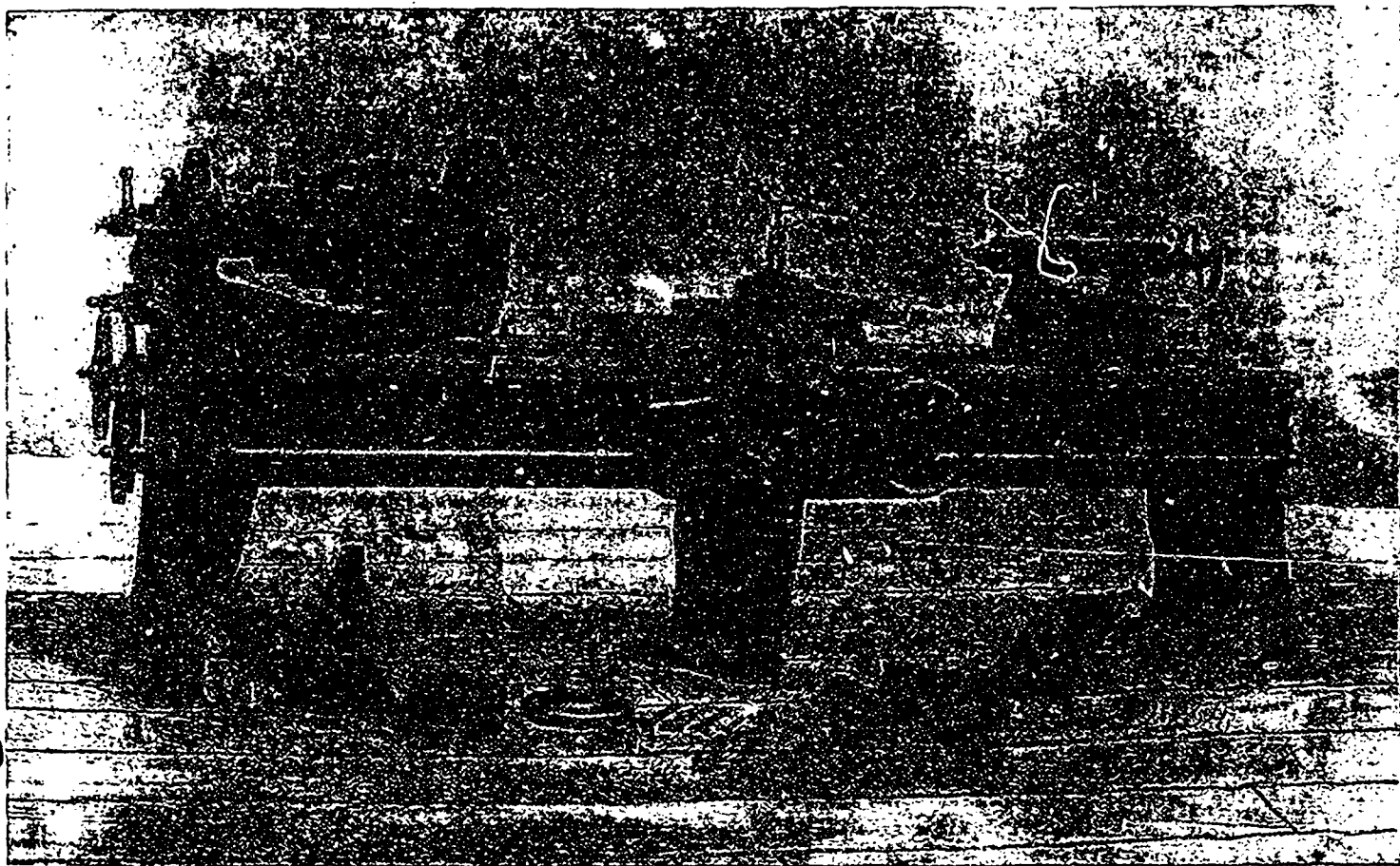


waters of the Assiniboine into Lake Manitoba, without some check upon the discharge of the Red River, such as may be best effected at the rapids in the parish of St. Andrews. A dam and lock at this point will create the necessary river basin at Winnipeg.

The reclamation of some four thousand square miles of excellent land, now too wet for cultivation, well merits the immediate attention of Mr. Greenway's government. The future of silent leagues of prairie has been given over to the landgrabber, and the home-seeker is invited to move on from Manitoba to the cheaper land in the territories. It will be a fine stroke of enterprise to divert a part of the waters of the Assiniboine by canal into Lake Manitoba, and thence by a canal from this lake into Lake Winnipeg, to drain an immense area of fertile soil and mitigate the rigors of the climate. The enterprise will be all the more successful if the land reclaimed shall be thrown open to free settlement.

struction as to enable them to be reversed, thereby maintaining the alignment of the spindle. The tail-stock has means of adjustment for taper work, and is secured to the bed by two belts. The saddle has a bearing of 32 inches on the V's, and has suitable belt slots for securing work. The cross slide is of unusual length, and is fitted with a wedge jib with screw adjustment, and has a plain tool block and graduated half compound rest. The tool post admits a tool $\frac{3}{4} \times 1\frac{1}{2}$ in. While using the power cross feed the saddle is secured to the bed by a binder. The lead screw is of steel $1\frac{1}{8}$ inches diameter and $\frac{1}{2}$ -inch pitch, the nut being operated from the front side of saddle. All the apron gearing is of heavy pitch, the rack pinion being of steel; all the feeds are automatic. The feed rod and lead screw are each driven by independent gearing. A large face-plate, small driver, steady head, follow rest, and complete set of change gearing and wrenches are supplied.



Manitoba wants men rather than capital for the development of her vast agricultural wealth. Capital has sufficiently invited to sit down in the prairie province, with the result that it holds millions of unproductive acres, and waits to prey upon the vitals of the laborer who alone can make the possession productive.

ENGINE LATHE.

M. 54. SWINGS 24 INCHES.

This lathe can be supplied of any length up to 24 feet. The bed is of heavy construction throughout and is of ample width across shears. It swings 24 inches over shears, 14 inches over saddle, and with a 12 foot bed admits $7\frac{1}{2}$ feet between centres. The cone has four speeds for $3\frac{1}{2}$ -inch belt, the largest being 14 inches and the smallest $5\frac{1}{2}$ inches diameter, and with the back gear gives eight changes of speed. The spindle is of hammered steel, and runs in bronze bushes of such con-

The countershaft has one fast and two loose pulleys 15 inches diameter for $3\frac{1}{2}$ -inch belt, and should make 140 revolutions per minute. The weight of this lathe is 5,500 lbs. This lathe is manufactured by John Bertram & Sons, machine tool makers, Dundas, Ont.

For THE CANADIAN ENGINEER.

FROM IRON ORE TO STEEL.

A SKETCH OF IRON MINING, AND MANUFACTURING IN PICTOU COUNTY, NOVA SCOTIA.

BY JOSEPH DIX FRASER, FERRONA, N. S.

In presenting the following paper on Iron Ore, Pig Iron and Steel in Pictou County, it is my intention: First, to give a short historical sketch of the early iron smelting in that county. Secondly, to describe the conversion of iron ore into pig iron. Thirdly, the converting of pig iron into steel.

(1st.) From James Macdonald, of Bridgeville, who is 86 years old, I learned that in the year 1828, while