

of some \$1,750,000. The old rails were 29½ ft. long, weighing 66 lbs. per yard; the new ones weigh 87 lbs. per yard and are 39 ft. 4 in. long. The new steel ties weigh 155 lbs. each and there are 16 or 17 of them to each rail length, while the old ties weighed 114 lbs. each, and 10 to 12 of them were laid to a rail length—that is, in the new track the ties are spaced 2 ft. 6 in. and 2 ft. 4 in. center to center; in the old track they were 3 ft. and 2 ft. 6 in. The whole weight of the superstructure (rails and ties) was 266 to 278 lbs. per yard in the old road, and is 408 to 422 lbs. in the new.

A Tandem Compound for the Atchison, Topeka & Santa Fe.

The Atchison, Topeka & Santa Fe has built a heavy tandem compound consolidation freight locomotive at Topeka, with which trials are now being made on the mountain divisions. The principal dimensions, with the exception of the cylinders, are the same as those of the single expansion consolidation locomotives, a number of which have recently been built at the Topeka shops, and others by the Dickson Manufacturing Co. A description of the simple engines was published in our issue of June 10 last. This is the first tandem compound built since 1892, when the Brooks Locomotive Works built two for the Great Northern. While the type has never been popular in this country, it has been used quite largely in the continental countries of Europe.

The New Coast Defence Monitors.

Contracts for the four new coast defence monitors, Arkansas, Connecticut, Florida and Wyoming, have been awarded one each to Lewis Nixon of Elizabethport, N. J., for \$325,000, to be built in 24 months; Newport News Shipbuilding and Dry Dock Co., Newport News, Va., for \$360,000, in 27 months; Bath Iron Works, Bath, Me., for \$362,000, in 27 months; Union Iron Works for \$375,000, in 27 months. These ships will be 225 ft. long, and 50 ft. beam; will draw about 12½ ft. of water, and will have a displacement of 2,700 tons. The batteries will consist of two 12-in. guns, four 4-in. rapid fire guns, and seven smaller caliber rapid fire guns. The builders are not required to furnish guns, armor or turrets. The turrets will be of the balanced type, 10 in. thick behind 11 in. barbettes, and a belt of armor 11 in. thick and 5 ft. broad will be placed on the sides of the vessels.

Chicago Public Works.

The Chicago Board of Local Improvement, on Sept. 21, passed ordinances for building 10 miles of sewers and paving 15 miles of streets. This work will cost about \$700,000, and will be paid for by special assessment. The meeting of the Board was public and many taxpayers were present to protest against the improvements, but in most cases objections were overruled on the ground of public necessity. The new sewers will be built principally in the north and northwest sections of the city. The new pavements are to be of cedar, asphalt, macadam and granite. Contracts were let Sept. 20 for paving North Clark street, from Division street to North avenue, and North State street, from Kinzie to Division, with asphalt, to the Barber Asphalt Co., at 2.15 cents per cubic yard. The contractor is under bonds to complete the work this Fall.

Dredging at Waukegan.

The Detroit firm previously mentioned in these columns as having the contract for dredging the harbor of Waukegan, Ill., declined, to accept the contract, which was re-let Sept. 21 by the City Council of Waukegan to the Lake Michigan Dredge Company, of Milwaukee. We are informed by the President of the latter company that work will be commenced in about two weeks, the channel to be 18½ ft. deep, 60 ft. wide part way and 120 ft. wide part way. Also, that the contract calls for the completion of the work by May 1, 1899.

The New Torpedo Boats and Destroyers.

Contracts for the new torpedo boat destroyers have been let as follows: William R. Trigg of Richmond, Va.; Fore River Engine Company, of Boston, and the Harlan & Hollingsworth Company of Wilmington, two each; the Maryland Steel Company of Baltimore, Neafe & Leavy of Philadelphia, and the Union Iron Works of San Francisco, three each; the Gas Engine & Power Company of New York, one.

The torpedo boats as follows: Columbian Iron Works of Baltimore, and the Gas Engine & Power Company of New York, one each; George R. Lawley of Boston, and Lewis Nixon of Elizabethport, N. J., two each; W. R. Trigg of Richmond, Va., and Bath Iron Works of Bath, Me., three each. The award to the Bath company is subject to conditions.

New Gas Engine Motor for Suburban Work.

