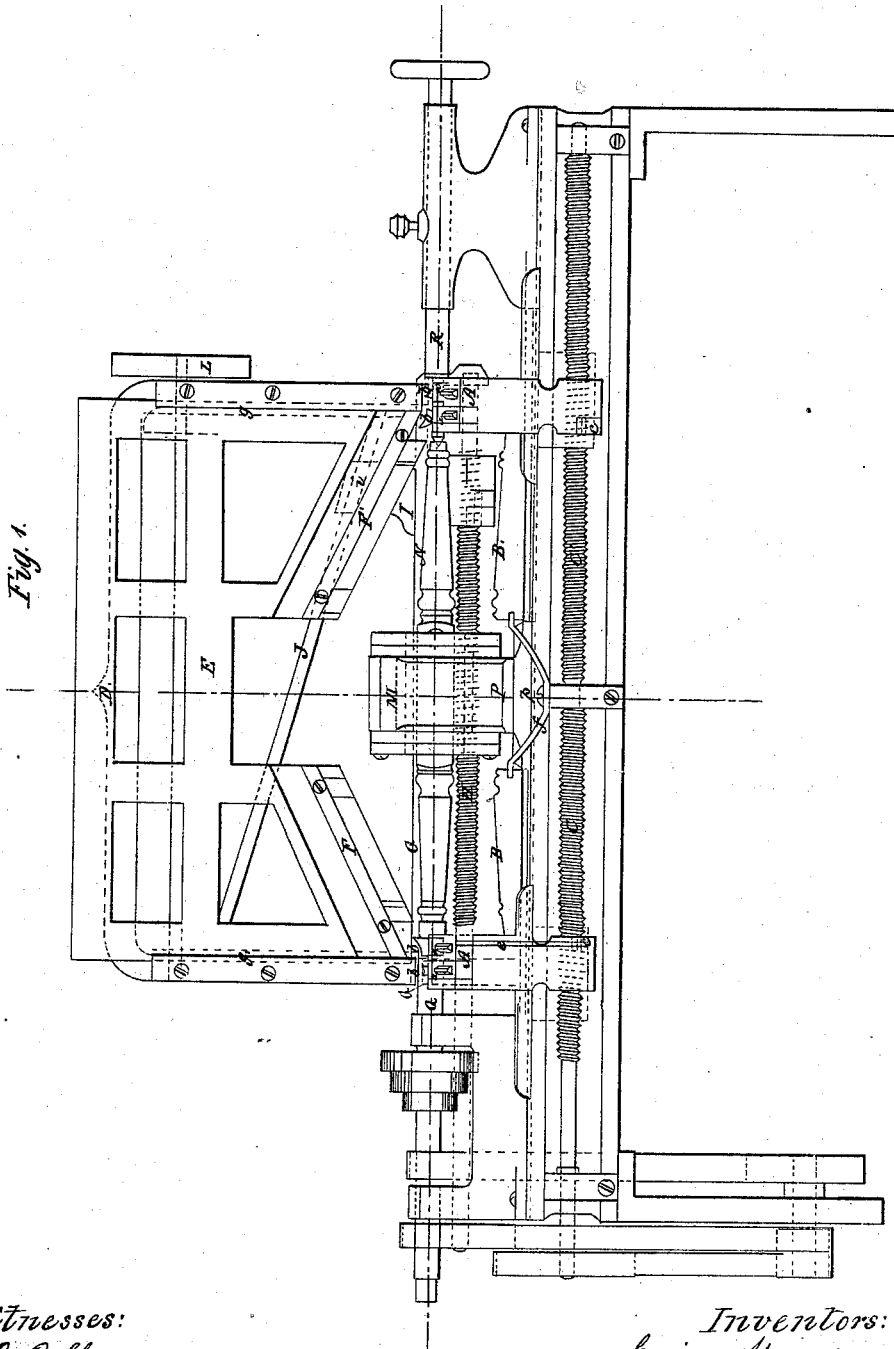


Atwood & Ripley

Wood Turning Lathe

N^o 99,810.

Patented Feb. 15, 1870.



