

GOOD ROADS.

The approaching speed test on bicycles from Sarnia to Montreal will bear ample evidence as to the condition and quality of our highways. Such a test should not be made for mere sporting purposes; the riders are all persons more or less directly interested in the advancement of highway construction, independently of their interest in roads as a means of fast locomotion for purposes of pleasure. The coaching days of the early years of this century had very direct influence on road construction; there were doubtless in those days many whips who tooled along their four-in-hands for purposes of pleasure; still the business part of the coaching traffic became so important, the condition of the road could not be neglected. In our day the bicycle is taking the place of the coach. It is suggested to the riders and other bicyclists taking an interest in the race, that notes should be made of good and bad bits of road, with such remarks on construction as come under the riders' notice. A short memorandum sent to the editor of THE CANADIAN ENGINEER will be gladly received, and if a sufficient number be sent in, a synopsis of opinions will be presented to our readers at an early date, with suggestions for improved construction.

Speaking of the financial value of road improvements, the editor of *Good Roads* concludes a pamphlet on the subject, reprinted by the Ontario Government, with the following observations:

"Of all the thousands of miles of good roads that have been made in this and other countries, the first mile has not yet been found that has not proved to be profitable. The increase in land values alone is always more than enough to pay for the improvement. Some benefits and advantages we cannot always compute in dollars and cents, and some things our common sense impel us to take for granted. No farmer in this country can tell the money value of an education, and yet each farmer concedes its value and sends his children to school, and watches carefully their advancement in knowledge. Good health is of infinite value, and the farmer seeks it and guards it, but he cannot tell its value in dollars and cents. The same is true of good habits, good morals and good clothes. Do not, therefore, waste any time in doubting the value of a good road. The people of other countries who have used bad roads, and now use good ones, are well satisfied that every dollar spent in this work is a good investment, and not one of them would tolerate the miserable dirt roads with which so many farmers seem to be content."

In last issue we announced that the May number would be enlarged by four pages, but it has been found necessary to make it twelve, which increase we hope will be permanent. We have faithfully maintained the guarantee we started out with as to circulation, and we are thankful to find our friends standing loyally by us in their support of the paper.

OUR CIRCULATION.

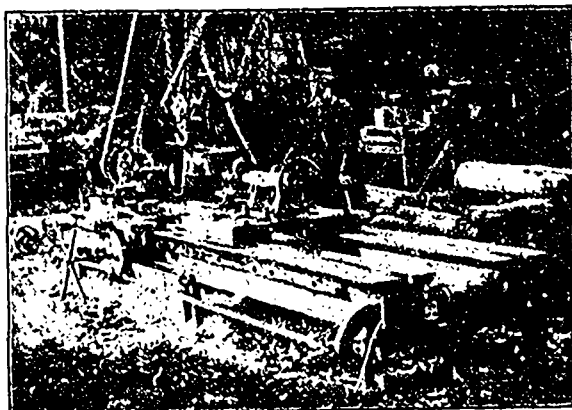
OFFICE OF MONETARY TIMES PRINTING CO.

This is to certify that we have printed and mailed TWO THOUSAND copies of THE CANADIAN ENGINEER for the month of April.

MONETARY TIMES PRINTING CO.
OF CANADA (LIMITED).

Per A. W. LAW, Sec.-Treas.

Toronto, May 1, 1894.



A GRANITE LATHE.

The above engraving is from a photograph of a lathe for cutting granite and other stone. It is manufactured by the Allan Foundry and Machine Works of St. John, N. B., who make a specialty of stone-cutting and polishing machinery. A large quantity of this firm's machinery of this class is in use in the extensive granite works along the St. John river, and the users have given high testimonials to the makers.

We have an answer to "A London Subscriber" regarding the piston of a steam engine, but owing to pressure of other matter it is held over till next issue.

ANY reader wishing an index of THE CANADIAN ENGINEER for the past year will receive one free on forwarding his address to this office. Subscribers wishing to have the back numbers bound at this office, and forwarding \$1.25, together with their set of papers (post or express paid), shall receive back a bound volume prepaid to any part of Canada, Newfoundland or the United States. The volumes are bound with half-roan backs.

THE average death rate of the world's shipping, says an English exchange, is about 4 per cent., and the birth rate 5 per cent. The average life of a ship built in Great Britain is 26 years, of one built in the United States 18 years, of one built in France 20 years, of a Dutch ship 22 years, of a German 25 years, of a Norwegian ship 30 years, and of one built in Italy 27 years.

THOSE receiving a sample copy of THE CANADIAN ENGINEER, and intending to subscribe, should do so on the spot, as this is the first number of the new volume. It is much better to get each volume complete, and we do not care to keep many back numbers in stock. We hope to be able to maintain the present increase in the size of the paper—now twelve pages larger than hitherto—and readers may depend on getting a good dollar's worth of reading matter. Send in your order at once; you will never regret it.

At the Nykroppa Iron Works, in Sweden, steel ingots are consolidated by pressure arising from centrifugal action. In the centre of the casting pit is an upright shaft carrying the arms, to each of which is jointed an ingot mould. The moulds are filled, and then the shaft is set in motion. As the speed increases the moulds gradually move from the vertical to the horizontal position, and a pressure is developed in the fluid metal equal to thirty times that due to the head in the first instance. This drives out the gases, and produces solid castings. The circumference of the circle described by the moulds is 67 feet, and the velocity nearly 10,000 feet per minute. The inventor of the process is L. Sebenius.