(No Model.)

W. F. DRAPER.

SUPPORT FOR SPINNING SPINDLES.

No. 428,897. Patented May 27, 1890.

Fig: 1.

Fig:3

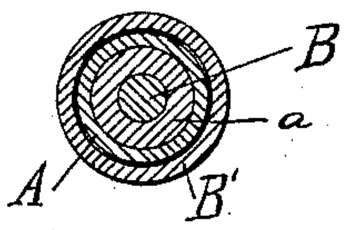


Fig:2.

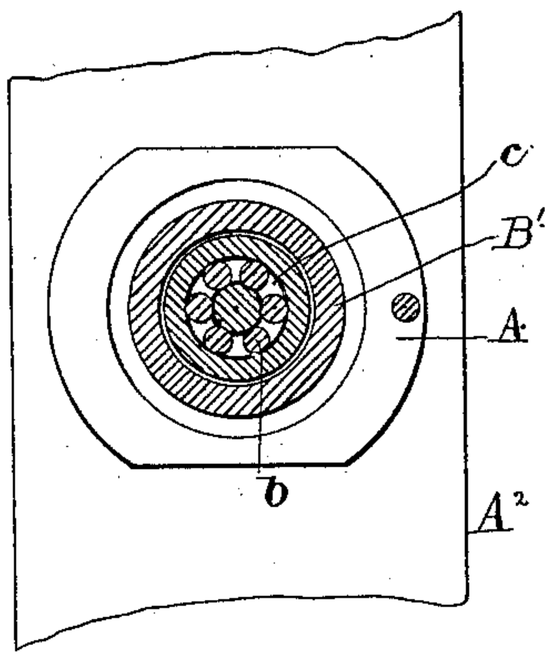


Fig:4.

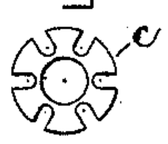


Fig:6.

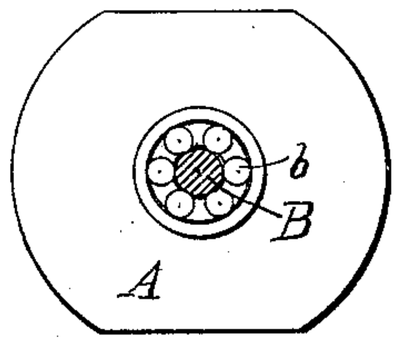
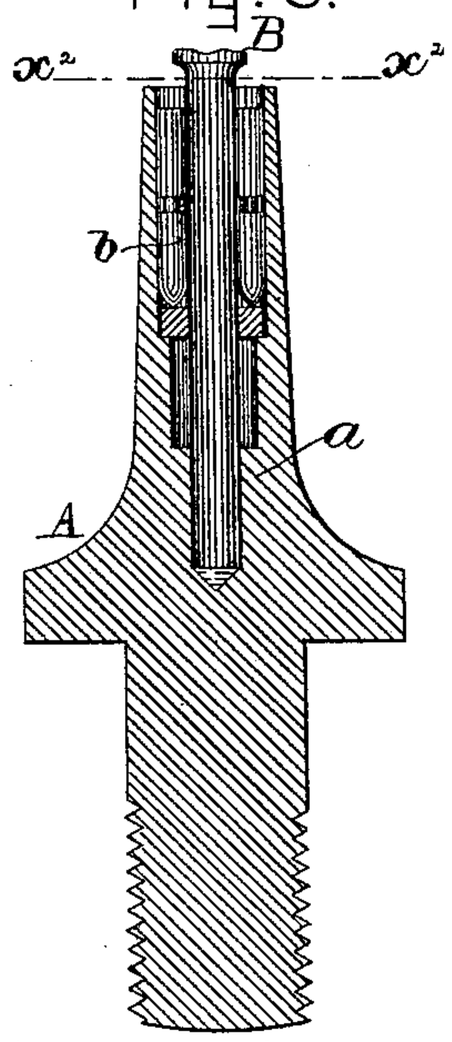


Fig:5.



Witnesses:

Edgar A. Goddin.

Francis L. Emery

Inventor.

William F. Draper.

by Crosby & Gregory

attys.

UNITED STATES PATENT OFFICE.

WILLIAM F. DRAPER, OF HOPEDALE, MASSACHUSETTS.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 428,897, dated May 27, 1890.

Application filed March 9, 1888. Serial No. 266,732. (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 drawings representing like parts.

This invention is one of a series of improvements on that shown in my application, Serial No. 261,035, filed January 17, 1888, and has for its object to improve the running of vertical spindles so as to require less power and less oil.

In this invention I have provided a spindle of the class known as "sleeve-whirl spindles" with two independent bearings, one of which is fixed or rigid, while the other is provided with rolling surfaces arranged with their axes of rotation in a vertical plane.

My invention consists, essentially, in the combination, with a sleeve-whirl spindle and a vertically-placed bolster case or holder, of two independent bearings, one of which is fixed, while the other is provided with rolling surfaces, said bearings being interposed between the pintle of the spindle and the interior of the bolster-case, the said bearings being located within the sleeve-whirl, one above and the other below the line of band-pull, as will be described.

Figure 1 in section shows a rail, a bolster case or holder, and bearings for the spindle, the spindle shown in elevation having its whirl in section. Fig. 2 is a section of Fig. 1 below the dotted line x; Fig. 3, a section thereof below the dotted line x'. Fig. 4 is a view showing the spider detached. Fig. 5 shows a modified form of my invention, and Fig. 6 a section below the line x^2 of Fig. 5.

The bolster case or holder A has its threaded shank inserted through a hole in the rail A^2, and thereafter the nut A^3 is applied to the said shank. The spindle B having the sleeve-whirl B′ is and may be all as usual. The case or holder contains two independent bearings a b, the one designated by a being fixed to or forming a rigid part of the case or holder, while the portion marked b is composed of a series of vertically-arranged rolls held in or by a spider c, common to my said application, the said rolling surfaces being interposed between the pintle of the spindle and the interior of the case or holder.

In Fig. 1 the fixed bearing is uppermost or nearest the junction of the whirl and spindle; but in Fig. 5 the bearing having the rolls is uppermost or nearest the said whirl.

The rolls in either position absorb the shock or vibration of the spindle due to fast running or unequal loading.

The fixed bearing gives direction and alignment to the spindle and prevents it from being drawn so hard by the band-pull against the rolling surfaces as to cramp the latter in their bearings.

I am aware that prior to my invention a long collar fixed to a rail has had a flier-spindle extended through it, the said collar at its upper and lower ends having a series of rolls or balls to form bearings for the spindle; but the said balls are all located entirely above the driving-whirl and wholly above the line of band-pull of the whirl.

I am also aware that an enlarged collar forming part of a supporting-case has been chambered to constitute an oil-receptacle, and that the said chamber has been provided with a single ball, on which the lower end of a whirl rests when an oil cup or reservoir fitted to the lower end of the supporting-case and containing the step for the spindle is removed from the supporting-case, said single ball at such time sustaining the weight of the spindle and its attached parts, the said ball not, however, forming a bearing for any part of the spindle, and not being in operation in any sense so that it is subjected to friction or is rotated during spinning.

I do not herein claim, broadly, a rolling bearing alone; but,

Having described my invention, I do claim as follows, viz:

A vertically-placed bolster case or holder and a spindle having a sleeve-whirl surrounding the said bolster-case, combined with two independent bearings interposed between

the pintle of the said spindle and the interior of the bolster-case, one above and the other below the line of band-pull, one of the said bearings being fixed, while the other has a series of rolling surfaces, to operate 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:
E. D. BANCROFT,
H. F. SEARLES.