

ENGINEERING NEWS AND AMERICAN RAILWAY JOURNAL.

VOL. XLI. No. 11.

TABLE OF CONTENTS.

ENGINEERING NEWS OF THIS WEEK... 161 176
Notes on the Operation of the Sewage Filter Beds of Plainfield, N. J. (Illustrated)... 162
Adjustment of Errors in the Resurvey of Roanoke, Va. 163
Water-Power Plants with Long-Distance Transmission in Southern California (with full-page plate and map)..... 164
The Halsey Bumping Post (Illustrated)..... 166
Studies for a High-Level Gravity Sewer for Boston and Vicinity (Illustrated)..... 166
Asterionella and Its Effect upon Public Water Supplies..... 172
Special Brick for Furnace Arches (Illustrated)..... 172
The Smet-Solvay By-Product Coke-Oven Plant at Ensley, Ala. (Illustrated)..... 173
Public Baths and Gymnasiums in Boston..... 174
Three-Span Metal Arch Bridge Across the Passaic River, Paterson, N. J. (Illustrated)..... 175
Exploration of Soil by Wood-Augers..... 175
Weather Report for February..... 176
EDITORIAL NOTES..... 168
A Commission to Ascertain the Wisest Policy for New York to Pursue toward Its Canals—A Mythical Ship Canal Across Russia—The New York City Authorities and the Manhattan Elevated R. R.—The Prohibition of the Granting of Franchises or Concessions in Cuba..... 168
EDITORIAL: Proposed State Legislation to Prevent Water Pollution..... 169
LETTERS TO THE EDITOR..... 171
Sewer Invert Blocks Used at Tonawanda, N. Y., in 1890 (Illustrated)—Loose Draft-Tubes for Turbines—A "Pioneers" Society of Civil Engineers—Cylinder Ratios for Compound Engines—Regenerating Exhaust Steam—Notes and Queries..... 171

TRACK ELEVATION IN CHICAGO is progressing in a gratifying manner. During 1898, according to the recent report of Mr. John O'Neill, Superintendent of Track Elevation, 16.2 miles of track were elevated and 96 grade crossings were removed. The ordinances of that year also provided for 14.3 miles more to be elevated and the removal of 88 additional grade crossings, and work will be continued on these during the present year. The accompanying table, from the official report of Mr. O'Neill, shows the mileage of track of various kinds elevated and depressed from Jan. 1, 1892, to Dec. 31, 1898, inclusive:

Table with columns: Railroad, Main, Track laid (Yard, Other), Total, Tracks Depressed. Lists various railroads like Chicago & Alton, C. & N. West, Galena Division, etc.

*This includes 0.45-mile of side track.

THE PENNSYLVANIA RAILROAD REPORT FOR 1898 shows 84,801,805 tons carried on lines east of Pittsburgh and Erie, a gain of 5,239,340 tons on last year's business; the lines west of these points carried 59,478,775 tons, a gain of over 7,600,000 tons. But the average rate per ton-mile fell to 0.489 ct., as compared with 0.536 ct. in 1897, and 0.564 ct. in 1896. Besides increasing tonnage the company materially reduced the cost of transportation by the use of heavier power and cars of greater capacity, improving track facilities, etc. The average expense per ton-mile was thus reduced to 0.355 ct. The Eastern lines show gross earnings of \$65,603,737, with \$21,068,722 net returns, deducting funded debt and rentals \$9,108,069 were paid in a 5% dividend on the \$129,303,000 of capital stock, and a balance was left of \$2,642,852. Out of this balance \$1,800,000 was set aside to complete extraordinary improvements. The Eastern and Western lines together show gross earnings of \$132,869,470, an increase of \$4,591,383, and net earnings of \$39,990,140. This latter is a decrease of \$676,914 over 1897, but the Western lines show for the year a net gain of \$1,890,744, though there were relatively heavier outlays for putting these lines in condition to move freight economically at the prevailing low rates.

AN ALPINE RAILWAY to compete with the St. Gothard line for travel between Germany and Italy is being discussed. This is the Blutschgau Railway, connecting

Landeck and Meran, which may be built by Austria. The longest tunnel, that between Trafol and the Zebra Valley, would be but 4.65 miles long, as compared with the nine miles of the St. Gothard tunnel. This line would entirely avoid Switzerland. The route from Munich would pass by Farn, Landeck, Reschen, Trafol, Bormio and Lake of Como to Milan and Genoa.

