

Railways.

RAILWAY TRAFFIC.

The returns for the month of Oct., 1872, show the following totals for the lines named:—

RAILWAYS.	Passengers.	Mails and Sundries.	Freight.	Total 1872.	Total 1871.	Miles 1872.
Great Western.....	\$179,093	\$10,746	\$332,518	\$522,357	\$432,519	351
Grand Trunk.....	250,479	22,600	533,386	811,865	766,821	1,377
London and Port Stanley.....						1,571
Welland.....	1,341	144	9,682	11,147	10,644	24
Norfolk.....						25
Midland of Canada.....	6,931	495	30,422	37,848	20,385	97
Cobourg, Peterboro' and Marmora.....	127		6,561	6,688		86
Braceville and Ottawa.....	5,845		30,693	36,538		86
Canada Central.....	3,412		7,169	10,581		28
St. Lawrence and Ottawa.....	5,749	1,332	6,026	13,107	12,632	54
Carleton and Grenville.....						34
Stanstead, Sheford and Chambly.....						54
St. Lawrence and Industry.....	502	3	890	1,395	1,336	124
New Brunswick and Canada.....						116
Eastern Extension.....	15,147	1,334	17,393	33,864	27,882	108
Western Extension.....						108
Nova Scotia.....						145
Windsor and Annapolis.....	9,536	782	18,864	29,182	31,854	145
Total.....	\$488,809	\$96,716	\$988,062	\$1,573,587	\$1,310,693	2,509

*Including W. Branch 21,186 31.

THE CENTRE RAIL SYSTEM.

The centre rail system, first proposed and practically tested 22 years ago, on the Panama Railroad, is about to have another trial; this time to be made in Brazil, on the Cantagallo Railroad, which bids fair to occupy an important place among the engineering works which have done so much to develop the resources of Brazil. At present the important coffee-producing district of Cantagallo, situated at a high level (separated from the lowlands by the Organ Mountains), has to transport its produce by mules across the mountains to Caxoeira, from which a railroad of 5 ft. 3 in. gauge has for 13 years past extended to Rio Janeiro. This costly and uncertain transportation by mules naturally led to a desire to extend the railway communication across the Organ range into the heart of the Cantagallo district, and ultimately there was obtained a franchise to build a railway from Caxoeira, across the mountains to Nova Friburgo, to be ultimately extended 60 miles further to Cantagallo. This line, now constructing, has a gauge identical with the Mont Ceniz railroad, and that part of it traversing the coast side of the mountains will be laid with the centre rail. In 7½ miles this mountain portion rises about 3,000 feet, the gradient varying from 1 in 20 to 1 in 12, and for the greater part 1 in 13, while the curves are about 140 feet radius. The permanent way of the mountain portion of the line is identical in construction with that of the Mt. Ceniz railroad. The rails weigh 65 lbs. per yard, the central one

being raised 9 in. above the ordinary carrying rails, and bolted to wrought iron chairs, which are secured to a longitudinal sleeper fixed to the ordinary transverse sleepers. As in the case of the Mt. Ceniz railroad also, the mid-rail will only be laid on the steep inclines, the ends of each being tapered so that the gripping wheels may pass on and off easily. Recent trials of locomotives seem to have proved satisfactory. The engine is carried on two pairs of coupled wheels of 2 ft. 4 in. diameter, driven by cylinders 13 in. in diameter with a stroke of 14 in., while a second pair of cylinders 14 in. in diameter and 12 in. stroke, drives two pairs of horizontal gripping wheels 1 ft. 10 in. in diameter. The wheel base of the engine is 7 ft., while the two pairs of horizontal gripping wheels are placed as close together as possible and are situated midway between the axles of the vertical wheels. The pair of cylinders driving the horizontal wheels are arranged on the centre line of the engine, one above the other, the piston rod of each cylinder being attached to a long transverse crosshead suitably guided, from the ends of which connecting rods lead off to cranks on the axes of the leading horizontal wheels. The axis of each horizontal wheel has two cranks at right angles to each other, the two axes on each side of the centre rails being connected by coupling rods, while the leading axis of each pair so coupled is driven by the connecting rods already mentioned. The axes of the horizontal wheels are mounted in bearings carried by cast-steel cradles so arranged that by means of a right and left-handed screw the gripping wheels can be made to exert a pressure of any desired amount up to 40 tons on the mid-rail. The engines for driving the horizontal and vertical wheels are independent of each other, with two regulators and two sets of reversing gear, and an independent ordinary and mid-rail brakes. With these arrangements the tractive power is estimated as enormous—with a clean rail the adhesion is reckoned at six tons, at the least; and the experiments thus far made seem to demonstrate the practicability of these locomotives, and hence the efficiency of this most difficult line of railway.

