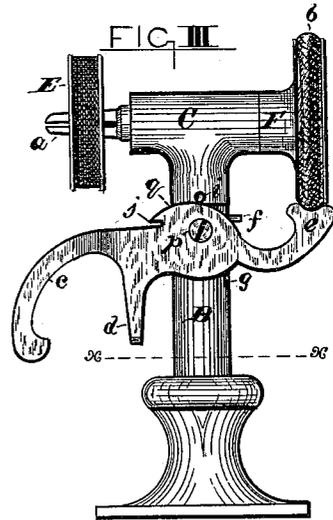
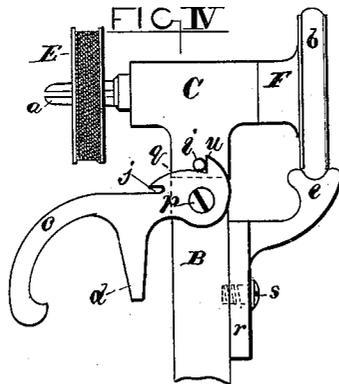
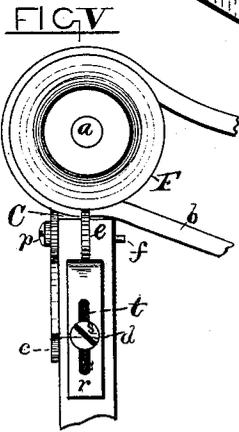
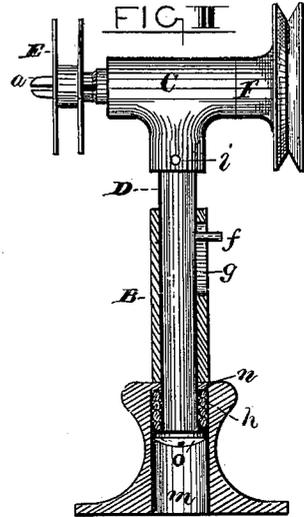
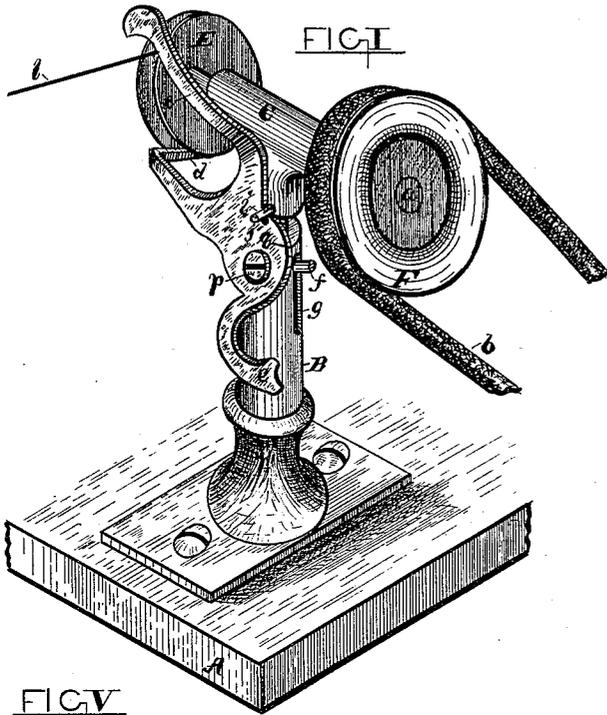


(No Model.)

A. V. ABERCROMBIE.
BOBBIN WINDER.

No. 332,771.

Patented Dec. 22, 1885.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER V. ABERCROMBIE, OF BRIDGEPORT, CONNECTICUT.

BOBBIN-WINDER.

SPECIFICATION forming part of Letters Patent No. 332,771, dated December 22, 1885.

Application filed March 9, 1885. Serial No. 158,170. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER V. ABERCROMBIE, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Bobbin-Winders, of which the following is a specification.

My invention relates to automatic bobbin-winders for sewing-machines, and is an improvement on the device for which Letters Patent were granted to me December 16, 1884, and numbered 309,371.

The object of my invention is to provide means whereby the winding arbor or spindle holding the bobbin is brought to a standstill after the bobbin has been filled.

To more clearly understand my invention, reference is had to the drawings, and to the figures and letters of reference marked thereon, forming part of this specification.

Figure I represents a view in perspective of the device, and also a section of a sewing-machine table. Fig. II represents a side elevation of the spindle-frame and sectional view of the supporting-standard. Fig. III is a side elevation of the device. Figs. IV and V are modifications.

Its construction and mode of operation are as follows: A, section of table; B, supporting-standard; C, movable spindle-frame; D, shank of said frame; E, bobbin; F, driving-pulley; *a*, bobbin-spindle; *b*, driving-belt; *c*, thread-cutter; *d*, finger; *e*, brake; *f*, guide-pin; *g*, guide-pin slot; *h*, spring; *i*, actuating-pin; *j*, notch in the cutter for same.

