

ding their acceptance in interchange. The draft timbers should be held securely to the centre sills, end hills and dead wood by not less than six $\frac{7}{8}$ in. bolts or five one inch bolts. Size of draft springs should be specified in place of capacity. I consider that a clause should be drafted specifying the condition of draft gear and sills, as this is more important than the dimensions. I do not consider that recommendations for repairs are advisable, as it is not apparent what object would be attained by them.

JAS. COLLIER, Superintendent, Car Department, G.T.R., said:—There are some railways which have a large number of cars with less area than required by this report, and I do not think it is fair to adopt this report, as it would almost cripple some of the railways which have a large number of these cars in service.

H. H. VAUGHAN, after some further discussion, said:—I think the report of the committee should be received, and I would be very glad if the association would receive my report as a minority report. The report as a whole demands varied action. As to some portions relating to the minimum strength of draft gear on cars in interchange, that portion should be referred to the arbitration committee for their consideration. Another portion of the report, the strength of centre sills on new cars, may be submitted to letter ballot as recommended practice. I do not think any action should be taken on the report as a whole.

And further on in the discussion Mr. Vaughan said:—It may be that referring this report to letter ballot for adoption as recommended practice will make a progress report for it, but it also does something more: it puts the stamp of approval of the association on certain required limits for new cars, and any road that builds cars which do not come up to that minimum is more or less subject to criticism. Four years' experience with cars having two 15 in. channel centre sills, properly reinforced with a bolster, but without a continuous cover plate, has shown excellent results in service, and the cars have not sustained sufficient damage in interchange service to justify us in adding 500 lbs. of weight. I have figured that 500 lbs. of added weight adds \$6 a year to the cost of pulling the car around. I do not want to add that cost unless it is necessary, and I cannot see that it is at the present time.

C. E. CHAMBERS, Central Rd. of New Jersey, took issue with Mr. Vaughan as to the matter of cars in service of four years. He did not think that sufficient time in which to decide whether a car was strong enough. During that time the sills had not commenced to deteriorate, but during the next four years there might be considerable weakness displayed in them.

Finally it was decided to refer the paragraphs under discussion to the incoming executive committee to dispose of.

The Use of Electric Motors in Railway Shops.

In delivering at the A. R. M. M. convention the individual paper on this subject, which appears on pg. 307 of this issue, two of the Michigan Central Rd. officials referred to its new shops at St. Thomas, Ont.

E. R. WEBB, Master Mechanic, St. Thomas, said: Being connected with probably the very latest new shops that are being electrically equipped, I can certainly agree with all of the statements in the paper. We find that in going from the shaft drive to the individual motor drive, and from the group drive to the individual drive, the advantage is very great.

W. H. FLYNN, Superintendent Motive

Power, Detroit, said: We have recently built a new shop, which is electrically equipped throughout. We have had considerable experience with electricity in our shops at Jackson, Mich., but our first installation there was the group system. Since that time we have recognized the disadvantage of the group system, which entailed the use of a lot of belts, and our later purchases have been largely confined to individually driven machinery. In our St. Thomas shops we have gone to the individual group system to a slight extent, partly from the standpoint of economy, and partly also from an economical arrangement of the tools, but in large installations I am in favor of the individual system. We have had an experience in building a new shop, and also trying to modernize a car shop by using electricity and centralizing the power into one power plant, and benefits are already apparent. We are going to operate one power plant at a less cost to supply a considerably greater amount of power than we previously operated two power plants.

J. K. DEVOY, Chicago, Milwaukee and St. Paul Ry.: Has Mr. Flynn any information as to what he has saved by changing from group to individual drive, and if he has made up his mind as to how low he would go in size of a motor for individual machines?

W. H. FLYNN: We have been governed largely by the results which we have obtained, and while we have not any definite recommendations to make at this time, we are studying that now. We find that some small machines, where they are running constantly, can be grouped and run by a 7 or 10 h. p. motor, with very economical results, but we ran up against the question of power factor at Jackson. We were getting very poor results and we found it necessary to make some changes in grouping, abandoning some of the group drives in order to get more efficiency.

Disposition of Committees' Reports [at Atlantic City.]

