

(No Model.)

J. W. WATTLES.

DEVICE FOR SUPPORTING AND LUBRICATING THE SPINDLES OF
RING SPINNING FRAMES.

No. 248,816.

Patented Oct. 25, 1881.

Fig. 1.

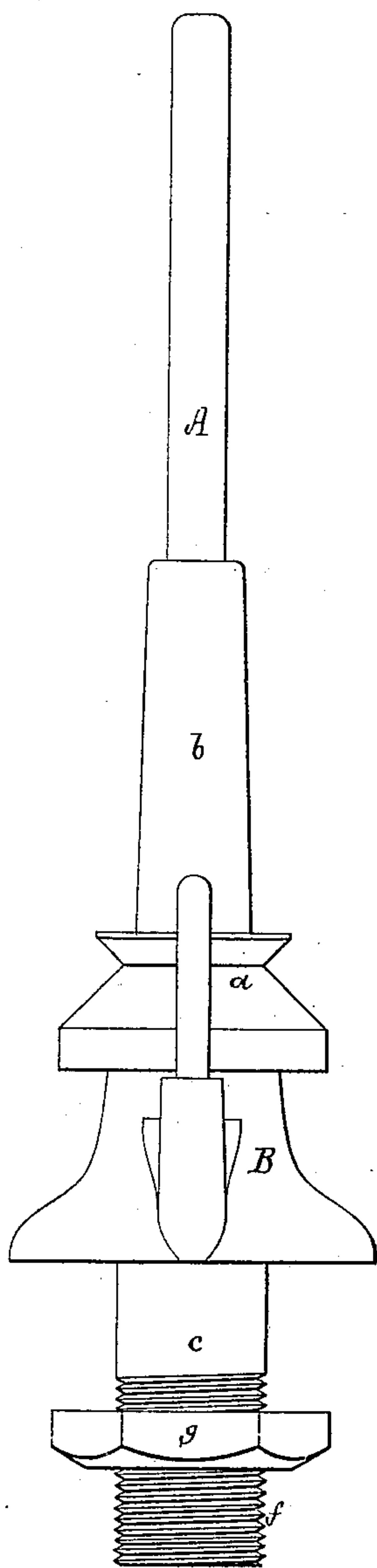


Fig. 2.

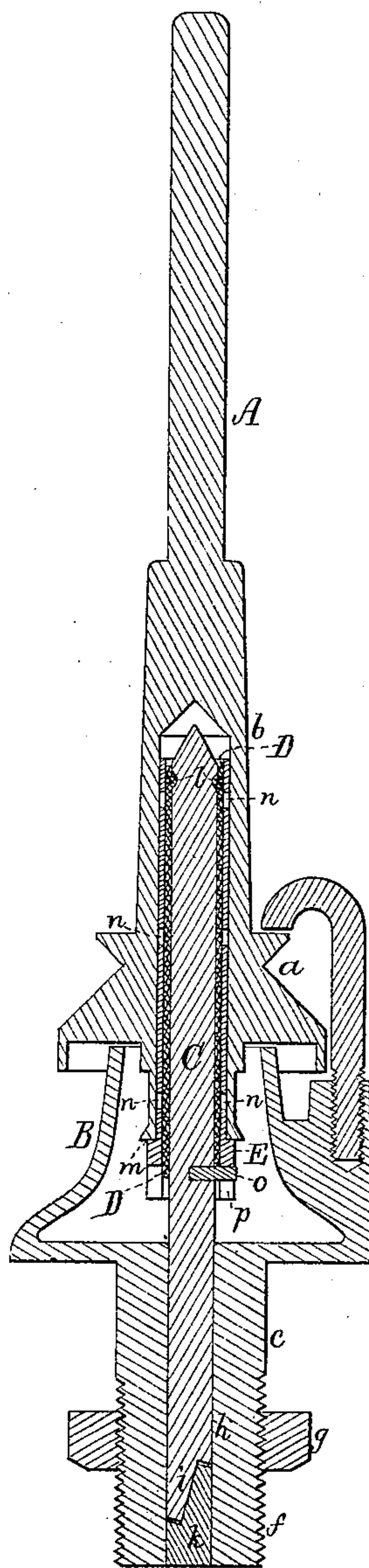


Fig. 3.

