

J. F. STAUTS & H. RIGBY.

Spindle-Lubricators.

No. 157,240.

Patented Nov. 24, 1874.

Fig. 1.

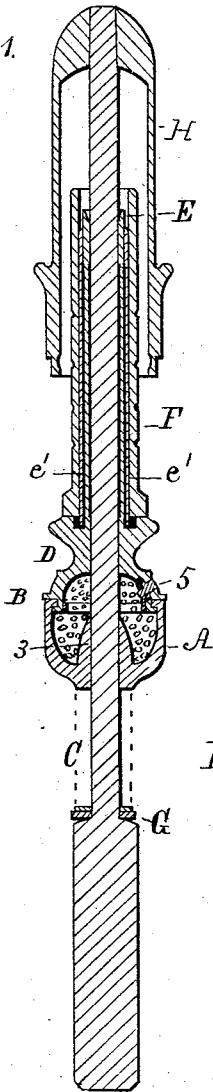


Fig. 2.

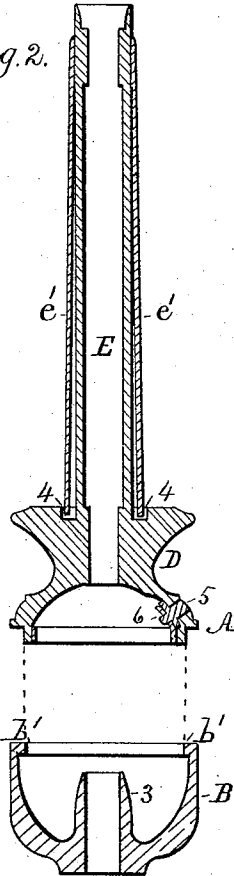


Fig. 4.

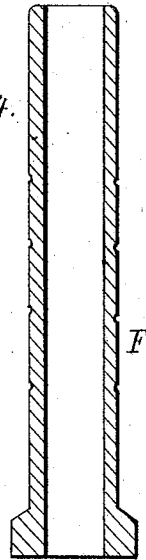


Fig. 3.

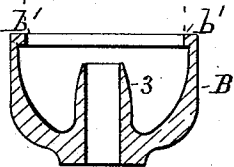


Fig. 5.

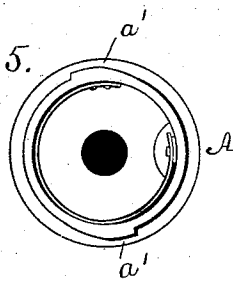
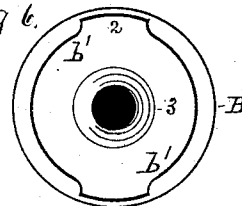


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE

JAMES F. STAUTS AND HENRY RIGBY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SPINDLE-LUBRICATORS.

Specification forming part of Letters Patent No. **157,240**, dated November 24, 1874; application filed October 12, 1874.

To all whom it may concern:

Be it known that we, JAMES F. STAUTS and HENRY RIGBY, of the city of Philadelphia, in the State of Pennsylvania, have invented a Revolving Lubricator and Whirl-Tube, in combination with the cord-pulley for the usual capped spindles of spinning-frames, of which the following is a specification:

The object of our invention is to produce a proper lubrication of the spindle of a spinning-frame, without waste of oil, and carry the thread-bobbin around with greater velocity, and without causing any vibratory motions in the whirl tube or bobbin, by the combination of a revolving lubricator and whirl-tube with the usual cord-pulley, constructed and arranged to operate on the spindle, substantially as represented in the accompanying drawing, in which—

Figure 1 is a vertical central section of my said invention applied to the ordinary spindle of a spinning-frame; Fig. 2, an enlarged or full-sized vertical section of the upper portion of the lubricator and the whirl-tube, in combination with the cord-pulley. Fig. 3 is a like section of the lower portion of the lubricator detached. Fig. 4 is a like section of the whirl-tube detached. Fig. 5 is a plan view of the lower end of Fig. 2; and Fig. 6 is a plan view of the upper side of Fig. 3.

