The ties, on completing the period of draining following the treatment, are drawn out of the cylinder, as in fig. 5, by one of the narrow gauge locomotives, and drawn up the track in the foreground of fig. 2, on to the platform shown in fig. 7, which is at the level of the flooring of the cars on the standard gauge track alongside from a small 50 h.p. generator. This sup- the platform. The ties are loaded directly on the awaiting cars when these are available; otherwise they are stored in promiscuous heaps at the far end of this loading platform, as may be noted on the right in the distance. Flat cars and coal cars are the only ones that can be employed for this purpose, as if box cars are used, the creosote oil left in the cars on the removal of the ties renders them unfit for grain service for months.

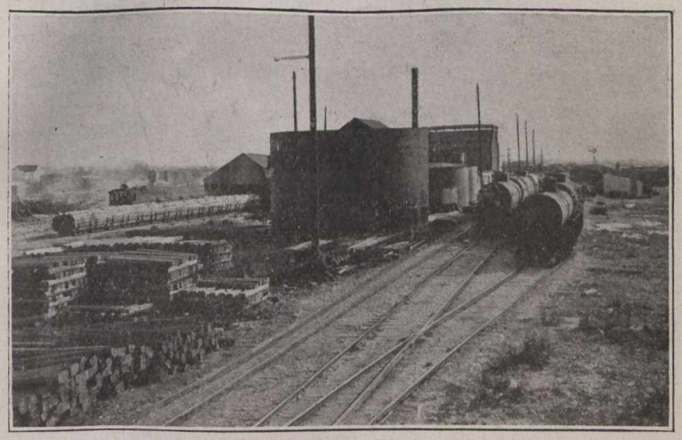


Fig. 6.—Creosote Oil Tank; Cylinders on Left.

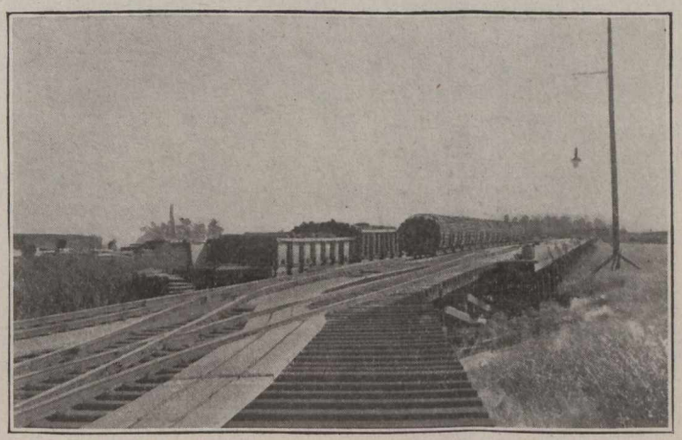


Fig. 7.—Treated Tie Unloading Platform.

The creosote oil, as received in tank cars from the company's two plants, is drained from the tank cars on the tracks to the right in fig. 6, into an underground chamber, from which it is pumped up into the large tanks in the centre of the illustration. The combined capacity of these tanks is about 500,000 gallons.

The company's offices are due east of the treating cylinders. The isolated nature of the plant made necessary the erection of buildings to accommodate the employes, of whom there are over 300. These are housed in bunk houses to the east of the plant.

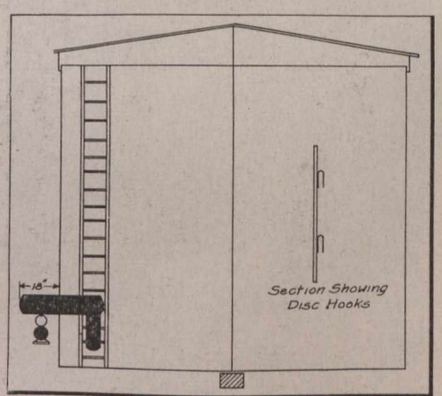
The company's head office is in Montreal, E. Bernard Smith being General Manager. G. G. Roberts is the Local Manager at North Transcona.

Second Track Work on the Canadian Pacific Railway in the Mountains.

The work of double tracking the C.P.R. between Calgary and Vancouver is in progress on the western end of the line, and construction will be begun at several points in the mountains early in the spring. Better gradients are to be secured at the same time that second trackage is provided, and for this reason it is necessary to abandon the present route entirely in some places. Changes in the route across the Selkirk Mountain range will shorten the line about 3 miles, and will involve the construction of a tunnel 5 miles long to eliminate the present summit crossing through Rogers Pass.