In Fig. I is represented the device adjusted for working and the operation of winding the bobbin in progress. The movable spindle-frame C has the shank D, which operates in the hollow standard B, as will be seen more clearly in Fig. II. At the bottom of said standard is the recess *m*, made sufficiently large to admit of the controlling-spring *h* being coiled around the shank D. Said spring abuts against the shoulder *n* of the standard B and the enlarged end *o* of the shank D. The frame C is represented elevated and spring *h* compressed, which will at the proper time cause the frame C to forcibly descend. The revolving spindle *a*, on which the bobbin

E is placed to be wound, extends through the spindle-frame C, working freely therein. On the end of spindle *a* is the pulley F, connected by belt *b* with the driving-pulley, which (though not shown) is supposed to be situated below the bed on the main shaft.

The cutter *c*, (see Fig. I,) with finger *d* and brake *e*, is represented in one piece, and is attached to standard B by screw *p* and swing- ing freely thereon. The edge of the cutter-blank immediately above the screw *p* is the cam-shaped profile *q*, which engages with the pin *i* of frame C.

When necessary to operate the device, the thread *l* is brought from the delivery-spool (not shown) to the bobbin E. The cutter *c* is raised, and by the action of cam *q*, engaging the pin *i*, the frame C is also elevated, compressing spring *h*, as before mentioned. The cutter is raised until pin *i* finds a lodging place at the mouth of the slot *j*. The finger *d* is placed between the walls of the bobbin, and when the same is filled the pressure of the accumulating thread on said finger will disengage notch *j* from pin *i*, and by means of said pin and compressed spring *h* the cutter will be carried downward with force sufficient to sever the delivery-thread. Its downward movement is suddenly arrested by the brake *e* engaging with belt *b*. (See Fig. III.) The downward movement of frame C slackens the belt, and the office of the brake is to grip and hold the same, thus placing spindle *a* in a state of absolute rest, the object of which is to avoid the wear which continuous running would subject it to.

The exact arrangement of the cutter and brake may be somewhat modified. For instance, the cutter *c*, finger *d*, and brake *e* are represented blanked in one piece; but the brake *e* may form a separate attachment, as shown at Figs. IV and V, which view represents the upper section of a side and end elevation through the dotted line *x* of Fig. III. The brake *e*, as shown, has the base *r*, forming part of the same, which is secured to the standard B by the screw *s*. The elongated slot *t* in the base *r* enables the same to be raised and lowered, as the case may be, to properly adjust it in relation to the belt *b*. In place of cutter *c*, having its downward movement arrested by

the brake *e* engaging with the belt *b*, as before mentioned, the projection *u*, (see Fig. IV,) in conjunction with pin *i*, serves as a stop to arrest the cutter after it has descended far enough so as to be well out of the way.

Attaching the brake *e* separately, as shown, will necessitate a change in the position of the guide-pin *f*, as seen at Fig. V. Its position, however, is immaterial so long as it does not interfere with the working of the other parts.

Any other suitable device for holding frame C in position would answer equally as well.

It is not necessary in constructing the device that the exact arrangement, as shown, of the several parts be carried out. For instance, in operating the frame C, a different style of spring, or one differently situated, could be used to answer the purpose; also, the cam-like projection on the cutter, in conjunction with pin *i* of the frame, may be modified without departing from the spirit of my invention.

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

1. In a device for winding bobbins, the combination, with a movable cutter having a brake, of a movable spindle-carrying frame holding the bobbin-spindle, and a belt-pulley on said spindle, said spindle-carrying frame actuated by a spring, and adapted by means of said

spring to descend and slacken the belt, and by such action of said frame and spring cause the brake to grip and hold the belt in a state of rest, substantially as set forth.

2. In a device for winding bobbins, the combination, substantially as set forth, of the movable cutter *c*, having brake *e*, finger *d*, and cam-like projection *g*, with the movable spindle-carrying frame C, having pin *i* to engage the cam-like projection of the cutter, revolving spindle *a*, and belt-pulley F, said spindle adapted to hold the bobbin in a fixed position in relation to finger *d* of the cutter, that the accumulating thread on the bobbin will release the cutter, and by means of said frame and spring cause the cutter to descend and sever the delivery-thread, and by means of said brake grip and hold the belt in a state of rest.

3. The combination, substantially as described, of the movable spindle-carrying frame C, actuated by a spring, pin *i*, and standard B, with the cutter *c*, having cam-like projection *g*, finger *d*, and notch *j*.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 21st day of February, A. D. 1885.

ALEXANDER V. ABERCROMBIE.

Witnesses:

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CHAS. E. WILMOT.