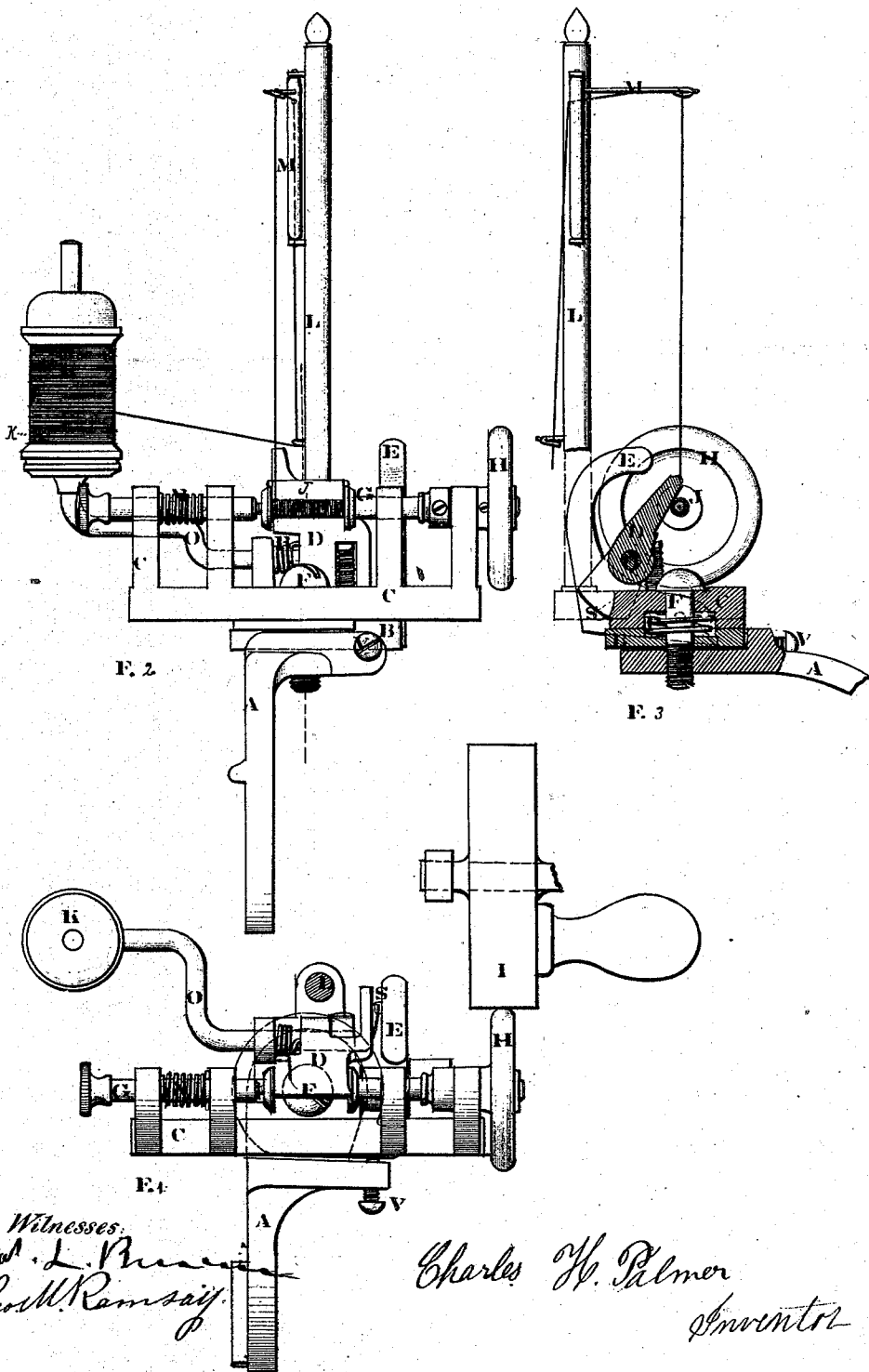


*C. H. Palmer,*

*Bobbin Winder.*

*No. 105,363.*

*Patented July 12, 1870.*



*Witnesses:*  
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# UNITED STATES PATENT OFFICE.

