

## ELECTION OF OFFICERS.

The following were elected:—President, A. McAuley, C.P.R., Toronto Jct.; Vice-President, J. R. Brennan, P. P. Jct. R. & O. & G.R., Ottawa; Secretary-Treasurer, J. Drinkwater, C.P.R., Winchester, Ont.; Executive Committee, the above-mentioned officers, & J. Jelly, C.P.R., Carleton Jct., Ont.; T. Graham, C.A.R., Depot Harbor, Ont.; F. J. Holloway, C.P.R., Toronto Jct.; N. Delaire, C.P.R., Montreal.

## THE CREEPING OF RAILS.

The Committee, J. Jelly, J. R. Brennan & T. Hickey, reported as follows:—We beg to report that the best method to prevent creeping of rails on a soft or swampy roadbed is to put on 18 inches of cinders; to lay ties from 10 to 12 ft. long, from 7 to 8 ins. thick, & not more than 8 ins. from bearing to bearing; & block 4 ties on each side of joint, under each rail, with 4x4 scantling, using angle bars on joints.

A. MCAULEY.—I quite agree with the report. When I was on the Havelock section of the C.P.R., 2 or 3 years ago, we adopted the principle of putting in long ties of 12 ft., & they were 8 ins. thick, with a bed of cinders & a long angle bar, & we found that it prevented the rails from creeping, although with a heavy weight of trains & engine it is almost impossible to prevent it altogether. I think the long ties are a great preventative to the creeping of rails.

F. J. HOLLOWAY.—Where the division is a heavy gradient division we had continuous trouble with the creeping of rails, & I relaid the road with 73-lb. rails, with angle bar, & I have had no trouble since. I find that the angle bar has stopped all the creeping.

J. GRAHAM.—With a long angle bar or a short one?

F. J. HOLLOWAY.—A short one.

A. MCAULEY.—The place that I have reference to where the creeping took place, if you stand on the track and a train passes by at the rate of 35 or 40 miles an hour you have to catch the fence to keep yourself up. If an angle bar stops all Mr. Holloway's creeping he cannot have very much soft stuff.

F. J. HOLLOWAY.—I have found the creeping continue for half a mile on one side of the track, & then it will reverse & go the other way. I put the question to our engineer, Mr. Hertzberg, & he saw it himself, but he could not explain it.

J. DRINKWATER.—I quite agree with the report that the long ties are certainly a great help to keep your track in line at those places, & I try to keep the rails tightened up, but there is a danger of their kicking out in very hot weather. Those are the places that the rails have a tendency to crowd, & of course, these long ties put close together, well spiked & ballasted with cinders, will hold the track in line & admit of rails being put tighter together than you otherwise could. In my experience the extra opening of the joints will allow your rails to creep. I have a track that will travel 8 or 9 ins. both ways the same day in hot weather, & I saw something not long ago stating that the only way to prevent the rail from creeping was to put the anti-creeper on the centre. I do not think the anti-creeper on the centre of the rail would be any more effective than on the joint or any other point; I cannot see how it could be. I think it was an advocate of some patent anti-creeper who made that claim, & I hope he will be able to satisfy the trackmen of America that his anti-creeper will prevent the track from creeping. If it turns out to be effective I would like to have a few of them, but so far as I know I do not think it would be very much good.

T. GRAHAM.—Of course, why you put cinders on is to keep the swamp from breaking. When the swamp is 15 or 20 ft. deep the best way is to get your bottom & have it solid there. I think the next best plan is the long

tie, & I think a good scantling spiked to every tie would keep them in place.

J. JELLY.—Would not the block keep them in place?

T. GRAHAM.—My experience of this block between the ties is that it is continually shoving up.

J. DRINKWATER.—Have you noticed, Mr. Holloway, where the track creeps one way & the other the joint ties travel with the rail?

F. J. HOLLOWAY.—Yes.

J. DRINKWATER.—It would affect the gauge of your track, would it not?

F. J. HOLLOWAY.—Yes.

A. MCAULEY.—I think that the creeping of the rails on one side or the other largely depends upon the way the bolts are tightened. For instance, we have on the Havelock & Toronto section of the C.P.R. an oval hole of one & one-quarter inches, & the size of the bolt we used on them is a three-quarters bolt. With the last 80-lb. rail that we laid there you cannot get more than one quarter of an inch expansion in any joint, & the holes are round holes, & we use seven-eighth bolts. I think that is the great trouble, one rail is creeping more than the other, because that side is left slackened, the bolts are not so well tightened up & are allowed to pull.

J. GRAHAM.—In my division I have three miles of swamp where the steel creeps on the north side of the track running east & west, & it creeps more than on the south side. I never could make out what the cause of it was. The seven-eighth bolts will snap in two unless you watch them close & keep them driven back.

