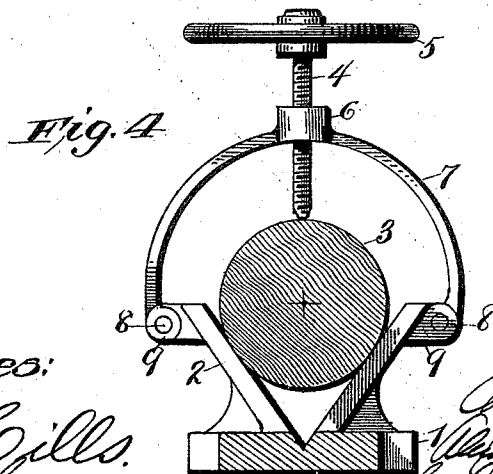
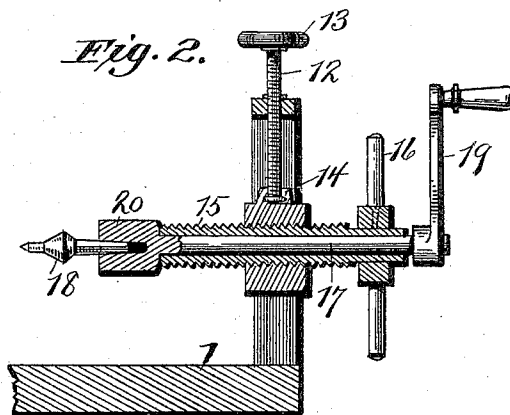
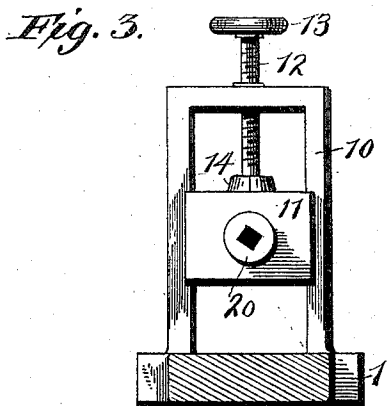
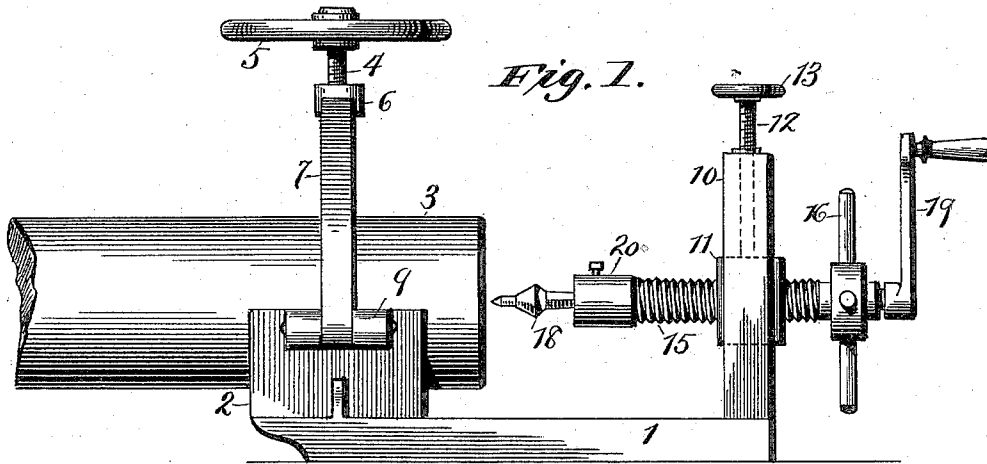


(No Model.)  
C. O. BULOCK & A. E. McLAUCHLIN.  
CENTERING MACHINE.

## CENTERING MACHINE.

No. 579,037.

Patented Mar. 16, 1897.



Witnesses:  
L. C. Hills.  
Alfred T. Gage.

*Inventors:*  
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# UNITED STATES PATENT OFFICE.

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## CENTERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 579,037, dated March 16, 1897.

Application filed November 28, 1896. Serial No. 613,790. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES O. BULOCK, a citizen of the United States, and ALEXANDER E. McLAUCHLIN, a citizen of the Dominion of Canada, residing at York Haven, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Centering-Machines; and we do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to a machine for centering and drilling a hole in the end of a shaft or bar of iron or other material intended subsequently to be hung and turned in a turning-lathe.

The object is to form a simple and efficient machine for the purposes stated and in which the boring-tool will have a vertical as well as a longitudinal adjustment, so that the drill can be made to bear at the point desired in the end of the shaft.

