

**VARIETY TURNING AND BORING LATHE.**

The illustration herewith represents the No. 0 Variety turning and boring lathe manufactured by the Defiance Machine Works, of Defiance, Ohio, for producing turned articles from wood. It is arranged to meet the most exacting requirements and will produce turned work sharp, clean and smooth, in either plain or beaded turning, and do the work so that no hand labor is required after leaving the machine. The material from which the work is turned is placed into the machine in short or long pieces, and is converted into the finished article, bored, turned, polished and cut off complete ready for use.

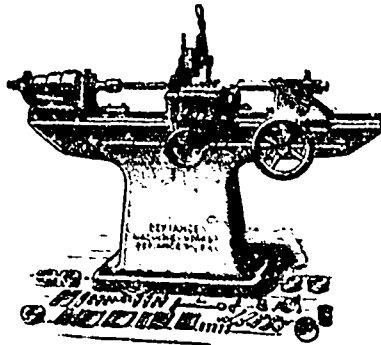
The frame of this machine is cast in one piece with eored centre and a broad floor base to stand firm. The top is accurately planed and scraped to bearing for the working parts.

The head spindle, of steel, runs in large bronze self-lubricating bearings, and it is driven by a three-step cone pulley, giving three changes of speed for small or large work. The front end of the spindle is fitted with a screw chuck to hold one end of material to be turned, the other end turning in the roughing head bush.

The cutterhead carriage is thoroughly gibbed to the top of the frame of the machine, and is provided with a horizontal movement by hand-wheel to move the cutters

to where the turning shall begin. It also has a right angular movement by hand lever, to move the finishing knife to the work.

The roughing cutter is attached to the carriage im-




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mediately in advance of the finishing knife. It reduces the square material to the smallest diameter to which it will nicely finish. The cut-off attachment is also fitted to the carriage and travels with it. It stands in a vertical plane and is brought down to its work by a convenient hand-lever.

The tail stock is gibbed and accurately fitted to the top of the frame, central with the head spindle. It is fitted with a large spindle to carry a boring bit to bore holes of different sizes. When work is intended to be bored, the boring is performed before the turning is accomplished, leaving the boring bit in the hole while turning, it acting as a steady rest. For doing work that requires no boring, a cup center is used in place of the bit. The tail spindle is brought up to or from its work by a convenient hand-wheel.

In operating this machine, the square material to be turned is placed into the chuck while the machine is in motion. No stoppage is necessary either to place in the rough material, or to take out the finished product. The material is first roughed by sliding the carriage forward in a horizontal plane a sufficient distance to suit the length of the article to be turned. The boring is then performed, after which the finishing knife is brought up to the work, which is shaped complete at one movement. The cut-off knife is then brought down by hand lever and the finished product is discharged from the machine, and so the work is continued until the material in the lathe is entirely consumed.

The capacity of this machine is sufficient to produce from 5,000 to 8,000 pieces per day, depending upon the size and shape of work and the quickness of the operator. It will turn irregular work eight inches long and shorter, but plain round work, such as rollers, pins, etc., can be turned up to 36" long, and from 1/8" to 3" diameter.



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