

E. T. LANPHEAR.
Spindle for Spinning Machinery.

No. 220,158.

Patented Sept. 30, 1879.

Fig. 1.

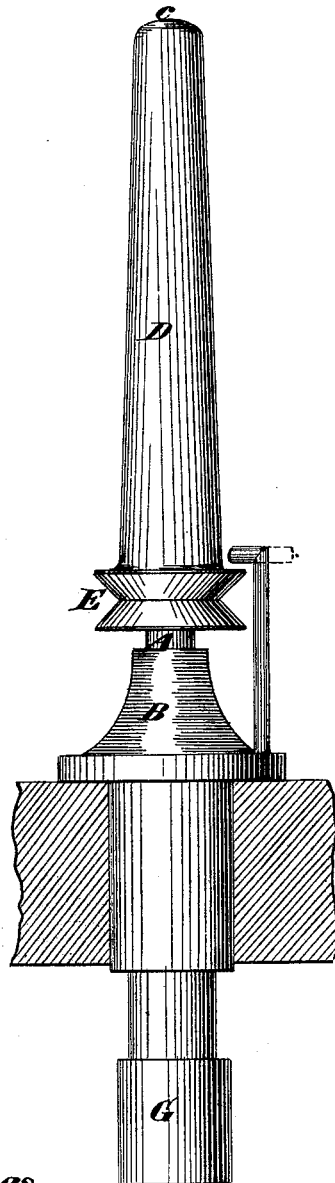
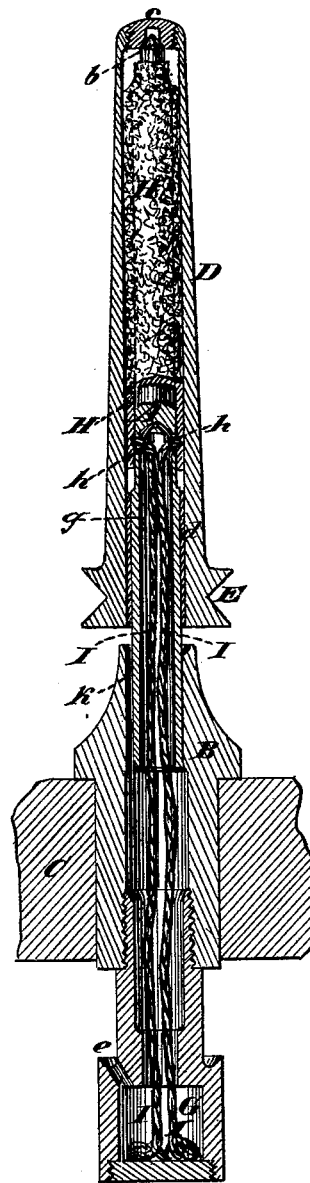


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SPINDLES FOR SPINNING MACHINERY.

Specification forming part of Letters Patent No. **220,158**, dated September 30, 1879; application filed February 20, 1879.

To all whom it may concern:

Be it known that I, EDWIN T. LANPHEAR, of Phenix, in the county of Kent and State of Rhode Island, have invented certain new and useful Improvements in Spindles for Spinning Machinery, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to spindles of spinning machinery which are stationary and have rotating shells for carrying the cops, spools, or bobbins, supported by steps or bearings on the tops or heads of said spindles, and in which lubricating material supplied from an oil-chamber below is conveyed through wicks by capillary attraction to the upper bearing and rotating shell.

The invention consists in a combination of a hollow spindle having one or more passages through it, a jacket of fibrous material arranged around the upper part of said spindle for distributing the lubricating material, a rotating shell for carrying the cop, spool, or bobbin arranged around or outside of said jacket, an oil-receptacle below the spindle, and a wick for supplying oil from said receptacle to said jacket, whereby an easy and steady running action is obtained for the shell and a perfect lubrication of the same is effected.

In the accompanying drawings, Figure 1 represents an outside view, in elevation, of a spindle constructed in accordance with my invention, and Fig. 2 a sectional longitudinal view of the same.

A is the spindle, which is a stationary or dead one, driven or otherwise secured firmly into a base, B, which is secured to the rail C. This spindle is what may be termed an "inverted" one, inasmuch as, instead of having a step-bearing below, it has a dead step or center, *b*, at its head or top for a shell, D, which carries the cop, spool, or bobbin, to turn upon, said shell carrying a live step, *c*, which works in or on the dead step or center *b*, accordingly as the respective portions of such upper step-bearing are male or female. All that is done by this upper step-bearing is to support the weight of the shell D and cop, spool, or bobbin carried by it. The lower part of the shell

D is fitted with a bushing to form a lower lateral guide or bearing, *d*, for the rotating shell D, and whereby, in connection with the upper step-bearing of or for the shell D, said shell is steadied in its run or rotation. Attached to the lower end of the shell D, and in close proximity to the spindle-base B, is the whirl E, by which the shell is rotated.

The spindle A is made hollow from its lower end, which is open, to or above the upper end of the guide *d*, and the spindle-base B, which is also hollow or tubular and open at both ends, has fitted or screwed into its lower end an oil-receptacle, G, having a supply-opening, *e*. The part of the spindle A above the guide *d* is of such reduced diameter as to provide for the arrangement around it and between it and the interior of the shell D of a lubricating-jacket, H, of felt or other suitable fibrous material. This jacket is supplied with oil by capillary attraction from the oil receptacle G by means of one or more wicks, I, arranged to pass up from said receptacle through the tubular spindle-base B, through the hollow or tubular part *g* of the spindle, and out through one or more lateral apertures, *h*, in the tubular part of the spindle under cover of the jacket H, thus lubricating the shell D to provide for its easy rotation around the spindle. Oil escaping from below the shell or its whirl is returned to the receptacle G by means of one or more longitudinal passages, *k*, in the spindle-base B. It is preferred to secure the spindle-base B to its place in the rail C by means of one or more set-screws.

I claim—

The combination, with a spindle for spinning machinery, made hollow or tubular, and with one or more passages through it, of a jacket of fibrous material arranged around the upper part of said spindle, a rotating shell for carrying the cop, spool, or bobbin arranged around or outside of said jacket, an oil-receptacle below the spindle, and a wick for supplying oil from said receptacle to said jacket, substantially as specified.

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Witnesses:

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