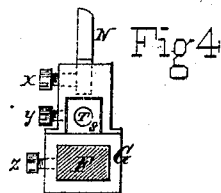
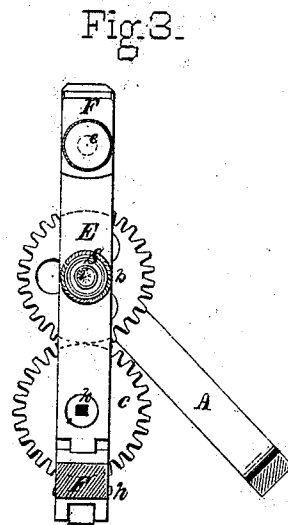
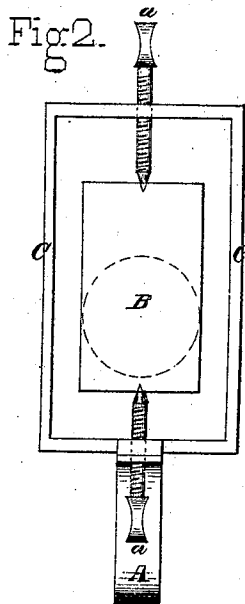
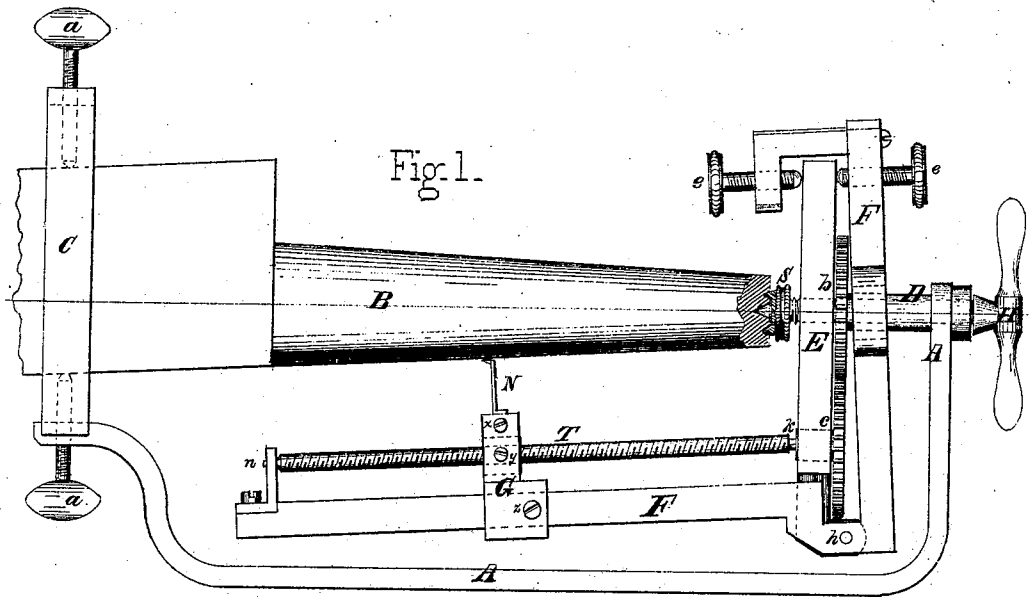


A. F. Moore,

Turning Axles.

No. 113,078,

Patented Mar. 28. 1871.



Witnesses,
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United States Patent Office.

ARTHUR F. MOORE, OF FLORENCE, INDIANA.

Letters Patent No. 113,078, dated March 28, 1871.

IMPROVEMENT IN MACHINES FOR TURNING AXLES.

The Schedule referred to in these Letters Patent and making part of the same.

I, ARTHUR F. MOORE, of Florence, in the county of Switzerland and State of Indiana, have invented certain Improvements in Machines for Turning Spindles of Wooden Axles, of which the following is a specification.

Nature and Objects.

My invention consists in the employment of a stationary frame furnished with a center at one end, and an adjusting-frame, provided with set screws, at the other, for the purpose of properly centering and adjusting the spindle-blank to be operated upon, and a carrier-bar, provided with a lead-screw and traversing cutter-head, by means of which the spindle is cut to the proper conical or cylindrical form, as may be desired.

