

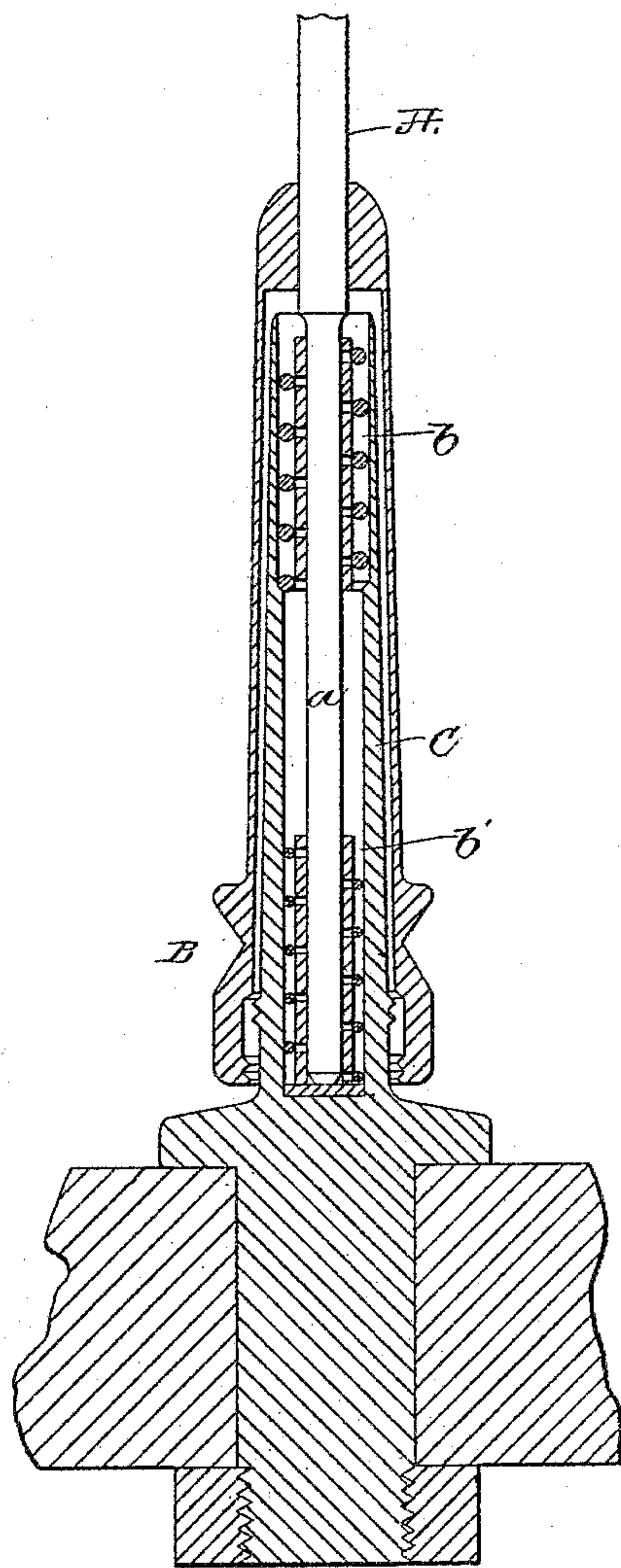
(No Model.)

W. F. DRAPER.

SUPPORT FOR SPINNING SPINDLES.

No. 412,171.

Patented Oct. 1, 1889.



Witnesses.  
Fred. S. Grindle of  
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# UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER, OF HOPEDALE, ASSIGNOR TO THE SAWYER SPINDLE COMPANY, OF BOSTON, MASSACHUSETTS.

## SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 412,171, dated October 1, 1889.

Application filed April 22, 1887. Renewed March 23, 1889. Serial No. 304,517. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM F. DRAPER, of Hopedale, county of Worcester, and 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 drawing representing like parts.

This invention is an improvement upon that class of spindle-supports wherein the entire lateral bearing for the spindle is located below the junction of the whirl and spindle.

In accordance with my invention the pintle of the spindle below the junction of the whirl and spindle is provided with two independent yielding detached bearings, whereby the spindle, when being rotated rapidly and carrying an unequally-distributed bobbin-load, may yield in any direction for a limited or sufficient distance to enable the vibrations of the rotating spindle to be taken up without that shock or blow which is experienced when a support or bearing unrestrained as to its lateral movement by only a bolster-case is moved therein by the foot of the spindle.

My invention consists, essentially, in the combination, with a spindle and bolster-case, of two independent lateral spring-supported or yielding bearings, one located near the junction of the sleeve-whirl and spindle, the other surrounding the pintle of the spindle at its lower end, the said lateral bearings being free to spring or yield to accommodate the movement of the pintle of the spindle at two points of its length below the junction of the sleeve-whirl with the spindle.

The drawing in vertical section shows a sleeve-whirl, a bolster-case, and lateral bearings for the pintle, the spindle being in elevation. The spindle A, having a long pintle *a*, has secured to it a sleeve-whirl B.

C represents the bolster-case. This bolster-case supports in yielding manner two close-fitting bearings *b* and *b'*, the bearing *b'* surrounding and coming in contact with the sides of the pintle *a* at its lower end, the bearing *b* surrounding and coming in contact with the pintle of the spindle at some dis-

tance above the bearing *b'* or nearly up to the junction of the whirl with the spindle, the pintle between these bearings not running in contact with metal.

In this present embodiment of my invention the bearings *b b'* are shown as composed of spirally twisted or wound flat strips of metal surrounded by spirally-wound wire springs, the wire coming opposite the spiral line of junction of the flat metal strips, so that as the pintle of the spindle is vibrated or made to tremble at high speed the lateral bearings are free to yield or move sufficiently under spring action to take up the blow of the spindle.

I am aware that it is old to provide a bolster-case with a single laterally-movable bearing to surround the lower end of the pintle; but prior to my invention I am not aware that the pintle of the spindle has been surrounded below the junction of the sleeve-whirl and spindle by two independent bearings capable of yielding to vibrations or blows of the pintle due to rapid rotation with an unbalanced load.

So, also, prior to my invention I am aware that a loose bolster located in a bolster-case and fitting the pintle or lower part of the spindle below the whirl and extending from near the top of the bolster-case to the lower extremity of the pintle of the spindle has been surrounded by a spring or springs, as in United States Patents Nos. 264,779 and 272,942, the said springs taking the place of fibrous or elastic packing, said springs permitting the bolster to tip in the bolster-case; but neither of the said patents show two independent bearings or two bearings, one surrounding the lower part of the spindle just below the sleeve-whirl and near the top of the bolster-case, the other bearing surrounding the extremity of the spindle, the two bearings being separated by a space. Such form of bearings affords the spindle greater freedom of rotation at high speed without hurtful gyration.

I claim—

1. A spindle and a bolster-case combined with independent yielding lateral bearings

therein, one above the other and surrounding the pintle of the spindle, substantially as described.

- 5 2. A sleeve-whirl spindle and a bolster-case combined with independent yielding lateral bearings therein, one above the other and surrounding the pintle of the spindle, substantially as described.

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

WM. F. DRAPER.

Witnesses:

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