

(Model.)

C. B. THOMPSON.

BOBBIN WINDER FOR SEWING MACHINES.

No. 282,412.

Patented July 31, 1883.

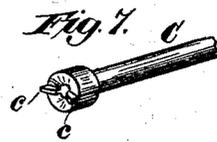
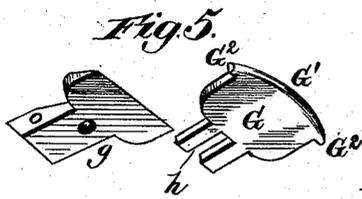
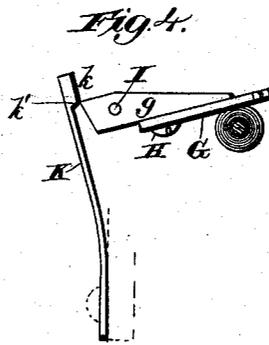
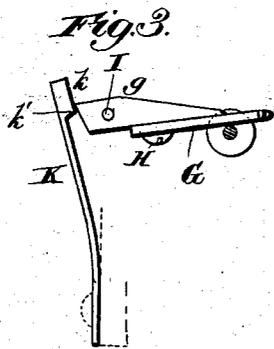
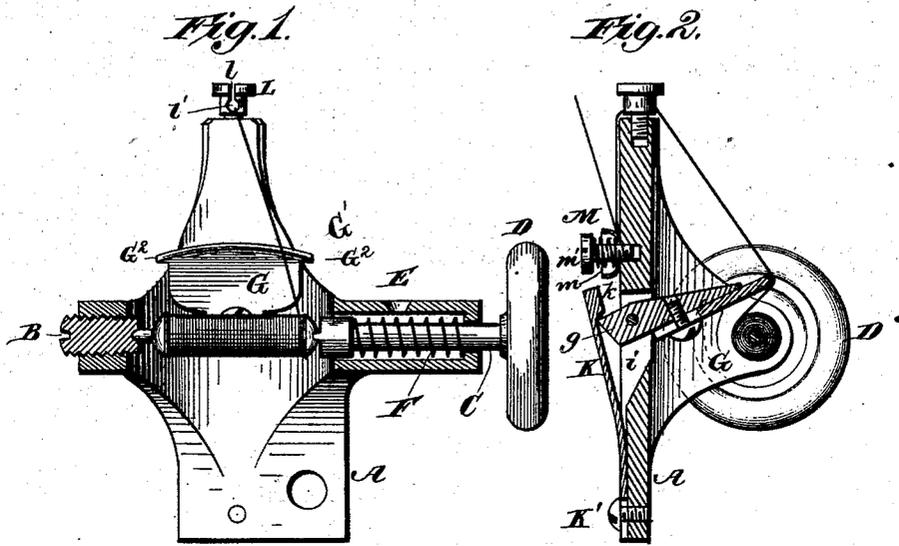


Fig. 8.



Witnesses.

Robert Everett,

J. A. Rutherford

Inventor.

Charles B. Thompson.

By James L. Norris  
Atty.

# UNITED STATES PATENT OFFICE.

CHARLES BROWN THOMPSON, OF ST. CATHARINES, ONTARIO, CANADA.

## BOBBIN-WINDER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 282,412, dated July 31, 1883.

Application filed April 20, 1882. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. THOMPSON, a citizen of Canada, residing at the city of St. Catharines, in the county of Lincoln, Province of Ontario, and Dominion of Canada, have invented certain new and useful Improvements in Bobbin-Winders; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to an improvement on the bobbin-winder secured to me by Letters Patent of the United States, which said Letters Patent are numbered 245,890, and dated August 16, 1881.

The object of my present invention is to improve the construction of the presser-pad, and also to provide an improved spring-catch for engaging and holding the presser-pad after the latter has been raised by the thread on a full bobbin, as hereinafter fully described.

Referring to the accompanying drawings, Figure 1 is a front elevation of the bobbin-winder with a portion thereof shown in section. Fig. 2 is a vertical section taken on a plane at right angles to Fig. 1. Fig. 3 illustrates the position of the presser-plate and guide-plate and spring before the thread has been wound upon the bobbin. Fig. 4 illustrates the portion of said devices with the bobbin full. Fig. 5 shows the combined presser and guide plate and its shank detached. Fig. 6 illustrates the bobbin. Fig. 7 shows one end of the driving-spindle. Fig. 8 shows the spring which acts upon the shank of the combined presser and guide plate.

A indicates a suitably-formed bracket-plate, which is adapted to be attached to the neck or other convenient part of a sewing-machine.

A bearing for one of the bobbin-journals  $a$  is formed in a set-screw, B, adjustably secured in a bearing on the bracket-plate, so that by adjusting said screw the bobbin can be adjusted longitudinally, for a purpose hereinafter specified. The bearing for the remaining journal of the bobbin is formed in the inner end of a rotary driving-spindle, C, which carries at its outer end a friction-pulley, D, or a belt-pulley, as may be preferred. The rotary driving-spindle, which is also adapted to slide longitudinally in its bearings, passes through

a hollow arm, E, on the bracket-plate, and is forced inwardly toward the bobbin and held against one of the heads of the latter by means of a spring, F, arranged within the hollow arm.

In order to insure the rotation of the bobbin, the driving-spindle is provided with projections  $c$ , adapted to fit into grooves  $a'$ , formed in one of the bobbin-heads  $a^2$ , as best shown in Fig. 6, so as to lock together the bobbin and its driving-spindle.

