

G. A. BRADY.

Improvement in Bobbin-Winders for Sewing-Machines.

No. 126,925.

Patented May 21, 1872.

Fig. 1

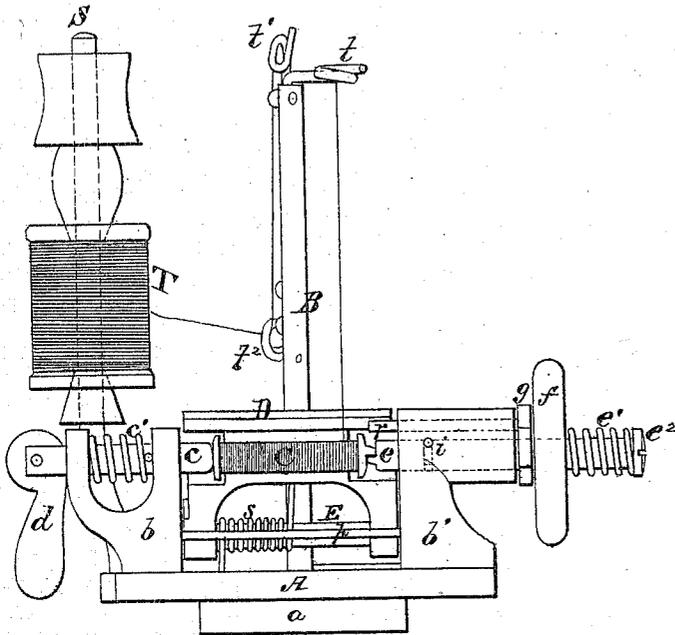


Fig. 3

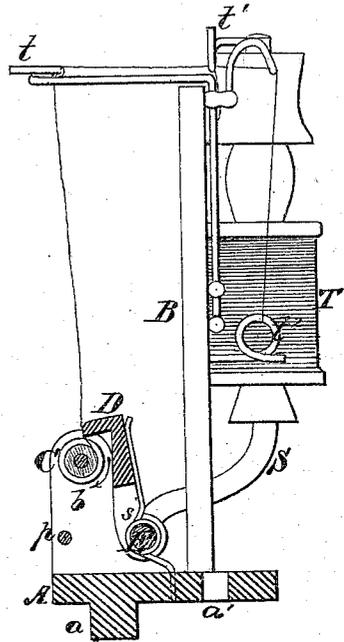
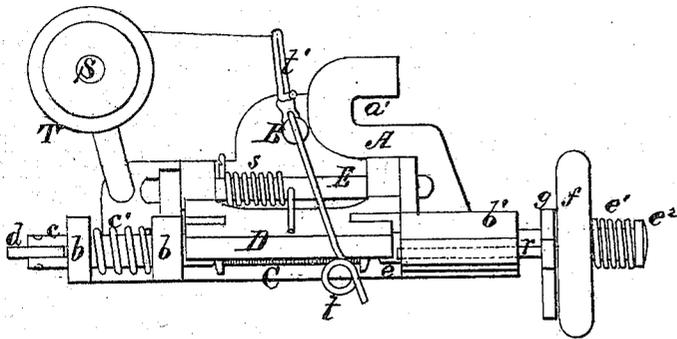


Fig. 2



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

Specification forming part of Letters Patent No. 126,925, dated May 21, 1872.

To all whom it may concern:

Be it known that I, GILBERT A. BRADY, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Bobbin-Winder; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a front elevation of the device with a bobbin in place for receiving the thread. Fig. 2 is a top view of the device, showing the parts adjusted for operation. Fig. 3 is a vertical transverse section of the device.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to novel improvements on devices which are designed for winding thread on shuttle-bobbins, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

