(No Model.)

J. D. RUSS.

LATHE ATTACHMENT.

No. 501,469. Patented July 11, 1893.

Fig 1

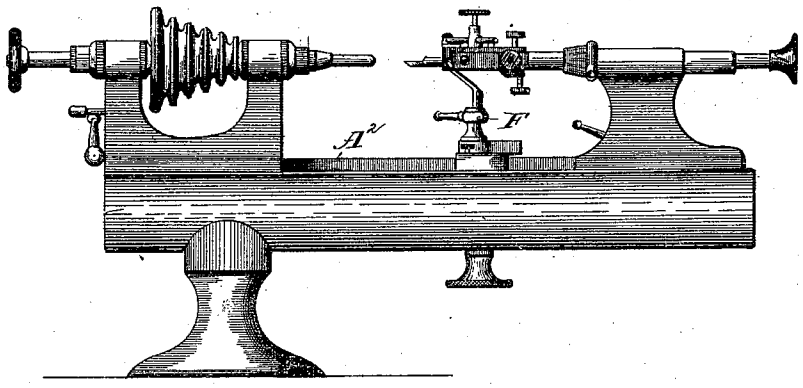


Fig 2.

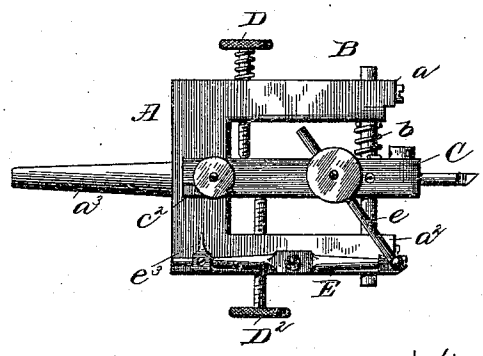


Fig 3.

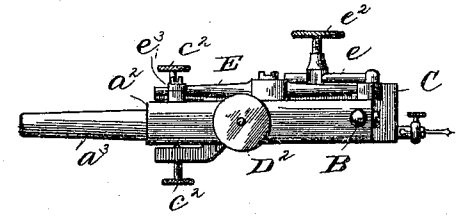
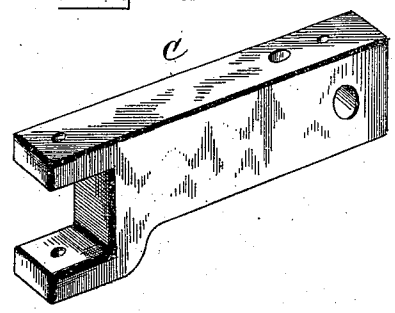


Fig 4



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UNITED STATES PATENT OFFICE.

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LATHE ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 501,469, dated July 11, 1893.

Application filed September 26, 1892. Serial No. 446,917. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. RUSS, a citizen of the United States, residing at Ravenswood, in the county of Jackson and State of West Virginia, have invented certain new and useful Improvements in Lathe Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to lathe attachments.

The object of the invention is to produce a lathe attachment designed particularly for use on jewelers' lathes, and adapted for cutting openings for the reception of jewels in watches, &c., though capable of use in any other position where it is desirable to cut openings in metal of the exact size to receive articles to be set in place, and for holding an ordinary drill-tool.

The invention consists essentially in an attachment for lathes, consisting in a laterally-movable tool-bar, a pivoted lever arranged on the frame carrying the tool-bar, an adjustable connection between the lever and the tool-bar, and a head on the lever designed to move toward and away from the tool-bar; furthermore, the invention resides in various novel details of construction, whereby the objects of the invention are attained.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a lathe of ordinary construction having my improved attachment in position thereon. Fig. 2 is a plan view of the attachment, with a cutting tool arranged in position thereon. Fig. 3 is a side elevation of the attachment with a drill in position; and Fig. 4 is a perspective view of the tool-bar detached from the rest of the attachment.

In the drawings, A represents a frame provided with two side-pieces, a, a^2, and having integral with it, a stem a^3, for the attachment of the device to a lathe A^2 of suitable construction.

B represents a rod extending from the arms a and a^2, and upon this rod is designed to slide the tool-bar C. This tool bar is, as shown in Fig. 4 of the drawings, provided, in its lower end with a notch, the sides of the bar on each side of the notch, being provided with set-screws c^2, whereby the up and down adjustment of the tool-bar is permitted, the inner ends of the adjusting-screws bearing, respectively, on the upper and lower faces of the frame A.

Arranged between the arm a and the tool-bar C on the rod B is a spring b, the function of which is to exert a pressure to force the tool-bar away from the arm.

D, D^2, represent set-screws extending, respectively, through the arms a and a^2 and bearing against the tool-bar, for adjusting the lateral position of the same.

E represents a lever pivoted in any suitable position on the frame a and provided with a pivoted arm e, extending through a socket on the tool-bar and retained in position by a set-screw e^2. On the other end of the lever E is a head or pointer e^3.

In the operation of the device, where it is desirable to cut an opening of a size exactly corresponding to that of any suitable article, the article to be seated is introduced between the tool-bar C and the head e^3 on the lever, and the parts are so adjusted as to bring the article into contact with both the tool-bar and the head. When this position is reached, the set-screw e^2 is turned to hold the arm e firmly in the position to which it has been moved. When this is accomplished, the set-screw D is turned to bring its end to bear against the tool-bar and the set-screw D^2 is also turned to have its end bear against the tool-bar. When the parts are thus adjusted, the metal to be cut is placed against the cutter and motion is imparted. After a circular hole has been cut, the set-screw D^2 is gradually loosened as the cutting proceeds, and this loosening is continued until the head e^3 on the lever E comes in contact with the tool-bar, the tool-bar, in the operation, being forced toward the head by the spring b as the set-screw D^2 is loosened.

F represents a sliding tool-holder of the usual construction, attached to the lathe, and which, in the use of my attachment, is preferably arranged to support the same and prevent displacement in use.

From the foregoing, it will be clear that a circle of exactly the size of the article to be seated is cut, for the reason that the cutter is

moved sidewise a distance exactly equal to tne radius of the circle cut, the connection between the tool-bar and the lever being such that they will move toward each other with uniform speed, and, therefore, insure the contact of the head e^3 with the tool-bar when a distance, corresponding to the radius of the circle cut, has been traveled by the tool-bar.

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

1. An attachment for lathes, consisting essentially, of a laterally-movable tool-bar, a pivoted lever arranged on the frame carrying the tool-bar, an adjustable connection between the lever and the tool-bar, and a head on the lever designed to move toward and away from the tool-bar, substantially as described.

2. An attachment for lathes, consisting of a laterally and vertically movable tool-bar, a pivoted lever arranged on the frame carrying the tool-bar, an adjustable connection between the lever and the tool-bar, a head on the lever designed to move toward and away from the tool-bar, and screws placed in the end of the tool-bar, and bearing against the frame, substantially as described.

3. An attachment for lathes, consisting in a frame, a pin arranged across the frame, a tool-bar sliding on the pin, a spring arranged between the frame and the tool-bar, adjusting screws passing through the frame and bearing against the tool-bar, a lever mounted on the frame, an adjustable connection between the lever and the tool-bar, and a head on the lever designed to move toward and away from the tool-bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN D. RUSS.

Witnesses:
J. B. ROBERTS,
T. H. B. LEMLEY.