

(No Model.)

J. D. COLBY, Dec'd.

E. COLBY, Administratrix.

SPINNING SPINDLE AND BOLSTER THEREFOR.

No. 357,066.

Patented Feb. 1, 1887.

Fig. 1.

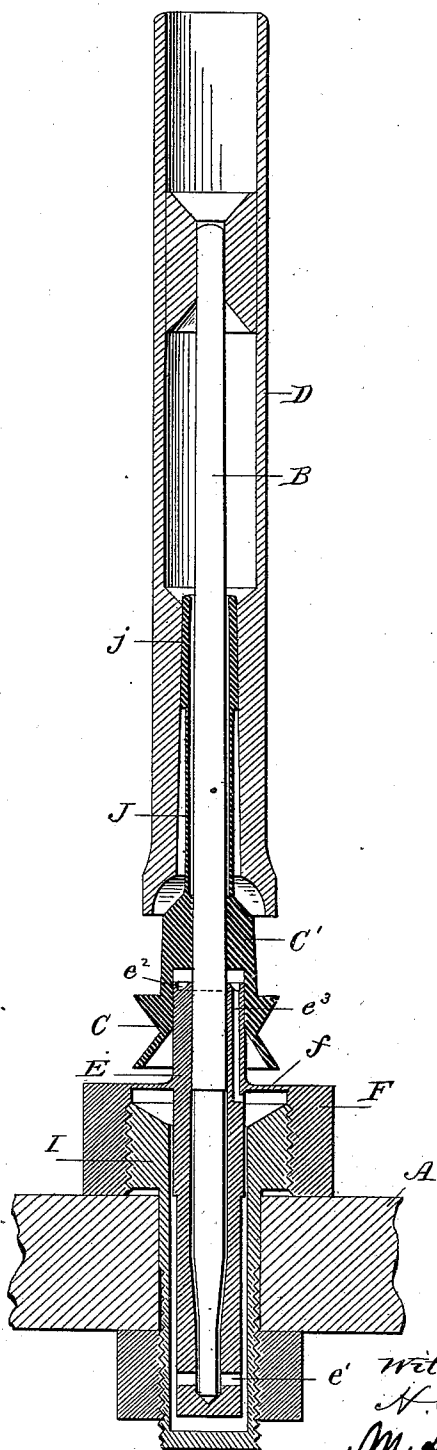
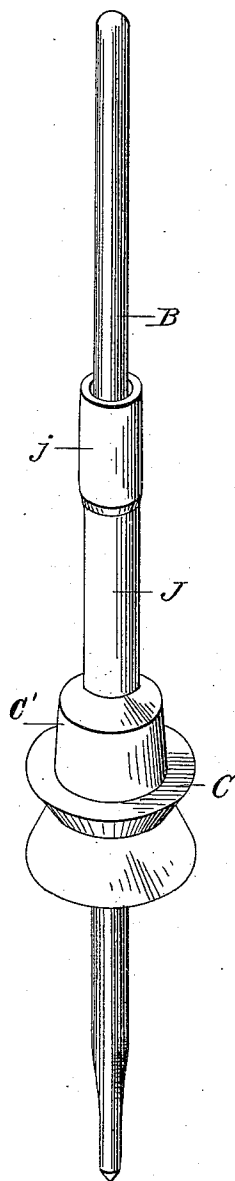


Fig. 2.



Witnesses:
H. N. Low
M. A. Custis,
of Estate of Jno. D. Colby deceased
by Marshall Bailey
attorney

Inventor:
Eva Colby, Admin^x
J. D. Colby

UNITED STATES PATENT OFFICE.

EVA COLBY, OF LOWELL, MASSACHUSETTS, ADMINISTRATRIX OF JOHN D. COLBY, DECEASED.

SPINNING-SPINDLE AND BOLSTER THEREFOR.

SPECIFICATION forming part of Letters Patent No. 357,066, dated February 1, 1887.

Application filed October 19, 1886. Serial No. 216,660. (No model.)

To all whom it may concern:

Be it known that JOHN D. COLBY, (deceased,) late of Lowell, in the county of Middlesex and State of Massachusetts, did during his lifetime invent certain new and useful Improvements in Spinning-Spindles and Bolsters Therefor, of which the following is a specification.

The objects which the said COLBY had in view were to simplify and lessen the cost of construction of the devices in question, and to so construct and arrange said devices as to permit the spindle to be run at high speed with the least possible vibration. It was in furtherance of these objects that he devised the invention for which Letters Patent No. 342,581, were issued to him on the 25th of May, 1886, the leading feature of said patented invention consisting in combining the bolster-tube with an external supporting-tube therefor, and a transverse web connecting together the two tubes, the construction being such that the bolster might be slightly deflected from the axis of the supporting-tube to accommodate itself to the spindle.

