

ming should only be done where positively necessary. In many cases section foremen will shim along a sag perhaps 100 ft. or more whereas 25 to 30 ft. would answer the purpose and would make just as good riding track as though the whole sag had been taken out and the rails set up on high shims, which, as previously stated, is dangerous. A section foreman should always use a level board when shimming, the same as when surfacing, and should be very careful about spiking the track to line and gauge. All shims should be bored and spiked through the shim holes. Where spikes have been pulled, ties should be plugged, and long spikes used on outside of rail, and also on every other tie on inside of rail where shimming is done. The balance of the ties should be spiked with 6 in. spikes inside. Each shim that is placed under the rail should have an equal bearing. At each end of where shimming is done very thin shims should be used; shingles may be found very useful for this. The track should be well braced where high shimming is done, with a shim 2 ins. thick and both edges of the end of shim bevelled off so as to fit under the ball of the rail, with three spikes in the shim on the end of the tie and one through the hole of the shim and the other two at the end of the shim. This should be done on every three or four ties, according to the height of the shimming. Where shimming is done on the track, particular attention should be given to it, when sectionmen are going over the section each day, to see that the track is staying in good condition and that shims are all in place and not split. Care should be taken to see that the track is not heaved any more at a point where shimming is done, not by merely looking at it, but by testing it with the level board.

**Switches and interlocking plants** require a great deal of attention. In case of a heavy storm there should be a man stationed at the plant. All switches should be kept free from snow and ice and should be examined by the foreman the first thing in the morning when coming on duty, and the switches should be tested by throwing them to and fro to see that they are in good working order. During a heavy storm a man should also be kept on duty in the yard over night. The very best grade of oil should be used for switch lights.

**All Spikes** over the entire section should be tapped down tight to the rails in the autumn, so as to keep the rails firm in place; spikes should be tapped down carefully so as not to break off the heads. All bolts in track should be well tightened before frost sets in. Tightening bolts in frosty weather tends to break them. Track walking should not be allowed in winter except when impossible to run a hand car, so that the men may have the proper material and tools to work with. When it is necessary for a man to walk track, he should be an experienced man, and should start walking the first thing when he comes on duty in the morning.

**By O. Ogden, Supervisor of Track, Ottawa.**

After ties are all in and track surfaced, the foreman should start to get ready for winter, and the first and most important thing is to keep the water away from the track. All ditches and water courses must be properly cleaned out, then the ballast trimmed, and trimming ballast has a lot to do with the heaving by frost or making rough track. It should be trimmed very even, as heaps in the ballast will make humps in the track, especially, where the track is through cuttings or wet places. The centres of track must be kept well filled so

that water will not lie on the track, and switches and frogs must be trimmed so snow can be got away easily. All low places must be tamped up to surface, leaving the track in good surface when frost comes; bolts kept tight, and spikes driven down, and the inside spikes put down first to avoid as much as possible the canting out of the rail.

A thing all trackmen find hard to do is to keep the rail up to proper level, especially on curves. Track must be kept in good gauge and line and shimmed up to good surface, as very little in the surface makes a track ride rough when it is frozen hard; all ice and snow to be kept cleaned away from frogs and switches, and when frost comes, and before heaving or snow comes, the foreman should get snow plough and flanger markers up in the proper places.

All crossing plank should be removed that can be, cut all brush, have all rubbish piled up, and in the spring have it and all grass burned, all fences repaired, station yards cleaned and raked up, making the right of way have a neat and clean appearance.

**By D. Macdonald, Supervisor of Track, Trenton, Ont.**

To ensure a good winter track, all surfacing, lining, and spiking to gauge should be done not later than Nov. 15. The bolts and joints should be gone over and tightened and made secure.

## Birthdays of Transportation Men in January.

Many happy returns of the day to:—

J. Abrams, Wharf Freight Agent, C. P. R., Vancouver, B. C., born at Manchester, Eng., Jan. 24, 1870.

W. U. Appleton, General Master Mechanic, Intercolonial Ry., Moncton, N.B., born there, Jan. 29, 1878.

R. Armstrong, Superintendent, District 4, Manitoba Division, C. P. R., Souris, born at Kingston, Ont., Jan. 27, 1865.

F. X. Belanger, General Freight and Passenger Agent, Temiscouata Ry., Riviere du Loup, Que., born at Chlorydormes, Que., Jan. 20, 1876.