Recently there was completed at the Sixty-fifth street station of the Brooklyn Heights road a gas engine motor designed and built under the direction of Mr. T. D. Hoskins, whose city office is at 203 Broadway, New York. The entire equipment is placed beneath the car body and weighs complete about 3,000 lbs. Two 30-gallon tanks provide sufficient cooling water for the cylinders and one 30-gallon tank contains the gasoline which at present is used for the motive power. The engines when once started at the car house are supposed to be kept running during the entire trip, connection between the main shaft,

which is driven directly by the engine, and the car wheels being made by means of a friction wheel about 8 in. in diameter and 10 in. across the face. There are, however, two of these idle wheels, one placed directly above the other. The direction of motion of the car is determined by the position of the controller handle, by means of which either wheel can be thrown in contact with the friction wheel on the engine shaft and the one on the car wheel. The engines were designed particularly for this work by Mr. Hoskins, and have a cylinder each of 6 in. with 12 in. stroke. They are exploded by means of an electric igniter at each second stroke and the ignitions can be regulated by means of a switch within reach of the motorman at either end of the car. The movement of the car is regulated by means of a handle in place of the controller of an ordinary electric car, the movement of which places the idle friction wheel in proper contact. The fly wheels, two in number, weigh about 500 lbs. each and are about 3½ ft. in diameter. The car can be seen at Sixty-fifth street and Third avenue, Brooklyn, or at the car house near there.

A Consolidation of Signal Companies.

For some weeks negotiations have been in progress towards the practical consolidation of the Union Switch & Signal Co. and the National Switch & Signal Co. It is now publicly announced that a meeting of the stockholders of the Union Switch & Signal Co. has been called to be held Dec. 13. The call states that the object of the meeting is to vote on an issue of \$500,000 in 5 per cent. gold bonds to provide the funds for, and to ratify the purchase of, the entire capital stock of the National Switch & Signal Co. The present officers and employees of both companies will be retained in the main. Naturally, there will be some changes in the staff, but the number employed will be reduced little, if at all.

Steel Castings for Warships.

The American Steel Casting Co. at Chester, Pa. is just about starting on the steel cast shapes required in building the hulls and engines for the Russian battleship and cruiser now on the stocks in this country. Many of these shapes are the most intricate ever attempted in cast steel. Although they are nearly of the same design as those used in the latest battleships built for the United States, they have been considerably lightened in weight.

THE SCRAP HEAP.

Notes.

The Pennsylvania Railroad, which runs cabs to and from its stations in New York and Philadelphia, is preparing to establish a similar service in Washington.

Another one of the large department stores in Chicago has built a passageway from its second story to the platform of the Union Elevated loop, the connection this time being on Van Buren street, near State street.

The shops of the Philadelphia & Reading at Reading, Pa., are now running full time, and some departments are running 20 hours a day. The shops of the Pittsburgh, Fort Wayne & Chicago at Fort Wayne, are running 10 hours a day.

A South Carolina paper says that the Southern Railway, to avoid running separate cars for negroes, will put vestibuled cars on nearly all its trains. The law of the state, which recently went into force, excepts vestibuled trains from the rule requiring equal and separate accommodations for the white and black races.

A Washington dispatch of Sept. 30 states that the Commissioner of Internal Revenue has suspended the order holding that railroads must pay a revenue tax of two cents on each rebate check issued by passenger conductors. The question of the application of the war revenue law to rebate checks has been referred to the Attorney-General.

Under the offer of the Illinois Central Railroad to sell the stock of the company to employees at the market rate, to be paid for in installments, 2,536 shares have been sold. The number of employees holding these shares is 733. This quantity of stock is equal to less than one-half of one per cent. of the total share capital of the road.

On Friday of last week the striking coal miners at Pana, Ill., gathered in a mob on the track of the Baltimore & Ohio Southwestern, a few miles east of the town, and forcibly stopped a passenger train carrying two carloads of negroes to take the places of the strikers in the mine. Most of the participants in the outrage were masked with handkerchiefs. They made the trainmen run the principal part of the train forward some distance and then compelled the negroes, who were in the two rear cars, to get out and walk back to the next station. Thence the strikers paid the fares of the terrorized negroes back to Washington, Ind.

The Governor of Michigan has failed in his efforts to compel the Michigan Central Railroad to sell family mileage books at 2 cents a mile. The State Supreme Court decides that the Michigan Central's special charter unquestionably confers the right upon

the company to fix its own tolls, and that this is a vested right which cannot be withdrawn by the state without an adequate compensation therefor. The court also decides that a law passed by the Legislature of 1891 limiting the price of mileage books to 2 cents a mile has no application to the Michigan Central, and that the only way to effect the change desired by the Governor is to have the Legislature amend the charter of the company, which means that the state must compensate the company for any damage involved.