WEST AFRICAN RAILWAYS are reported by Reuter's Agency as progressing as follows: The Sierra Leone Railway is completed to Songo Town, requiring the erection of eleven steel viaducts, and is now being pushed on to Rotofunk. At Laros 7,000 men are at work beyond Abbeokuta towards Baclan, and the rails will be laid to the former place in a few weeks. The Tarkwa Railway, in the Gold Coast Colony, is progressing; a jetty has been built to facilitate landing at the port, shops, stores and barracks have been constructed, and the final survey is about completed. On all these West African railways about 10,000 men are at work.

THE HUDSON RIVER TUNNEL CO. is showing some signs of life again. It is reported that Horace E. Golding and John Young, of London, and Daniel Lord and Francis B. Jennings, of New York, are actively engaged in plans for resuming work. Chancellor McGill, of New Jersey, on March 8, directed Randolph Farmley to sell the property under an execution for \$3,916,894 granted in the foreclosure suit of the bondholder trustees, and the New York authorities have granted similar power. This action will enable the company to be reorganized, as the tunnel property will be bought by the committee. No estimate is published of the cost of completion, but the committee express the belief that the improvement in methods of submarine tunnelling, since work was abandoned, will enable them to push it through. The firm of SooySmith & Co. is to report upon it.

THE EAST RIVER TUNNEL of the New York & Long Island Ry. Co., commenced in 1892, and abandoned, is again being discussed. The plans call for a tunnel under the East River, from 4th St., Long Island City, to some point near 42d St., Manhattan, large enough for four tracks. It would be 30 ft. high by about 40 ft. wide, and the East River is about three-fourths of a mile wide at this point. The estimated cost of the work is \$25,000,000 to \$30,000,000. A tunnel under Manhattan Island and the North River, to Jersey City, was part of the original plan. Mr. Malcolm W. Niven, President of the Construction Co., and Secretary of the New York & Long Island Ry. Co., is said to be now in England attempting to raise capital for carrying out the work.

THE PORT ARTHUR SHIP CANAL will be completed by March 20, according to press accounts. This canal was commenced in 1896 on plans drawn up by Mr. Robert Gilham, General Manager and Chief Engineer of the Kansas City, Pittsburg & Gulf Railway Co. It is intended to extend deep water from Sabine Pass to Port Arthur, with a depth of 25 ft. throughout. It is 7 1/2 miles long, and its construction involved the dredging of 14,000,000 cu. yds of material. Full details of this canal were published in Engineering News of Feb. 17, 1898.

THE CHICAGO DRAINAGE CANAL WATER POWER has not yet attracted any bidders, notwithstanding its very attractive features, which we noted in our issue of Feb. 23. Apparently the lack of competition will enable some enterprising bidder to secure the lease of the power at a price which will enable him to make a handsome fortune from its development. The profitable market which awaits the development of this power makes it a far more attractive proposition than anything which has been developed at Niagara.

THE MOST SERIOUS RAILWAY ACCIDENT of the week occurred on the Burlington & Missouri River R. R., on March 11, near Lincoln, Neb. There was a blinding snow storm raging at the time, which prevented signals being seen, and caused two engines to collide head on. Four men were killed and several were injured.

A SERIOUS RAILWAY ACCIDENT is reported to have occurred on March 12, near Rakala, on the Rakala River, South Island, New Zealand. In which two excursion trains collided, killing 5 persons and injuring 40 others.

THE STEAMER "CASTILIAN," of the Allen Line, bound from Portland, Me., for Halifax, N. S., and Liverpool, went ashore at Gannet Rock Light, near Yarmouth, N. S., on March 12. It is stated that her compasses were out of order, and the dense fog prevailing at the time prevented the lookout seeing the light-house. Later reports state that an important buoy off Seal Island, used as a starting point by Transatlantic vessels, went adrift on March 10 and is responsible for the disaster. No casualties are reported, the passengers all being removed and landed at Halifax. The "Castilian" made her maiden voyage about 10 days ago, and was considered one of the finest of the Allen fleet. She was built at Belfast, Ireland, and was of 8,200 tons register. She was 470 ft.

long, 53 1/2 ft. beam and 36 ft. deep. The value of the vessel is placed at \$700,000, and the cargo at \$450,000. Efforts are being made to save the vessel.

