

(No Model.)

J. W. LOVATT.
SPINDLE.

No. 579,833.

Patented Mar. 30, 1897.

Fig. 2.

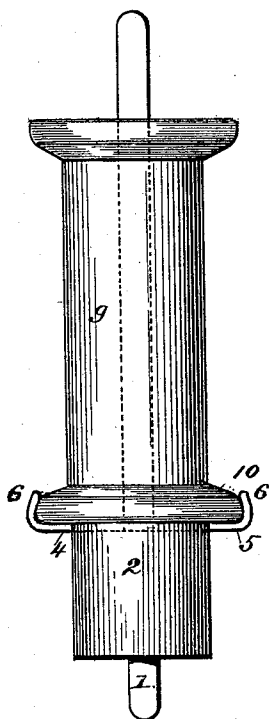


Fig. 1.

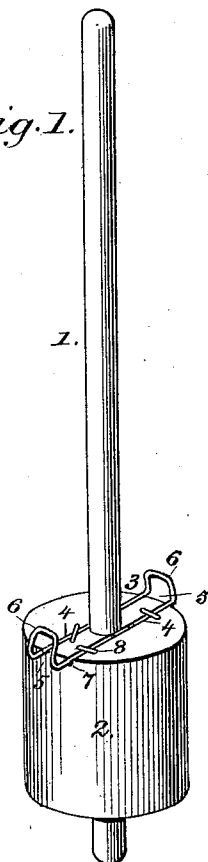


Fig. 3.

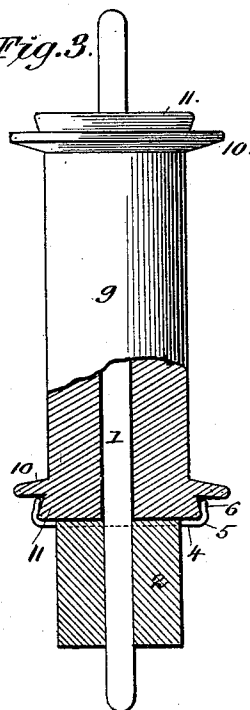


Fig. 4.

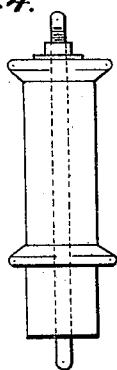
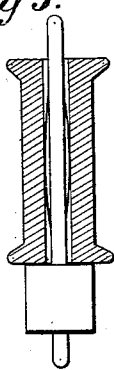


Fig. 5.



WITNESSES.

J. E. Lockett
for. A. Ryan

INVENTOR

J. W. LOVATT
BY
Fred. G. Dietrich
ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES WALTER LOVATT, OF BETHLEHEM, PENNSYLVANIA, ASSIGNOR TO
THE H. A. MACK WOOD-WORKING COMPANY, OF WEATHERLY, PENN-
SYLVANIA.

SPINDLE.

SPECIFICATION forming part of Letters Patent No. 579,833, dated March 30, 1897.

Application filed December 2, 1896. Serial No. 614,180. (No model.)

To all whom it may concern:

Be it known that I, JAMES WALTER LOVATT, residing at Bethlehem, in the county of Northampton and State of Pennsylvania, have invented a new and Improved Spindle, of which the following is a specification.

My invention relates to improvements in winder-spindles upon which the spool or bobbin is detachably held by suitable friction or clamp devices.

In winding silk a series of spindles are employed, mounted in a suitable frame upon which bobbins or spools are detachably fitted but held to turn therewith, each of which has a suitable pulley against which the drive-head of spindles bears and by which the spindles are driven, such bobbins after being filled being taken off and fitted onto other spindles in the different processes of the manufacture of silk.

