(No Model.)

L. BURST.

BORING BAR.

No. 463,480. Patented Nov. 17, 1891.

Fig. I.

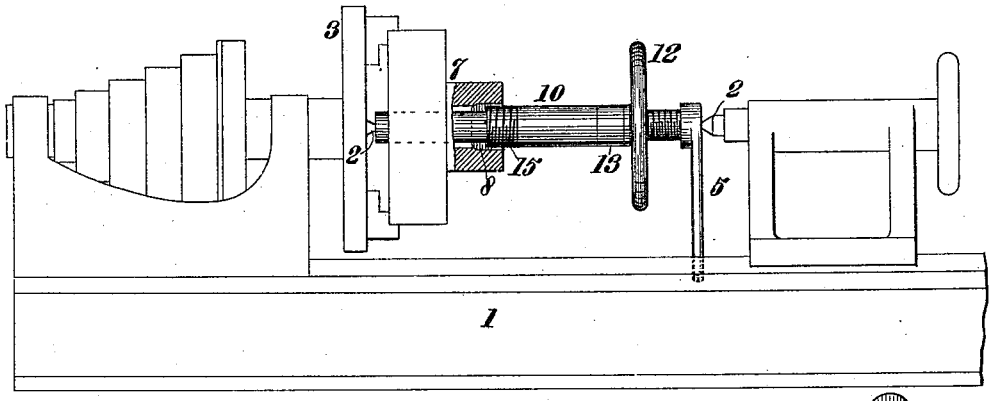

Fig. II.

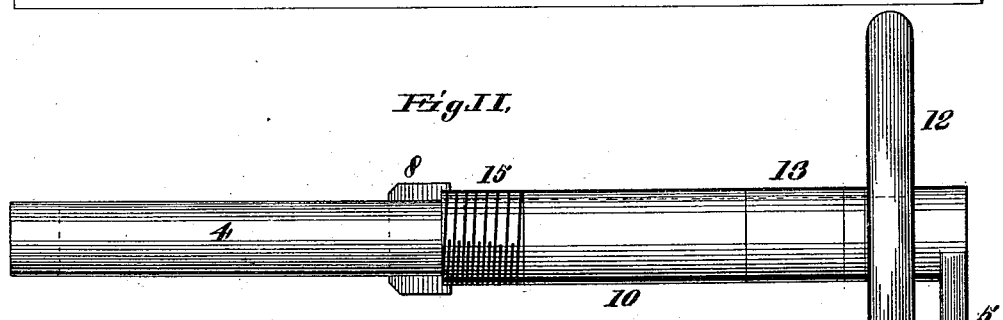

Fig. III.

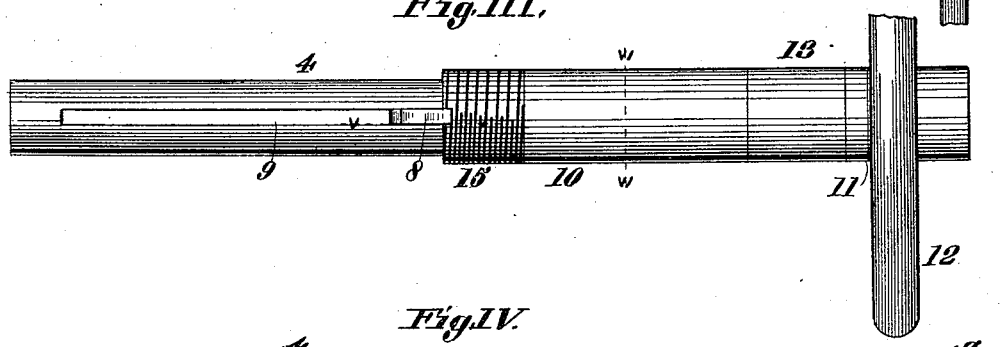

Fig. IV.

Fig. V.

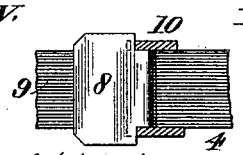

Fig. VI.

Fig. VII.