YELLOW AND GREEN SIGNAL LIGHTS have been adopted for the "clear" indication by the New York, New Haven & Hartford R. R. as substitutes for white lights. The home signals will show a red light for "stop" and a green light for "clear." The distant signals will show a yellow light for "caution" and a green light for "clear." This will make the distant signals distinctive, without the use of two lights or lenses for one indication, as on the Chicago & Northwestern Ry., which uses a combination of red and green lights for "caution" on the distant signals. On the N. Y., N. H. & H. R. R. the arms of the distant signals are painted yellow with a black stripe, which is more easily seen than the green and red arms used in C. & N. W. Ry. practice. The change is a result of the accident at Whitenton, Mass., Sept. 6, 1898, in which an engineer mistook the white hand lamp on a raised crossing gate for a white home signal. The home signal was at the "stop" position, but its lamp had been extinguished.

TEN-WHEEL EXPRESS ENGINES are being built at the works of the Northeastern Ry., of England, and will be the first English passenger engines having more than four driving wheels, although the Highland Ry., of Scotland, has used ten-wheel engines for some years. The new engines will have outside cylinders, 20 x 26 ins., and driving wheels 6 ft. 1 1/2 ins. diameter; with very large boilers and fireboxes. The engines are intended for the heavy trains which now have to be run as double-headers.

WIRE-WOUND GUNS are dealt with by the Royal Gun Factory, of England, in a late addition to the Service Treatise on Ordnance. The use of wire, or flat ribbons, enables a gun to be made that with a given weight has more strength, thinner walls and greater length, and enables a higher velocity and more energy to be given to the projectile than with the built-up type. The ordinary 12-in. gun, for example, was 22 1/2 ins. long and delivered its 850-lb. projectile with a muzzle velocity of 1,915 ft. seconds, and a striking energy of 18,139 ft. tons. The wire 12-in. gun is 44 1/2 ins. long, delivers the same projectile with a velocity of 2,367 ft. seconds and a striking energy of 33,920 ft. tons. The London "Engineer" mentions a new 12-in. wire gun from which 2,900 ft. seconds velocity and 39,560 ft. tons of energy are expected.

A 5-IN. BROWN SEGMENTAL TUBE WIRE-WOUND gun, being made at Birdsboro, Pa., for the government, is being tested by government officers at that place, up to 500 rounds. The gun weighs 3 1/2 tons and is 19 ft. long; and up to the present time the maximum pressure exerted has been over 30,000 lbs. per sq. in., imparting a velocity of nearly 3,000 ft. per second to the projectile. Twenty-five of these guns have been ordered, and 25 others of 6-in. caliber. These last weigh 10 tons each and are intended for coast defence. A 10-in. gun of the same type is also being built at the Scott Works, in Reading, Pa., to be tested in July. The 6-in. guns will cost \$10,000 each, according to the press accounts.

U. S. WARSHIPS to the number of 55, says Rear Admiral Hitchborn, Chief Naval Constructor. In his last report, are under construction or actually contracted for. The degree of completion of the latter vessels is given as follows: At Newport News, the battleships "Kearsarge," 85%; "Kentucky," 83%; "Illinois," 62%. At the Cranford Yard the battleship "Alabama" rates at 76%; and at the Union Iron Works, San Francisco, the battleship "Wisconsin" rates at 63%. The other battleships contracted for, the "Maine," "Missouri" and "Ohio," were not commenced at the date of the report. The sheathed cruiser "Albatross" is 80% finished, and the torpedo boats and other vessels under way from 0% to 94% finished.

U. S. EXPORTS FOR FEBRUARY 1899, says the U. S. Bureau of Statistics, as shown by the preliminary reports, aggregate in value \$55,986,894, as compared with \$49,843,806 in the same month of 1897. The month of February, 1898, however, showed \$62,009,536, the largest February on record. But the Bureau says that the last return does not show a falling off in volume, but a slightly lower price for some of the leading articles exported. As, for example, nearly 10,000,000 bushels of wheat were exported in February, 1899, against 7,000,000 in the same month of 1898; while the value is given at \$7,335,399 and \$6,434,028, respectively.

AN INVESTIGATION OF STREET RAILWAY SYSTEMS will be made by the Highways Committee of the London County Council, preparatory to adopting some improved method of operating the city tramways. For this purpose, it is understood, Prof. A. Kennedy, F.R.S., has been selected as consulting engineer, to collect information respecting the various mechanical systems of traction other than steam or cable, and to give expert advice in connection with installing an experimental line.

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