

General Inspection of the Grand Trunk Lines.

Some 50 G.T.R. officials, drawn from all parts of the system, have been making a tour of inspection of the company's various lines. They travelled in a special train of nine cars, including an inspection car, designed for the trip, which is fitted with large glass panels, allowing an uninterrupted view of the line, and with electrically controlled apparatus for recording the impressions of the observers. It has seats arranged in tiers, row above row, in order that every occupant may view the right of way as the train proceeds. Thus every part of the track comes in for the closest scrutiny from men whose business is track construction and maintenance.

The annual inspections have been made in the past by a limited number of the higher officials. H. R. Safford, the Chief Engineer, decided this year to broaden out this inspection. The object was to make the men actually doing the work the judges of what has been achieved in the way of track improvement. The track superintendents and track supervisors, and representatives of other ranks, were summoned from the various districts, as far west as Chicago, to assist their superior officers in the inspection, and they started from Portland, Me., the Atlantic terminus of the system, on Oct. 14. They travelled over some 1,500 miles of track, the inspection proceeding from 6 a.m. to 6 p.m. Each day a special committee was appointed, composed of track superintendents, another the spacing of the ties, others ballast distribution, neatness of station grounds and buildings, fencing, spikes, side tracks, and the level and gauge of the rails. Before each man was a series of electric push buttons, and as each mile post was passed he gave his report, awarding points according to the excellence of the work he was inspecting. These awards were flashed up on an indicator board and clerks recorded them. At the end of every section—four miles of double track, or five miles of single—an average was made and the section showing the best results in each division of the line will very shortly bear a board announcing the fact. There was naturally the keenest competition to obtain these honors. Section was competing against section, and division against division. The committees were so arranged that an absolutely impartial judgment was obtained. The men taking part in the lengthy trip also found it valuable from an educational standpoint, for they were given an opportunity of seeing what was being done on the other sections of the line. They were also brought into close contact with the company's officers and a healthy spirit of co-operation was developed.

H. G. Kelley, Vice President in charge of construction, maintenance and operation, joined the party at Montreal. Others taking part were: H. R. Safford, Chief Engineer; M. S. Blaiklock, Engineer Maintenance of Way; U. E. Gillen, General Superintendent, Western Lines; H. E. Whittenberger, General Superintendent, Ontario Lines; and C. G. Bowker, General Superintendent, Eastern Lines; with divisional superintendents and their staff officers.

Grand Trunk Trainmasters.—We are officially advised that the G. T. R. management has no intention of abolishing the positions of trainmasters over the system, as has been persistently stated in daily papers.

W. J. DeWolfe, Halifax, N.S., in writing to have his address changed, says: "I do not care to miss any of the valuable material I find in Canadian Railway and Marine World each month."

Restoration of the Canadian Pacific Railway Elevator at North Transcona.

The C.P.R. elevator at North Transcona, Man., which settled and listed to an angle of 27 degrees in Oct., 1913, has been brought back to a plumb position except on the east and west axis, after a number of interesting and difficult pieces of work. Both the handling house and storage bin structures were originally constructed on a reinforced concrete mattress, this plan having been followed as the usual tests indicated sufficient strength to carry it without going to bed rock. Other elevators have been erected in like manner in that vicinity without mishap. When the settlement of the bins occurred, the low corner of the foundation mattress settled to a point very much below the mattress of the handling house, but fortunately the latter structure was not disturbed to such an extent that any movement occurred in it. Before, however, the work could be done of underpinning or strengthening the bins, it was necessary to secure the handling house and this was done by first sinking shoring piers to rock outside of the main handling house structure. On these shoring piers were placed timber pushers, or shores, which were figured strong enough to carry a very large proportion of the total weight of the building. The work of underpinning the columns of the handling house was then proceeded with by cutting through the mattress in the panel between columns and drifting in to a point under the centre of the columns, and there sinking a pier to rock by the Chicago method.

