

(No Model.)

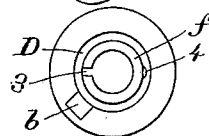
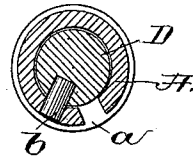
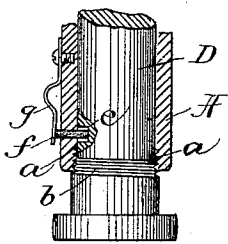
G. BERNHARDT, Dec'd.

J. C. EDWARDS, Administrator.

SUPPORT FOR SPINNING SPINDLES.

No. 461,591.

Patented Oct. 20, 1891.



Inventor.

Witnesses.

Fred. S. Greenleaf of
And L. Emery.

George Bernhardt.
by Leroy Gregory Altis.

UNITED STATES PATENT OFFICE.

GEORGE BERNHARDT, OF RADCLIFFE, ENGLAND; JOHN C. EDWARDS
ADMINISTRATOR OF SAID GEORGE BERNHARDT, DECEASED.

SUPPORT FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 461,591, dated October 20, 1891.

Application filed December 13, 1887. Serial No. 257,742. (No model.) Patented in England March 2, 1886, No. 2,970, and in France August 30, 1886, No. 178,244.

To all whom it may concern:

Be it known that I, GEORGE BERNHARDT, of Radcliffe, county of Lancaster, England, have invented an Improvement in Supports for Spinning-Spindles, (which is covered by English Patent No. 2,970, dated March 2, 1886, and by French Patent No. 178,244, dated August 30, 1886,) of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the bearings of spindles in such manner that the bearings may be readily drawn out from the lower end of the bearing-holder at a point below the rail.

In accordance with my invention a bearing-holder confined in a rail and open at its lower end has inserted within it loosely through its open lower end a bearing-tube, which is extended above the top of the bearing-holder and closed to form an oil-chamber, said tube and holder being directly joined together loosely by a projection on one entering a notch or recess on the other, thus obviating the employment of a hollow nut, such as has been heretofore employed, the said hollow nut being screwed upon the outside of a bolster-supporting case to contain oil and make an oil-tight joint.

My invention consists, essentially, in a spindle and a bearing-holder, combined with a bearing-tube inserted loosely into the bearing-holder from its lower end, a part or projection of or from the said tube directly engaging the said holder and connecting the same together loosely.

Figure 1 in elevation and section shows a spindle and supporting means embodied in my invention. Fig. 2 is a section in the line *x*, Fig. 1. Fig. 3 is a top view of the bearing-tube alone, and Fig. 4 is a partial section of a modified form of my invention.

The bearing-holder A, open from end to end, entering the rail B, is screw-threaded to receive a nut C, by which to confine the holder to the rail.

The bearing-tube D, bored to receive the lower end of the spindle S, having a sleeve-whirl S', and closed at its bottom to form an

oil-well, is inserted into the holder A from its under side loosely and up through and above the top of the holder, as in Fig. 1. The bearing-tube is shown as provided with a lining-piece *f*, preferably a strip of sheet metal, bent longitudinally into the form of a tube and forced snugly into the bearing-tube, a thin space, as 3, being, however, preferably left between the edges of the said lining-piece to constitute an oil-channel, and, if desired, a drill may be inserted between the lining-piece and the interior of the bearing-tube D to form a hole, as 4, for the circulation of oil. If desired, the bearing-tube and lining *f* may be in one integral piece, the part thereof in contact with the sides of the spindle S being suitably grooved for oil. The bearing-tube contains a step, as *d*, which is and may be of any usual kind, it being herein shown as an independent piece forced into the tube and forming a rigid part thereof, its action being as if it were an integral part of the spindle. I have devised means whereby the bearing-tube, near its lower end, may be jointed loosely to the holder A, near its lower end, thus enabling the said bearing-tube, closed at its bottom and forming the entire bearing for the spindle, as well as an oil-well, to rock or tip within the holder. As herein shown, the joint between the said tube and holder is made by a part or projection, as *b*, from one entering a recess or groove, as *a*, in the other.

In Figs. 1 and 2 the pin *b* and recess form one kind of bayonet-joint; but in Fig. 4 the projection and recess are made in the form of a screw-thread, the direction of which is preferably the reverse of the direction of rotation of the spindle. The sleeve-whirl S' surrounds the top of the bearing-tube extended above the top of the holder A. The fit of the threads shown in Fig. 4 is very loose to thus permit the bearing-tube to tip or move laterally within the holder.

In Fig. 4 I have shown the bearing-tube as provided just above the thread-like projections *b* with a notch, as *e*, which, when the tube is inserted into the bearing-holder for the proper distance, is entered by a pin, as *f*, acted upon by a spring, as *g*, the said pin en-

tering the said notch loosely and preventing further rotation of the tube with the spindle, yet permitting a limited amount of freedom of movement to the tube.

5 I am aware that a bolster-bearing has been retained in a bolster-holder by means of a cup-shaped nut provided with a pin, which latter is embraced by a forked part of the bolster, as in United States Patent No.
10 344,304.

The space 8 at the right of Fig. 1, between the tube and the holder A, is intended to represent an oil-passage between the said parts, the groove being in the holder A.

15 I claim—

1. The spindle and the tube-holder open at both ends, combined with the tube closed at its bottom and containing all the bearings for the spindle and jointed directly to the
20 said holder below the lower end of the spindle, the joint supporting the tube in the holder, the tube being removable from the lower end of the holder without disturbing the latter and leaving the spindle in place
25 above the holder, substantially as described.

2. The sleeve-whirl spindle and the tube-holder, combined with a bearing-tube having at its lower end a head, the said tube and holder being connected together loosely by a pin or projection on one entering a slot or
30 recess in the other, the pin or projection forming a pivot for the bearing-tube at a point below the whirl of the spindle, the tube being removable from the holder only at its lower end, substantially as described. 35

3. The spindle, the tube-holder having at its lower end a bayonet-slot opening at the lower end of the holder, combined with the tube having the projecting pin *b* to enter the said slot and serving as a pivotal support
40 for the tube at a point below the whirl, substantially as described.

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

GEORGE BERNHARDT.

Witnesses:

GEORGE FAWLEY HEAPS,
IEBER H. HUTCHINSON.