A. M. WADE.

Spindle for Spinning-Machines.

No. 164,059. Patented June 1, 1875.

Fig. 1.

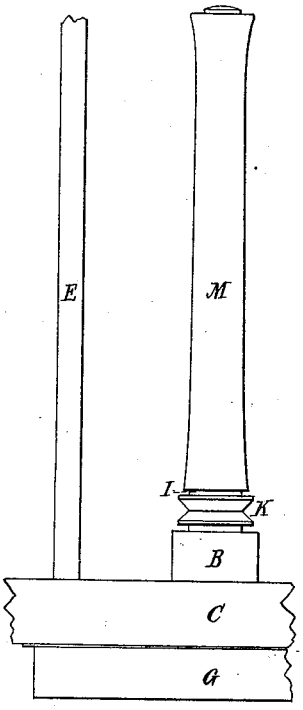


Fig. 2.

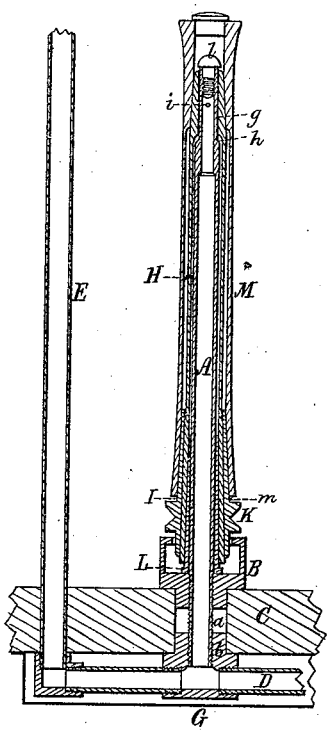
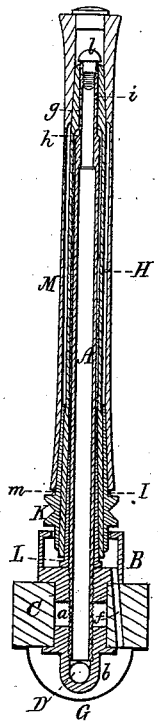


Fig. 3.



Witnesses.
S. N. Piper.
L. N. Höller.

Asel M. Wade.
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

ASEL M. WADE, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN SPINDLES FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. **164,059**, dated June 1, 1875; application filed May 11, 1875.

To all whom it may concern:

Be it known that I, ASEL M. WADE, of Lawrence, of the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Mechanism for Spinning Yarn; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a longitudinal section, and Fig. 3 a transverse section, of a spindle and bobbin with sundry appliances appertaining to my invention, which relates to mechanism for supporting and revolving the bobbins of a spinning-frame.

In my present invention the "live-spindle" or bobbin-carrier is composed of a wooden tube, a tapering metallic bushing thereto, and a tapering metallic bearing-tube provided with a whirl, the wooden tube being tapered near its upper end to answer as a friction-bearing for the bobbin. It is connected with, and revolved by, the whirled tube, which also serves as a friction-bearing for the bobbin. This live-spindle is very much better in a practical point of view than the separate bobbin supporting and rotating devices represented in my Patent No. 153,185.

Furthermore, my present "dead-spindle," instead of being composed of a standard and two tubes, arranged and applied as represented and described in my said patent, is a single tube, having a neck and shoulder to support the live-spindle. It also has an orifice for discharge of the oil to and between the bearing-surfaces.

In such drawing, A is a tubular dead or stationary spindle, provided at or near its lower end with an oil cup or receiver, B, and also with a screw, *a*, projecting down from said cup in the manner shown. The cup constitutes a base to support the spindle on the rail C, the spindle having the screw *a* screwed into the coupling *b* of an oil conduit or tube, D, arranged along underneath the said rail C, in the manner represented. There is fixed to the spindle-rail underneath the conduit D a trough, G. Furthermore, the hollow spindle opens at its foot directly into the coupling *b*, and there is an educt, *f*, leading through the bottom of the oil cup or receiver B, and through the rail and into the trough G. The dead-spindle at and near its upper end is provided with a neck or journal, *g*, terminating at its foot in a shoulder, *h*. There is a small hole or educt, *i*, leading from the bore of the tube through the said journal or neck. A wooden tube or sleeve, H, encompasses the spindle, and takes a bearing, as shown, upon its neck *g* and shoulder *h*, and is held in place thereon by the head of a screw, *l*, screwed into the upper end of the spindle. The wooden tube H at its lower part is encompassed by a tapering metallic tube, I, provided with a whirl, K, and there is driven into the wooden tube at its lower end a tapering tubular bushing, L, whose office is not only to expand the wooden tube into, and so as to fit to, the tube I, but to serve as a bearing for the combined parts H I to run on the spindle. At its upper portion the tube H is slightly tapering, in order that it, with the tapering part *m* of the tube I, may answer as friction-bearings to a "quill-bobbin," M, to encompass and fit to them, as shown.

The bore of the tube H is somewhat larger in diameter than the spindle within it, in order that oil escaping from the orifice *i* may pass freely down the outside of the dead-spindle, and thence into the bearing-tube I, and from thence into the cup or receiver B, from which it will be discharged by the educt thereof into the trough.

If we suppose oil from the trough to be thrown by a force-pump into the upper part of the stand-pipe E, it will flow down in such pipe into the conduit D, and thence up through the hollow spindle, out of which, by the educt *i*, it will be discharged, so as to lubricate the bearing-surfaces of the live and dead spindles, the surplus oil passing into the receiver B, and from thence back into the trough.

Any number of live and dead spindles so made may be applied to the conduit D, whereby their bearing-surfaces may all be oiled.

I claim—

1. The live-spindle, composed of the wooden tube H, the tapering metallic bushing L, and the tapering bearing-tube I, provided with the whirl K, all being made and arranged substantially as described.

2. In combination with the said live-spindle, the single-tube dead-spindle A, provided with the bearing-neck *g*, shoulder *h*, and support B, all as described.

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Witnesses:
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