German patent has been sold, and arrangements are being made for other European rights.

W. M. Barber, of Toronto, who has been interested in peat for a number of years, learned of the electro process when in England recently, and brought home the rights for America. The Mexican rights are being sold, and a Canadian syndicate has obtained the patent for Canada. An engineer is being sent to England to report on a demonstration, and if this is satisfactory a machine will be sent out immediately. Meantime the syndicate is securing peat beds at Galt and elsewhere. It is believed that the cost of production in Canada should not be more than a dollar per ton at the outside. The syndicate hope to have peat-coal on the market this autumn.

## SCOTCH DESIGN OF VARIABLE SPEED LATHE.

We show herewith two illustrations of a new departure in lathe building by John Lang & Sons, Johnstone, Scotland, the special feature of which is the use of a variable speed drive instead of the usual step cone pulley.

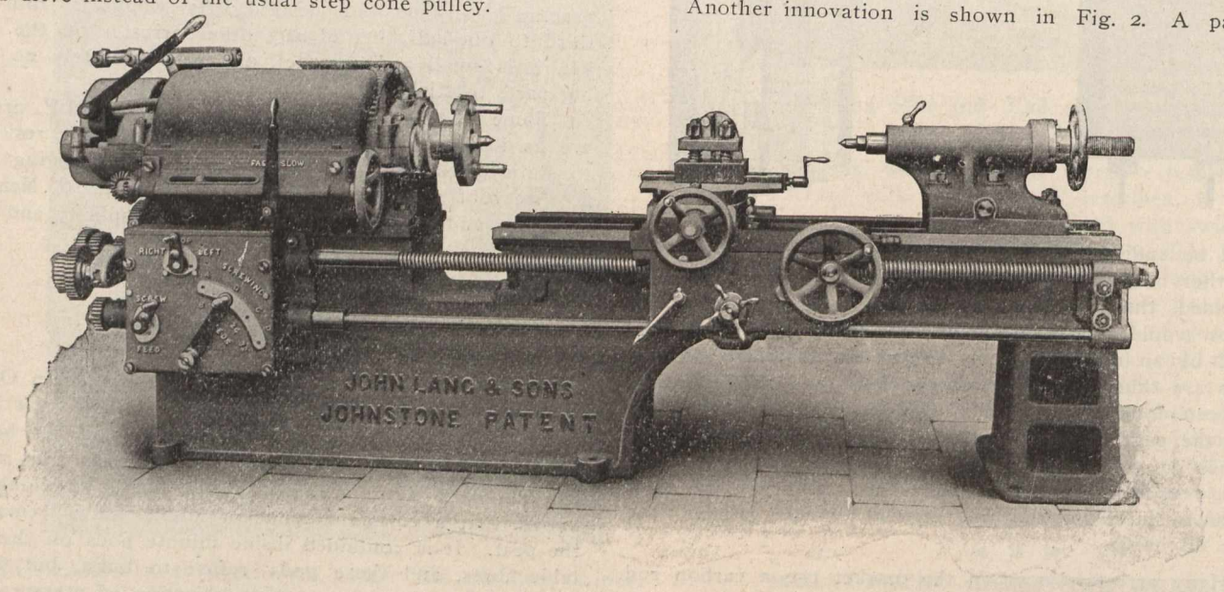


Fig. 1.—Twenty-inch Swing Triple-Geared Lathe.

Fig. 1 shows a 20-inch swing triple-geared lathe, and Fig. 2 shows a view, in plan, of a turret lathe with gear case removed. No counter shaft is necessary with this arrangement, the fast and loose pulleys being placed on the first shaft of the lathe, and are operated by the lever in front as shown on Fig. 2.

