(No Model.)

J. W. WATTLES.

SPINDLE AND DEVICE FOR SUPPORTING AND LUBRICATING THE SAME.

No. 244,778. Patented July 26, 1881.

Fig. 1.

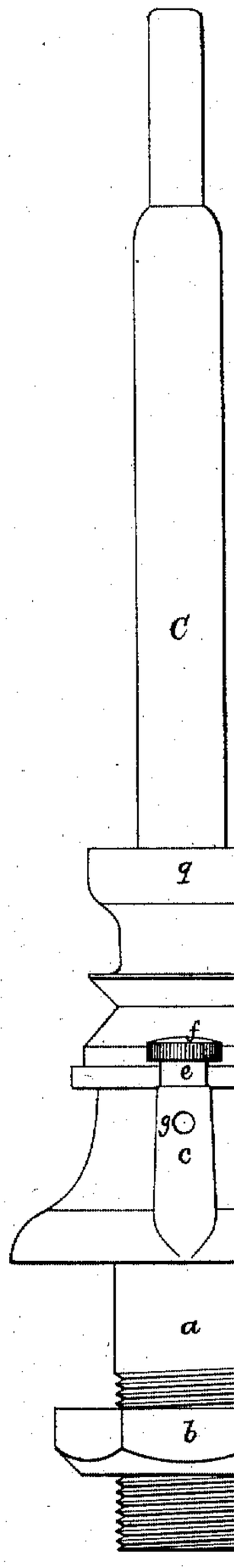


Fig. 3.

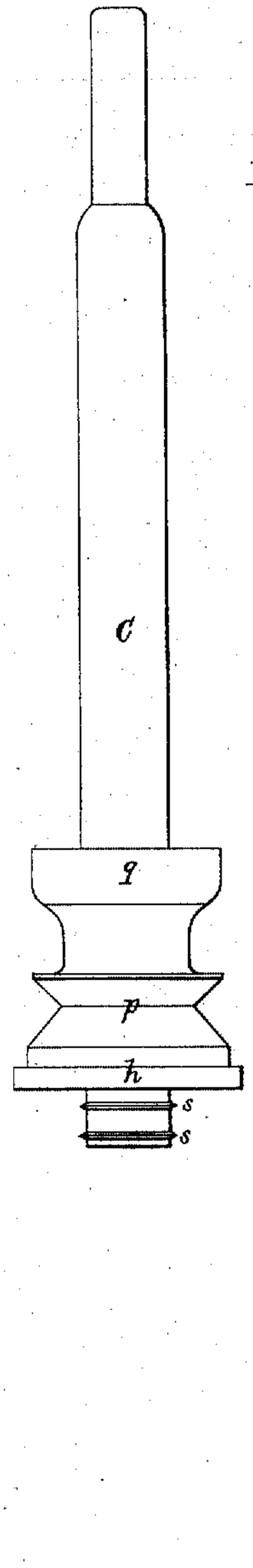


Fig. 5.

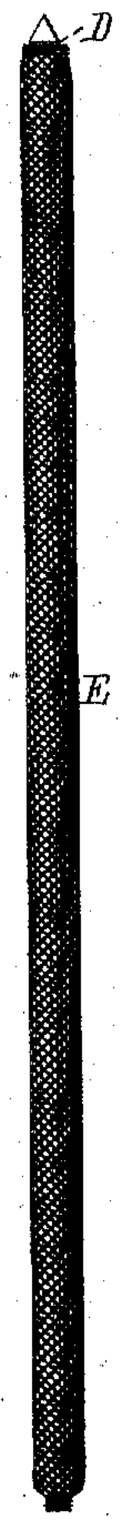


Fig. 4.

