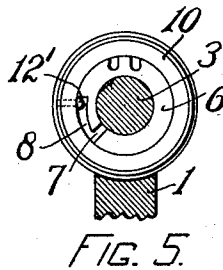
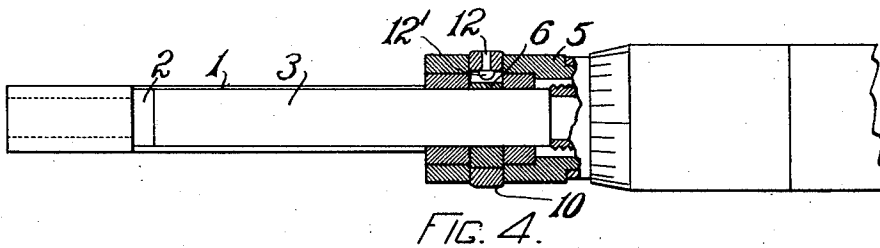
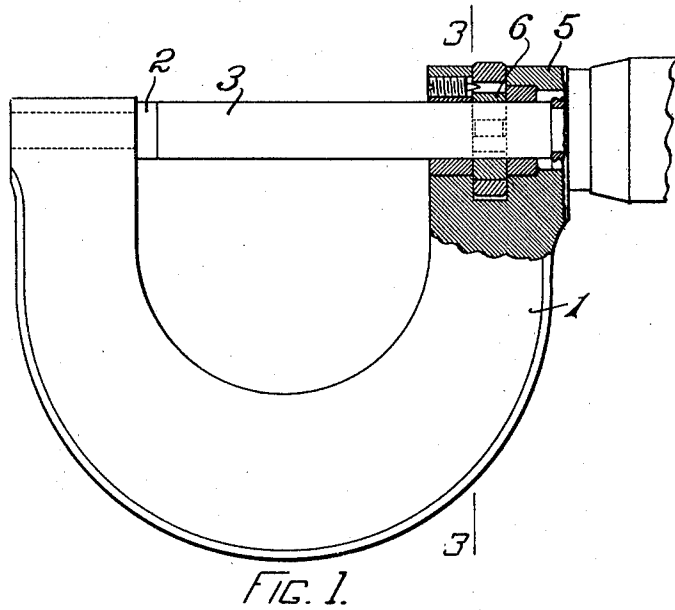
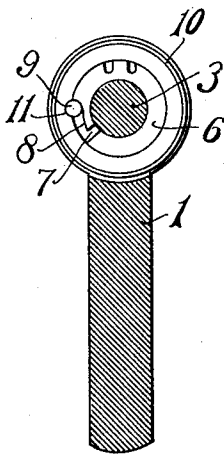
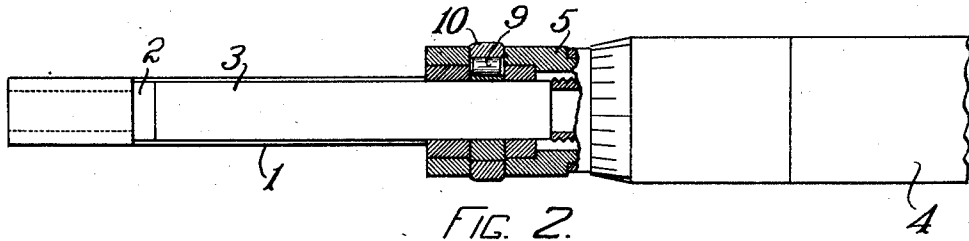


L. S. STARRETT.
SPINDLE LOCK.
APPLICATION FILED SEPT. 30, 1909.

1,006,508.

Patented Oct. 24, 1911.



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UNITED STATES PATENT OFFICE.

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SPINDLE-LOCK.

1,006,508.

Specification of Letters Patent.

Patented Oct. 24, 1911.

Application filed September 30, 1909. Serial No. 520,415.