The variable speed drive is of great benefit as a time-saver. For instance, suppose a round plate has to be faced across with an ordinary step cone lathe, the proper cutting speed cannot be evenly maintained right across, even if the operator shift his belt several times; with Lang's variable feed motion this is accomplished automatically, and, the hand wheel being connected to the cross-feed screw, the speed increases as the diameter of the job decreases, and maintains a constant surface speed at the cutting point as it approaches the centre, so the full value of the machine and the operator is got from circumference to centre without waste of time. The operation of the cones of this device is by the hand wheel in front of and near the right hand end of the fixed headstock. The turning of this hand-wheel also operates an index, seen projecting through a slot in both illustrations, which index moves along a graduated scale marked in diameter of the work, and the setting of the index to any graduation ensures a speed of thirty feet per minute for work of the diameter indicated, enabling the workman to see at a glance if the speed of the tool is correct for the work.

Another innovation is shown in Fig. 2. A pair of covers are fitted over the slide surfaces of the lathe bed. These are bolted to the bed, and pass through cored holes in the slide rest, their object being to protect the surfaces from falling chips and cuttings.

These lathes are made from new designs and patterns throughout, and combine the handiness of the American

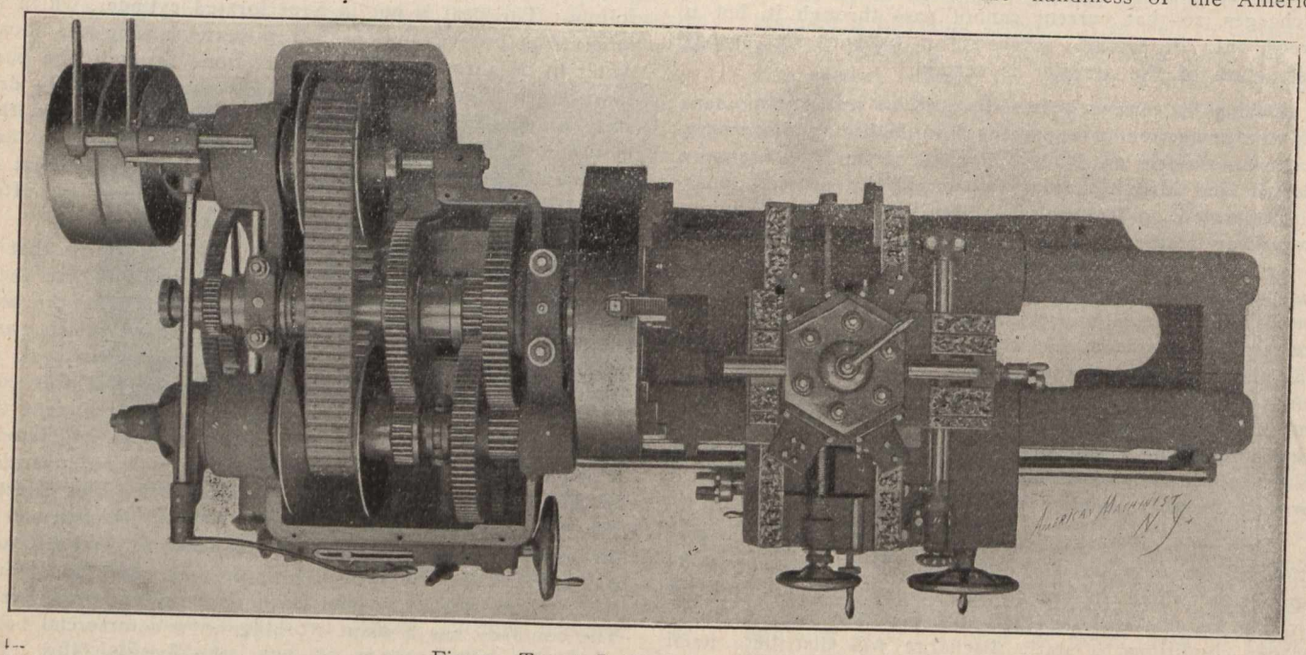

Fig. 2.—Turret Lathe without Gear Case.