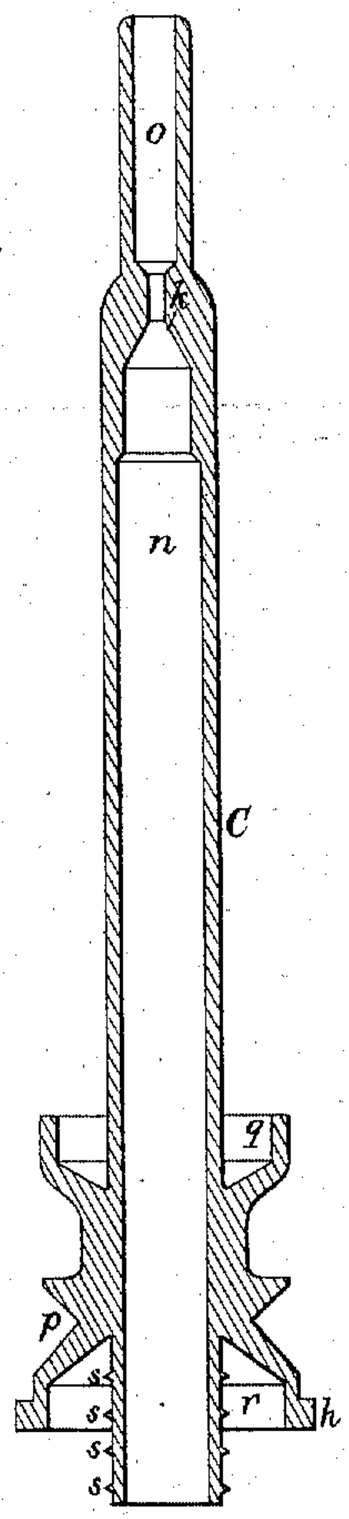
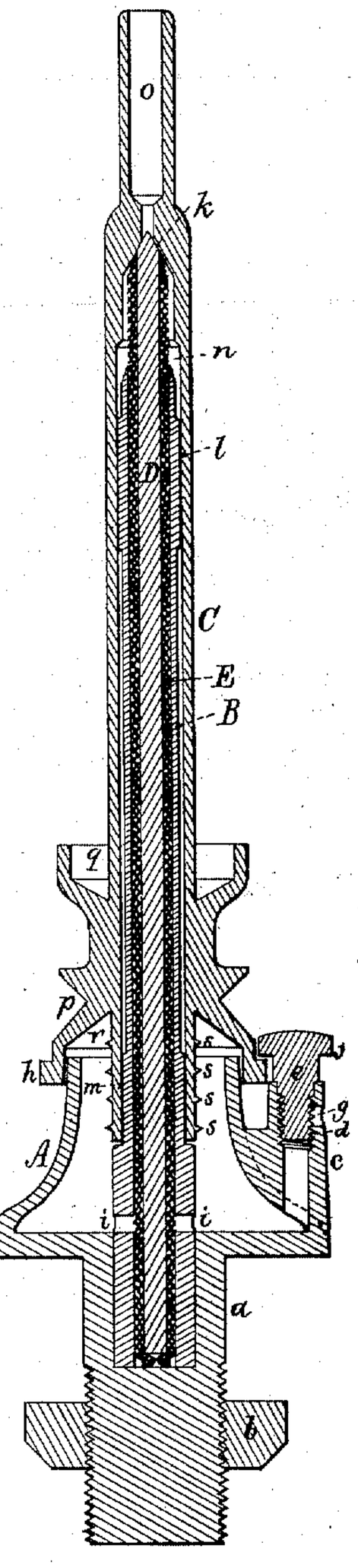


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH W. WATTLES, OF CANTON, MASSACHUSETTS.

SPINDLE AND DEVICE FOR SUPPORTING AND LUBRICATING THE SAME.

SPECIFICATION forming part of Letters Patent No. 244,778, dated July 26, 1881.

Application filed February 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. WATTLES, of Canton, of the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Spindles and Devices for Supporting and Lubricating the Same; 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 live and dead spindles and their oil-reservoir provided with my invention. Fig. 3 is an elevation, and Fig. 4 a vertical section, of the live-spindle. Fig. 5 is an elevation of the wick-spindle and its wick or oil-raising sleeve.

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

In the drawings, A represents an oil cup or reservoir provided with a screw-threaded shank, *a*, and a nut, *b*, to screw thereon, the said appliances being for fixing the reservoir to the spindle-rail of a spinning-frame. The said reservoir has a tubular post or oil-induct, *c*, extending up from it on its outside, the bore of such post being made to open into the reservoir in manner as represented. In the vertical part of such bore is a female screw, *d*, to receive the screw-threaded shank of a male screw, *e*, provided with a head, *f*. Furthermore, there is in the induct *c* a hole or passage, *g*, leading laterally out of it a short distance below its top. This hole *g* is to serve two purposes—viz., to gage the height of oil in the reservoir and as a means of introducing oil into the educt, when the headed screw is in place therein, though above the said opening. The headed screw, besides serving as a stopper for the induct *c* and its lateral opening, is to operate with an annular flange, *h*, to keep the live-spindle from rising upward while it may be in rapid revolution. The flange *h* extends from the live-spindle C at its base, and underneath the head of the screw, as shown.