To the accomplishment of the foregoing and such other objects as may hereinafter appear the invention consists in the construction and in the combination of parts hereinafter particularly described and then sought to be specifically defined by the claims, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 is a side elevation of the machine, showing the parts in position for operation, with a shaft in position to have a hole bored therein. Fig. 2 is a vertical section through the portion of the machine which carries the boring and adjusting means. Fig. 3 is a vertical cross-section through the bed of the machine, looking at the front of the tool which receives the drill; and Fig. 4 is a vertical section through the bed of the machine, looking in the direction of the seat and clamp for holding the shaft which is to have the centering-hole made in it.

In the drawings the numeral 1 designates the bed of the machine, which supports at one end the seat 2 for the shaft or other arti-

cle 3 which is to have the centering-hole bored in its end, said shaft being held to its seat by means of the binding-screw 4, which has the hand-wheel 5 and which passes through a threaded boss 6, formed in the bail 7, which is pivotally attached to the seat 2 by means of pins 8, passing through the ends of the bail and through ears 9, formed on the opposite sides of the seat. By this construction the bail can be swung to one side upon its pivot and the work placed in the seat from one side.

The opposite end of the bed-plate 1 sustains an open standard 10, in which a block 11 has a vertical sliding movement, said block being raised or lowered by means of an adjusting-screw 12, formed with a hand-wheel 13 and having its bearing in a screw-threaded opening formed in the top of the standard 10, the lower end of the screw 12 being swiveled, as illustrated at 14, to the top of the sliding block 11. This block 11 is formed with internal screw-threads, and fitted in this threaded opening is a threaded sleeve 15, which is provided at one end with the wheel 16, by which the sleeve can be moved horizontally, so as to bring the drill in position against the end of the shaft 3. A spindle 17 passes through the sleeve 15 and has at one end the head or socket 20 to receive the drill 18 and is provided at the opposite end with a crank-handle 19, by which the spindle and the drill can be turned for the purpose of boring the hole in the end of the shaft.

By the vertical adjustment of the sliding block 11, which carries the drilling means, the point of the drill can be brought to the center of the shaft 3 or to a point above or below the center, as the conditions of the work to be performed may require, the centering-hole to be in the center or to one side thereof in the end of the shaft 3. This adjustment is effected by the simple turning of the adjusting-screw 12, which screw will hold the boring-tool to the adjustment made. After this adjustment has been made the drill 18 is moved up to the shaft 3 by turning the sleeve 15 in the block 11 through the instrumentality of the hand-wheel 16. When this horizontal adjustment has been effected, the spindle 17

is turned through the instrumentality of the handle 19, so as to cause the drill 18 to make the hole in the shaft, and the feed of the drill as the hole is made is effected by simply turning the hand-wheel 16, attached to the threaded sleeve.

By the construction described the adjusting devices for the vertical movement of the sliding block and the horizontal movement of the threaded sleeve and the handle for turning the drill are all brought at the same end of the machine and in a convenient relation to each other, so that they can be manipulated with the greatest ease and facility. By the same construction the drill is enabled to be brought quickly and with ease to the point where the centering-hole is to be made in the end of the shaft. The construction also enables the machine to be made at the minimum of cost and of such few parts that there is little if any liability of any of the parts getting out of accurate operative condition.

We have illustrated and described with particularity the preferred details of construction and arrangement of parts; but it is obvious that changes can be made and the essential features of the invention still be employed.

Having described our invention and set forth its merits, what we claim is—

1. In a centering-machine, the combination with means for holding the work while having a centering-hole made therein, of a fixed standard formed with a vertical way, a vertically-sliding block fitting in said way and internally screw-threaded, a screw having a bearing in a part of the standard and connected to said block for adjusting it vertically, a screw-threaded sleeve working in said block to adjust the drill to and from the work, and a spindle rotatable in said sleeve and provided with means for carrying a drill and for revolving the spindle, substantially as and for the purposes described.

2. In a centering-machine, the combination with means for supporting a drill and adjusting it vertically and feeding it horizontally, of means for holding the work to be bored comprising a seat, a bail pivotally secured at both ends to said seat, and a binding-screw working in said bail and adapted to bear against the work to be clamped, substantially as and for the purposes described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES O. BULOCK.

ALEXANDER E. McLAUCHLIN.

Witnesses:

ELMER C. ZEIGLER,  
EDWARD P. STAIR.