

J. DRINKWATER.—The horse draws the water on top of the pit.

J. JELLY.—Yes. We take our empties & ship them back to where they were. It means about 10 minutes.

J. DRINKWATER.—How do you set your loads out?

T. GRAHAM. We spot them all.

J. DRINKWATER.—You let your empties come in on outer track?

J. JELLY.—Yes.

J. DRINKWATER.—I like the train to come in on inner track at the pit.

J. JELLY.—Where it can be spotted with horses there is a lot of money saved. It is wonderful what a team of horses will spot.

J. DRINKWATER.—Will they move 40 loaded cars?

J. GRAHAM.—This year we have all our ballast cars equipped with air-brakes. It makes quite a difference.

J. DRINKWATER.—One advantage of the Mill car is that you do not use brakes at all.

J. GRAHAM.—We have no ballast cars at all on the ballast trains that are not equipped with air.

#### THE RENEWAL OF TIES.

The committee, J. R. Brennan, J. Leslie & J. Drinkwater, reported as follows:—

"In our opinion new ties should be distributed the fall previous, if possible (in order to peel easily), or as early in the spring as circumstances will permit. Each section foreman should accompany the tie train when distributing, & should know wherever a tie is

ly & unexpectedly, the best & safest way is to dig them out, particularly on curves. As to the cost per tie, in sand ballast they can be put in track for from 5 to 8 cts., & in coarse gravel for from 8 to 13 cts. Old ties should be piled up daily & burned."

J. JELLY.—I think that covers everything in connection with it. I think the report has been studied out pretty well, & I do not know that I can say very much in connection with it. I like what the report says; I do not like these box cars at all. I am satisfied that it costs three times as much on box cars as on flats. I think we should have, at least, half of our ties distributed every fall; we should have them out before the spring, particularly in the section of country where we get our ties in by water. If we do not get any in until the



TRIPLE-VALVE ROOM IN THE WESTINGHOUSE MANUFACTURING COMPANY'S SHOP, HAMILTON, ONT.

J. JELLY.—It depends upon the location of the pit.

J. DRINKWATER.—If it is level?

J. JELLY.—If it is level, yes. Sometimes in a certain part of the pit we may put two teams. We have taken out 150 cars a day & spotted them with a team, one engine & crew. Of course, the hauls were a little long; we were hauling about 10 miles, & we left at 6 in the morning & got in at 8 or 9 in the evening. If you put on another engine you might take out 175, perhaps 200, cars. I think that spotting with horses saves money.

A. MCAULEY.—150 cars to the shovel for 3 or 4 months is pretty good work.

J. GRAHAM.—You would require to have a pretty good pit.

A. MCAULEY.—Yes.

wanted, & get the required number put off, which, of course, is a rather difficult thing to do from box cars. The next thing in order would be to go along with the lorry & put them just where they are wanted, marking in advance of the lorry the ties that are to come out, being careful not to damage a tie that would not have to be taken out. As to the best method of putting them in, where 5 or 6 are required to a rail length, it would be best to dig them out. Any more than this number to a rail length, it would be well to raise up the rail to allow them to be pulled out, or if there is sufficient ballast to give a lift of 1½ inches. This would allow old ones to come out easily, & new ones to go in with little or no deepening. This, of course, would depend on circumstances. Where trains are running thick-

spring we are liable to have them coming in in Aug. & Sept., & in fact we are getting them yet. If you get ties as late as this you never get a good surface. I think that ties should all be in early in June every year, & by that time it is time to start surfacing & have it all done by the end of July. In that way you have a pretty good track, whereas in the fall you cannot get a good track. I think it would be a great saving. Our Company got a few ties last year, but most of them have been coming all summer. I suppose in some places they have not got them yet.

J. GRAHAM.—I am sorry to say that the C. P.R. is not the only road in getting ties out late this season. This is the first season we were so late. We generally had our ties scattered in May & there might be a few in