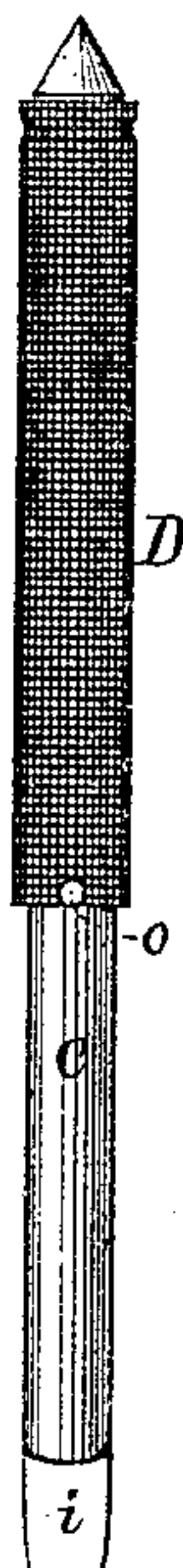


Fig. 4.

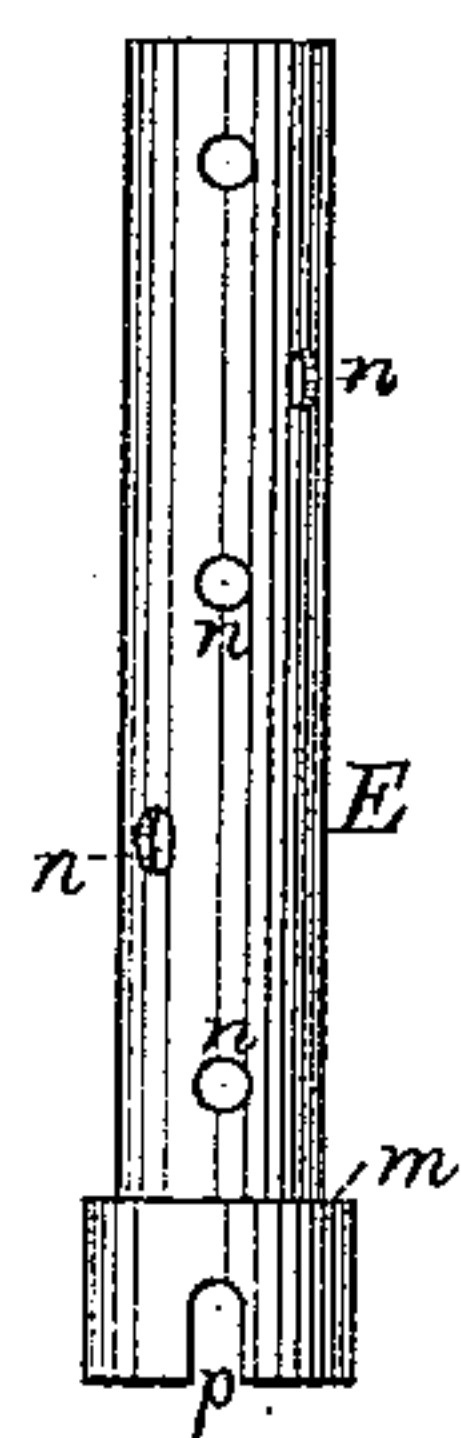
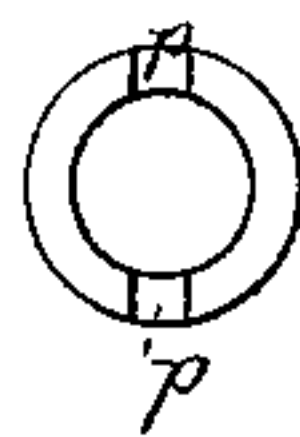


Fig. 5.



Witnesses.

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JOSEPH W. WATTLES, OF CANTON, MASSACHUSETTS.

DEVICE FOR SUPPORTING AND LUBRICATING THE SPINDLES OF RING-SPINNING FRAMES.

SPECIFICATION forming part of Letters Patent No. 248,816, dated October 25, 1881.

Application filed July 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. WATTLES, of Canton, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Devices for Supporting and Lubricating the Spindles of Ring-Spinning Frames; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a side elevation, and Fig. 2 a vertical and transverse section, of a spindle with its supports, as provided with my invention. Fig. 3 is a side view of the dead wick-carrier and its tubular wick. Fig. 4 is a side elevation, and Fig. 5 a bottom view, of the "dead bearing sleeve or bolster."

The nature of my invention is duly set forth in the claims hereinafter presented.

In the said drawings, A denotes a "live-spindle," whose driving-whirl is shown at *a*, and the supporting-sleeve thereof at *b*, all being formed and arranged as shown.

B is the oil-reservoir, mounted upon or in one piece with a neck, *c*, provided with a screw, *f*, and a nut, *g*, for fixing the reservoir to the spindle-rail of a spinning-frame. The part *c* is socketed or bored axially, as shown at *h*, to receive a dead carrier, C, for supporting a tubular wick, D, which encompasses the said carrier. This carrier at its lower end is scarfed, as shown at *i*, to the neck *c*, or to a plug, *k*, inserted or fixed in the lower part of the bore of the said neck. Such scarfing of the carrier C admits of it being extracted from the neck and oil-reservoir, but prevents it, when in place, from revolving therein.

