(No Model.)

W. F. DRAPER.

SUPPORT FOR SPINNING SPINDLES.

No. 442,427. Patented Dec. 9, 1890.

Fig: 1.

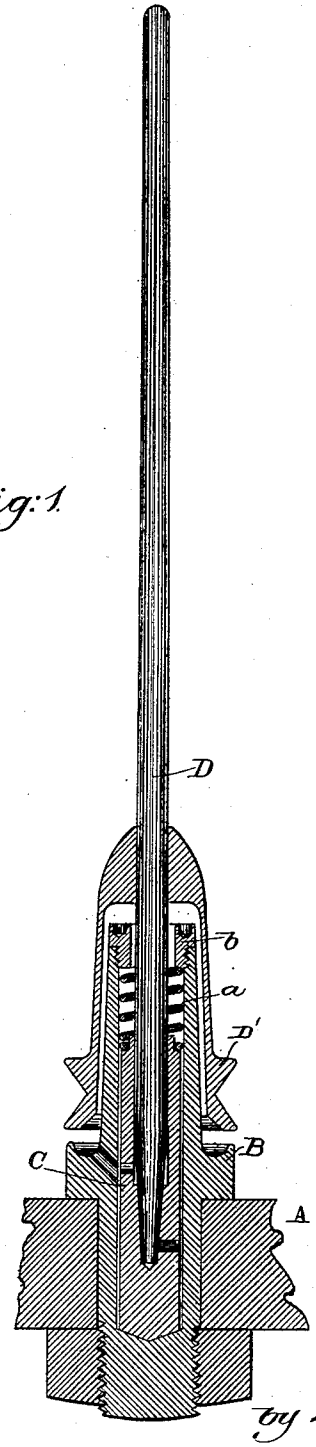
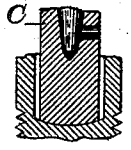


Fig: 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 442,427, dated December 9, 1890.

Application filed March 27, 1890. Serial No. 345,512. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. DRAPER, of Hopedale, county of Worcester, State of Massachusetts, 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.

Bolster-bearings for spindles are commonly mounted in supporting-cases in such manner that they are capable of lateral motion with the spindle to a limited extent, and such bolsters have been surrounded by an elastic or fibrous packing; but packing has the objection that while it acts as a cushion it may offer too much resistance, and the resistance varies in different spindles and by use.

In this invention it is especially desired to provide means whereby a cylindrical loose bolster may be held against lateral movement by a measured resistance applied through a coiled or elastic spring, the effective force of which may be varied to thereby hold the lower end of the bolster seated in the socket in the supporting-case according to the work to be done.

The herein-described bolster, when started to move laterally, may continue to move until the bolster contacts with the supporting-case.

As represented, the bolster has combined with it a step which partakes of the movement of the bolster.

Figure 1, in elevation and section, shows a sleeve-whirl spindle and support therefor embodying my invention; and Fig. 2 shows a modified form for the step end of the bolster.

The rail A has erected upon it the supporting-case B, inside of which is placed loosely a cylindrical bolster-bearing C, the said bolster-bearing being herein shown as having a step integral therewith.

The spindle D and its sleeve-whirl D′ are of usual shape.

The upper end of the bolster is shown as terminating some distance above the band-receiving part of the sleeve-whirl, and the said end receives against it one end of a coiled or elastic spring *a*, the upper end of which is acted upon by an adjusting-nut *b*, screwed into the upper end of the bolster-case, the rotation of the said nut to screw it into the said case compressing the said spring more or less, so that the lower end of the bearing or step part thereof is pressed with more or less force against a fixed part of the structure, as the bottom of the socket or chamber in the supporting-case, to thus exert or offer a measured amount of resistance to the lateral movement of the spindle and bolster, and also prevent it from rotating at the same speed as that of the spindle.

Prior to my invention I am not aware that a cylindrical bolster within a supporting-case has ever been restrained as to its lateral movement, and also its rotation by a spring pressing against the bolster near its upper end, thus pressing the lower end of the bolster against a fixed part of the supporting-case.

The bottom of the bearing C may be cone-shaped, as in Fig. 1, or rounded, as in Fig. 2, in order that when the bolster is moved laterally with the spindle the bolster will be somewhat lifted, thus further compressing the spring *a*, which causes it to have greater resistance, the lateral movement of the bolster, when taking place, requiring a force sufficient to compress the spring, the latter forming a yielding drag; and, further, in order to move laterally, the weight of the bolster and that of the spindle and its load has to be overcome. The nut *b* constitutes an adjusting device for the spring.

It will be noticed that the external diameter of the cylindrical bolster is somewhat smaller than the internal diameter of the chamber in the supporting-case, so that the bolster and its connected step has a loose fit in the supporting-case, the bolster and chamber being of such size that the extent of looseness or fit is substantially the same for a considerable distance above and below the center of the whirl, so as to enable the bolster and the spindle therein to maintain a substantially vertical position during their lateral movement.

When the bolster is moved laterally to contact with the supporting-case the said bolster is supported laterally by the inner wall of the said case.

I am aware that a bolster having a flange or collar between its ends has been seated on

a washer contained in a supporting-case, another washer resting on the upper side of the collar being acted upon by a spiral spring. Such a bolster will tip on its seat, but will not move laterally in the same way as the bolster herein shown and described.

I am also aware that a collar on a two-part bolster has been acted upon by a spring, the lower end of the said bolster bearing against the upper end of the lower or step part of the bolster, which is supported on a spring in the bottom of the supporting-case.

I claim—

1. The sleeve-whirl spindle, the supporting-case, and the cylindrical bolster placed therein loosely and supported at its lower end by the supporting-case, combined with a coiled or yielding spring acting upon the upper end of the said bolster to restrain or retard the lateral movement of the said bolster in the said case, substantially as described.

2. The sleeve-whirl spindle, the socketed or chambered supporting-case having a concaved seat for the lower extremity or end of the bolster-case, and a cylindrical-connected bolster and step having a convexed lower end to rest on said seat and loose laterally within the said case for a considerable distance above and below the center of the whirl, so as to enable the bolster with the spindle therein to maintain substantially a vertical position during their lateral movement, combined with a spring acting against the upper end of the said bolster and restraining the lateral motion of the said bolster by a force measured by the spring, substantially as described.

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

WILLIAM F. DRAPER.

Witnesses:
GEO. W. GREGORY,
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