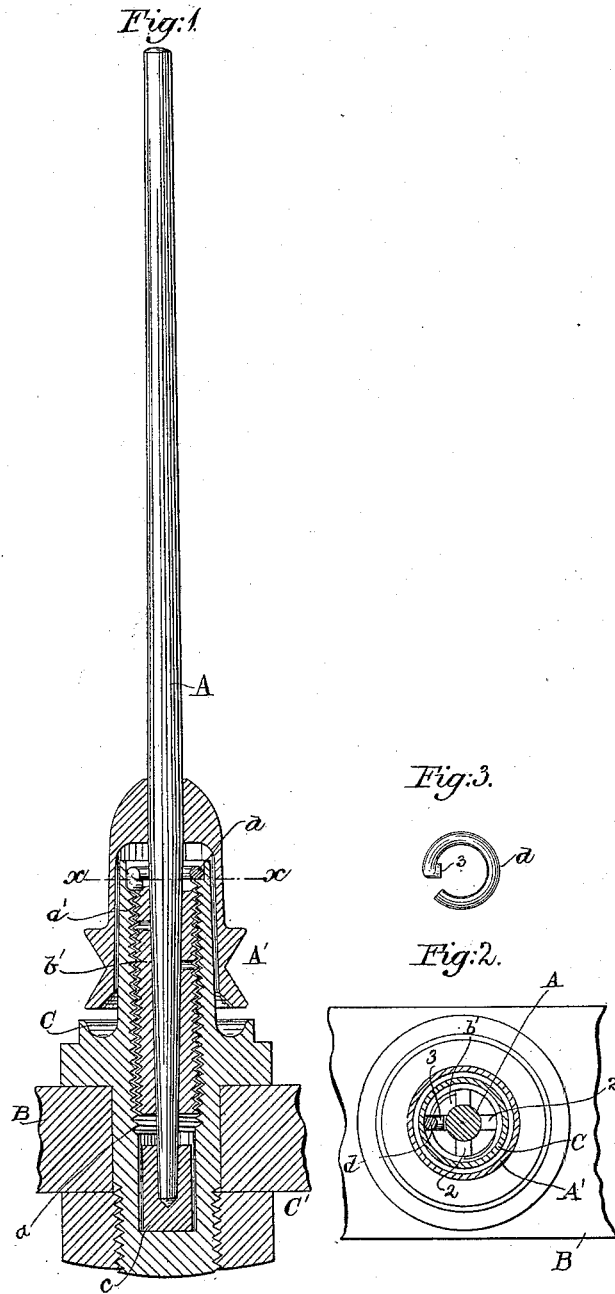


(No Model.)

H. A. BURLINGAME.  
SUPPORT FOR SPINNING SPINDLES.

No. 417,809.

Patented Dec. 24, 1889.



Witnesses.

Frank S. Grumbaf  
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Inventor.

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by Crosby & Mayony Attys.

# UNITED STATES PATENT OFFICE.

HENRY A. BURLINGAME, OF CENTRAL FALLS, RHODE ISLAND, ASSIGNOR TO  
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## SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 417,809, dated December 24, 1889.

Application filed May 31, 1889. Serial No. 312,703. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY A. BURLINGAME, of Central Falls, county of Providence, State of Rhode Island, have invented an Improvement in Supports for Spinning-Spindles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Prior to this invention many plans have been devised for the improvement of bearings for sleeve-whirl spindles in order that such spindles rotating in their bearings and loaded unevenly might move more or less laterally to provide for an unbalanced load.

In this class of invention the bolster or lateral bearing for the spindle has been surrounded by an elastic packing, and a rigid bolster has been supported loosely on a shoulder of a supporting-case, and so, also, the bolster-bearing has been made of a flexible or spring metal.

In this my invention the bolster, which constitutes a lateral bearing for the spindle, is provided externally at a point above the rail with a screw-thread, and is screwed into a supporting-case or holder threaded internally at a point above the rail; but the threads of the bolster and of the supporting-case are of such differing size as to engage loosely one with the other and afford a loose support for the bolster. By providing the bolster with a screw-thread, as described, it is possible by rotating the bolster, it having a tapering inner surface, to readily secure the desired fit of the bolster to the tapering surface of the pintle of the spindle.

I have combined with the screw-threaded loose bolster and supporting-case a locking device, herein exhibited as a partial ring.

Figure 1, in partial elevation and section, shows a spindle and spindle-bearing embodying my improvements. Fig. 2 is a section in the line *x x*, Fig. 1. Fig. 3 is a detail showing the locking device detached.