Encompassing the neck and fitting to it is the dead bearing sleeve or bolster E, which extends about up to the top of the wick-carrier C, such carrier being conical at top to facilitate the application to it of the wick, which is fastened to it by a wire or string wound around the wick, so as to force it into a groove, *l*, encompassing the carrier near its top. The wick extends down into the oil-reservoir. The dead bearing sleeve or bolster E has near its lower end a shoulder, *m*, to support the foot of the spindle. The sleeve *b* of the whirl of the spindle has a cylindrical boss to encompass and fit loosely to the outer surface of the bearing sleeve

or bolster E. This bolster has perforations or holes *n* made in it, laterally, to admit of oil flowing outwardly from the wick through such holes to the external surface of the said bolster and the surrounding inner bearing-surface of the whirl-sleeve.

There extends from the wick-carrier a stud, *o*, or, if preferable, the said stud may be fixed to the bottom of the oil-reservoir. The stud enters a notch, *p*, made in the lower end of the bolster-bearing, and with such notch operates to prevent the said bolster-bearing from revolving when it is in place in the oil-reservoir.

The expression "dead," as applied to the wick-carrier and to the bolster-bearing, is to indicate that the part is not revoluble while it is in place, although each of such parts is fitted so as to be readily separated from the oil reservoir, as occasion may require.

The scarfing of the foot of the wick-carrier upon the fixed plug causes the carrier on being forced down in its socket to hold tightly therein.

From the above it will be seen that the live-spindle is supported by and revolves on the dead bolster-bearing E, and that their bearing-surfaces become oiled by the oil raised from the reservoir and down through the holes *n* by capillary attraction, and by the spindle while in revolution, the excess of oil falling back or finding its way into the reservoir.

My mechanism hereinbefore described, differs from that shown in the United States Patent No. 242,409, in which a tubular wick is represented as fitted within and concentrically to a spindle-whirl sleeve, and upon and concentrically with a metallic tube or sleeve arranged to revolve upon a stationary post or journal extended upward from an oil-reservoir. In my said mechanism the tubular wick D is arranged on and around and fixed to the post or carrier C, and within a tube, E, which serves not only as a support for the lower end of the whirl-sleeve, but as a bearing for the said sleeve to turn upon, such tube E, though removable from the wick, being stationary in position, while the spindle and the whirl-sleeve may be in revolution.

With my arrangement important advantages result, for, on account of the tubular wick D and the tube E not having to revolve with the whirl-sleeve, the wick has not to be firmly pinched

or contracted between its supporting-surfaces, and thus is freer to raise the oil from the reservoir by capillary attraction, the whirl-sleeve while in motion operating to draw the oil from the wick to and between the sleeve and the supporting-tube E, whereas, when the wick surrounds the tube and is in revolution with it and the whirl-sleeve, the wick necessarily has to be compressed tightly between the two, in order for the tube and wick to be revolved by and with the sleeve. Furthermore, when the wick revolves with the whirl-sleeve the centrifugal force generated in the oil in the wick operates to force the oil away from the surfaces to be lubricated, which is not the case with my mechanism, in which the whirl-sleeve does not have to support and revolve the wick and the sustaining-tube thereof, nor to have their weight added to its own and that of the spindle, whereby an increase of friction, tending to obstruct the spindle in its movements, is caused to result.

What I claim as my invention is as follows, viz:

1. The tubular wick D, arranged on and fixed to the dead wick-carrier C, in combination with the said carrier, the perforated dead bearing tube or bolster E, and with the spindle A, provided with the whirl-sleeve, all being substantially as set forth.

2. The removable dead bearing tube or spin-

dle-bolster E, notched at its lower end to receive a stud projecting from the wick-carrier or oil-reservoir, in combination with such stud, reservoir, and wick-carrier, and with the tubular wick, the spindle, and its whirl-sleeve, arranged with such tube E, in manner as represented.

3. The wick-carrier and the oil-reservoir, the former of which is provided with a stud and socketed within the wick of the latter, and scarfed or applied thereto, or to a plug inserted therein, as set forth, in combination with the spindle, its whirl, and the sleeve of the latter, and also with the tubular wick encompassing the said carrier, and with the tubular and perforated spindle-bolster encompassing the wick, and having a notch to receive the said stud, all being substantially and to operate as set forth.

4. The dead tubular and perforated bolster E, having the shoulder *m*, in combination with the whirl-sleeve *b*, adapted to turn upon said bolster and shoulder, and with the spindle A, oil-reservoir B, dead wick-carrier C, and its tubular wick D, all being arranged substantially as set forth.

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Witnesses:

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