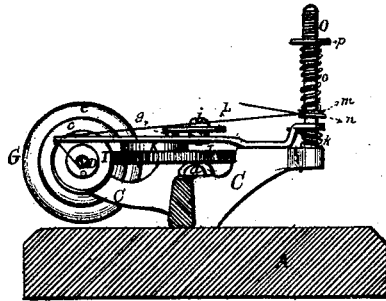


*J. L. Patch,*

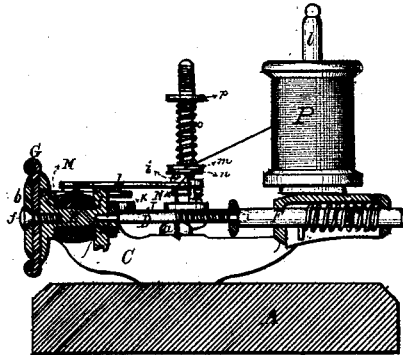
*Bobbin Winder.*

*No. 110,067.*

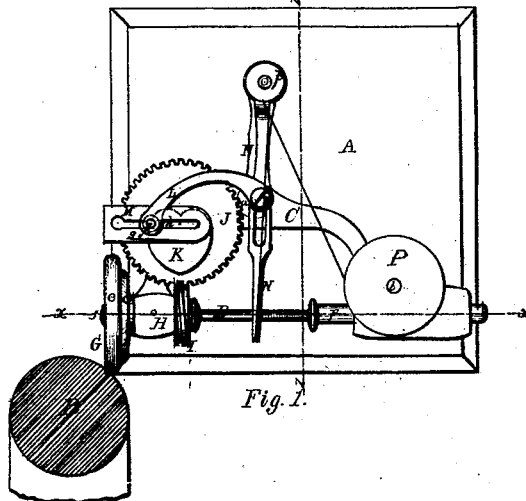
*Patented Dec. 13. 1870.*



*Fig. 3.*



*Fig. 2.*



*Fig. 1.*

*Witnesses.*

*D. B. Hanson*

*S. E. Whitney*

*Inventor.*

*John L. Patch*

# United States Patent Office.

JOHN L. PATCH, OF CHARLESTOWN, ASSIGNOR TO HIMSELF AND E. F. TILDEN, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 110,067, dated December 13, 1870.

## IMPROVEMENT IN BOBBIN-WINDERS FOR SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN L. PATCH, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in "Bobbin-Winders" for Sewing-machines, of which the following is a specification.

The invention consists in the arrangement of a friction-wheel, worm, worm-wheel, cam, link, guide-plate, spring, and thread-guide, all as hereinafter fully described, in such manner as to enable thread to be transferred from a spool to the bobbin of a sewing-machine shuttle, and laid evenly thereon.

### *Description of the Accompanying Drawing.*

Figure 1 is a plan of my improved bobbin-winder, showing the manner of applying it to the sewing-machine.

Figure 2 is a longitudinal section on line  $x x$  on fig. 1.

Figure 3 is a transverse section on line  $z z$  on fig. 1.

### *General Description.*

A represents a portion of a sewing-machine table, and

B, a portion of the hand-wheel of a sewing-machine.

C is the frame of the bobbin-winder, secured to the table by the screw  $a$ .

D is the bobbin, upon which the thread is to be wound, secured between the driving-spindle E and the yielding spindle F in the usual manner.

G is the friction-wheel, by which the bobbin is revolved, made up of a round disk of hard leather,  $e$ , having its edge rounded, as shown, and secured between the two metal disks,  $b$  and  $c$ , the latter of which is firmly secured to or forms a part of the spindle E, the leather disk  $e$  and the metal disk  $b$  being secured to it by the screw  $f$ .

The spindle E is mounted in the bearing H, and has on its inner end the worm I, which acts upon the worm-wheel J, to move it around its axis.

To the top surface of the worm-wheel J is firmly attached a heart-cam, K, which acts upon the pin  $g$  set in one end of the link L, and guided in its motion by the slot  $h$  in the guide-plate M.

The opposite end of the link L is attached, by the pin or bolt  $i$ , to the thread-guide lever N, near the middle of its length, in such a manner that it may be

adjusted to adapt the movement of the end of the guide-lever N to the length of the bobbin used.

The guide-lever N is secured to the frame C by the tension-post O, around the lower end of which is coiled the spring  $k$ , one end of which is secured to the lever N, and the other to the frame C, in such a manner that the tension of said spring serves to keep the pin  $g$  in the link L pressing against the cam K, so that, when the action of the cam K has caused the end of the thread-guide N to travel from one end of the bobbin to the other, the spring  $k$  shall cause it to return, as the cam is revolved so as to allow it to do so.

P is a spool of thread, mounted upon the spindle  $l$ , and from which the bobbin is to be filled.

On the post O are loosely fitted the two tension-disks,  $m$  and  $n$ , the tension-spring  $o$ , and adjusting-nut  $p$ .

The operation of my machine is as follows:

When it is desired to spool a bobbin the friction-wheel G is brought in contact with the hand-wheel B of the sewing-machine, and secured in that position by the screw  $a$ .

The empty bobbin is placed in position, and the thread, from the spool P, is passed around the post O, and between the tension-disks  $m$  and  $n$ , then through the eye or notch in the end of the guide-lever N, and the end is secured to one of the flanges of the bobbin, when the operator can proceed with her sewing, paying no attention to the bobbin-winder, except an occasional glance to see if the bobbin is full.

When the bobbin is full she will stop the machine and remove the full bobbin and insert an empty one, and proceed as before.

When the bobbins are all filled the bobbin-winder may be thrown out of contact with the wheel B, by slackening the screw  $a$ .

### *Claim.*

What I claim as new, and desire to secure by Letters Patent, is—

The friction-wheel G, worm I, worm-wheel J, cam K, link L, guide-plate M, spring  $k$ , and thread-guide N, all constructed and arranged as specified.

Executed at Boston this      day of December, 1869.

Witnesses:

JOHN L. PATCH.

D. B. HANSON,

G. E. WHITNEY.