The frame of the device consists of a horizontal bed, A, rising from which are standards *b b'*, which afford bearings for a center-bar, *c*, and spindle *e*. By means of an oblong tenon, *a*, on the bottom of the bed A, and a binding-screw, which is passed through a slot, *a'*, and into the table of the sewing-machine, the device is secured fast in proper position for operation. The bobbin C is constructed with center-points on its extremities, and on one end lugs are formed. This bobbin is confined between a center-bar, *c*, and a spindle, *e*, as shown in Fig. 1. The center-bar *c* is allowed to receive end-play, and is held up to the center-point of the bobbin by means of a spring, *e'*, which is coiled around it between the bifurcated ends of the standard *b*. To release the bobbin a gravitating-cam, *d*, is applied to the outer end of the center-bar *c*. By turning up the loaded arm of this cam the bar *c* will be moved outward and the bobbin C will drop from its bearings. The spindle *e* has a lug formed on its inner end, as shown in Fig. 1, which, by contact with one or the other of the lugs on the bobbin, will cause the latter to rotate with the spindle. The spindle has its bearing in the tubular portion of the standard *b'*, and is prevented from receiving endwise-play by means of a transverse pin, *i*, which inter-

sects a groove in the spindle. On that part of the spindle *e* which is exposed beyond the outer end of its bearing a thumb-piece, *g*, a friction-wheel, *f*, and a spring, *e'*, are applied. The thumb-piece *g* has applied to it a tripping-pin, *r*, which passes through an elevation on top of the tubular bearing of spindle *e*, and, during the winding of thread on the bobbin, bears against one end of a vibrating presser, D, as shown in Fig. 2. The wheel *f* presents a friction surface, and is applied on the spindle *e* by means of a tenon and groove, which prevent this wheel from turning on its spindle, but allow it to be moved endwise thereon. The spring *e'* is compressed between the head *e''* of the spindle and the wheel *f*, so that when the presser is moved backward to the position indicated in Figs. 1 and 3 the wheel *f* will assume the position indicated in these figures. The vibrating presser D is T-shaped, and is pivoted by its lower end to a horizontal bar, E, and acted on by a spring, *s*. The upper portion or T-head of this presser is somewhat longer than the bobbin C, but that portion which impinges against the thread on the bobbin is of such width as to be received between the heads of the bobbin. S represents the vertical rod on which the spool T is applied. B represents a rod, which is provided with fixed thread-guides *t' t''* and a horizontal vibrating thread-guide, *t*.

The device above described is secured to a sewing-machine, such, for instance, as the "Singer Family" machine, in such relation to the fly-wheel thereof that when the friction-wheel *f* is moved outward, as indicated in Fig. 2, its periphery will press against said fly-wheel and be turned thereby. When the wheel *f* is moved into this working position the pin *r* is also moved outward so as to allow the spring *s* to force the presser against the bobbin. The winding is now proceeded with, and as course after course of thread is wound on the bobbin the presser is slowly moved back by these courses until, finally, when the last course is wound on the bobbin, the pin *r* is released and the spring *e'* allowed to move the wheel *f* away from the fly-wheel which turned it. In this way and by these means the winding is stopped automatically at the moment the bobbin is filled.

In order to adapt the device to sewing-ma-

chine fly-wheels which rotate from the operator—or, in other words, which rotate in a direction opposite to the "Singer" machine referred to—a rod, *p*, is applied below the spindle and center-bar, and secured to the standards *b b'* parallel to the axis of the bobbin when confined in its proper place between the ends of said spindle and center-bar. Around this rod *p* the thread is carried on its way from the arm *t* to the spindle, so that, although the latter is rotated in a direction opposite to that indicated in Fig. 3 by the arrow, the thread will be wound on it in a proper manner.

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

1. The tripping-pin *r* and presser *D*, in combination with the friction-wheel *f* and spring *e'*, substantially as described.

2. The thumb-piece *g*, receiving freely through it the spindle *c*, and serving as a means for adjusting the pin *r*, in combination with the presser *D*, substantially as described.

3. The rod *p*, arranged as described, and combined with the devices herein set forth.

4. The gravitating cam *d*, in combination with the spindle *c*, substantially as described.

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Witnesses:

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