinnati, O., is erecting a new machine shop, 9 1/2 x 25 1/2 ft., for the Rosdick & Holloway Machine Tool Co., at Blue Rock and Apple Sts., in the same city. The building, which will be completed about Sept. 1, is of brick with stone trim-

THE REESE-HAMMOND FIRE BRICK CO., Bolivar, Pa., Pittsburg office, Bissell Block, was awarded the contract for vitrified paving blocks for Johnston, Pa., June 20. It will require from 750,000 to 1,000,000 blocks for this contract. This company has also recently completed contracts for Indiana, Tarentum, Freeport, Greensburg and Duquesne, Pa. It is now supplying two large contracts at Wilkesburg, and enlarging its works and trebling the output on paving brick to meet the increased demands.

THE ROBB ENGINEERING CO., Amherst, N. S., has just shipped two 350-HP. engines for the Perth Tramway Co., Perth, West Australia. These engines are said to be tandem compound, side crank type, and are for direct connection to General Electric Co.'s 300-HP. dynamos. The order was placed through J. G. White & Co., New York, who were awarded the contract for the complete equipment of the tramways. The Robb company has shipped a large engine to England, and is now building one for Cuba and one for Brazil.

THE BERLIN IRON BRIDGE CO., East Berlin, Conn., has the contract for an extension to a factory building for the Fort Chester Bolt & Nut Co., Port Chester, N. Y. The extension is 32 ft. wide and 125 ft. long. The supporting trusses and columns are of steel; the roof is of wave shed form having a glass exposure on the north. The Raritan Copper Co. will build a new furnace building at Perth Amboy, N. J., and has placed the contract with the Berlin company. The building is 90 ft. wide, 130 ft. long and 22 ft. high, constructed entirely of steel with traveling cranes, runways, etc.

THE WESTINGHOUSE ELECTRIC & MANUFACTURING CO., Pittsburg, is installing an electric plant in the works of the Flatbush Gas Co., Brooklyn. The equipment includes a 300-K-W. generator, three-phase, 2,200-volt, 7,200 alternations. This machine has 38 poles, 190 revolutions a minute, and will be direct connected to a 400-HP., steam engine. There will be also one 130-HP., two-phase, 2,200-volt, 8-pole, 900 revolutions a minute, Westinghouse Type "C" induction motor, direct connected by flexible coupling by two Excelsior arc machines. In addition there will be installed a 75-K-W. 10-pole generator, 2,200 volts, 7,200 alternations, belted to a steam engine. An exciter of 1 1/4-K-W., 125 volts, will be used in connection with the generators. These machines are to replace the smaller units now in use.

THE AMERICAN GAS FURNACE CO., Elizabeth, N. J., is reported to have just shipped to Chas. Churchill & Co., Ltd., London, 10 heating machines. The machines will be utilized in large English foundries for the automatic hardening of bicycle balls, detachable saw teeth, pens, nuts, bolts, screws and other work not exceeding 2 1/2 ins. in any dimension. They are capable of heating 2,000 lbs. of steel work a day at a temperature of 1,000°. The value of the shipment was \$5,000. An English order has been received for gas blast tandem melters. Orders have been received from Antwerp, Belgium, and shipments of heating machines were made recently to Schuchardt & Schutte, Brussels, Belgium, and Berlin, Germany. An order is now being executed for Sir William Armstrong, Elswick Gun Works, England. The British Government arsenal, at Woolwich, is said to have been for some time past equipped with several of these machines which are used for hardening the projectiles and shells.

WESTINGHOUSE, CHURCH, KERR & CO., New York, report having entered large export orders for steam and gas engines to be built by the Westinghouse Machine Co., East Pittsburg, Pa. The following details show how wide a market is now opened for American machinery: England has sent orders for 16 steam engines of the Westinghouse compound and standard types, aggregating 1,200 HP. To France, six Westinghouse engines will be shipped, aggregating 600 HP. Russia takes three standard and compound Westinghouse steam engines, and two Westinghouse gas engines, the total being 600 HP. Chile has bought HP. Holland has contracted for eight Westinghouse engines, making, together, 350 HP. The Argentine Republic takes 11 Westinghouse steam engines, aggregating 400 HP. Australia and New Zealand order 12 compound and standard Westinghouse steam engines, and two Westinghouse gas engines, the total being 600 HP. Chile has bought four Westinghouse steam engines, aggregating 300 HP. Sweden orders four engines, Cuba two engines, South Africa four engines, Mexico one engine, Canada, Germany five engines, Patagonia, Austria, Belgium, and Egypt each order one Westinghouse steam engine. The total orders for export booked by Westinghouse, Church, Kerr & Co. during the past month for Westinghouse engines are 85, with an aggregate of upwards of 6,000 HP. To meet this increasing foreign business the extension doubling the comparatively new works of the Westinghouse Machine Co., East Pittsburg, is being rapidly pushed.

INDUSTRIAL NOTES.

THE CARNEGIE STEEL CO., Pittsburg, has contracted to furnish the Russian government with 180,000 tons of steel rails during the next 26 months.