The rail B, provided with the usual hole, receives within it the shank of the supporting-case or holder C, the said shank being represented as having applied to it below the rail a nut C', which holds the supporting-case upon the rail. The supporting-case is

extended upwardly above the rail, and is surrounded by the sleeve-whirl A', connected to the spindle A. The extended portion of the supporting-case is provided internally with screw-threads *a*, which are engaged by external screw-threads, as at *a'*, formed upon the bolster *b'*, which forms the lateral bearing for the spindle at a point above the rail. This bolster-bearing is inclosed within the bolster-case, and the screw-threads cut in the bolster-case and on the bolster are of such size and shape as to leave a considerable space, sufficient to afford ample looseness for the bolster to enable it to move laterally to accommodate for usual variations in balancing the load upon the spindle. The space referred to between the bolster and bolster-case is sufficient to receive and contain a film of oil, which acts as a cushion.

The interior of the bolster-bearing is shown as tapered to fit the tapering exterior of the pintle of the spindle, and by rotating the bolster more or less within the supporting-case or holder the said bolster may be adjusted more or less vertically with relation to the independent step *c*, (shown in Fig. 1.) to enable the proper fit or contact to be maintained between the bolster and the spindle.

The upper end of the bolster, as herein represented, is provided with a series of notches, as 2, (shown best in Fig. 2,) which are engaged by a projection 3 of a locking device *d*, herein represented as a partial ring which surrounds the spindle, and which is located just within the top or upper end of the bolster case or holder, the said ring being sprung into the open upper end of the bolster case or bearing just above the said screw-threaded portion. This locking device, by its engagement with the bolster-bearing, prevents the rotation of the bolster with the spindle; but the locking device may be readily disengaged after the removal of the spindle and permit a partial rotation of the bolster-bearing. The notches 2 may be of any desired number, according to the fineness of adjustment required.

When the bolster moves laterally, the screw-threads thereof meeting with their inclined sides, the inclined edges of the threads of the supporting-case or holder causes the bolster

to be somewhat lifted, which would not be the case were the said threads omitted, or if the said threads did not fit loosely. When the pintle of the spindle is tapered, as described, to fit a tapering-hole in the spindle, it will be noticed that the spindle will also be lifted with the bolster, and consequently the weight of the spindle and its load has to be overcome before the bolster can partake of its full movement. In this way the weight of the bolster, as well as of the parts sustained by it, act as a restraining force, which serves the purpose usually effected by a packing or by springs.

I am aware that a bolster-bearing having a connected step has been provided at its lower end with a step integral therewith, and that the lower end of the said step has been screw-threaded externally for a short distance; but said bolster has been fitted snugly within a supporter extended up into the whirl and provided with a flange at its lower end to surround and fit the upper end of a pedestal.

I am also aware that a bolster-bearing made as a tube has been inserted loosely within a rigid bolster-case, substantially such as shown in this application, and that the lower end of the said bolster-bearing has been provided internally with a screw-thread to engage a projection rising from a step, the said projection being screw-threaded externally, as in United States Patent No. 378,877; but the bolster-bearing shown in the said patent is not threaded externally.

I claim—

1. A bolster case or holder having a shank to enter the rail and having a tubular sleeve-like portion extended above the rail and threaded internally, and a sleeve-whirl spindle, combined with a step and an independent externally-threaded loose bolster, the

threads of the bolster engaging loosely the threads at the interior of the bolster-case at a point above the rail, the diameter of the bolster-bearing and the size of the threads being such, substantially as described, as to enable the bolster-bearing to move laterally with the spindle to accommodate an unbalanced load, substantially as described.

2. A bolster case or holder having a shank to enter the rail, and having a tubular sleeve-like portion extended above the rail and threaded internally, and a sleeve-whirl spindle, combined with an externally-threaded loose bolster, the threads of the bolster engaging loosely the threads at the interior of the bolster-case at a point above the rail, the diameter of the bolster-bearing and the size of the threads being such, substantially as described, as to enable the bolster-bearing to move laterally with the spindle to accommodate an unbalanced load, and with a locking device to restrain the rotation of the said bolster in the bolster-case, substantially as described.

3. The supporting-case or holder provided at its interior with a screw-thread, and a spindle having a tapering pintle, combined with a bolster having a tapered interior to fit the taper of the spindle and screw-threaded externally and with an independent step, whereby by rotation of the bolster in the bolster-case the proper contact between the bolster and spindle may be maintained, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY A. BURLINGAME.

Witnesses:

WM. H. MCKITCHEN,  
CHAS. P. MOIES.