For the major portion of the mileage between Calgary and Vancouver the proposed changes will give a maximum gradient not exceeding four-tenths of 1%, the exceptions being on the grades to the summits in the Selkirk and Rocky Mountain crossings. The spiral tunnels in the Rockies between Hector and Field, B.C., which have a maximum grade of 2.2%, will still be used, other spiral tunnels being driven to provide for the second track. The present spiral tunnels were described and illustrated in Canadian Railway and Marine World for Jan., 1911.

In the Selkirk Mountains a route with better grades than those now in use has been located by the recent surveys. Westward from Six Mile Creek the present route, which ascends the side hills of Beaver River Valley and follows its tributary, Bear Creek, to the summit in Rogers Pass, will be abandoned altogether to secure a maximum grade not exceeding 1%. The new line follows the bottom of the Beaver River Valley to the eastern portal of the proposed tunnel, which will do away with the grade up to Rogers Pass and incidentally eliminate 4 miles of snowsheds. The western portal of the tunnel will be a few miles below Glacier in the valley of the Illecillewaet. It is expected that the grade through the tunnel will not be much in excess of 1%. In addition to the grades exceeding four-tenths of 1% which have already been mentioned, there will be one other exception to this as a maximum gradient, which will be in that part of the line between the western portal of the tunnel and Revelstoke. Here the line often skirts the brink of the Illecillewaet Canyon, and great difficulties would attend grade alterations at many points. Fuller particulars of this portion of the work were given in last month's issue.



Proposed Car Repair Protection Disc.

The cost of the proposed route changes, second tracking and driving the tunnel, is estimated at about $150,000,000, and at least 4 years will be required to complete the work. F. F. Busteed, M. Can. Soc. C.E., is in immediate charge of the work, with office at Kamloops, B.C.

Protection for Car Repairers.

As a result of a general discussion of this question at the Board of Railway Commissioners sitting in Ottawa, Dec. 12, 1912, the Board has issued the following circular to railway companies:—"The present practice of using a flag for protection purposes is considered very unsatisfactory, and a simple device, as set forth in the accompanying diagram, has been suggested for use. This could be of light steel or wood, made so as to fold up, and when opened up could hang on the ladder rungs by hooks, as shown in the sectional view. The disc could project 18 ins. beyond the car and be 10 ins. in depth, with a hook on the bottom side for hanging a lantern for night use. This disc would not be as subject to the caprices of the wind as a flag, and would be readily discernible for the full length of any ordinary train. Furthermore, as it can be so easily applied, there will be no excuse for failure of employes to neglect its use. The arm of the disc should be painted blue, and a blue light used at night as required by the standard rules. The Board will be glad if railway companies will give this suggestion careful consideration and let the Board have their views thereon as early as possible."

Taxation of Steam Railways in Ontario.

The Ontario Government collected $448,515.66 as taxes from the various steam railways operating in Ontario during the financial year ended Oct. 31, 1912. This amount was made up as follows:—Algoma Eastern Ry., $233.76; Algoma Central and Hudson Bay Ry., $1,724.51; Bay of Quinte Ry., $1,405.12; Brockville, Westport and North Western Ry., $675; Canada Atlantic Ry., $20,635.74; C.P.R., $157,166.28; Canadian Northern Ry., $14,316; Canada Southern Ry., $32,669; Central Ontario Ry., $1,984.50; G.T.R., $181,482; G. T. Pacific Ry., $8,236.80; Irondale, Bancroft and Ottawa Ry., $765; Kingston and Pembroke Ry., $1,551; Lake Erie and Detroit River Ry., $3,348.20; Niagara, St. Catharines and Toronto Ry., $553.80; Nosbonsing and Nipissing Ry., $55; Ottawa and New York Ry., $853.50; Thousand Islands Ry., $55; Toronto, Hamilton and Buffalo Ry., $1,223.05; James Bay Ry., $9,486.40; Marmora Ry. and Mining Co., $96.

The removal of 78.8 cu. ins. of metal weighing 22 lbs. from a 1 in. square test bar, is the reported performance of a 14 in. high speed file, tested on both sides at a Sheffield, Eng., plant. The file made 120,000 strokes in 39 hours.