

13 miles of wire fencing have been erected. A passenger station has been erected at Onawa. A boiler house has been added to the machine shop at Brownville Jct., & the shop & engine house improved. The machine shop at McAdam has been enlarged & a stationary engine, pump & air compressing plant has been installed. Ten houses for employes have been built at McAdam. At West St. John the grain elevator capacity has been increased to 1,036,500 bush., with conveyors serving 5 steamship berths, 4 of which can be operated simultaneously. On the New Brunswick branches 124,600 ties have been placed in the road, & 20 miles ballasted; 3 wooden bridges have been replaced with steel, & 7 renewed in wood; 8 Howe truss spans have been housed in to protect them from the weather; 80 open culverts have been replaced with permanent box culverts & the openings filled; 22 miles of wire fencing have been erected & a quantity of cedar protection work has been built along the banks of the St. John & Aroostook rivers to protect the roadbed from freshets. An engine house has been erected at St. Stephen.

Ontario & Quebec Division.—A large amount of work has been done on this division this year, & some is still in progress. Thirty miles of heavy steel, 73 lbs. to the yard, are being laid on the Sherbrooke section, releasing 60 lbs. rails which are being shipped to the Northwest for use in building branch lines. Three miles of heavy steel rail, 100 lbs. to the yard, are being laid between Montreal Jct. & Adirondack Jct., to carry more satisfactorily the heavy traffic over that portion of the line. On the lines east of Montreal new side tracks have been put in & old side tracks extended to the amount of 20,000 ft. of track for the better accommodation of the increasing traffic.

The second track between Montreal Jct. & St. Annes, 15.6 miles, built this year, has been laid with 100 lbs. rails. The old track between Montreal Jct. & Vaudeuil, 18.9 miles, is being relaid with rails of the same weight. With the possible exception of the Sarnia tunnel this is believed to be the first track in Canada on which 100 lbs. rails have been used. The manufacturers of the Bonzano joints which are being used have turned them out very slowly, delaying the work considerably. The grades between Western Jct. & Dorval have been reduced sufficiently to enable the ordinary locomotives to haul 200 tons more per train than they could formerly handle. (Sep., pg. 267.)

Considerable work has been done reducing grades west of Green Valley & east of Avonmore, which will enable the handling of increased tonnage. Siding facilities at St. Clet, Green Valley, Glen Roy & Suffer stations have been increased considerably, also on the Havelock section. A large amount is being expended near Bathurst & Tweed, changing alignment & taking out many of the sharpest curves. Full particulars of this work were given in our Oct. issue, pg. 291. Nineteen miles of 80 lbs. steel are being laid on Havelock & Toronto sections. About 15 miles have been ballasted on Toronto section, & siding facilities have been increased.

Between London & Woodstock, Ont., 27 miles have been ballasted, also all tracks in Woodstock yard, and 7 miles of 73 lbs. rails have been laid with broken joints. A large number of open cattle guards & culverts have been filled in, & surface cattle guards & under culverts provided.

On the Owen Sound section, about 3 miles of 73-lb. rails have been laid on heavy grades & curves. About $3\frac{1}{2}$ miles of side tracks have been put in to accommodate increased traffic, most of them being at Toronto Jct., & 50,000 ties have been put in the track. On the branches 38,000 ties have been put in, & 2 bridges, one $1\frac{1}{4}$ miles north of Snelgrove, the other 4 miles west of Arthur, have been erect-

ed. About 7 miles of track has been ballasted on the Teeswater branch.

Some important bridge work has been done, & some is in progress. The original bridge over Yamaska River, near West Shefford, Que., consisted of 1 span deck steel lattice girder, 100 ft. long, on masonry piers with wooden trestle approaches. One new steel girder, 40 ft. long, has been put in at each end of the old span, & the balance of the wooden approaches have been filled in. Two masonry piers have been built to carry the new girders, the work costing about \$10,000.

The old bridge over the Credit River at Streetsville, Ont., consisted of 1 span deck, Howe truss, 126 ft. long, on masonry piers with wooden approaches. The Howe truss span will be replaced with a steel deck truss, 126 ft. long, & the timber approaches will be replaced with 2 deck plate girders, each 40 ft. long, & 1 plate girder, 58 ft. long, on masonry pier & abutments. This work, which is costing about \$16,000, is not completed.

The old bridge over the Grand River at Galt, Ont., consisted of 5 spans, iron deck trusses, on masonry piers, with timber approaches, & was built by the Credit Valley Ry. Co. some 20 years ago. The increased weight of the rolling stock necessitated a stronger bridge, & the old trusses have been replaced with steel pin-connected deck trusses, 5 in number & each about 150 ft. long. The old piers, being in good condition, were used for the new bridge by building them up about 10 ft. higher. The timber approaches were replaced with 3 deck steel plate girders, each about 94 ft. long, on 1 new masonry pier & 2 new masonry abutments. The new bridge is 1,031 ft. long. The grade over the bridge was raised 5 ft. This work was commenced in the spring of 1898 & will be finished this fall. The cost is about \$70,000. The improvement of the Galt grade was done in connection with renewing the bridge. The grade out of Galt going west is about 24 miles long, & was, before its improvement, very uneven & heavy in places. The total ascent has been reduced 5 ft. by raising the bridge as before mentioned, & the grade has been improved & reduced by filling the low places & by cutting down about 3 ft. at the top. The new grade is now 1 on tangent, compensated on the curve to 0.86% & 0.95%. The track has also been improved by replacing part of the old rail with new rails, 80 lbs. per yard. This work was commenced in 1898 & is now practically completed, costing over \$21,000.