CHARLES H. PALMER, OF NEW YORK, N. Y.

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

Specification forming part of Letters Patent No. 105,363, dated July 12, 1870.

I, CHARLES H. PALMER, of the city, county, and State of New York, have invented a new and Improved Automatic Bobbin-Winder for Sewing-Machines, all of which is clearly and fully set forth in the following specification.

Figure 1 is a plan view. Fig. 2 is an elevated view. Fig. 3 is an end view, as seen at the left.

Like letters refer to like parts, and are part of this specification.

A is the bracket by which the invention is connected with and made fast to a sewing-machine table. B is a circular disk, (edge view seen in Figs. 2 and 3, and represented by dotted lines in Fig. 1,) with a projection, against which the set-screw V is made to impinge, for the purpose of regulating the extent of motion of the frame C, on which all the apparatus is affixed. The frame C is made to turn freely upon the screw swivel-pin F.

D is an automatic adjustable pressure-lever fixed to the oscillating shaft O, and the same shaft supports the spool *k*. E is a cam trip-lever, with a spur, S, on its heel, which enters a mesh in the heel of pressure-lever D. (Seen in Figs. 1 and 3.)

G is the shaft or spindle by which the bobbin J is held in position. On the left-hand section of it there is a socket, into which fits the point on the end of the bobbin, while on the right-hand section there are four small points or pins projecting. (Seen in Fig. 2.) These little pins surround a cone-like central projection on the end of bobbin J and enter a like number of holes in the end of the bobbin, and thus the bobbin is prevented from turning on the right-hand section of spindle G. H is a friction-wheel affixed on spindle G and impinging against driving-wheel I of the sewing-machine.

P is a coil-spring resting in a recess made in the upper side of B, and is applied so as to cause the frame C to turn upon the swivel F in such a manner as to relieve the friction-wheel H from wheel I when the spur S is thrown out of the nick in the heel of D.

L is an upright, on which the leading-arm M is supported and thread adjusted, as shown. The leading-arm M moves to and fro over the bobbin, like a crane, with nice precision, its motions being wholly dependent upon the impinging of the thread against itself as it is being wound on the bobbin.

N is a spiral spring, which holds the left-hand section of spindle G up against the bobbin J with sufficient pressure.

R is a spiral spring, one end of which is attached to the frame *c* and the other end to the pressure-lever D in such a manner as to cause D to press against the bobbin J.

Having thus explained the construction of my invention, I next proceed to explain its operation.

The bobbin J and thread being adjusted, the cam trip-lever E is thrown back until the spur S catches in a nick in the heel of pressure-lever D. In thus adjusting the lever E the adjustable frame C is made to turn upon its center by virtue of the cam end of E pressing upon the projection of disk B, and thus brings the friction-wheel H in contact with driving-wheel I, while the spiral spring R makes lever D to press against bobbin J. Then, by turning the driving-wheel I, bobbin J is made to revolve by means of friction-wheel H, and as the thread begins to wind the leading-arm M begins to move back and forth with nice regularity, being regulated in its motions only by the thickness of the thread. As the bobbin gradually fills the thread steadily lifts pressure-lever D, and, at the moment the bobbin is filled, lever D has been lifted so as to let spur S slip from its nick, and instantly the adjustable frame C is thrown back by coil-spring P, and friction-wheel H being thus removed from contact with driving-wheel I, it follows that the winding is automatically arrested.

I claim—

1. The combination, with the movable frame C and disk B, of the pressure-lever D, spring P, and cam trip-lever E, all constructed substantially as described, and operating to bring the wheel H into contact with the driving-wheel of a sewing-machine for winding, and to release them from contact with each other when the bobbin is full.

2. The combination, with the movable frame C and disk B, of the adjusting set-screw V, which regulates the extent of horizontal rotatory motion of the frame C, as described.

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Witnesses:

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