

Stephenson, the patentee, and Mr. John Lowe, formerly Deputy Minister of Agriculture. The experiment showed that driving-wheels of seven feet nine and one-half inches diameter, and four feet tire, of steel boiler plate, fitted with spikes, would not make a deeper impression on the ground even when newly ploughed, than the wheels of an empty wagon. Yet the machine will exert a force on the gang of ploughs of 132 horse power and so move them irresistibly forward. In taking the machine to the place of experiment it passed with ease over three ditches, one of them a railway ditch. In the trial the machine struck a white colored stone, about the size of a man's head, which it pulverized and turned under, and another large sized oblong stone, which it turned out. It moved forward at a carefully-timed speed of a little over one and one-quarter miles per hour, and dragged after it a gang of ten ploughs, which turned over a width of twelve feet of blackened earth to the depth of four inches. A roller followed the gang of ploughs, to which it was attached. The ploughed ground was thus made smooth and even, and a perfect seed bed was created without the further operation of back-setting.

The engine fly-wheel went at a speed of 203 revolutions per minute, and the driving wheel of the machine four and a half revolutions. The driving-wheel is seven feet

nine and one-half inches in diameter, and the speed of moving forward is such that eighteen acres of land can be ploughed in a day of ten hours. In these operations the fuel used was the herbage which had grown on the natural prairie, cut down by a mower two or three days before and gathered by a horse-rake at convenient distances to be thrown on the machine. As the engine moved along one man was required to pitch this grass on the platform and one boy to feed the furnace with it. The engine started with a pressure of about eighty pounds on the steam gauge, but when the machine had gone once around the quarter section and stopped to take in water the steam showed a pressure of 140 pounds and blew off at the safety valve. The water was supplied by one man with a team and tank. The usual cost for breaking sod and back-setting is \$4 per acre. With the steam plough this cost will be considerably reduced, the cost of back-setting being saved altogether. The exact saving which will be effected is of course uncertain, as the question of fuel will arise after the prairie sod has been broken and its natural herbage removed. The steam plough may make a use for the straw of the previous year's crop. But where there is so much level soil to be cultivated and farms are so extensive, a slight saving in the cost of ploughing will be of great importance. This may be the

forerunner of a great farming trust to operate over an immense area and adopt the latest mechanical and industrial improvements.—The Globe.

A NEW RAILWAY IN NOVA SCOTIA.

Plans are being perfected for the construction of a short railway in Cape Breton Island, Nova Scotia, the completion of which it is said, will make possible a saving of forty-eight hours in the time required for bringing mail from Europe. The line is to be built by the Cape Breton Railway extension Co., which was incorporated under a special Act of the Nova Scotia Legislature, March 30, 1899. It is understood that the interests behind the enterprise are the Vanderbilts, Dr. W. Seward Webb being mentioned as its principal promoter.

Louisburg, on the east coast of Cape Breton Island, 2,240 nautical miles from Liverpool, has an excellent harbor, never ice-bound, with a pier having depth enough alongside for admitting the largest vessels at low water. It is proposed by the company to build a railway from that port to Hawkesbury, on the Straits of Canso, a distance of eighty-six miles. From Hawkesbury existing railways would carry the Intercolonial mails to all parts of Canada and the United States.

The new road is to be constructed and operated in two sections, the railway section and the bridge or ferry section over the Straits of Canso. The company has a capital of \$1,000,000, and is authorized to bond its line to the extent of \$15,000 a mile.

The Royal Electric Company, of Montreal, are installing in the head office of the Merchants Bank of Canada of that city, two 50 k. w. direct connected generators with Robb-Armstrong engine complete, with switchboards. These generators are to operate at 250 volts and the building is wired for lighting to operate lamps at 220 volts, and also two Sprague elevators. We believe this is the first complete electrical installation in Canada fitted out with 220 volt lamps.

..CHICAGO.. TIME RECORDER

A RELIABLE TIME RECORDER MUST POSSESS THESE THREE QUALIFICATIONS:

1.—It must be an accurate Timepiece.

We use the famous SETH THOMAS CLOCK.

2.—IT MUST PRODUCE A CLEAR RECORD, AND ONE THAT CANNOT BE DISPUTED.

Our Sight-opening feature, whereby each man can inspect his record when made, eliminates all chance for dispute.

3.—IT MUST BE SIMPLE, POSITIVE, AND QUICK OF OPERATION.

The "CHICAGO" has less complicated mechanism than any other Recorder made, and by the simple manner of operating employees can register two-fold more rapidly than on any other.

If you have none you pay for it in lost time every year.

CHICAGO TIME REGISTER CO., CHICAGO, ILL.

SOLE AGENTS FOR CANADA:

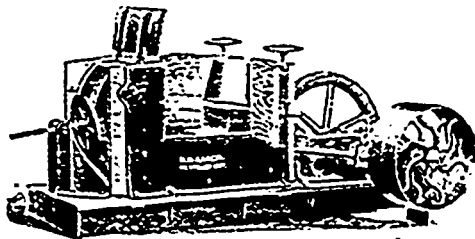
W. C. BULLOCK,

348 Markham Street

TORONTO, ONT.



Numerical (or Key) Recorder



Rotary Fulling Mills, Kicker Fulling Mills, Soaping Machines, Cloth Washers, Wool and Waste Dusters, Rag Dusters, Drum Spool Winders, Reels, Spooling and Doubling Machines, Ring Twisters, Card Creels, Dead Spindle Spooler for Warp or Dresser Spools, Patent Double-Acting Gig Dyeing Machines.

H. W. KARCH

HESPELER, ONT.

IRON FOUNDER and MACHINIST

Manufacturer of

WOOLEN MACHINERY,

When writing to Advertisers kindly mention THE CANADIAN MANUFACTURER.

**RICE LEWIS
& SON, LIMITED**

HARDWARE and METAL

Bar Iron, Steel,
Boiler Plate Tubes.

**MACHINIST TOOLS,
PIPE FITTINGS.**

A COMPLETE STOCK OF
STOCKS and DIES. PIPE VICES.

STILLSON & TRIMO
WRENCHES.

STEAM PIPE.

Cor. King and Victoria, TORONTO