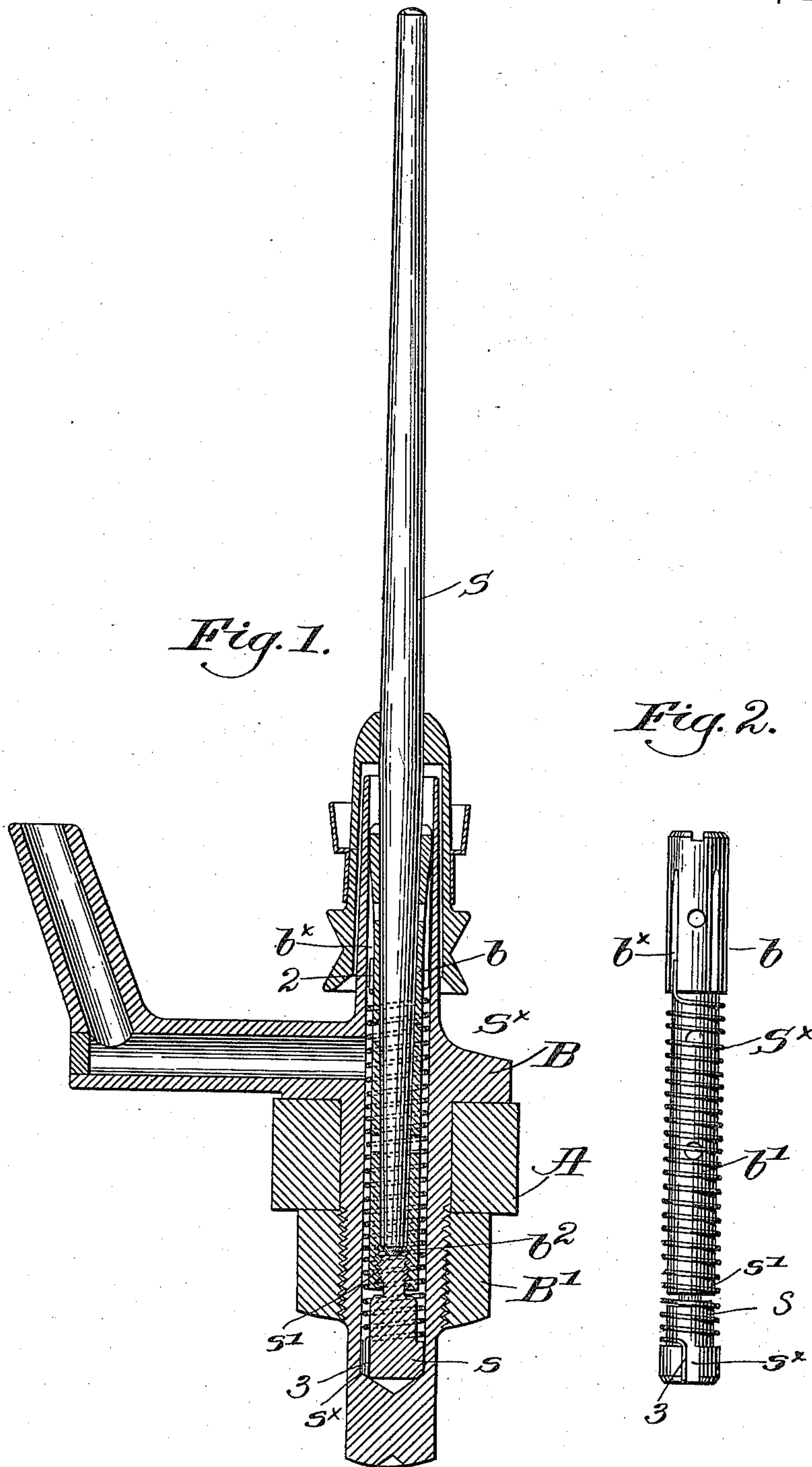


(No Model.)

L. J. MURRAY.
SPINDLE AND BEARING.

No. 579,118.

