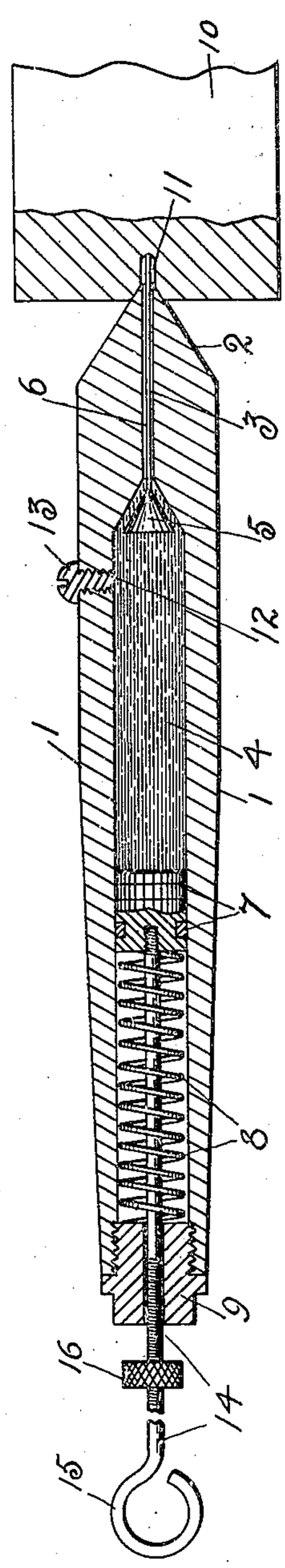
No. 868,448. PATENTED OCT. 15, 1907.

E. KEIL.

SELF OILING LATHE CENTER.

APPLICATION FILED MAY 17, 1907.



WITNESSES

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SELF-OILING LATHE-CENTER.

No. 868,448. Specification of Letters Patent. Patented Oct. 15, 1907.

Application filed May 17, 1907. Serial No. 374,126.

To all whom it may concern:

Be it known that I, ERNST KEIL, a subject of the Emperor of Germany, residing at Granville, county of Licking, and State of Ohio, have invented certain new and useful Improvements in Self-Oiling Lathe-Centers, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

The single figure of the drawings is a central, vertical, longitudinal section of my improved self-lubricating lathe-center removed from the lathe, and shown in engagement with the neighboring end of a piece of work to be turned in the lathe.

The principal object of the invention is to provide an automatically operating self-lubricating center for lathes.

Referring to the drawings wherein the invention is shown in preferred form, 1, represents a hollow body having a conical end, 2, and adapted for use as the dead-center of a lathe. An axial aperture, 3, forms an outlet leading from the axial chamber, 4, which outlet is controlled by a valve, 5, which may be of any known form. I have shown the valve conical in form, and adapted to fit a conical seat surrounding the axial outlet-aperture, 3. A valve-stem, 6, extends outwardly from the smaller end of the conical valve, loosely through the axial outlet-aperture, 3, being of a length adapted to project a short distance beyond the point of the conical end of the center.

The chamber or bore, 4, is cylindrical in form, and fitting within the same is a piston, 7, adapted to be forced toward the conical end of the center by means of a coil-spring, 8, interposed between the piston and a screw-plug, 9, inserted in the outer end of the chamber. The spring, 8, is adapted to force the piston, 7, approximately to the inner end of the chamber, when the chamber is empty.

When adapted for use, the chamber, 4, contains a body of oil or other lubricating matter interposed between the piston, 7, and valve, 5, which oil is under pressure due to the force of the spring 8.

In using the device, the work, 10, is provided with the usual conical centering recess in its end, adapted to receive the conical end, 2, of the center, and is also preferably provided with an extension, 11, of said conical recess, of somewhat less depth than the length of the valve-stem, 6, projecting beyond the point of the center.

When the work is applied to the center, the engagement of the valve-stem, 6, with the bottom of the recess, 11, will force the valve, 5, inwardly away from its seat, permitting the lubricant to flow from the chamber, 4, out through the outlet-aperture, 3, into the recess, 11, whence it has access to the engaging surfaces of the work and conical point of the center, to lubricate the same. The lubricant, 4, being always under pressure, due to the action of the spring, 8, the valve, 5, will automatically close as soon as the work, 10, is removed from engagement with the outer end of the valve-stem.

The chamber, 4, may be supplied with lubricant in any known manner.

I have shown the body of the center provided with a screw-threaded aperture, 12, through which the lubricant can be inserted, which aperture is adapted to be tightly closed by a screw, 13.

To facilitate the introduction of the lubricant into the chamber, 4, the outer end of the piston, 7, is preferably tapped to receive a screw-threaded inner end of a rod, 14, which is adapted to pass loosely through an axial aperture in the screw-plug, 9, and which is provided with a handle, 15, and with a nut, 16, outside of the screw-plug 9.

The rod, 14, and nut, 16, are applied only when it is desired to supply the chamber, 4, with lubricant, in which case the rod is inserted and screwed into the tapped aperture in the piston, and then serves as a means whereby the piston can be drawn back against the force of the spring, to compress the spring, in which position it can be retained by adjusting the nut, 16, to engage the outer end of the screw-plug 9. The screw, 13, is then removed, the chamber, 4, supplied with lubricant, and the aperture, 12, again closed by the screw, 13. The rod, 14, is then unscrewed from the piston, 7, leaving the piston free to respond to the action of the spring, 8, as the lubricant gradually escapes from the chamber, 4, through the outlet to lubricate the work.

My improved lathe-center can be secured in the tail-stock of the lathe in the usual manner.

What I claim as new and desire to secure by Letters Patent is

1. The combination with a lathe-center body provided with a lubricant chamber, and with an outlet leading from said chamber, through the pointed end of the center; of a valve adapted to close said outlet; a work-engaging valve-

operating stem projecting beyond the point of the center; and yielding means for forcing the lubricant toward the valve-closed outlet.

2. The combination with a lathe-center body provided with a lubricant chamber, and an outlet leading from said chamber, through the point of the center; of a valve adapted to close said outlet; a work-engaging valve-operating stem projecting through said outlet beyond the point of the center; a piston fitting and movable within the lubricant chamber; and a spring engageable with the outer side of said piston.

In testimony whereof, I have hereunto set my hand this 4th day of May 1907.

ERNST KEIL.

Witnesses:
C. D. COONS,
WARREN H. ROBERTS.