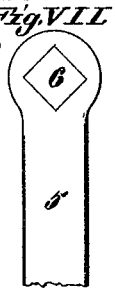

Fig. VIII.

Attest;
Walter E. Allen;
Arthur O. Knight.

Inventor;
Leonhart Burst
By Knight Bros
Atty's

UNITED STATES PATENT OFFICE.

LEONHART BURST, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO CARL A. DIETRICH, OF SAME PLACE.

BORING-BAR.

SPECIFICATION forming part of Letters Patent No. 463,480, dated November 17, 1891.

Application filed August 10, 1891. Serial No. 402,257. (No model.)

To all whom it may concern:

Be it known that I, LEONHART BURST, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Boring-Bars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a device to be used in connection with a lathe in boring out internal openings of such articles as pulleys and the like; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is an elevation, part in section, illustrative of my invention. Fig. II is an enlarged elevation of the bar. Fig. III is a top view of the bar. Fig. IV is a top view of the bar with the sleeve, hand-wheel, and collar removed. Fig. V is a detail vertical section taken on line V V, Fig. III. Fig. VI is a transverse section taken on line VI VI, Fig. III. Fig. VII is a detail view of the arm for holding the bar from turning. Fig. VIII is a vertical section illustrating an open ring or collar which may be placed between the closed ring and the sleeve to secure an additional length to these parts.

Referring to the drawings, 1 represents the shears, 2 the centers, and 3 the chuck, of an ordinary lathe.

4 represents a bar fitting and held in the centers 2 and held from turning, preferably, by means of an arm 5, having a non-circular socket 6 (see Fig. VII) fitting over the non-circular end 4^a (see Fig. IV) of the bar, and the lower end of which bears against the shear of the lathe, as shown in Fig. I, thus holding the bar from turning.

7 represents the pulley or object to be bored out, and which is held by the chuck 3 and made to turn or revolve with the chuck. The bar 4 passes through the opening of the pulley, as shown in Fig. I.

8 represents the tool fitting in a longitudinal slot 9 in the bar 4 and engaged from behind by a sleeve 10, which is preferably notched out to receive the back edge of the tool, as shown, so as to afford an additional support to the tool and prevent its movement. The end of the bar farthest from the slot 9 is threaded, as shown in Figs. I and IV, and upon it fits the internally-threaded hub 11 of a hand-wheel 12.

13 represents a short collar or ring, which I prefer to place between the hand-wheel and the sleeve 10, and if an additional length is wanted at any time open rings 14 (see Fig. VIII) may be slipped onto the bar between the ring 13 and the sleeve 10, and when inserted at this point the turning of the hand-wheel will not have a tendency to lift the open ring off of the bar, as it would have when turned if it came directly against one end of the open ring.

It will be readily understood from the description given that the pulley or object being bored out is made to turn upon the tool, and that by turning the hand-wheel in the proper direction the tool will be made to move along the slot 9 of the bar, and thus be made to pass through the opening of the pulley or object in dressing or boring it out, and it will be compelled to move on a perfectly-true line drawn from the point of one of the centers 2 to the point of the other center, and will form a perfectly true opening in the pulley or other article, as it is not subject to deflection, as is the tool held in the ordinary way. The end of the sleeve 10 next to the tool is preferably provided with a left-hand thread 15 on its periphery, which acts to remove the turnings from the opening of the pulley as they are cut by the tool, and thus prevents the turnings from interfering with the proper working of the tool.

I claim as my invention—

1. A boring-bar for lathes, having a tool-slot, in combination with a hand-wheel and sleeve for moving the tool along the slot, substantially as and for the purpose set forth.

2. A boring-bar for lathes, having a tool-slot, in combination with a sleeve, a closed ring, and an opening, and a hand-wheel for moving the tool along the slot, substantially as and for the purpose set forth.

3. A boring-bar for lathes, having a tool-slot, in combination with a sleeve having a thread on its end next to the tool and a hand-wheel, substantially as and for the purpose set forth.

LEONHART BURST.

In presence of—
E. S. KNIGHT,
A. M. EBERSOLE.