To all whom it may concern:

Be it known that I, LAROE S. STARRETT, a citizen of the United States, residing at Athol, county of Worcester, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Spindle-Locks, of which the following is a specification.

This invention relates to a spindle locking device and particularly to a spindle lock for a micrometer, being an improvement over my former invention shown in my recent Patent No. 928,889 of July 20, 1909. In that patent I described the actuation of a binding roller to lock a clamping ring upon a spindle and in that patent showed a micrometer the spindle of which was so locked.

My present invention involves among other improvements the positive actuation of the locking piece relative to the clamping ring to secure certainty of motion and permits the omission of the lift spring set forth in that patent.

The present improvement admits of a larger locking piece or roller and, therefore, avoids to a greater extent the possibility of its indentation on the bearing surface of the clamp. This permits a decrease of the expense of construction as it is not now necessary to harden the spring used under the roller as in the patent referred to. A slight variation in the size of the roller moreover does not now affect its operation. In former devices the roller would sometimes stick in the deep part of the notch in the clamp ring, but in my present improvement the actuation is positive and certain.

The structure and arrangement for the securing of a positive actuation may be varied and the actuating member may be attached to the actuating ring in some other manners than I have above suggested. This is to be borne in mind in the following specification in which I have shown as an illustrative embodiment of my invention a micrometer in which the spindle is locked in the manner above suggested.

In the specification which follows I have employed like reference numerals to indicate corresponding parts throughout and in the drawings—

Figure 1 is a micrometer with a portion of its head broken away to expose the spindle locking means, Fig. 2 is a front elevation similarly broken, Fig. 3 is a transverse section on the line 3—3, Fig. 4 is a par-

tial view similar to Fig. 2 showing a modification of my invention, and Fig. 5 is a view similar to Fig. 3 showing the same modification as in Fig. 4.

1 is a frame having at 2 a fixed point or stud with relation to which a spindle 3 is moved by any suitable micrometer adjustment which may be contained as usual within the handle 4.

5 is a bearing or head within which the spindle 3 works and this head is transversely slotted or recessed at right angles to the bearing of said spindle 3.

Within the recess is located a clamping ring 6 which is preferably split, as indicated at 7, and provided with a sloping cam face 8.

9 is a locking piece or locking roller of slightly greater diameter than the deepest part of the cam face 8.

10 is an actuating or locking ring encircling the clamping ring 6 and provided on its inner face with a recess or groove 11 adapted to receive that portion of the locking piece or locking roller 9 which projects above the periphery of the locking ring. It will thus be seen that when the locking ring is rotated the roller 9 will be positively carried along on the cam face 8 of the clamping ring, thus binding and locking the spindle 3 at its position of proper adjustment.

In Figs. 4 and 5 I have shown in a modification a structure in which there is substituted for the locking roller 11 the rounded head 12¹ of a rivet 12 set on the inner face of the ring 10. It will be readily seen that upon the rotation of the ring 10 the rounded head 12¹ of the rivet 12 will be drawn along the cam face 8 of the clamping ring 6, thus positively locking the spindle 3, as before described.

Various modifications, variations and usages of the device herein shown and described may, of course, be made without departing from the spirit of my invention if within the limits of the appended claim.

What I therefore claim and desire to secure by Letters Patent is:—

In a micrometer gage, a longitudinal spindle bearing having a transverse recess therein, a spindle rotatably mounted in said bearing, a rotatable ring surrounding said spindle and located in said recess, a split annular clamp disposed within said ring and about said spindle and having a cam surface thereon, a rounded locking piece oper-

atively associated with said ring to secure a positive movement in either direction thereof and adapted to bear upon said cam portion, whereby said locking piece will be
5 moved in either direction upon the rotation of the ring, substantially as shown and described.

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

LAROY S. STARRETT.

Witnesses:

FRANK E. WING,
WILLARD G. NIMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