Witnesses:
D. C. Colby
Geo. C. Brown

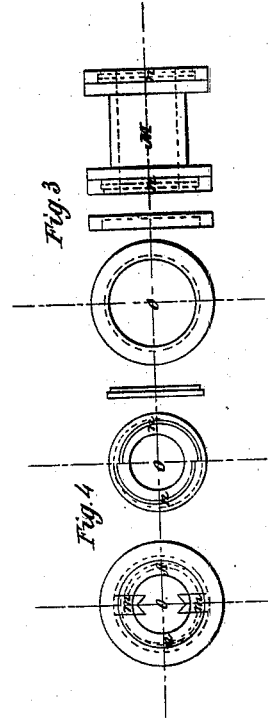
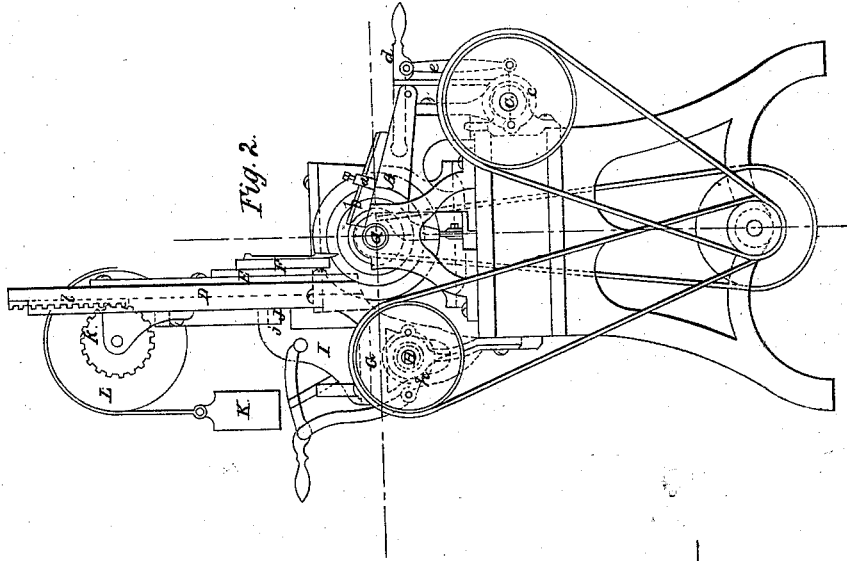
Inventors:
Loring Atwood
Edward Ripley
By J. B. Woodruff & Son Attorneys

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United States Patent Office.

LORING ATWOOD AND EDWARD RIPLEY, OF RUTLAND, VERMONT, ASSIGNORS TO THEMSELVES AND BAXTER D. WHITNEY, OF WINCHENDON, MASSACHUSETTS.

Letters Patent No. 99,810, dated February 15, 1870; antedated February 5, 1870.

IMPROVEMENT IN WOOD-TURNING LATHE.

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

To all whom it may concern:

Be it known that we, LORING ATWOOD and EDWARD RIPLEY, in the county and town of Rutland, and State of Vermont, have invented certain new and useful Improvements in an Automatic Wood-Turning Gauge-Lathe, (and have assigned an interest in the same to BAXTER D. WHITNEY, of Winchendon, Massachusetts;) and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, plate 1, represents a front or face view of the lathe, (with a finished bed-post in it,) showing the elevated frame in the rear with the slide and mode of operating the finishing cutters.

Figure 2, plate 2, represents an end view or elevation of the same.

Figure 3 shows a detached view of the revolving chuck or self-centering mechanism in a horizontal and end section, in three figures.

Figure 4 shows three views of the internal arrangement of the centering and steadying mechanism.

The object of our invention is to facilitate the turning of wood to any desired pattern or configuration, so that every piece shall fill the gauge and be alike.

It consists in the construction of a self-centering chuck, so arranged and pivoted to the central portion of the lathe that it may be turned from the line of the centers to allow the putting in and taking out of the stuff, which, when brought in position to the points of the lathe, is properly centered and held steady while being turned.

Our invention consists in improvements to the automatic gauge-lathe patented to BAXTER D. WHITNEY, August 7, 1860, No. 29,534.