One of the common means for fastening the bobbin to the spindle to cause it to turn therewith is to extend the spindle through the bobbin and thread its upper end to receive a clamp disk-nut. This means of fastening has been found very objectionable, as it requires considerable time to take off and put on the nut, such nut being also frequently lost. Another and common method is to secure the bobbin to the spindle by friction means, such as, for instance, bow-spring wire secured to the spindle lengthwise thereof, which bears against the bobbin-aperture. This securing or fastening means has also numerous objections, in that in a very short time the irregular bearing caused by the frictional bearing part of the spindle throws the bobbin out of true, (a very serious objection,) and the spring by constant use soon becomes weak and does not hold the bobbin in its proper place, allowing it to run loose on the spindle, particles of silk also getting under the spring.

To overcome these several objections is the primary purpose of my invention, which also has for its object to provide a spindle, having means for clamping the bobbin thereto, of a very simple and inexpensive nature, which will hold the bobbin on the spindle in such a manner as to produce no perceptible wear on the bobbin-aperture, and which admits of

the bobbin being easily and quickly put on and taken off the spindle, such clamp means being adapted for use in connection with the different styles of bobbins now in general use for the purposes stated.

With other objects in view, which will hereinafter be referred to, the invention consists in a spindle embodying the peculiar construction and combination of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved spindle. Fig. 2 illustrates the same as applied to an ordinary form of bobbin. Fig. 3 illustrates the same as applied to a bobbin having special clamp-hubs to engage the clamp ends. Fig. 4 is a view illustrating the ordinary nut-clamp devices for securing the bobbin to the spindles, and Fig. 5 is a view illustrating friction-spring devices for holding the bobbin hereinbefore referred to.

Referring now to the accompanying drawings, in which like numerals indicate like parts in all the figures, 1 indicates the spindle proper, and 2 the drive-pulley secured to the lower end thereof.

3 indicates a clamp member formed of a single piece of spring-wire bent up to produce parallel side members 4 4, the ends of which terminate in the loop portions 5 5, which are bent upward and inward to form opposing clamps 6 6.

By referring to Fig. 1 it will be observed the side members 4 4 are adapted to fit in grooves 7 in the top of the pulley 2, in which they are securely held by the staples 8, the upper edges of which are preferably flush with the top of the said pulley 2 to admit of the bobbin 9 having a firm seat thereon.

The bobbin 9 in its simplest form has the ordinary heads 10 rounded or beveled to admit of a positive engagement of the clamps 6, which when the ordinary bobbin is used are of a length sufficient to slip over the edges of the head, as clearly shown in Fig. 2.

In Fig. 3 I have shown a special form of bobbin, which has the advantage over the ordinary form in that it has supplemental hub

members 11 of a less diameter than the heads 10, such hubs 11 having inwardly-inclined edges to provide for a firm grip of the clamp, as shown.

5 By providing the bobbin-heads with supplemental hubs it is manifest the clamp members can be made shorter than the heads and in consequence be disposed entirely beneath such heads and free from engagement with
10 the silk during winding.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of my invention will be readily apparent. It will be observed
15 that the bobbin can be instantly taken off and placed upon the spindle. Furthermore, the cost of manufacture is reduced to a minimum, as no threads are cut in the spindle to receive a clamp-nut nor grooves made in its sides to
20 receive friction-springs, the clamp devices in my spindle being in the nature of a single piece of spring-wire bent up to the desired shape and secured to the drive-pulley, said clamp being of such a nature as to be adapted
25 to be fitted to connect with the different styles

of bobbins used in this art. The spindle in my structure is entirely free of threads or grooves.

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

1. A spindle having a drive-pulley, and a clamp device secured to the top of such pulley, consisting of a spring-wire, bent to form side members, and seated on the pulley and extended loop members to engage the rim or
35 head as specified.

2. The combination with the bobbin, of a spindle having a drive-pulley, provided with grooves in its top, and a clamp device connected to such pulley, consisting of a single
40 spring-wire bent to form parallel members seated in the grooves in the pulley, and extended upwardly and inwardly bent spring-loop clamps adapted to engage the bobbin-
45 heads as specified.

JAMES WALTER LOVATT.

Witnesses:

JOSEPH R. CASSLER,
J. W. HUNTER.