On the night of Sept. 26 a freight train on the Lake Shore & Michigan Southern was boarded by robbers near Elyria, O., and the conductor was robbed of his watch and money at the muzzle of a pistol. The next night there was a similar robbery near North Amherst, O., on the same road, the robbers getting considerable money and other valuables from about 20 ride-stealers who were on the cars. A press dispatch from Cleveland, Sept. 28, reports that two men held up Lake Shore passenger train No. 72 about 25 miles west of that city at one o'clock in the morning and robbed all of the 25 passengers in one car. This dispatch seems to be a fiction, suggested by the robbery on the freight train. Near Husted, Col., on the night of the 28th a passenger train of the Denver & Rio Grande was attacked by robbers, but the trainmen put them to flight. About 30 shots were fired. The express messenger stuck to his post while dynamite was being exploded beneath his car.

The Washington correspondent of the New York Evening Post says that the Congressional Committee which is investigating the management of the Post Office Department is likely to recommend that no further contracts be made for pneumatic mail tubes between post offices and railroad stations in cities. The tubes now in use in Philadelphia and New York are used only for letters, and as the wagon service has to be maintained to carry the newspapers there is no saving in expense; the tube service is simply a luxury, saving a little time. Between the new Congressional Library and the Capitol at Washington there is an underground passage for the conveyance of books, which is worked by a small car. Something like this, which will carry whole sacks, is desirable for the mail service. The committee finds that the uniformity of salaries for post office clerks, which is required by law, works to the detriment of the service. At Montgomery, Ala., and other places in the South, the prescribed salaries are much higher than is necessary to secure efficient clerks; while in Montana and other Western states it is impossible to get good men for the wages offered by the Government. Instances are cited where clerks in stores get five times as much pay in Montana as is paid for the same grade of work in certain places in South Carolina.

Vancouver to Vladivostok.

A press dispatch from Vancouver, B. C., says that the Canadian Pacific will soon have two steamships, the Tartar and the Athenian, of over 4,500 tons each, running between Vancouver and Vladivostok, Siberia. The first ship will carry lumber and rails for the Siberian Railroad.

Something That May Perhaps Be Done.

The serious effects of rate cutting are manifest. Much of this loss can be eliminated outside of work to be done at the National or state capitals, and at no time has the opportunity been as propitious as now. The reorganization of a number of the great railroad systems has centered the virtual control of many thousands of miles and of many trunk lines in a few hands. The small group of men who can dictate the policy of so large a part of our 135,000 miles have a responsibility which justifies them in exercising it without fear or favor. They have put many bankrupt concerns on their feet. They have so arranged the plans of capitalization and bonded debt as to inspire confidence in the future, and confidence in the ability of the roads to meet their obligations. Now these people have it in their power to do a great service to stockholders and to the public, and to lay a broad foundation for the confidence of our own capitalists and investors, and of the foreigners. We believe that the presidents of our leading systems will heartily co-operate in any practicable plan for fixing rates which shall be remunerative and yet reasonable. We believe that Messrs. J. P. Morgan & Co., for instance, could secure the assistance and support of many of the leading presidents in carrying out a schedule of rates which would become the standard for the country, and would be out of the power of either subordinates or of inferior competitors to disturb. Looking at the question from every side, we believe that it is the thing to do; we venture to hope that it is already in contemplation and progress.—Davis' Circular.

The Reading's Fast Train to Atlantic City.

Mr. Basford, the editor of the American Engineer, has taken a ride on the fast train of the Atlantic City Railroad from Camden to Atlantic City, N. J., and prints some interesting notes of the trip. The engine was No. 1,028, which has valves 12 in. in diameter, one inch larger than those of No. 1,027, which hauled the Atlantic City train last year and which was described in the Railroad Gazette, June 19, 1896. The very fast schedule of this train (64 miles an hour for 55½ miles) is familiar to our readers from accounts published last year. (Aug. 13, p. 571.) The fastest time made on Mr. Basford's trip was 84.2 miles an hour for a single mile (42½ seconds). The time for the whole trip was 47½ minutes. The fastest trip that has been made this season was 44½ minutes, or at the rate of 75.3 miles an hour. The engine has drivers 84½ in. in diameter. It rides smoothly, there being no difficulty in reading a stop-watch without standing up. The fuel used was Tunnel Ridge anthracite coal and the steam pressure did not vary more than three