(No Model.)

H. D. CLARK.

MACHINE FOR WINDING COVERINGS UPON THREAD, &c.

No. 343,161. Patented June 8, 1886.

Fig. 1.

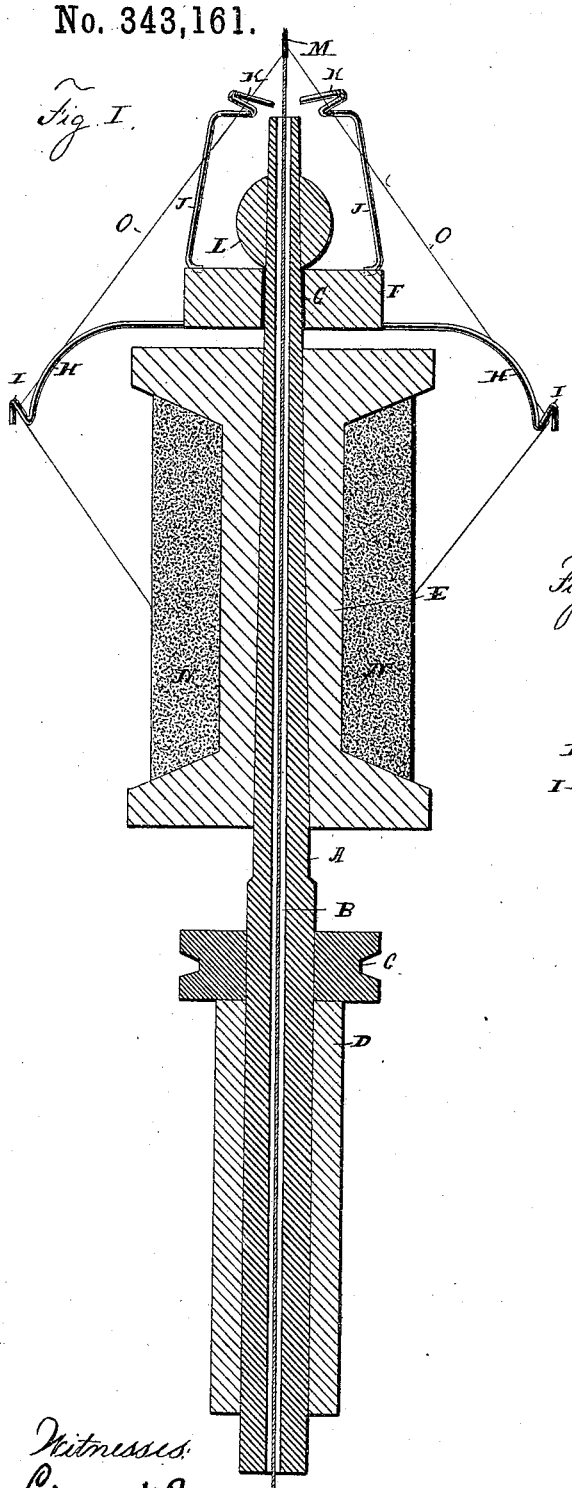
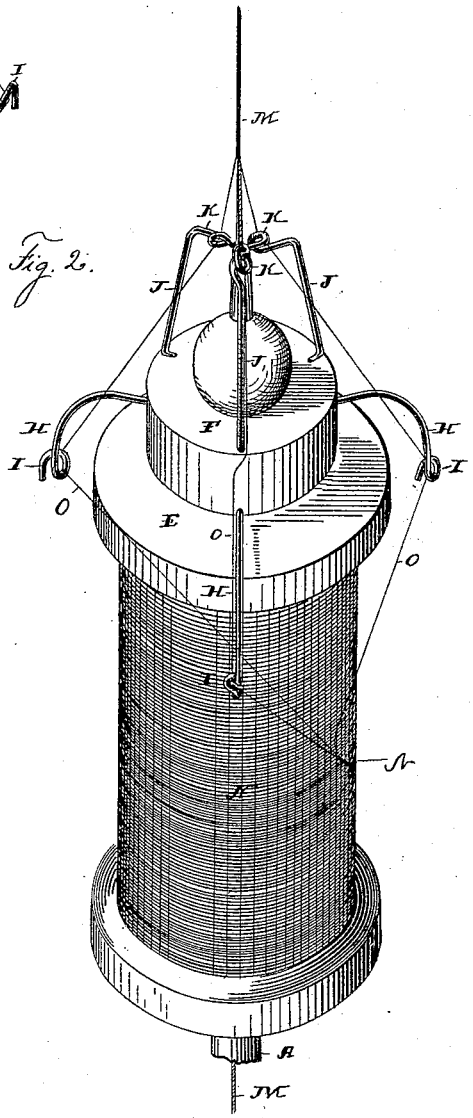


Fig. 2.



