

out superheat, with the oil more commonly used." It was the sense of this committee, that while there is every probability of improvement in the present arrangement of superheating, it would seem improbable that any effort will be made to secure a much higher temperature, not because of the problem of lubrication, but in view of the effect upon the materials comprising the machinery.

That superheating is destined to find a permanent place, if not universal, in modern locomotive design, is the opinion of most competent authorities. With over 600 locomotives on the C.P.R., equipped with superheaters, it is but just to credit H. H. Vaughan with a large measure of the success attained in the new world from this feature of locomotive operation. What is known as the Vaughan-Horsey superheater, is used on the C.P.R. absolutely, and the superheat oil mentioned is used on this type of engine. It has been found that by using this oil, as many miles, or more per pint, can be made, compared with the non-superheated locomotive using the standard valve oil.

"Miles per pint" has been the unit of measurement, when considering the efficiency of a valve oil in railroad service. The C.P.R. freight locomotives average in steam temperature, from 540 to 560 degrees; on passenger engines 520 degrees. Engines equipped with superheaters, cylinder dimensions 21x28, and 22x32, are allowed oil on the basis of 75 miles per pint. Engines having cylinders 24x32, 65 miles to the pint, imperial measure, which is about one-fifth more than wine measure, such as is used in the U. S. Very good results are obtained from this allowance, and it is only on rare occasions that the allowance is exceeded. All engines equipped with superheaters, have piston valves, and carry 200 lbs. pressure, with the exception of about 100 engines, which carry 180 lbs. Diameter of driving wheels, 57 and 63 inches.

Excellent results have been obtained by applying the oil pipes in the steam passage in the saddle casting, and it has been further demonstrated that additional pipes are not necessary. It is found that cylinder packing wears somewhat faster with superheated steam, but this is attributed to the increased pressure behind the rings, or possibly to the deteriorating effect of the heat on the material in the rings, and not due to any deficiency in lubrication. As the locomotive and its equipment change, lubrication will demand consideration, to the end that efficiency and economy be maintained.

Acknowledgments are due, and gratefully rendered to the gentlemen whose names appear in mention of their devices, and also to several of the writer's associates in the Galena-Signal Oil Co. The foregoing was read before the Central Railway Club at Buffalo N.Y., recently.

G. T. Western Ry. Rate Case.—In the case of W. K. Noble vs. Grand Trunk Western Ry. et al. complainant asked reparation on shipment of coiled elm hoops from Mount Clemens, Mich., via Norfolk, Va., to Ripplemead, Va., on a combination rate of 26c. per 100 lbs. Subsequently a specific rate from Mount Clemens to Norfolk was published. Reparation was demanded on the basis of the resulting Ripplemead rate of 21½c. The Interstate Commerce Commission has held that as the later tariffs could not be used until the Commission's tariff rules had been complied with, there is no basis for an order of reparation. Such order should be made upon affirmative evidence that the rate complained of is unreasonable or unjustly discriminatory, which does not appear in this

March Birthdays.

Many happy returns of the day to:—

W. G. Annable, General Passenger Agent C.P.R. Atlantic Steamship Lines Montreal, born at Ottawa, Mar. 3, 1875.

P. S. Archibald, M. Can. Soc. C.E., General Manager Elgin and Havelock Ry., Moncton, N.B., born at Truro, N.S., Mar. 21, 1848.

G. J. Bury, General Manager C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 6, 1866.

Allan Cameron, General Traffic Agent, C.P.R., New York, born near Owen Sound, Ont., Mar. 14, 1864.

F. G. J. Comeau, General Freight Agent Dominion Atlantic Ry., Halifax, N.S., born at Meteghan River, N. S., Mar. 10, 1859.

A. E. Cox, Storekeeper Canadian Northern Ry., Winnipeg, born at Huddersfield, Eng., Mar. 12, 1863.

G. R. Fairhead, Commercial Agent Canadian Northern Ry., Hamilton, Ont., born at Toronto, Mar. 6, 1882.

C. Forrester, Trainmaster G.T.R., Stratford, Ont., born at Wanstead, Ont., Mar. 5, 1876.

C. O. Foss, District Engineer National Transcontinental Ry., St. John, N.B., born at Wentworth, N.H., Mar. 20, 1852.

H. M. Gain, Passenger Trainmaster Eastern Division G.T.R., Montreal, born at Lindsay, Ont., Mar. 21, 1879.

R. A. Gamble, Fuel Agent Western Division C.P.R., Calgary, Alta., born at Dublin, Ireland, Mar. 1, 1876.

H. W. Gays, General Manager Ottawa

A General Manager and Chief Engineer's Opinion.

M. H. McLeod, General Manager and Chief Engineer Canadian Northern Railway, Winnipeg, writes:—

"I have been a regular subscriber to the Railway and Marine World for some years, and I think you deserve great credit for the excellent publication. I have discussed this with various engineers and railway people, and they invariably express their appreciation of the magazine."

and New York Ry., Ottawa, Ont., born at Brant, Erie Co., N.Y., Mar. 21, 1848.

