(No Model.)

L. N. NORCROSS.

WOOD TURNING LATHE.

No. 396,227. Patented Jan. 15, 1889.

Fig. 1

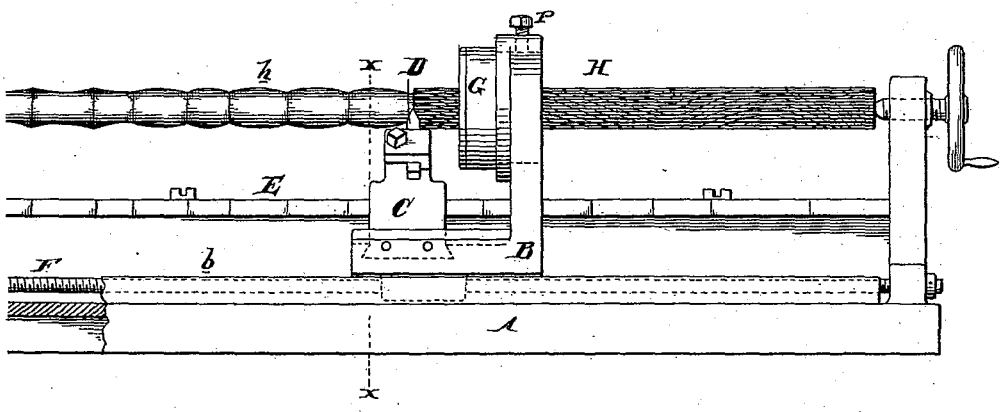


Fig. 2

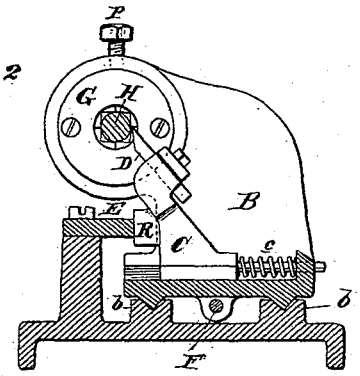


Fig. 5

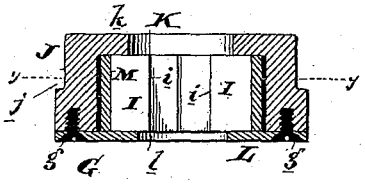


Fig. 3

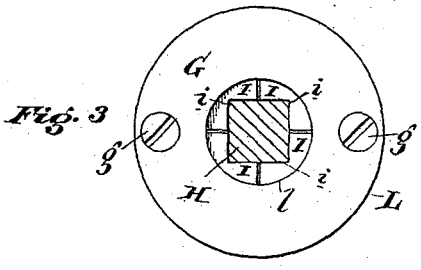
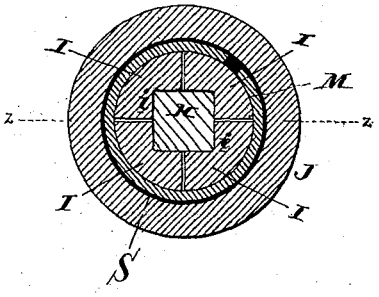


Fig. 4



Witnesses:

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Inventor:

Lewis N. Norcross

by his Attorney

Geo. J. Harding

UNITED STATES PATENT OFFICE.

LEANDER N. NORCROSS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO HENRY B. GRAVES, OF SAME PLACE.

WOOD-TURNING LATHE.

SPECIFICATION forming part of Letters Patent No. 396,227, dated January 15, 1889.

Application filed August 4, 1888. Serial No. 281,928. (No model.)

To all whom it may concern:

Be it known that I, LEANDER N. NORCROSS, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented a certain new and useful Improvement in Wood-Turning Lathes, of which the following is a full, clear, and exact description, due reference being had to the accompanying drawings, which form part of this specification.

In lathes for turning ornamental shapes it is necessary to support or hold the wood immediately in advance of the cutting-tool to prevent vibration and jumping away from the tool.

My invention relates to the wood-holder or means employed for so supporting the wood in advance of the cutting-tool; and it consists, essentially, in a box, preferably cylindrical and containing within the same two or more loose sections or jaws held together by a spring, and having their adjacent parts so cut or formed that they present a square or polygonal aperture. The holder so formed is placed in its support on the traveling tool-holder of the lathe and receives the wood, which is preferably square in cross-section. The spring insures the sections or jaws properly fitting to the wood and suiting themselves to any slight irregularities therein; and, furthermore, the spring itself acts as a revolving bearing for the jaws or sections, and thereby reduces the friction to a minimum. The exterior part of the box may be made of any shape desired and secured to the lathe in any suitable manner. As shown, the box is made cylindrical on account of the cheapness of construction, and this is perhaps the most desirable form.