The oil-reservoir consists of two parts, A and B, detachably held together by means of two oppositely-arranged flanges, *b' b'*, having the under side of each slightly inclined from the horizontal plane of the top of B, and two oppositely-arranged projecting short flanges, *a' a'*, (see Fig. 5,) having the upper side of each correspondingly inclined from the horizontal plane of the bottom of A, which projections, in the operation of connecting or separating the two parts A and B, pass through the corresponding spaces 2 2 of B, and by partially rotating the two parts A and B, thus in contact with each other, the respective inclines wedge together, or release each other, as occasion may require. The part B is a cup, having projecting upward from the center of its inside bottom to within a short distance from the upper edge, a conical portion, 3, which is bored longitudinally to fit accurately, and yet sufficiently freely, around

on the spindle C to allow of steady and easy rotary and longitudinal motions, and a substantial bearing for the lower end of the said oil-reservoir. The upper portion, A, of said reservoir forms the lower portion of the pulley D and whirl-tube E, both being bored longitudinally through their centers to fit accurately, and yet sufficiently freely, around the spindle C to allow of steady and easy rotary and longitudinal motions, and a substantial bearing for the same. The upper end of the bore in the whirl-tube E is slightly enlarged, in order to prevent any of the oil from being thrown outward beyond the bore by the most rapid revolving motions of E during the vertical motions of the same. At two opposite sides of the exterior of the whirl-tube E there are two respective springs, *e' e'*, each of which is curved transversely or concentrically to the whirl-tube, fastened at the upper end of the latter, and extending freely downward to the upper end of the cord-pulley D, where a slender projection at the lower end of each spring *e'* extends into a roomy hole or recess, 4, and thus the springs are allowed free spring-motions, within proper limits, which prevent any catching of the lower ends of said springs against the inner sides of the bobbin F in suddenly lifting the latter in removal. These springs are accurately constructed, tempered, and attached, to give the proper amount of friction to carry around the bobbin. In one side of the oil-reservoir cover A, a hole is bored through and fitted with a plug, 5, which is fixed to a spring, 6, on the inner side of A, (see Fig. 2,) and is flush with the outside of A, so that when pressed upon by the nose of an oil-can, it will yield inward, let the oil enter, and close automatically when the said nose is withdrawn. The interior of the oil-reservoir is to be packed loosely with wool or wool-yarn, or any suitable absorbent of oil, and then closed. A cast-steel washer, G, rests loosely on the rounded shoulder of the spindle, and upon this washer a leather washer is applied to prevent any noise from contact in the descent of the whole device.

It will be understood, without any further description, that, as the whole thing is made of metal, the oil-reservoir, in consequence of its weight, will tend to keep the whole lubri-

cator vertical and steady, especially in connection with the two bearings in the parts A and D, and that consequently there will not be any vibratory motions in the upper part of the whirl-tube E, as heretofore, from the high velocity required in the revolving motion around upon the spindle C, as the former moves up and down within the usual thread-guiding cap H in filling the bobbin, and the liability to kinking or unevenness in the thread is entirely and effectually prevented, while a perfect lubrication of the spindle is effected without waste of oil, or the possibility of the latter being thrown out into contact with either the bobbin or the thread thereon. It will also be seen that the springs *e' e'* will afford the required friction upon the bobbin, and allow of the application and removal of the latter with facility, and without any danger of oiling the latter or the thread, and that the valve-plug 5, retained by its spring 6, will readily yield to the pressure of an oil-can spout in supplying the oil to the reservoir A B, and close automatically on removal of the can.

We claim as our invention—

1. The combination, with the cord-pulley D, of the oil-reservoir A B, and the whirl-tube E, constructed and arranged to operate together, substantially as and for the purposes described.

2. In combination with the whirl-tube E and the cord-pulley D, the transversely-curved springs *e' e'*, fixed at their respective upper ends to the outside of the upper end of the whirl-tube E, and extending freely down along near the sides of said tube into the roomy holes or recesses 4 4 in the upper side of the pulley D, substantially as and for the purposes hereinbefore set forth and described.

3. The enlarged or cup form of the upper end of the whirl-tube E, as and for the purpose set forth.

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Witnesses:

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