J. Halstead, General Freight Agent C.P.R., Calgary, Alta., born at Bracebridge, Ont., Mar. 2, 1877.

R. M. Hannaford, M. Can. Soc. C.E., Engineer Permanent Way, Buildings and Bridges, Montreal Street Ry., Montreal, born there, Mar. 22, 1865.

W. Harty, M.P., President Canadian Locomotive Co., Kingston, Ont., born in Biddulph tp., Middlesex, Ont., Mar. 8, 1847.

C. A. Hayes, General Freight Agent G.T.R., Montreal, born at West Springfield, Mass., Mar. 10, 1865.

Joseph Hobson, M. Can. Soc. C.E., Consulting Engineer G.T.R., Hamilton, Ont., born at Guelph, Ont., Mar. 1834.

N. J. Holden, President The Holden Co., Ltd., Montreal, born at Nobelton, Ont., Mar. 22, 1866.

A. R. Holtby, Master of Bridges and Buildings, Mountain Division G.T.P.R., Prince Rupert, B.C., born at Rawdon, Que., Mar. 23, 1859.

Frank Lee, M. Can. Soc. C.E., Division Engineer C.P.R., Winnipeg, born at Chicago, Ill., Mar. 7, 1873.

R. W. Long, Division Freight Agent G.T.R., Hamilton, Ont., born at Appin, Ont., Mar. 20, 1873.

T. W. Lowe, General Boiler Inspector C.P.R. Western Lines, Winnipeg, born at Montreal, Mar. 30, 1858.

J. M. McKay, Trainmaster C.P.R., Winnipeg, born at Tiverton, Ont., Mar. 13, 1868.

Owen McKay, M. Can. Soc. C.E., Chief Engineer Essex Terminal Ry., Walkerville, Ont., born in Ross tp., Renfrew co., Ont., Mar. 13, 1848.

Col. H. H. McLean, K.C., M.P., Vice President St. John Ry., St. John, N.B., born at Fredericton, N.B., Mar. 22, 1855.

Sir Donald D. Mann, Vice President Mackenzie, Mann & Co., Ltd., and First Vice President Canadian Northern Ry., Toronto, born at Acton, Ont., Mar. 23, 1853.

D. J. Murphy, Jr., Assistant Traffic Superintendent and Trainmaster Dominion Atlantic Ry., Kentville, N.S., born at Caledonia, Ont., Mar. 3, 1874.

R. Patterson, Master Mechanic G.T.R., Stratford, Ont., born at Brantford, Ont., Mar. 13, 1860.

F. W. Peters, Assistant to Vice President C.P.R., Winnipeg, born Mar. 25, 1860.

E. H. Sewell, City Passenger Agent C.P.R., Sherbrooke, Que., born at Quebec, Mar. 17, 1875.

C. J. Smith, General Manager Riche-lieu and Ontario Navigation Co., Montreal, born at Hamilton, Ont., Mar. 10, 1862.

G. Sommerville, Agent Merchants Line Steamers, Toronto, born at Kingston, Ont., Mar. 21, 1855.

W. Y. Soper, director Ottawa Electric Ry. Co., Ottawa, Ont., born at Oldtown, Me., Mar. 9, 1854.

W. C. Starke, Travelling Car Service Agent G.T.R., Montreal, born there, Mar. 9, 1867.

W. F. Tye, M. Can. Soc. C.E., ex-Chief Engineer C.P.R., Consulting Engineer, Toronto, born at Haysville, Ont., Mar. 5, 1861.

G. W. Vaux, General Passenger Agent G.T.R., Montreal, born at Montreal, Mar. 21, 1866.

D. O. Wood, General Freight Agent for Ontario, Allan Line Steamships, Toronto, born at Kleinburg, Ont., Mar. 16, 1864.

Can. Soc. C. E., Committee Reports.

Several of the reports of committees of the Canadian Society of Civil Engineers, presented at the annual meeting in Winnipeg recently, which are of importance to railway engineers, are given elsewhere in this issue in full.

W. F. Tye, chairman of the committee on transportation routes, reported that a preliminary report on the relative cost of construction, maintenance and operation of the Georgian Bay canal, St. Lawrence canals and a lake and rail route was in course of preparation, that a great deal of work had been done on it, but that while it had been discussed and criticised by members of the committee, it had been found impossible to have it ready for presentation at the meeting.

J. G. Sullivan, Assistant Chief Engineer C.P.R. Western Lines, chairman of the committee on roadbed and ballasting, reported that as per instructions to the committee, it was hoped they would be able to agree on modifications and omissions of the specifications on roadways as adopted by the American Railway Engineering and Maintenance of Way Association, so that a standard specification might be recommended to the Society, but after considerable correspondence it was thought best not to recommend a specification this year. Some very good points have been brought out in correspondence, and it is thought better that the committee be given more time to carefully consider this important matter, especially as they hope to be able to get a specification that will meet with the general approval of the majority of the committee.