J. DRINKWATER.—The rail raises on account of rolling the tie at the joints?

J. GRAHAM.—Yes, & takes the spikes with it. When the ties cannot move the spikes will draw out of them.

A. MCAULEY.—The creeping is caused altogether by the roadbed. If the roadbed is soft you cannot put anything to prevent it if the train is running at full speed. The only way to prevent it is the long ties & the heavy rails.

J. GRAHAM.—The most of our road, the Canada Atlantic, is all east & west, & we have got as heavy ballast in the swamp, & the track has been laid 19 years this summer. However, I would like to hear from one of the new members, Mr. Delaire, on the subject.

N. DELAIRE.—I have only been about two months in the position, & I do not come here to teach but to learn, so that I do not think anything I could say would interest your Association very much.

A. MCAULEY.—I think the report of the committee is quite agreeable to the members, that the long ties & the cinders on soft bottom are the proper thing, with the heavy rail, & I would move that the report be adopted.

The motion was unanimously adopted.

## THE BEST MODE OF HANDLING STEAM SHOVELS.

The Secretary stated that he had no report from the committee on the best mode of handling steam shovels, distributing & unloading ballast, & all work to be done in connection with ballasting, etc., filling trestles, etc. The committee was composed of E. Murphy, A. McCauley & T. Graham, & the two latter were present.

A. MCAULEY.—About 8 or 9 days ago I saw Mr. Murphy, & he told me to write a report & send it down to him, if I wished to make it, but I felt that the time was too short, & so I did not do so. The only report I have to make is that I think the Barnhardt shovel is the best shovel we have had put in the market. It will load from 180 to 200 cars a day with good men. As for the unloading, I prefer the Mill car myself. I think it is one of the grandest things we ever had. I have had 18 or 20 years' experience in ballasting, & I think the Mill car is one of the finest things for unloading I ever saw. It has given every

roadmaster that I know of great satisfaction. The Mill car pulls your cable to the car & strings it over the train of 40 cars in three minutes, so that a great deal of time is saved. Mr. Leonard, our Superintendent, was very anxious to try it up in Toronto this year, & we got sufficient cable to load 40 cars, & after 2 or 3 days I would not be without it at all.

J. DRINKWATER.—How would it be if you tried to unload with the train moving?

A. MCAULEY.—I think that could be done with satisfaction.

T. GRAHAM.—In going into the pit you should always try to lay it out so that the engine can spot & pull out the train. Every time you shunt you lose 10 minutes. About working the pit, if you are not around yourself, or have a man there to look after the train, as a rule there are a good many minutes lost. Every conductor has to report to me every day his arrival at the pit & departure from it for every train that he pulls out of the pit. The steam shovel engineer has also to fill out a form giving me the time the train arrives at the steam shovel & the time of departure. In this way you can follow them up very closely. If there is any delay you can find it out & the cause. I also make the conductors report how many minutes they have to wait for orders, & in this way I find out if they have not given the train the proper orders. At the end of every month I send each pit the report of the daily average of the shovels for that month, & men do not like to be beaten. They are all working under the same conditions, & it spurs them up a little. They get all they can out of each pit. We sometimes have three shovels going night & day.

J. DRINKWATER.—How do you load your cable?

A. MCAULEY.—It is necessary to put up mill posts at every station.

J. JELLY.—We put up posts on each side with a pulley & block, & one, of course, is on top of the other, hitched on to the plough or back, & of course the one on the opposite side would swing across to go on top of the car, & in that way we would have only about a car length of cable to handle.

T. GRAHAM.—You pulled straight over your trestle; you were not snubbing.

J. JELLY.—We would be pulling over, yes. We always snub with the tongs right to the rail & the block just across the top of the rail. It is quite safe.

A. MCAULEY.—If you ever used it you would never be without it. If you want to pull 5, 6, 7 or 8 cars you do not have to wait to pull the cable out of the road.

T. GRAHAM.—With a long train your cable would fly off.

J. DRINKWATER.—I am sorry to say that I have not had much experience lately in ballasting. The best way to get your division ballasted, I think I understand pretty well. If there is an appropriation granted covering 3 or 4 divisions & you get started on it in the spring, & you get to the steam shovels, that is the best way to get your division ballasted. Of course, I have not been able to put that into practice this year, & in that way I have not had any experience with the Mill car & shovels, but the Barnhardt shovel, as Mr. McCauley says, has always done good work. I certainly think that wherever it is possible to get a ballast-pit with lots of room in it & in such a shape that the engine will handle a full train it is a great advantage & a great saving.

A. MCAULEY.—It is not always possible to do that.

J. DRINKWATER.—Yes, that is so. The form which Mr. Graham spoke about having filled up, giving the time of the arrival of the train at the pit & the departure therefrom, is certainly an advantage in itself. I am of opinion that it always pays to have a good foreman in the ballast-pit. I think it is money well spent, irrespective of the trainmen and the steam