Interlocking & derauling appliances have been installed at Western Jct., where the C.P.R. crosses the Jacques Cartier Ry., which is now a portion of the G.T. system, & at St. Polycarpe Jct., where the C.P.R. crosses the Canada Atlantic Ry.

A good deal of work has been done in improving stations. At North Troy, Vt., a station 55 x 20 ft., & freight sheds 24 x 60 ft., both frame buildings, are being built. The station has stone foundation & will be heated by hot water & equipped with all modern conveniences. Cost about \$4,000. At East Richford, Que., a frame station 20 x 40 ft., costing about \$1,300, is being built. The location has been changed so that the new station will be on the main line & near to the water tank. Richford station, Que., is being supplied with hot water heating apparatus. A shelter station has been built at Little Magog Lake, Que. At Galt, Ont., an office has been built for the agent & freight clerks & the freight shed accommodation has been increased. Woodstock, Ont., has been provided with an improved station, 30 x 80 ft., built of brick on stone foundations. It has a large general waiting room, ladies' waiting room, office & baggage room. The lavatories are fitted with the most improved fixtures, with sanitary plumbing. The building is heated by hot water. The yard has been remodelled & enlarged, & wide platforms

built for the convenience & safe handling of passengers. The freight shed has been moved to a more convenient place & new offices have been provided for agent, roadmaster & clerks. In connection with this work Winnett & Admiral sts. have been closed across the Co's lands, whereby the safety of the public has been greatly increased. The locomotive water service has been improved by erecting 2 modern stand pipes, one for east bound and one for west bound trains, so that engines can be watered while standing at the station. A shelter station has been provided at Crumlin, Ont., & the London & Windsor stations have been renovated.

At Sherbrooke, Que., a crane for handling heavy freight is being erected. Machine shops costing about \$3,000 have been built at Smith's Falls, Ont. A small store house has been built at Toronto. Two grain warehouses, 24 x 30 ft., have been erected at Hornby, Ont. Shelters for live stock awaiting shipment have been provided at Milton, Ayr & Tilbury, Ont.

At Chatham, Locust Hill, Perth & Dalhousie Mills, Ont., Sherbrooke, Magog & Scotstown, Que., 40,000 gal. water tanks are being built on masonry understructures, 2 stand pipes are being provided at Chatham, 1 at Magog, 1 at Locust Hill, & 1 at Dalhousie Mills. These improvements will enable passenger trains to take water in a shorter time & at more convenient places than before. The permanent masonry understructures are, of course, a great improvement on the timber understructures, which decay in 8 or 9 years.

Air testing plants have been provided throughout the yards at Megantic, Que., Smith's Falls, Havelock, Toronto, Toronto Jct., London, Windsor & Owen Sound, Ont., for testing & charging of trains with air so that despatch may be insured to freight by cars being thoroughly charged when trains are made up & that there may be no delay on account of cars having to be charged with air by pump on engine as formerly. Drop pits have been provided in the engine houses at Megantic & Farnham, Que., Smith's Falls, Havelock, Toronto Jct., & London, Ont. Sand & cinder hoists are being put in at Megantic & Farnham, Que., Havelock, Smith's Falls, & Toronto Jct., Ont., & are being equipped with air compressors. Over head coaling chutes for locomotives are being provided at Farnham, Que., Smith's Falls & Havelock, Ont.

Western Ontario Car Shops.—The great demand for freight cars has led the management to decide to build additional shops for its car construction. In order to be near the raw material they will be located in Western Ontario. The plans which have been prepared provide for buildings with a capacity of 25 cars a day, & which when running at their full capacity would employ 1,000 men. We are informed that there is no authority for the statement in a Toronto daily paper that they will be located in Toronto, London, Windsor, & one or two other points are spoken of as likely sites, but no definite decision has been announced.

Windsor St. Station, Montreal.—Owing to the scarcity of iron for structural purposes, work in connection with the extension of this building is being much delayed. (Aug., pg. 233.)

Hotel at Ste. Agathe, Que.—We are officially informed that there is no truth in the report to the effect that the Co. will build an hotel at Ste. Agathe. An hotel is, however, likely to be built there by the Ste. Agathe Hotel Co., Ltd., which is being formed, with Mayor Prefontaine, R. Wilson-Smith & J. Crathern, of Montreal, as provisional directors, & a capital of \$50,000. (Oct., pg. 291.)

Double Track Montreal to Vancouver.—A St. Paul, Minn., paper says the C.P.R. has announced its intention of double tracking the line from Montreal to Vancouver, that con-