To enable others to make and use our improved gauge-lathes, we will describe it more fully, referring to the drawings and the letters of reference marked thereon.

Our lathe, shears, heads, and supports are constructed like ordinary engine turning lathes, or in a similar manner to the WHITNEY patent lathe above mentioned, with slide-rests A A', provided with a suitable number of tool-holders, a a, in which various shaped cutting-gonges and chisels b b may be set and secured, so as to corner and reduce the piece being turned, and give the outline of the shape by conforming to the patterns B B, which are placed in a suitable position on the shears to govern the tools as they are fed along by the right-and-left screw C C', placed under in front of the shears.

The slide-rests are provided with clutch-nuts c c, connecting rods e e, and hand-levers d d, to throw them into gear with the screws C and a stop-bar, f, to trip the catches and stop their forward movement and allow

the rests to be carried back to the starting point by a cord and weight, or any other suitable mechanical device.

To the rear side of the lathe frame or shears is secured the frame D, which is elevated in a vertical position a sufficient height to form the ways and guides g g to the sliding frame E, to which the finishing knives or cutters F F' are attached, they being so constructed and their faces so formed as to give the shape and finish to the portion of wood. They are brought in contact with the cutters F F', being placed diagonally on the sliding frame E at such an angle that they commence to follow in the rear of the slide-rests A A' as the wood is reduced by the gouges and chisels b b, so that the process of rough turning or reducing and the smoothing and finishing may both be going on at the same time on the opposite sides of the stick, thus supporting one another or preventing the vibrating of the stick being turned.

The frame D and sliding frame E, which carries the finishing cutters F F', being an independent fixture, may be used or not, at pleasure, at the same time the reducing is being done, or afterwards, the movement being effected by a separate feed-screw, H, placed beneath guide-bars G, in which is a movable head, I, provided with a clutch-nut, h, and fixtures the same as the others before described.

The movable head I has an angle notch, i, which fits and slides on the angular bar J, which is secured at its ends to the rear side of the sliding frame E, by which means the cutters F F' are steadily brought in contact with the revolving timber to do their work; and when done the clutch-nut is relieved from the screw H, and the frame E is raised up to its standing position by means of the weight K, pulley L, pinion k, and rack l, or any other suitable mechanical devices.

The revolving chuck M, which centers the bed-post N or other articles to be turned, is constructed as shown in the several views in figs. 3 and 4, with sliding jaws m m in each end of the circular opening through it.

The jaws are so shaped that they will take hold of the square corners of a stick or grasp any other shape to hold it and bring it to the center, or centrally with the opening o by means of double concentric rings n n, acting on the jaws m m like the common scroll-chuck for holding things in lathes.

The chuck M being thus constructed, is fitted into a support, P, so as to easily revolve in it, the opening through it being perfectly central with the points of the lathe-mandrel Q and tail-screw R, when turned so as to be in a line with them.

The support P rests on a broad circular base, p, on a surface for it in the central portion of the lathe-bed, and is pivoted to it, so that it will turn or swivel round to bring the opening o in a convenient position to put

in or take out the wood or stick turned. When the jaws *m m* bear upon the wood it will be central with the centers of the lathe.

The revolving chuck *M* made so as to be swiveled round, as above described, to receive and liberate the pieces in a convenient manner, has the advantage of centering in the quickest time and more perfectly than can be done by any other mode, while it has also another advantage—that of steadying the piece while revolving or being turned.

When pieces of considerable length are to be turned plain, or nearly so, the finishing knife or cutter may be dispensed with, and the finishing done by a cutter set in the slide-rest which rides on the pattern and gives the form and size.

It is confidently believed that full one-third more turning can be done in a given time, and in a much

superior manner, by our improved automatic wood-turning gauge-lathe than by any other known or used.

Having thus fully described our improvements, What we claim as new, and desire to secure by Letters Patent, is—

The chuck *M* when pivoted as herein described, thereby allowing its axis to be turned from the line of the centers of the lathe, as and for the purposes specified.

In testimony whereof, we hereunto subscribe our names in the presence of two witnesses.

LORING ATWOOD.
EDWARD RIPLEY.

Witnesses:

S. L. FISHER,
FRANCIS A. FISHER.