THE BONNER RAIL WAGON CO., Toledo, O., whose system of transportation was described in our issue of June 13, is building some of its rail-wagons to fill an order from England.

THE HEINE SAFETY BOILER CO., 120 Liberty St., New York, it is reported, will soon ship eight large boilers for the mines of Simmer & Jack, and the Consolidated Gold Field Co., Johannesburg, South Africa.

MR. W. J. CARLIN has opened offices in Lewis Block, Pittsburg, Pa., where he will continue the business of buying and selling iron and steel plants, rolling mill machinery, steam shovels and general contractors' outfits.

THE LINK BELT ENGINEERING CO., 49 Dey St., New York, has orders from the Russian government for furnishing, hauling and elevating apparatus, and the electric appliance for operating it. The machinery will be used on the Trans-Siberian railway.

THE COATESVILLE BOILER WORKS CO., 141 Broadway, New York, has been awarded the contract for three Scotch boilers for a plant in Monterey, Mex. The company recently shipped to the West Indies 33 steel tanks for use in a sugar house, according to reports.

THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO., Philadelphia, has the contract for building two new ships for the International Navigation Co. The ships will be of 12,000 tons each and 600 ft. long and 60 ft.

mings, and will necessitate an increase of the force of the latter company to about 500 men.

H. W. POOR & CO. is the title of the new firm which will conduct the domestic and foreign banking business heretofore transacted in New York and Boston under the title of Poor & Greenough, 18 Wall St., New York and 52 Devonshire St., Boston. The partners are the same as before in both the New York and Boston firms, there being no change except in the title of the firms.

THE BERLIN IRON BRIDGE CO., East Berlin, Conn., is erecting at Bridgeport, Conn., for the Armstrong Mfg. Co. a fireproof store house. The building is 40 x 60 ft. The framework is of steel and the covering is of corrugated iron lined with the Berlin Co.'s Patent Anti-Condensation Fireproof Roof Lining. The building is so constructed as to be absolutely fireproof.

MERCHANT & CO., Inc., Philadelphia, New York and Chicago, have secured the services of Mr. C. H. Keever, Jr., formerly of the sales department of the Chicago & Aurora Smelting & Refining Co. of Chicago and Aurora, Ill., and Leadville, Colo. Merchant & Co. have always been active in the manufacture of Babbitt metals, which was also manufactured by the smelting company until its merging with the American Smelting & Refining Co., when it abandoned the manufacture of this metal.

THE SOCIETE ANONYME WESTINGHOUSE, the Russian branch of the Westinghouse Air Brake Co., has taken a contract for \$2,000,000 worth of air brake apparatus, for the Russian government railways. This company has recently built and equipped a thoroughly modern factory in St. Petersburg, Russia, as a result of the government's decision to use only Westinghouse brakes on the Imperial railways for both passenger and freight service.

BETHELEHEM STEEL CO. formally took over the property, etc., of the Bethlehem Iron Co., which latter company has leased its works, etc., to the former company. The officers of the Bethlehem Steel Co. are Robert P. Linderman, President; Edward M. McIlvain, Vice-President; Abraham S. Schropp, Secretary; C. O. Brunner, Treasurer; R. W. Davenport, General Superintendent; Owen F. Leibert, Chief Engineer, and Charles P. Coleman, Purchasing Agent.

A. SORGE, JR., & CO., Chicago, have recently placed, among other orders, the following, with the Harrison Safety Boiler Works, Philadelphia, for Cochran Feed-Water Heaters: Two of 5,000 HP. and three of 4,000 HP. each, for the Illinois Steel Co., South Chicago, Ill., one of 4,000 HP. for the Deering Harvester Co., one of 4,000 HP. for the Commonwealth Electric Co., and also one of 3,000 HP. and one of 2,000 HP. for the McCormick Harvesting Machine Co., all of Chicago. Besides these large units, A. Sorge, Jr., & Co. report a considerable number of orders for smaller sizes.

THE SANITARY DISTRICT OF CHICAGO.

TO CONTRACTORS, INVESTORS, MANUFACTURERS, CORPORATIONS, AND MUNICIPAL CORPORATIONS:

Sealed proposals, addressed to the Board of Trustees of the Sanitary District of Chicago for the development of water power under lease from said district, and indorsed:

"Proposal for Development and Lease of Water Power" will be received by the Clerk of said Sanitary District at room 1110 Security Building, Chicago, Ill., until 12 m., (Standard time), of Wednesday, Aug. 23, 1899, and will be publicly opened by the Board of Trustees at their meeting held on that day or at a meeting called for that purpose.

The Sanitary District of Chicago has constructed a channel having a cross section and grade which will cause the water, when admitted from Lake Michigan via the Chicago River, to flow westward to the point of discharge at Lockport at the rate in volume of 800,000 cubic feet per minute under minimum conditions which must be increased to meet the requirements of the law under which the Sanitary District was created up to a maximum of 600,000 cubic feet per minute.

