

H. K. PORTER.
LATHE CENTER.

No. 104,995.

Patented July 5, 1870.

Fig. 1.

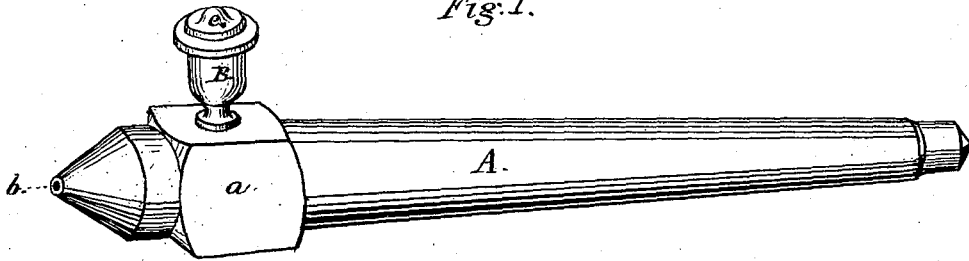
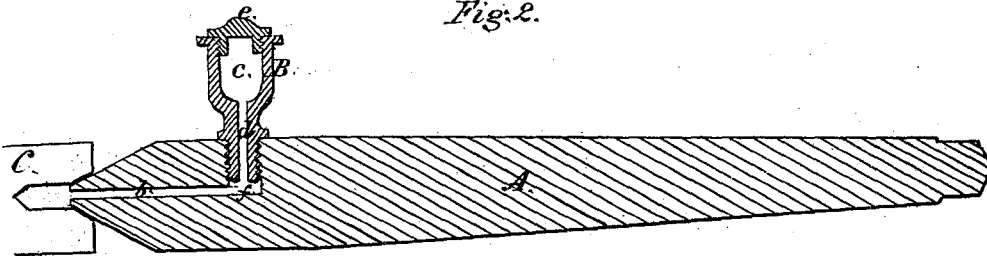


Fig. 2.



Witnesses
Herbert S. Whitman
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UNITED STATES PATENT OFFICE.

HENRY K. PORTER, OF BOSTON, MASSACHUSETTS.

IMPROVED LATHE-CENTER.

Specification forming part of Letters Patent No. 104,995, dated July 5, 1870.

To all whom it may concern:

Be it known that I, H. K. PORTER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Lathe-Centers; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to which it appertains to practice it.

This invention relates to an improvement in lathe-centers, by which they are rendered self-oiling; and the invention consists in forming a small central hole through a portion of the center and connecting the same with an oil-fountain in such manner that the oil will be conducted to the point of contact between the center and the article which it engages, as is herein more fully described.

Figure 1 is a perspective view of my invention, and Fig. 2 is a longitudinal section taken through the axis of the oil-fountain.

Similar letters of reference indicate corresponding parts in the several figures.

The practical experience of every user of lathes, either for working wood or iron, (and especially the latter,) has demonstrated to them the fact that the center in the tail-stock known as the "dead-center" is rapidly worn away by the friction caused by the action of the article being rotated in the lathe, and that if the point of contact between the center and the articles revolved thereon could be kept constantly lubricated with oil, the durability of the center, and the consequent perfection of work performed thereon, would be indefinitely increased; but, owing to the peculiar angle of the point of contact, as well as the severe pressure and usual high speed of rotation, the point of the center is almost constantly dry, and hence soon destroyed. To obviate these difficulties, as well as the expense of re-pointing the center, I construct the center A with a small axial bore, *b*, leading from the point of the center to about the cen-

ter of the square part *a*, as shown in Fig. 2, when it intersects the larger screw-threaded hole *f*, in which is secured, by corresponding threads, the stem of fountain B, having the oil-space *c*, from which the small passage *d* leads down through the stem of the fountain, as shown.

e is a screw-cap fitted to and closing the top of the fountain.

C represents a bar of iron, in section, with the usual center formed therein for the insertion of the lathe-center A, an axial hole being bored therein of a size slightly greater than the point of center A, after which this hole is partly countersunk at the same angle of convergence as that of the center A, so that, as the bearing-surface of the shaft is worn by contact with center A, the end of this center shall not "bottom" in the small hole in the shaft, but an oil-space will be kept in front of hole *b*, so that the oil in fountain B shall slowly but constantly pass down through hole *d* and out through bore *b* into the small hole in the shaft, whence it constantly serves to lubricate the point of contact between the shaft and center A.

When this center is not in use, by screwing cap *e* closely down no oil will escape through bore *d*, the pressure of the atmosphere retaining it in the fountain, thus rendering a stop-cock or similar appliance unnecessary.

The combination of the oil-reservoir with a pointed center, having axial and transverse oil passages or ducts; is not new, nor do I claim said combination; but

What I do claim is—

The center A, having a truncated conical extremity, an axial passage terminating in the center of the face of said extremity, and a transverse passage communicating with said axial passage and with an external reservoir, substantially as and for the purpose set forth.

H. K. PORTER.

Witnesses:

T. W. PORTER,
EUGENE Z. O. NEIL.