Within the reservoir A concentrically, and to project upward from it in manner as represented, is a dead or stationary spindle, B, which is tubular, and has at the lower part of its bore one or more oil-ducts, *i*, to lead from such bore into the reservoir. Within such bore is a wick-spindle, D, which is conical at its upper end, and is encompassed with a tubular wick, E. The said wick extends from the bottom of such spindle to or nearly to its conical top, which answers as a pivot for the live-spindle C to rest and turn upon, such live or rotary spindle C having in it a conical step or bearing, *k*, to receive the conical top or pivot. Furthermore, there are or may be to the dead-spindle lateral projections or bearings *l m*, to bear against the main bore of the live-spindle and aid in sustaining such spindle.

The live spindle C is tubular throughout, and has above its main bore *n*, which terminates at top or the bottom of the step *k*, an auxiliary bore, *o*, of less diameter, which leads from the step to the top of the spindle. By means of the bore *o* oil may be introduced to the pivot and step, and thence to the wick and upper bearings of the spindles, in case of need; but, generally speaking, the wick will answer to raise by capillary attraction oil from the reservoir to the pivot or step and upper bearings of the spindle. The live-spindle is represented as having above its whirl *p* a cup, *q*, to receive the bobbin, or the lower part thereof. The spindle C has its whirl chambered, as shown at *r*, to receive the upper end or part of the oil-reservoir, and serve as a cap or cover for such reservoir. The part of the spindle that is within the whirl-chamber and projects below the whirl is provided with one or more annular flanges, S, arranged on it as represented, such being to prevent oil from the reservoir from rising upon the spindle and coming into contact with the whirl, so as to be thrown laterally therefrom while it may be in rapid revolution. The oil rising up to either of the flanges will by centrifugal force be discharged therefrom against the surrounding interior surface of the oil-reservoir. When a quill-bobbin is supported on the live-spindle such bobbin is to be held thereon by friction or adhesive bearings.

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

1. The combination of the oil-reservoir and its dead and live spindles with the removable wick-spindle and its encompassing tubular wick, arranged within the dead-spindle, substantially as set forth.

2. The combination of the headed screw

with the oil-reservoir and its supply-duct and dead-spindle, and with the live-spindle provided with the annular flange to extend underneath the head of the screw, as and for the purpose specified.

3. The air-reservoir and its supply-duct, provided with the headed screw, arranged to screw into the said duct, as set forth, in combination not only with the dead-spindle, provided with a wick to elevate oil from the reservoir to the top of the said dead-spindle, but with the live-spindle encompassing such dead-spindle, and provided at bottom with an annular flange to extend from it underneath and co-operate with the screw-head, as and for the purpose specified.

4. The oil-reservoir and its supply-duct, provided with the headed screw arranged to screw into the said duct, as set forth, and also with the lateral opening leading out of said duct, in combination not only with the dead-spindle, provided with a wick to elevate oil from the reservoir to the top of said dead-spindle, but with the live-spindle encompassing such dead-spindle, and provided at bottom with an annular flange to extend from it underneath and co-operate with the screw-head, as and for the purpose specified.

JOSEPH W. WATTLES.

Witnesses:
R. H. EDDY,
E. B. PRATT.

Corrections in Letters Patent No. 244,778.

It is hereby certified that in Letters Patent No. 244,778, granted July 26, 1881, to Joseph W. Wattles, for an improvement in "Spindles and Devices for Supporting and Lubricating the Same," the word "Oil-Reservoir," in line 6, on page 2, of the printed specification attached to and forming a part of said Letters Patent, was erroneously printed "Air-Reservoir;" that the proper corrections have been made in the files and records of the Patent Office, and are hereby made in said Letters Patent.

Signed, countersigned, and sealed this 4th day of October, A. D. 1881.

[SEAL.]

S. J. KIRKWOOD,
Secretary of the Interior.

Countersigned:

E. M. MARBLE,
Commissioner of Patents.