

# The Canadian Engineer

*A weekly paper for engineers and engineering-contractors*

## DEVELOPMENT OF CANADIAN TRANSPORTATION AND TRADE

SOME FEATURES THAT PARTICULARLY INTEREST THE ENGINEER—ANNUAL PRESIDENTIAL ADDRESS TO THE CANADIAN SOCIETY OF CIVIL ENGINEERS, MONTREAL, JANUARY 26th, 1915.

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WE meet under unusual world-wide depression of business conditions. Our Empire is at war, not of our seeking, but forced upon us, for the preservation of good faith, and in pursuance of treaty obligations, by one of the signatories to the treaty. It is worth while to know that we are part and parcel of an Empire which regards treaty obligations as something more than a "scrap of paper."

The European war has upset all the business affairs of the world, and marks a stop in the progress of Canada. It seems to me that we may profitably consider where we are and to what we may look forward.

I propose, as briefly as possible, to review our progress for the past decade, in transportation, trade and population, with such comments as may elucidate probable future developments.

**Transportation.**—In 1904 we had 19,431 miles of railway in operation; in 1913 we had 29,304 miles in operation. The railway statistics of Canada prior to 1907 failed to supply any detailed information, hence for the purpose of comparison I shall confine myself to the period from 1907 to 1913.

The mileage of track in 1907 was 27,967. In 1913 it was 38,223. The mileage of railway in 1907 was 22,452, and in 1913 it was 29,304. The tonnage hauled one mile in 1907 was 11,687,711,830, in 1913 it was 23,032,951,596. The tonnage hauled per mile of line in 1907 was 518,486, and in 1913, 785,820. The freight train mileage in 1907 amounted to 38,923,890. In 1913 it had increased to 67,320,090. The number of average tons per train in 1907 was 260; the corresponding figure for 1913 was 342. The average tons per car in 1907 was 15.37, and in 1913, 19.01.

The average receipt per ton mileage was 0.815 in 1907 and 0.758 in 1913. The revenue from freight in 1907 was \$94,995,087, which had increased to \$174,684,640 in 1913. The gross earnings per mile in 1907 amounted to \$6,535.64, and in 1913 to \$8,750.50. The earnings per train-mile in 1907 were \$1,953, and \$2,263 in 1913. The expenses per train-mile in 1907 were \$0.864; in 1904, \$1.216; in 1907, \$1.381; in 1913, \$1.604.

It will be observed that the cost of running trains per mile since 1904 has increased 31 per cent., and that in the past 13 years the increase has been 85 per cent., the percentages for the period from 1899 to 1913 being for

earnings an increase of 89.8 per cent., and for expenses 105.9 per cent.

In 1907, 124,012 men were in the employ of the railways, earning \$58,719,493 or 56.7 per cent. of the operating cost. In 1913, 178,652 men earning \$115,749,825, making 63.59 per cent. of the operating expenses.

Nominally there are 193 railways in Canada. Actually they may be considered as being included in a few great systems in order of magnitude, the Canadian Pacific, the Grand Trunk and Grand Trunk Pacific, the Canadian Northern, the Government Railways, the Great Northern, and one province-owned railway. The Timiskaming Northern Ontario, the Algoma Central and the Sydney and Louisburg, owing to being allied with great industrial undertakings, may remain independent. All of the remaining lines are in due course to be absorbed by these great corporations.

It is proper to remark that we in Canada have the greatest railway mileage per head of population of any country in the world. These great transcontinental railways have their terminals at tide water on the Atlantic and Pacific.

As might have been expected, the engineering profession has profited by such an extensive railway-building programme. It is now near an end and the conditions for the employment of engineers on railway construction is bad. Hence, as intelligent men, some other field of occupation must be sought.

A close study of the statistics discloses that good service is rendered at reasonable cost. The traffic density is increasing, and hence the railways may look forward to prosperity as soon as business resumes its normal condition. Fundamentally, Canada is an agricultural country, with reserves in mines, forests and manufacturing, and the inter-relationship of all kinds of employment is essential to the well being of the country. Not every man is suited to a farmer's life—sons and daughters seek the work for which they are naturally adapted; hence sectional appeals to the Government should be frowned upon, and such action taken by wise adjustments of the tariffs as will insure to us a well-rounded life work.

Nevertheless, the greatest problem before the country is the transportation question. Insofar as I am aware, Canada is unique in this regard. It is the only country I know of where, politically and otherwise, we must, to