Description of Drawing.

Figure 1 is a side view of the complete machine;
Figure 2 is a rear end view of the same;
Figure 3 is a sectional view; and
Figure 4 is a front view of the cutter-head.

General Description.

Let A represent the main frame of the machine, which may be of the form shown, or its equivalent;

B, a finished axle spindle, shown, for purposes of illustration, as secured in the frame while being turned; and

C, an adjusting-frame, secured rigidly to the main frame, (see figs. 1 and 2,) and provided with set-screws, *a a*, at top and bottom, for adjusting the position of the axle and fixing it firmly in place.

A hollow cylinder, D, is secured to or forms a part of the main frame A, and projects from the turned-up portion, where it is attached, in a direction parallel with the bottom of the frame.

On the inner end of this cylinder is rigidly secured a toothed wheel, *b*.

Through the cylinder D and wheel *b*, which form a long bearing therefor, extends a spindle, to the front end of which is rigidly secured the cross-handle H, and to the rear or inner end the transverse bar E.

Beyond the rear face of this bar the spindle is prolonged, to form a "dead-center," *i*, the intermediate space being threaded for the reception of a milled "steady-nut," S.

The transverse bar E is placed exactly at right angles to the spindle to which it is attached, and carries a toothed wheel, *c*, equal in size to the wheel *b*, and meshing therewith.

The large journal of the wheel *c* is mortised, (see fig. 3,) for the reception of the square *k* on the end of the lead-screw T, to which it imparts motion.

The lead-screw has a bearing at its outer extremity *n*, in a lip secured to a carrier-bar, F.

The form of this bar is better shown in the drawing, fig. 1, than can be described.

The longitudinal portion, which carries the cutter-head G and the lead-screw T, is straight and true.

At the point *h* it is mortised to receive an L-shaped tenon on one extremity of the bar E, to which it is hinged by the pin *h*.

The transverse portion is enlarged at the point where the cylinder D passes through, the opening for its passage being oblong or elliptical, and somewhat larger than the said cylinder.

The end of the said transverse portion of the bar F is formed so as to overhang or inclose on two sides one extremity of the bar E, upon opposite sides of which two set-screws, *e e*, have a bearing. The object of these will be shown further on.

The cutter-head G (see figs. 1 and 4) is mortised longitudinally for the reception of the bar F and square nut *s* on the lead-screw, and has a vertical socket, as shown, for the reception of the shank of the cutter N.

The set-screw X is to secure the cutter in its place.

The uses of the screws *y* and *z* will be explained in the

Operation of the Machine.

The axle-blank is "lined-up" and placed in the frame so that the axis of the spindle will be parallel with the bottom of the main frame.

The fine line indicates the position of the axis in the drawing.

The set-screws *a a* are screwed down firmly, and the steady-nut S run up until it bites well into the wood.

The carrier-bar F is now set precisely parallel with the under side of the spindle-blank, or, in other words, at such an angle with the axis of said blank as will give the proper conical form. This adjustment is accomplished by means of the set-screws *e e*.

The cutter N is now set in the proper position to cut a spindle of the desired size, and the machine is ready.

The operator turns the handle H in precisely the same manner as that of an auger, which causes the carrier-bar to rotate around the spindle as a center, and the cutter to generate a cone of the proper size by cutting away the superfluous wood of the blank.

It is fed along by the feed-screw T until the desired length of spindle is cut, when the set-screw *y* is loosened and *z* tightened, which causes the cutter to rotate without advancing, thus cutting the proper shoulder.

I especially disclaim any such parts of my machine as may conflict with the patent of John Burt, dated August 4, 1868, and numbered 80,594, for a device similar to mine.

Having thus described my invention,
I claim—

The main frame A, adjusting-frame C, cylinder D, transverse bar E, carrier-bar F, handle and spindle H, nut S, lead-screw T, cutter-head G, and all the minor

parts appertaining thereto, when the same are constructed, arranged, and combined in the manner shown, and for the purposes set forth.

Witness my hand this 26th day of January, 1871.

ARTHUR F. MOORE.

Witnesses:

HENRY CONNETT, Jr.,

A. M. CONNETT.