



# UNITED STATES PATENT OFFICE.

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## CENTERING DEVICE FOR LATHES.

SPECIFICATION forming part of Letters Patent No. 660,821, dated October 30, 1900.

Application filed January 13, 1900. Serial No. 1,261. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN G. OBERMIER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented new and useful Improvements in Centering Devices for Lathes, of which the following is a specification.

My invention relates to improvements in centering devices for lathes; and it consists in providing a dead-center having a spiral thread formed thereon to engage with a corresponding thread formed on the inside of an adjusting-nut having cast integral therewith an operating-handle, by means of which device the work is more quickly centered in the machine and disengaged therefrom, as will be hereinafter more fully described and claimed.

In the accompanying drawings similar letters of reference refer to similar parts.

Figure 1 is a perspective view of my device mounted upon the bed-plate of a lathe. Fig. 2 is a longitudinal sectional view through the center-sleeve and tail-stock. Fig. 3 is a transverse sectional view of the same portion of the machine. Fig. 4 is a perspective view of the centering shaft or pin. Fig. 5 is a perspective view of the operating-nut. Fig. 6 is a sectional view of the outer end of the sleeve and centering-shaft.

A represents the bed-plate of a lathe, provided with the usual longitudinal ways  $a$ , on which there is mounted the tail-stock B, carrying the center-sleeve C, which may be held in engagement with the tail-stock B by any of the well-known means; but I have shown and prefer to use the retaining-bolts  $c$ , the washers  $c'$ , and the nuts  $c^2$ . The outer end of the sleeve is circular in form and has formed therein a circular bearing  $c^3$  to receive the centering-shaft D. On the forward portion of the sleeve there is formed a corresponding circular bearing with the exception that the upper portion of the bearing is detachable and is provided with projecting flanges  $c^4$  on either side thereof, which rest upon corresponding projecting flanges  $c^5$ , cast integral with the forward portion of the sleeve, and are held in engagement with each other by means of retaining-bolts. The object in providing this form of bearing for the forward end of the centering-shaft is that the shaft may be more readily seated in the bearings

and to facilitate the mounting of the operating-nut upon the shaft.

D is the centering-shaft, which is provided with a taper  $d$  at its forward end, and a short distance from the center of the shaft there is formed the screw-thread  $d'$ , and from the end of which the centering-shaft is slightly reduced in diameter, and there is formed therein the longitudinal groove  $d^2$ , with which there engages the inner end of the thumb-bolt  $e^6$ , which has a screw-threaded engagement with the sleeve and is for the purpose of preventing the turning of the centering-shaft and to cause it to travel backward and forward, corresponding with the movement of the operating-nut.

E is the operating-nut, the interior of which is provided with a screw-thread  $e$ , corresponding with the screw-thread  $d'$  upon the centering-shaft. It is also provided with an operating handle or lever  $e'$ , by which the nut is turned upon the centering-shaft.

In assembling the machine the tail-stock, which may be of any desired form, is mounted upon the bed-plate. The operating-nut is engaged with the centering-shaft. The outer end of the centering-shaft is then placed in the bearing  $c^3$  in the outer end of the sleeve, the forward end of the centering-shaft resting in the bearing formed on the forward end of the sleeve. The nut  $e^6$  is then inserted in the sleeve and the inner end thereof received in the longitudinal groove  $d^2$  in the centering-shaft. The upper plate of the forward bearing is then placed over the shaft and securely fastened to the lower portion by means of the retaining bolts and nuts, when the machine is ready to be operated. In operation the raising of the operating lever or handle of the operating-nut causes the centering-shaft to travel forward until it engages the work, and the depression or lowering of the handle causes the centering-shaft to travel backward, and thus become disengaged from the work. The machine may be so adjusted that the distance to be traveled by the shaft will permit of the operating-handle being turned back past the center, so that its weight will operate to hold the centering-shaft in its desired position.

Heretofore there have been screw-threaded shafts traveling in a fixed screw-threaded

nut, the shaft being operated by means of a wheel attached to the outer end thereof; but this operation has been slow, requiring a large number of revolutions of the wheel, while by  
5 the use of my device the result is accomplished by one movement of the lever either to engage or disengage the work.

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

The combination in a lathe of a bed-plate with a tail-stock, a centering-sleeve engaging therewith and provided with a recess terminating short of the end of the sleeve to form

a stop, a screw-threaded centering-shaft of  
15 two diameters journaled in the centering-sleeve and carrying a corresponding screw-threaded operating-nut provided with a projecting operating-lever, substantially as described and for the purpose set forth. 20

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN G. OBERMIER.

Witnesses:

CHAS. R. MILLER,  
CHAS. M. BALL.