The present improvement is in the line of the patented invention referred to, and has in view the suppression of the evil effects of the gyratory movement of the bobbin or spindle, which is apt at times to take place when the spindle is driven at high speed; and this improvement, although applicable to spindles generally, is preferably used in combination with said patented device, inasmuch as both of them conduce in an efficient way to prevent vibratory movement of the spindle.

The nature of this invention can best be explained and understood by reference to the accompanying drawings, in which—

Figure 1 is a vertical central section of a bobbin, spindle, and bolster embodying the invention in its preferred form. Fig. 2 is a perspective view of the spindle.

A represents a portion of the rail of a spindle-frame; B, the spindle, having a whirl, C, attached thereto, and D the bobbin carried by said spindle. E is the bolster-tube. F is the external supporting-tube, and *f* is the horizontal transverse web connecting the two, these three parts being formed preferably in one casting or piece. I is the chambered screw or bolt by which the supporting-tube is held to the rail.

These parts in a general way are similar to like lettered parts in the Letters Patent hereinbefore referred to. The material difference is that the supporting-tube stops short at the web *f*, and that the latter is just below the whirl C. This construction and arrangement simplifies the device, renders it more compact, and permits the body of the whirl to be brought in more closely around the bolster-tube, the upper end of which projects above the closed top of the supporting-tube.

The lubricating-hole in the lower end of the bolster is shown at *e'*. The oil carried up by the spindle is caught by the annular cup or groove *e''* in the top of the bolster-tube, and is thence returned to the oil-chamber within the supporting-tube and the chambered screw by a passage, *e'''*, formed in the wall of the bolster-tube and opening into the said chamber below the web *f*.

The whirl C is attached by a hub, C', to the spindle B. Above it and encircling the spindle is a bobbin-carrying sleeve, J. This sleeve is fast at its lower end to the spindle or to the hub of the whirl. It is preferred to cast or otherwise form said sleeve and whirl in one piece, and this is the construction shown in the drawings. The sleeve above the point where it joins the whirl does not closely fit the spindle, but loosely encircles it, there being between the two an annular space, which will permit the one to be laterally deflected relatively to the other. The sleeve is sufficiently thin and elastic to permit it to be thus deflected. Upon this sleeve the lower end of the bobbin fits and takes its bearing, the bearing-surface *j* for the bobbin being preferably formed at the upper end of the sleeve. Under this arrangement it will be noted that the bottom or lower end of the bobbin, while furnished with a firm solid bearing, is yet permitted to have an eccentric motion relatively to the spindle. In this way gyratory movement, should any occur, is divided up between the top and bottom, and the top is relieved to a great extent of strain and consequent vibration.

By the conjoined use of the instrumentalities shown and described, vibration of the spindle is suppressed to a very great extent, if not en-

tirely; but, as hereinbefore stated, the bobbin-carrying sleeve and its spindle can be made use of in combination with spindle-bolsters of other kinds, although, it is believed, not with
5 equally good results.

Having described these improvements and the preferred way of carrying the same into effect, what is claimed herein as new and of the invention of the said JOHN D. COLBY is as follows:
10

1. The combination, with the spindle, of the bobbin-carrying sleeve rigidly secured at its lower end to said spindle and above that point throughout its length encircling the spindle
15 loosely, so that the one may be capable of lateral deflection with respect to the other, substantially as and for the purposes set forth.

2. The combination, with the spindle and the bobbin, of the bobbin-carrying sleeve loosely
20 encircling said spindle, so as to permit the lateral deflection of the one with respect to the other, and furnished with a bobbin-bearing at or near its upper end, as and for the purposes described.

25 3. The combination of the spindle and its at-

tached bobbin-bearing sleeve loosely encircling said spindle, so as to permit lateral deflection of the one relatively to the other, with the bolster-tube, the supporting-tube, and the transverse web connecting said tubes, substantially as and for the purposes hereinbefore set forth. 30

4. The supporting-tube F, the bolster-tube E, extending above the supporting-tube, and the transverse web *f*, connecting the two and
35 closing the top of the supporting-tube, in combination with the spindle and its attached whirl placed over the web and around the upper exposed portion of bolster-tube, these parts being constructed and arranged together, as
40 hereinbefore shown and specified.

In testimony whereof I, EVA COLBY, administratrix of the estate of JOHN D. COLBY, (deceased,) have hereunto set my hand this 15th day of October, 1886.

EVA COLBY.

Witnesses:

WILLIAM J. COUGHLIN,
E. O. KINGSLEY.