This water discharges through the controlling works at Lockport into the Desplaines River. The topographical features of the valley below the controlling works are such as to make it practicable for a reasonable outlay of money to create a water power having a head, approximately 28 feet, upon lands which the Sanitary District will supply. The site of this proposed development of water power is about 35 miles from the heart of the City of Chicago, and the Sanitary District owns an ample right of way extending from Robey

Street in said city to the location of the power plant.

Besides the location just described, there is a second site for power plant, owned by the Sanitary District, near the mouth of Hickory Creek, in the City of Joliet, where a head of from 14 to 20 feet, conditioned upon the plan adopted, can be secured. At this site the volume of flow will be the same as that at the site of the Lockport development—namely, a minimum flow of 300,000 cubic feet per minute and a maximum of 600,000 cubic feet.

Bidders are invited to make a single proposal for the creation of water power at both of these sites upon the lines of maximum development for the available flow of water at each site.

The party making proposal to transmit with his proposition a plan of the development which he proposes to make, with sufficient explanation in writing to clearly define the scope of the work.

All plans must be based upon the preservation of an unincumbered route for a navigable water way.

No proposition will be considered which does not provide for payment in cash to the District of a sum equal to at least half of the proposed annual rental in quarterly or semi-annual installments.

As an evidence of the responsibility and good faith of the bidder, each bid must be accompanied by fifty thousand (\$50,000) dollars in cash or a certified check for that amount on some responsible bank doing business in the City of Chicago, payable to the Clerk of the Sanitary District of Chicago. All such checks or cash to be held by the Sanitary District until the proposals have been canvassed and the contract awarded and executed, after which they shall be returned to the bidders, the return of said check or cash to be conditioned upon the appearance, within ten (10)

days after notice to him, of the bidder to whom the award shall be made, with bonds, men, and the execution by him of a contract with the Sanitary District of Chicago for fulfilling the conditions of his bid, and giving a bond satisfactory to the Board of Trustees in a sum equal to twenty-five per cent. of the estimated cost of the permanent work covered by his bid.

Separate bids will also be received at the same time, and subject to the same deposit of cash or certified check, for the use of water delivered to the water wheels at either or both of the sites before described. The bidder may elect, upon the basis of all of the permanent work, including levees, dams, sluiceways, wheel-pits, and tail-races being supplied by the Sanitary District ready for the installation of water-wheels and machinery. The price paid to be based upon the gross theoretical development of horse-power due to the volume of flow and the head secured.

In the event of the Board of Trustees determining to build the permanent work with moneys of the Sanitary District, the successful bidder under that plan must enter into bond in the sum of two hundred thousand (\$200,000) dollars to carry out the terms of his bid as soon as the district shall have completed its work.

No proposal will be considered unless the party making it can furnish the Board of Trustees satisfactory evidence of his financial responsibility and business character.

Maps and profiles of the sites of the proposed power developments will be exhibited at the office of the Chief Engineer on the tenth floor of the Security Building, Chicago.

The Trustees reserve the right to reject any and all bids, and any award made by them will be upon the proposition which in their judgment will afford the best safeguard and conserve the interests of the Sanitary District.

Bidders are requested to state their individual names and places of residence in full.

THE SANITARY DISTRICT OF CHICAGO, By WILLIAM BOLDENWECK, President of Its Board of Trustees. Attest: JOSEPH F. HAAS, Clerk. Chicago, June 23, 1899. 27-11

U. S. ENGINEER OFFICE, Boston, Mass., June 20, 1899.—Sealed proposals for dredging in Plymouth Harbor, Mass., will be received here until noon, July 21, 1899, and then publicly opened. Information furnished on application. CHAS. R. SUTER, Col., Engrs. 25-41

U. S. ENGINEER OFFICE, 537 Congress St., Portland, Me., June 14, 1899.—Sealed proposals for Dredging Cochoec River, N. H., will be received here until 12 m., Aug. 2, 1899, and then publicly opened. Information furnished on application. S. W. ROESSLER, Maj., Engrs. 27-41

U. S. ENGINEER OFFICE, Mobile, Ala., July 5, 1899.—Proposals for furnishing and delivering Hydraulic Portland Cement and Gravel at Fort Gaines, Ala., received here until 12 o'clock noon, Aug. 3, 1899. Information on application. Wm. T. ROSELL, Maj., Engrs. 27-41

U. S. ENGINEER OFFICE, 601 18th St., N.W., Washington, D.C., July 3, 1899.—Sealed proposals for Constructing Jetty at Nomini Creek, Va., will be received here until 12 m., Aug. 2, 1899, and then publicly opened. Information furnished on application. CHAS. J. ALLEN, Lieut.-Col., Engrs. 27-41

U. S. ENGINEER OFFICE, Newport, R. I., May 29, 1899.—Sealed proposals for repairing Breakwater at Block Island, R. I., will be received here until 11 a.m., July 30, 1899, and then publicly opened. Information furnished on application. D. W. LOCKWOOD, Maj., Engrs. 24-41

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