GRAND JUNCTION RAILWAY.—The first annual meeting of the Grand Junction Railway Company was held in the Board Rooms, Belleville, Oct. 21st. One matter of importance mentioned before the Board was the fact that the contract was in the hands of a thoroughly competent man, in whom the shareholders had the utmost confidence. The completion of the road is looked forward to at an early day. Various sections are under contract, and grading is being rapidly pushed forward. A Board of twelve Directors were chosen. The Warden appointed on behalf of the County the Hon. Billa Flint, Hon. Robert Read, Mackenzie Bowell, M.P., James Brown, M.P., George Boulter, M.D., M.P.P., and Henry Corby, M.P.P. The following gentlemen were elected by the shareholders:—Messrs. Thomas Kelso, D. D. Boggart, J. S. Foulds, Wm. Sutherland, W. H. Ponton, and Alex. Robertson. In addition to the above the following gentlemen are *ex officio* Directors by virtue of the office each holds:—A. F. Wood, Esq., Warden, Hastings; James S. Ferris, Esq., Reeve, Seymour; George Dormer, Esq., M.P., Mayor Lindsay; J. J. B. Flint, Esq., Mayor, Belleville; John Walton, Warden, Peterboro'. The officers for the ensuing year are:—Thos. Kelso, Esq., President; Hon. Billa Flint, 1st Vice-President; James Foulds, Esq., 2nd Vice-President. Messrs. W. H. Ponton, M. Bowell, Robt. Read, Wm. Sutherland and Alex. Robertson were appointed a finance Committee.

EUROPEAN AND NORTH AMERICAN RAILWAY—AMALGAMATION.—The proposed amalgamation of the two companies forming the Euro-

pean and North American Railway Companies, for extension westward, seems likely to be brought about. The Maine Company have issued \$3,000,000 worth of debentures, of which two-thirds are based on the extensive lands granted by the State, said to be worth at least \$2,000,000, and the road is doing a business to cover its working expenses, interest on debentures, etc. The Province Company have issued debentures to the amount of \$2,000,000, but the road is only paying working expenses. The united companies would assume all the liabilities outstanding, and issue another \$1,000,000 debentures to pay off the small debts, and provide more rolling stock, which is required for the rapidly increasing traffic. No more debentures would be issued except by a two-thirds vote of the Board of Directors, and that only for the purpose of laying a new track or purchasing some connecting road. The new Board would consist of thirteen members, eight to belong to Maine and five to New Brunswick, and at least four of the latter to be born British subjects. It would also be clearly laid down that in the matter of tariffs no discrimination shall be made in favor of Bangor or St. John. Of the \$6,000,000 of debentures of the new Company, one-third would be covered by the Maine lands, and one-sixth by the New Brunswick subsidy, making quite one-half of the whole amount. It is thought that the proposed amalgamation would enable the whole road to be run much more cheaply than at present, the arrangement would be more efficient, there would be no clashing of interests, and thus both roads will be largely benefited. It is quite probable that the two companies will come to a decision, and if so, the new arrangement will take effect on the 1st of December, but until that date the roads will be run separately as heretofore.

NEW BRUNSWICK AND MAINE RAILWAY.—The negotiations for the consolidation of the Eastern and North American Railway, and the Western Extension of New Brunswick, have been concluded and will be submitted early in November to the approval of the shareholders. The Maine line, from Bangor to Vanceboro, is 114 miles in length, and the New Brunswick line from Vanceboro to St. John, is 88½ miles. It is understood that by the provisional terms of the agreement the Maine line will have eight members on the new Board, and the New Brunswick Company five, of whom four must be British subjects. The consolidated company is to assume all liabilities and assets, and is to issue two millions of stock to clear off contractors' claims. Among the advantages of this consolidation will, it is claimed, be such community of interest as will remove all discriminating tariffs, and ensure a more economic working of the whole line; and it is regarded by some as the first step towards a consolidation of the railways connecting St. John and Boston.—*Halifax Chronicle*.

GRAND JUNCTION RAILWAY.—It is understood that Mr. Brooks contract is at the rate of \$19,000 per mile payable in Government subsidy, bonus debentures, cash, stock, and bonds on the road, as follows:—\$6,000 per mile in cash or debentures, \$1,000 per mile in stock, and \$12,000 in first mortgage bonds.

—Mr. M. D. Woodford, long at the head of the Telegraph Department of the Michigan Central Railway was some time ago appointed assistant superintendent of the Great Western Railway.

—A medium sized two-story white brick house, detached, situated on a narrow lot on Pembroke Street, Toronto, was sold by Messrs. Coate & Co. last week for \$6,420. The natural conclusion to be drawn from this and other recent sales is that real estate is now held quite above its present real value.