After the underpinning of the handling house structure had sufficiently advanced so as to make its stability absolutely certain, work was begun on the straightening of the bins. The latter structure weighs about 20,000 tons and consists of 5 rows of Chicago wells of 14 each; these piers being located under the contracts of the bins. Before any movement was allowed to take place, the mattress was penetrated and Chicago wells sunk underneath the low corner of the mattress; the intention being to avoid any possibility of the structure sinking further into the ground. On the east or high side the general excavation was made to a point about 15 ft. below the high corner of the mattress, the full length of the building. By the use of a belt conveyor placed along this excavation, which delivered into the elevator at the north end, the excavated material was removed at a minimum cost. After the low corner was made secure, work became general on sinking the other foundation piers, at the same time loosening up the supporting ground from the high side of the structure and allowing it gradually to sink back towards a plumb position. This method was followed out until the structure reached an angle of 18 degrees off plumb, when a series of solid oak rockers was introduced in the mattress; on top of the middle line of piers jacks or shoring screws were placed underneath the low side, working on top of the piers that were in place, and by jacking the low side and bleeding the earth out from under the high side the structure was gradually brought back until it was 8 degrees off plumb, when another line of oak rockers was introduced on the next line of piers, east of the middle. This was done in order to give the structure an additional lift, which when it was brought plumb would leave the bottom of the tunnels above the natural ground water level.

During settlement of the elevator, on account of the ground being somewhat softer

on the north end, and the supporting ground on the south end being prevented from flowing, due to location of the workhouse, the north end of the elevator settled about 5 ft. lower than the south end. Therefore in straightening the elevator on the north and south axis, the inclination on this axis, amounting to about 5 ft. in total length, has remained the same, and the elevator at present is not exactly plumb on east and west axis. There is no loss of efficiency, convenience of operation or safety and for this reason it is not intended to take the time to bring the elevator plumb on the east and west axis.

In all, the structure was lifted up about 12 ft. during the process of straightening. The method adopted for restoring the elevator to a condition for operation has proved efficient and very economical, as compared to the question of taking down the old structure and rebuilding.

The Bridle Belt Ry. and Navigation Co. proposes to lay out railway and steamship terminals at Seattle, Wash., at a total cost of \$15,000,000. It is stated that as projected the first unit of the terminal will consist of two docks, each 200 by 800 ft., and 4 stories high; an 8 story building 500 by 500 ft. in dimensions, and a 20 story 250 by 500 ft. hotel and office building. The terminals will be connected by a three mile tunnel to Lake Union large enough to provide clearance for a double track railway. The tunnel portion of the project will cost something like \$2,000,000. It is proposed to construct the terminal near lower Pike St. and the 8 story building on Railroad Ave. The 20 story structure would face on First Ave. and 10 stories of the building would be below the level of that street. The reports further state that two Canadian railways will be provided with terminals. A. P. Gillies, Seattle, Wash., is one of the promoters, and the Stone and Webster Corporation, Boston, Mass., are said to be interested.

Conductors for Light Locomotives.—The attention of the Board of Railway Commissioners having been called to different interpretations put upon section 4 of order 12225 (general order 65) it is ruled: that in the case of the movement of a light locomotive, or two or more light locomotives coupled, for a distance greater than 25 miles, when the movement is either on a single track or against the current of traffic on a double track, the word "conductor" as used in section 4 of the said order 12225, shall mean one regularly appointed for service as a conductor and possessed of the qualifications set out under sub-section b of sec. 6, of the aforesaid order.

Railway Lands Patented.—Letters patent were issued during August, covering Dominion railway lands in Manitoba, Saskatchewan, Alberta and British Columbia, as follows:—

	Acres.
Alberta Central Ry.	7.54
Calgary and Edmonton Ry. ...	2,086.61
Canadian Northern Ry.	638.00
Canadian Pacific Ry.	6.45
Kootenay Central Ry.	183.24

Total 2,921.84

Alfred Berglund, son of CHARLES BERGLUND, section foreman, C. P. R., Finmark, Ont., accidentally shot himself dead while moose hunting recently.

The design of drop forge dies should be such that draft be allowed to prevent the forgings sticking to the dies.