

Province of Manitoba. It is in operation as far as Portage la Prairie, 70 miles west of Winnipeg, and the rails are laid to within a few miles of the boundary of Manitoba. From the boundary the line takes a N. W. course to the Little Saskatchewan, from whence it seems not to have been located, there being a choice of two lines to a common point near the South Saskatchewan, thence to the Yellow Head Pass in the Rocky Mountains, from which point it follows the Fraser River, and descending the Valley of the Alberta, and following the Western branch of the North Thompson, passes by Kamloops and Yale, and reaches the waters of the Pacific at Port Moody on Burrard Inlet. The total distance is estimated at 2,627 miles, but this is open to revision. The Pembina branch is 85 miles in length, running southwards from Selkirk on the east side of Red River. The Winnipeg branch extends in a north-westerly direction from the city of Winnipeg to Victoria Junction, 18 miles. The Canada Central extension from Pembroke to Callander is graded to nearly 100 miles, and the track laid to the 71st. It appears that 161 miles are in operation, viz., Emerson to Selkirk by St. Boniface, 85, and Selkirk to Cross Lake, 76. During 4 months and 18 days up to 30th June, the gross earnings were \$104,975.69 and the working expenses \$78,892.01, or an excess of earnings \$26,083.68. There were 17,640 passengers and 24,214 tons of freight.

INTERCOLONIAL RAILWAY.

The main line from Point Levis to Halifax is 688 miles in length, and the extensions 158. The capital account has been increased during the year by about two millions of dollars, employed chiefly in the purchase of the River du Loup branch from the Grand Trunk, and expenditure thereon for steel rails and other improvements. There is still a loss on the year's operations, the cost of working having been \$1,603,429 and the receipts \$1,506,298. It is satisfactory to learn that in the first three months of the current fiscal year the earnings exceeded those of the corresponding months of last year by \$80,000.

PRINCE EDWARD ISLAND RAILWAY.

The total length of the main line and extensions is 198½ miles. An expenditure of \$16,539 was made on an extension to Souris, a shipping wharf. The loss on the year's operations was \$50,789, although the working expenses were reduced by \$58,672. The gross earnings were less than in the previous year by \$12,004.80—both passenger and freight traffic having fallen off. It is deserving of notice that in four

months, the earnings on 161 miles of the Canada Pacific were \$104,975, while in 12 months on 198½ miles of the Prince Edward Island they were only \$113,851.

THE CANALS.

The canal system of the Dominion is divided into six classes: 1st. The St. Lawrence and lakes. 2nd. The Ottawa. 3rd. The Rideau navigation. 4th. The Trent navigation. 5th. The River Richelieu to Lake Champlain. 6th. St. Peter's Canal, Cape Breton, N.S. The canals in the first class are 70½ miles in length, and the height overcome by locks 533¼ feet, the locks being in number 53. On the canals included under the 1st head extensive

enlargements are being made. The scheme of the new work on the Welland is a system of navigation with locks 270 feet long and 45 feet wide with 14 feet depth in the sills, the water to be obtained from Lake Erie. The works are said to be progressing satisfactorily. It is rather disheartening to find that the expenses and repairs exceed the revenue by over \$20,000, although about \$16,000 was received for hydraulic rents. The cost of maintaining the railways and canals of the Dominion exceeded the revenue by about \$160,000, and it may be feared that, after the expenditure of additional capital, the annual loss will be still greater.

WEIGHTS AND MEASURES.

In compliance with the request of several subscribers, we publish herewith a series of tables explanatory of the system of weights and measures in use in France and other countries. The terms of the metric or decimal system occur so frequently now-a-days that the tables may be of some use to our readers. Those who remember the clumsiness of the old Halifax currency calculations, and appreciated the simplicity of the decimal system which succeeded it, must hail any approach to a system of general weights and measures upon a similar principle, and we fancy the day is not far distant when a change in that direction will be made wherever the English language is spoken also.

In the Metric System, which the world owes to the French people, the Meter is the base of all the weights and measures which it employs. The Meter was intended to be, and is very nearly one ten-millionth part of the distance measured

on a meridian of the earth from the pole to the equator, and equals about 39.37 inches, or nearly 3 feet 3¾ inches. The Meter is the primary unit of length. Upon the Meter are based the following primary units: the Square Meter, the Are, the Cubic Meter or Stere, the Liter (pronounced Leeter), and the Gram. The Square Meter is the unit of measure for small surfaces; as the surface of a floor, table, etc. The Are is the unit of land measure; this is a square whose side is ten meters in length, and which contains one hundred square meters. The Cubic Meter or Stere is the unit of volume; this is a cube whose edge is one meter in length. The Liter is the unit of capacity; this is the capacity of a cube whose edge is one-tenth of a meter in length. The Gram is the unit of weight; this is the weight of distilled water contained in a cube whose edge is the one-hundredth part of a meter. From these primary units the higher and lower orders of units are derived decimally:

SCHEME OF THE WEIGHTS AND MEASURES OF THE METRIC SYSTEM.

Ratios.	Lengths.	Surfaces.	Volumes.	Weights.
1,000,000	.....	.....	.....	Millier or Tonneau.
100,000	.....	.....	.....	Quintal.
10,000	Myriameter,	.....	.....	Myriagram.
1,000	Kilometer,	.....	Kiloliter,	Kilogram or Kilo.
100	Hectometer,	Hectare,	Hectoliter,	Hectogram.
10	Dekameter,	.....	Dekaliter,	Dekagram.
1	Meter,	Are,	Liter,	Gram.
.1	Decimeter,	.....	Deciliter,	Decigram.
.01	Centimeter,	Centare,	Centiliter,	Centigram.
.001	Millimeter	.....	Milliliter,	Milligram.

It will be seen, from this table, that ten millimeters equal one centimeter, ten centimeters equal one decimeter, and so on. The prefix root of the terms upwards, as "Deka." [10], "Hecto." [100], "Kilo." [1000], are derived from the Greek; those downwards are derived from the Latin.