Referring to the drawings, Figure 1 is a front elevation of a lathe embodying my invention. Fig. 2 is a cross-section of same on line *x x*. Fig. 3 is a front elevation of my improved wood-guide with the wood in section. Fig. 4 is a sectional elevation of same, taken on line *y y* of Fig. 5; and Fig. 5 is a cross-sectional view of same on line *z z* of Fig. 4.

A is the bed-plate of the lathe, having the longitudinal guides *b*, upon which is guided the frame B, which frame is fed longitudinally by means of the screw-shaft F. Upon this frame is secured the wood-guide G, through which the wood H extends, as shown, and which wood is supported in the lathe in the usual manner. Carried by the frame B, and adapted to a transverse movement, is the tool-holder C, which carries the cutting-tool D. The tool-holder is reciprocated upon the frame B by means of a guide or templet, E, against which the projection R is pressed by means of the spring *c*. From this it will be evident that as the frame B, and with it the tool-holder C, moves longitudinally the tool-holder has an additional transverse movement to insure the wood being turned to the design of the templet E. Lathes *per se* of this construction are well known in the arts, and therefore I lay no claim whatever to these details. The wood-holder G is clearly shown in Figs. 3, 4, and 5, and to which I will now refer.

J is a case or box having a circular recess, S, and an aperture, K, of smaller diameter at one end thereof. Within this box is placed a spring-ring, M, and within this spring-ring are placed two or more sections or jaws, I, having their outer surface relatively curved, so as to fit within the spring-ring M. (See Fig. 4.) From this it is seen that the sections I are pressed together, and when they rotate the spring-ring M may rotate also and form the bearing for the said sections by its contact with the interior S of the box. The sections I and ring M are larger in diameter than the aperture K, and hence rest against the flange *k*, bounding said aperture. These parts M and I are retained within the box J by means of an annular cap, L, having the central opening, *l*, and secured to the box J by means of screws *g*. The inner or adjacent faces of the sections or jaws I are formed, as at *i*, so as to receive a square or other polygonal cross-section of wood.

In practice square pieces of wood are employed, as a rule, and hence a square aperture would usually be formed. As shown, there are four sections or jaws I, as this number is most desirable; but it is evident that two or more of such jaws will suffice. The box J has an offset, *j*, to insure its proper insertion in the frame B, in which it is placed and secured by means of the screw P. It will now

be evident that as the frame B and the cutter D travel longitudinally the wood would be held against lateral displacement by the guide G, and the spring M and independent jaws I I will insure a steady holding of the wood, notwithstanding any irregularities of surface or slight variations in cross-section. This wood guide or support is adapted to various forms of lathes, and while I have shown the box part J as round upon its outer surface on account of simplicity, it is evident that it might be almost any other shape to suit the particular construction of lathes.

While I prefer the construction shown, I do not limit myself thereto, as the details may be modified without departing from my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A guide support or holder for wood-turning lathes, consisting of a box having a circular recess and an opening on each side thereof, in combination with two or more sections or jaws contained within said recessed box, and having their outer faces curved and inner faces shaped so that when they are put in place they shall form a polygonal aperture.

2. A guide support or holder for wood-turning lathes, consisting of a box having a circular recess and an opening on each side thereof, in combination with two or more sections or jaws contained within said recessed box, having their outer faces curved and inner faces shaped so that when they are put in place they shall form a polygonal aperture, and an encircling band surrounding said sections or jaws and between them and the curved face of the recessed box.

3. A guide support or holder for wood-turning lathes, consisting of a box having a circular recess and an opening on each side thereof, in combination with two or more sections or jaws contained within said recessed box, having their outer faces curved and inner faces shaped so that when they are put in place they shall form a polygonal aperture, and an encircling spring to hold said sections or jaws together and allow of slight variations in the size of the polygonal aperture.

4. The combination of the box J, having a circular recess, S, and flange *k*, cap L, and sections I, having curved outer faces and polygonal-shaped inner faces, *i*.

5. The combination of the box J, having circular recess S, and flange *k*, cap L, and sections I, having curved outer faces, polygonal-shaped inner faces, *i*, and the circular spring-band M, interposed between the sections I and curved wall of the recessed part of the box.

6. The combination of the lathe having the longitudinal reciprocating frame B and laterally or transversely reciprocating tool-holder C, carried by the frame B, and the wood-holder G, having a revolving center formed of two or more sections or jaws with a polygonal aperture.

In testimony of which invention I have hereunto set my hand, at Philadelphia, Pennsylvania, this 21st day of May, A. D. 1888.

LEANDER N. NORCROSS.

Witnesses:

RICHARD S. CHILD, Jr.,

ABNER J. DAVIS.