R. H. Bell, General Agent, Canadian Northern Ry., Chicago, Ill., born at Toronto, Jan. 13, 1865.

E. Bower, Travelling Passenger Agent, Canadian Northern Ry., Saskatoon, Sask., born at Nottingham, Eng., Jan. 17, 1889.

G. McL. Brown, European Manager, C.P.R., London, Eng., born at Hamilton, Ont., Jan. 20, 1866.

R. F. Chapman, Chief Dispatcher, District 1, Saskatchewan Division, C. P. R., Regina, born at Coal Branch, N.B., Jan. 21, 1874.

W. A. Cowan, Resident Engineer, Canadian Government Railways, Truro, N.S., born at Galt, Ont., Jan. 22, 1877.

J. E. Dalrymple, Vice President, G.T.R., G.T.P.R., and Central Vermont Ry., Montreal, born there, Jan. 1, 1869.

A. Davidson, General Agent, G. T. Pacific Ry., Prince Rupert, B.C., born at St. Henri, Montreal, Jan. 29, 1885.

J. E. Everell, Superintendent, Montmorency Division, Quebec Ry., Light and Power Co., Quebec, born at Cap Rouge, Que., Jan. 1, 1863.

Sir Sandford Fleming, K.C.M.G., director, C.P.R., born at Kirkcaldy, Scotland, Jan. 7, 1827.

J. Gordon, Foreman Electrical Engineer, Car Department, Grand Trunk Pacific Ry., Transcona, Man., born at Forres, Scotland, Jan. 1884.

Gordon Grant, Chief Engineer, National

Where rails creep, they should be bunted back, so as to avoid joints breaking away in extreme cold weather.

Points of switches should have the ballast lowered so that the gravel would not heave and interfere with the working of the switch.

Ditches, drains, and culverts should be cleaned and opened out before it freezes up.

In cuts where there are stones or rock projecting out, these should be tried, and if loose, should be taken out, if not they should be carefully watched as the frost goes out in the spring.

Snow gates should be placed before it freezes up, and set in the ground so the frost will help hold them to their place.

As soon as the first snow comes all switches and sidings should be shoveled out and snow cleared back, to prepare for another storm.

Before snow gets too deep, the snow plough and flanger should be run and track opened out, cuts and snow banks to be widened by shovelling.

Track surface should be kept level by shimming, as soon as track begins to heave with frost. Where shimming has been done on curves, it should be braced.

As winter advances, snow ditches and culverts should be opened, to prepare for thaw. As frost is going out care should be taken to keep the surface level, by lowering the shims, and shimming should be done where frost is going out unevenly.

Transcontinental Ry., Ottawa, born at Dufftown, Scotland, Jan. 2, 1861.

G. F. Hichborn, formerly Agent, Great Eastern Fast Freight Line, New York, born at Boston, Mass., Jan. 13, 1875.

Carl Howe, Manager, New York Central Fast Freight Lines, Chicago, Ill., born at Berrien Springs, Mich., Jan. 11, 1870.

W. C. Hunter, ex-Manager, New Brunswick Coal and Ry. Co., Moncton, N.B., born at St. John, N.B., Jan. 4, 1865.

H. G. Kelley, Vice President, G. T. R., Montreal, born at Philadelphia, Pa., Jan. 12, 1858.

James Kent, Manager, C.P.R. Telegraphs, Montreal, born Jan. 15, 1854.

A. J. McGee, Secretary-Treasurer, Timiskaming and Northern Ontario Ry., Toronto, born at Lachine, Que., Jan. 24, 1876.

G. C. Martin, General Freight and Passenger Agent, Toronto, Hamilton and Buffalo Ry., Hamilton, Ont., born at Creemore, Ont., Jan. 2, 1866.

J. J. Nelligan, Division Freight Agent, Canada Steamship Lines, Ltd., Montreal, born at Hamilton, Ont., Jan. 20, 1876.

G. Pepall, Assistant Division Freight Agent, G.T.R., and Agent, National Despatch-Great Eastern Line, Toronto, born at High Wycombe, Bucks, Eng., Jan. 15, 1849.

W. Phillips, European Railway and Steamship Manager, Canadian Northern Ry., London, Eng., born at Toronto, Jan. 31, 1870.

W. Pratt, Superintendent, Sleeping and Dining Cars and Hotels, Canadian Northern Ry., Winnipeg, born at Sibbertoft, Northamptonshire, Eng., Jan. 18, 1870.

John Pullen, President, Canadian Express Co., Montreal, born at Shepton Mallet, Eng., Jan. 23, 1863.

L. J. Rouleau, Travelling Freight Agent, G.T.R., and Agent, National Despatch-Great Eastern Line, Montreal, born there, Jan. 6, 1879.

B. G. F. Rutley, ticket agent, C.N.R. and G.T.P.R., Fort Garry Union Station, Winni-