Patented Mar. 16, 1897.



Witnesses:
A. C. Harmon
Edward F. Allen.

Inventor:
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by Crosby Gregory. attys.

UNITED STATES PATENT OFFICE.

LEANDER J. MURRAY, OF MILFORD, MASSACHUSETTS, ASSIGNOR TO THE
SAWYER SPINDLE COMPANY, OF BOSTON, MASSACHUSETTS.

SPINDLE AND BEARING.

SPECIFICATION forming part of Letters Patent No. 579,118, dated March 16, 1897.

Application filed October 26, 1896. Serial No. 610,077. (No model.)

To all whom it may concern:

Be it known that I, LEANDER J. MURRAY, a subject of the Queen of Great Britain, residing at Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Spindles and Bearings, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to that class of spinning spindles and bearings wherein the spindle has a tapering pintle which enters a tapering hole in the bolster, a step being connected by a screw-thread to the lower end of the bolster, rotation of the step relatively to the bolster preserving the proper contact between the bolster and spindle.

In United States Patent No. 490,245, dated January 17, 1893, the occasional binding between the pintle of the spindle and the bolster is obviated by connecting the bolster and step by a spring the normal stress of which is sufficient to prevent rotation of the bolster relatively to the step due to the friction of the spindle in the bolster. Should the spindle stick or bind, however, sufficiently to rotate the bolster relatively to the step against the stress of the spring, the bolster would be lowered away from the pintle to thereby reduce the friction.

In this my present invention I utilize the spring connecting the bolster and step to not only perform the function herein described, but also take the place of the usual packing interposed between the bolster and bolster-case and acting as a lateral cushion for the bolster.

Figure 1, in vertical section, represents a spindle and its support containing a bolster and step embodying my invention; and Fig. 2 is a side elevation of the bolster, step, and controlling-spring.

The rail A, bolster case or support B, mounted thereon and secured in place by a nut B', the sleeve-whirl spindle S, having a tapering pintle, the bolster *b* and the step *s* secured thereto by a threaded shank *s'* to engage the

thread *b*² of the bolster, and the means for supplying oil to the spindle are and may be substantially as shown in said patent.

I have connected the bolster *b* and step *s* by a spring *S*^x, coiled about the exterior of the bolster at the reduced portion *b'* thereof, the end 2 of the spring entering a groove *b*^x in the bolster, its other end 3 entering a notch or groove *s*^x in the step.

Preferably a plurality of retaining-grooves *b*^x are formed in the bolster (see Fig. 2) to facilitate adjustment of the step in the bolster.

As best shown in Fig. 1, the portion of the spring surrounding the bolster takes the place of the usual packing interposed between the bolster and its case B and affords some freedom of movement therebetween, acting as a yielding medium and forming a lateral cushion for the bolster. The spring also serves to lock the bolster and step together in a yielding manner.

The spring is so applied that it is adapted to be wound tighter as the spindle is rotated in the direction of spinning, but under ordinary circumstances the spindle running with proper freedom will not turn the bolster to further tighten the spring. Should the spindle stick or bind, however, the partial rotation of the bolster will cause the spring to be tightened sufficiently to lower it on its step and away from the pintle of the spindle, reducing the friction.

By my invention I obviate the use of a separate packing for the bolster and at the same time maintain a yielding lock or connection between the bolster and step.

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

A bolster-case, a bolster therein having at its upper end a cylindrical head to loosely fit the case, said bolster also having a tapering bore, a spindle having a tapering pintle to enter therein, the body of the bolster being externally reduced in diameter, a step having a threaded shank to engage the lower end of the bolster, and a spring surrounding the

reduced body of the bolster between it and
the bolster-case, to form a yielding lateral
cushion for the bolster, one end of the spring
being attached to the bolster-head and its
5 other end to the step, to form a yielding lock
therebetween, substantially as described.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

LEANDER J. ^{his} × MURRAY.
_{mark}

Witnesses:

HERBERT S. MANLEY,
GEO. OTIS DRAPER.