MASTER CAR BUILDERS' ASSOCIATION. The reports of the committees on rules of interchange, prices for labor and material, coupler and draught equipment, overhead inspection of box cars, and damage of freight car equipment by unloading machines, were approved in full.

The reports of the committees on car wheels, loading rules, car trucks, train lighting, tank cars, specifications and tests for materials, car construction, and retirement of 40,000 and 50,000 capacity cars were accepted, to be referred to the members by letter ballot.

The reports of the committees on brake-shoe and brakebeam equipment, revision of standards and recommended practice, and train brake and signal equipment, were amended, and will be referred to the members for letter ballot.

The report on car construction was referred to the incoming executive committee, to dispose of the paragraphs to which exception was taken by H. H. Vaughan and others.

L. C. Ord, Assistant Master Car Builder, C.P.R., Montreal, took part in the discussion of the report on train brake and signal equipment, and moved that sec. 3, concerning the cording of conductors valves, be referred back for further consideration. This and other amendments carried.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION. The reports on locomotive stokers and locomotive head lights were adopted.

The committee on standardization of tinware was continued and requested to bring in a report next year with recommendations

for standards for all classes of tinware now in use.

The report on train resistance and tonnage rating was referred back to the committee for further investigation.

The reports on smoke prevention and fuel economy were adopted, and the committees were both continued and made standing committees.

The report on revision of standards and recommended practice was referred to letter ballot, with the exception of the sections on maximum and minimum flange, thickness, gauge and rearrangement of specifications, which were referred back to the committee for further action next year.

The report on laboratory and road tests for locomotives was referred to letter ballot for recommendations as to standard practice.

In connection with the report on train brake and signal installation, which was also submitted to the M.C.B. Association, similar action was taken by both associations, it being decided to omit the questions and answers from the proceedings, that the air brake and train signal instructions be submitted to letter ballot and that the new train signal be returned to the committee for further investigation.

Election of Railway Mechanical Associations' Officials.

The following elections took place at Atlantic City:

Master Car Builders' Association.—President, D. F. Crawford, General Superintendent of Motive Power, Pennsylvania Rd.; First Vice President, D. R. MacBain, Superintendent of Motive Power, Lake Shore and Michigan Southern Ry.; Second Vice President, R. W. Burnett, General Master Car Builder, Canadian Pacific Ry.; Third Vice President, C. E. Chambers, Superintendent of Motive Power, Central Rd. of New Jersey; Treasurer, J. S. Lentz, Master Car Builder, Lehigh Valley Rd.; Executive Committee, R. E. Smith, General Superintendent of Motive Power, Atlantic Coast Line Rd., J. C. Fritts, Master Car Builder, Delaware, Lackawanna and Western Rd., and H. T. Bentley, Superintendent of Motive Power and Machinery, Chicago and North Western Rd.

American Railway Master Mechanics' Association.—President, F. F. Gaines, Superintendent of Motive Power, Central of Georgia Ry.; First Vice President, E. W. Pratt, Assistant Superintendent of Motive Power, Chicago and North Western Rd.; Second Vice President, W. Schlafke, General Mechanical Superintendent, Erie Rd.; Third Vice President, F. H. Clark, General Superintendent of Motive Power, Baltimore and Ohio Rd.; Treasurer, Angus Sinclair, Editor, Railway and Locomotive Engineering; executive members for two years, C. F. Giles, Superintendent of Machinery, Louisville and Nashville Rd., M. K. Barnum, General Mechanical Engineer, Baltimore and Ohio Rd., J. Purcell, Assistant to Vice President, Atcheson, Topeka and Santa Fe Ry.

Railway Supply Manufacturers' Association.—President, J. W. Johnson, Pyle National Electric Headlight Co.; Vice President, O. F. Ostby, Commercial Acetylene Railway Light and Signal Co.; Executive Committee, Third District, C. E. Postlethwaite and P. J. Mitchell, Fifth District, G. H. Porter, and Sixth District, F. E. Beal.

The Palliser, the C.P.R. hotel at Calgary, Alberta, was opened for business June 1. It has 315 rooms for guests, of which 278 are provided with baths.