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UNITED STATES PATENT OFFICE.

HERMAN D. CLARK, OF MOUNT CARMEL, CONNECTICUT.

MACHINE FOR WINDING COVERINGS UPON THREAD, &c.

SPECIFICATION forming part of Letters Patent No. 343,161, dated June 8, 1886.

Application filed February 27, 1886. Serial No. 193,462. (No model.)

To all whom it may concern:

Be it known that I, HERMAN D. CLARK, residing at Mount Carmel, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Machines for Winding Coverings upon Thread, Cord, or similar Cores; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in machines for winding coverings upon thread, cord, wire, or similar cores, the object being to produce for this purpose light-running devices of simple and durable construction, large capacity for work, and adapted for applying a covering of light tension.

With these ends in view my invention consists in the combination, with a hollow spindle adapted to receive and rotate a bobbin, of a flier loosely mounted upon the spindle, so as to turn freely thereon, and provided with two or more leaders and guides for leading off and guiding two or more strands from the bobbin and winding them separately upon a core drawn through the spindle.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in vertical central section of a spindle, flier, and bobbin constructed and combined in accordance with my invention; and Fig. 2 is a perspective view thereof with the lower portion of the spindle broken away.

The spindle A is made with a passage, B, extending throughout its length, furnished with a whirl, C, supported in a bolster, D, and adapted to receive and rotate a bobbin, E, as shown. The flier consists of a flat circular head, F, having a central opening, G, adapting it to fit loosely over the upper end of the spindle, so as to turn freely thereon, flier-arms or leaders H H H, secured to the lower edge of the periphery of the said head at points equidistant from each other and bending down over the bobbin, and each provided with an eye, I, and guiding-arms or guides J J J, secured at points equidistant from each other to the upper face of the head and extending upward in close proximity to the upper end of the spindle, and each provided with an eye, K, as shown. The flier may of course be adapted to lead off, guide, and separately wind two or any higher number of strands, as occasion may demand. A spindle tip or holder consisting of a centrally-perforated ball, L, fits over the upper end of the spindle and holds the flier in place thereon without interfering with the free rotation of the same.

As herein shown, the devices are prepared for the manufacture of embroidery, silk, or floss for covering a fine cord or thread, M, with silk, which is wound upon the bobbin in the form of a compound strand, N, composed of three simple strands, O O O, laid together and wound untwisted upon the bobbin, and divided into its component strands and led off by the respective leaders or flier-arms H H H, from which the individual strands pass to the respective guides J J J, being thence separately wound upon the cord or thread M, which is drawn through the spindle by suitable appliances and at a proper speed.

The flier being mounted upon the spindle so as to turn freely thereon, and being very light and operating with the minimum amount of friction, is very delicately responsive to the feed and to the draft of the threads, adapting the machine for covering a core with silk under light tension, so as to secure that softness and bulk required for embroidering purposes. Moreover, the flier operating with the minimum of friction, as described, the machine may be run at a high rate of speed, conferring upon it a large capacity for work.

I am aware that a machine having a hollow spindle, a flier adapted to lead off, guide, and wind two strands, and a bobbin, such parts having concentric axes, is not new. I do not, therefore, broadly claim such construction; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a hollow spindle adapted to receive and rotate a bobbin carrying the covering-threads, of a flier loosely mounted on the spindle, so as to turn freely thereon, and provided with two or more leaders and guides for leading off and guiding two

or more strands from the bobbin, and separately winding them upon a core drawn through the spindle, substantially as set forth.

2. The combination, with a hollow spindle adapted to receive and rotate a bobbin carrying the covering-threads, of a flier consisting of a head loosely mounted upon the spindle, so as to turn freely thereon, leaders attached to said head, and guides attached to the head and extending toward the upper end of the spindle, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HERMAN D. CLARK.

Witnesses:
C. L. SWAN, Jr.,
M. S. SEELEY.