The wheel D can be provided with an elastic facing and arranged to be driven by frictional contact with the hand-wheel of the sewing-machine; or it can be driven by belting, or in any other preferred way.

G indicates a pivoted presser-plate and thread guide or controller, which is adapted to bear upon the thread on the bobbin during the winding operation, so as to cause the thread to be wound in successive layers. This presser-plate and thread-guide is adjustably secured to the under side of its shank portion  $g$  by means of a set-screw, H, passing through a slot,  $h$ , in the plate and screwed into the shank; or the two can be adjustably connected by any other analogous means.

The presser-plate and thread-guide are pivoted to the bracket-plate by means of a pin or pins, I, supported in the sides of an opening,  $i$ , in the bracket-plate, and in turn supporting the shank  $g$  of the presser-plate, which said shank passes through the opening in the bracket-plate.

The presser-plate G is provided with a curved front edge,  $G'$ , over which the thread passes, and is held down upon the thread on the bobbin by means of a spring, K, which is adjustably secured at one end to the bracket-plate, and at the other end adapted to bear upon the heel of the shank portion of the presser-plate. This presser-plate is adapted to fit between the end caps or heads,  $a^2$ , of the bobbin, so that it can bear upon the layers of thread as they are successively wound.

In order to prevent the thread which is being wound from slipping over either side edge of the presser and guide plate as the thread arrives at either end of the bobbin, I provide at each outer corner of this presser and guide plate a laterally-projecting tip,  $G^2$ , the front edge of which constitutes a continuation of the curved edge  $G'$  of the presser and guide plate;

hence, when the latter is let down upon the bobbin its corner-tips will extend over the end caps of the bobbin, and thereby prevent the thread from slipping off the curved edge of the presser and guide plate.

The spring K is provided with a catch, which is adapted to engage the shank portion of the presser and guide plate when the latter is raised from the bobbin, and thus indicate when the bobbin is full. This catch upon the spring constitutes an indicator, since when the bobbin is full, as in Fig. 4, the presser and guide plate will be raised and the heel of the shank I brought in position to engage with said catch, and at this moment the winding should be stopped.

As illustrated in the drawings, the catch is formed by providing the free end of the spring with a plate or enlargement, *k*, having a beveled lower edge, *k'*, with which the heel of the shank *g* engages. The plate *k* can be formed with the spring or secured thereto, as desired; or the spring can be bent so as to form the said catch. This catch serves to hold the presser-plate up, so as to allow the removal of a full bobbin and its replacement by an empty one. This catch can be adjusted with reference to any size of bobbin by adjusting the spring K, which is slotted at its lower end and secured to the bracket-plate by a set-screw, K', passing through the slot and screwed into the bracket-plate.

By forming the presser and guide plate in two parts, as hereinbefore described, the action of edge G' of the same can be adjusted by adjusting plate G so as to cause the thread to be laid evenly, with layer upon layer, on the bobbin.

It will be seen that by adjusting the screw B, in which a bearing is formed for one of the bobbin-journals, the bobbin can be shifted longitudinally, so as to adjust it with reference to the presser-plate, and thereby bring the bobbin in such position that the presser-plate will, when swung down, fit between the heads or caps of the bobbin.

L indicates a mill-headed screw which works in the upper end of the bracket-plate. This screw has a vertical slit formed through its head, and a guide-eye, *l*, for the thread, formed at the bottom of said slit. By turning this screw so as to raise or lower its guide-eye *l* the distance of the guide-eye from the presser and guide plate can be varied according to the radius of curvature of the latter; also,

by turning the screw slightly to the right or left the direction of the thread from the guide-eye to the bobbin can be varied, so as to regulate any imperfection in the winding of the thread on the bobbin.

M indicates a tension device located upon the upper portion of the back of the bracket-plate, and adapted to produce a slight tension for steadying the thread in its passage from the spool to the bobbin. This tension device can consist of a cup-shaped disk or plate, *m*, loosely arranged upon a set-screw, *m'*, and caused to bear against the bracket-plate by means of a spring surrounding the screw between the head of the latter and the disk; but any other preferred form of tension device can be employed.

It will be seen that as the thread is wound in successive layers upon the bobbin the presser-pad is raised, and that when the bobbin is full the spring-catch engages the shank portion of the presser-pad, thereby holding up the pad, and at the same time, by reason of its engagement with the heel of the presser-pad, serving to indicate that the bobbin is full.

It will also be observed that there is at the juncture just mentioned—that is to say, when the bobbin is full—a positive engagement of the spring-catch with the shank portion of the presser-pad, so that the operator cannot fail, upon inspection, to notice such engagement.

In my former patent the presser-pad was provided with tips at two corners, said tips both projecting at right angles to the front edge of the presser-pad; but in the present instance the tips project laterally from opposite side edges of the pad.

Having thus described my invention, what I claim is—

The combination, with the pivoted presser-pad G, having a body equal in width to the distance between the end caps of the bobbin, and provided with laterally-projecting tips G<sup>2</sup>, which extend beyond the end caps, of the shank-piece *g*, having its end beveled, and the indicator-spring K, having the enlargement *k*, substantially as described.

Dated in the city of St. Catharines, Ontario, Canada, this 17th day of April, A. D. 1882.

CHARLES BROWN THOMPSON.

In presence of—

WM. CAMPBELL, Jr.,  
GEORGE C. SHAW.