

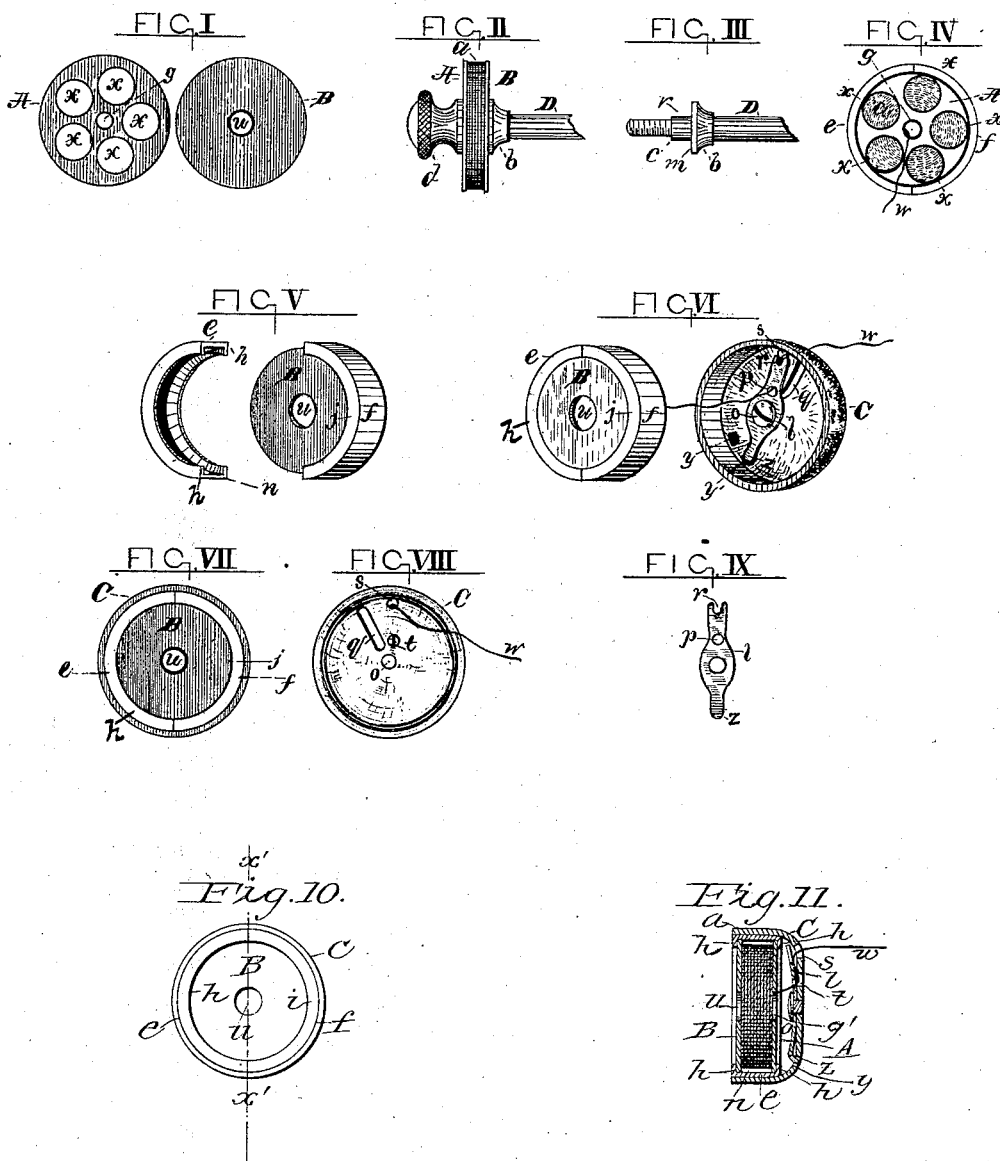
(Model.)

C. M. & A. V. ABERCROMBIE.

SEWING MACHINE BOBBIN.

No. 347,678.

Patented Aug. 17, 1886.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## SEWING-MACHINE BOBBIN.

SPECIFICATION forming part of Letters Patent No. 347,678, dated August 17, 1886.

Application filed June 11, 1884. Serial No. 134,515. (Model.)

*To all whom it may concern:*

Be it known that we, CHARLES M. ABERCROMBIE and ALEXANDER V. ABERCROMBIE, citizens of the United States, and residents of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Sewing-Machine Bobbins, of which the following is a specification.

Our invention relates to an improvement in stationary bobbins for sewing-machines, and is more especially adapted for hook-machines, or machines of that class.

The object of our invention is to secure the disks forming the sides of the bobbin at their peripheries by means of caps or clasps, thus enabling the thread cop between said disks to unwind or be delivered from its center.

To more clearly understand our invention, reference is had to the drawings forming part of this specification, in which—

Figure I represents a side elevation of the two circular disks forming the sides of the bobbin. Fig. II represents a front or end elevation of the disks placed on a section of a bobbin-winder spindle, showing the thread cop wound between the said disks. Fig. III represents a broken view of the bobbin-winder spindle. Fig. IV represents a side elevation of the bobbin filled and the caps or clasps connected to the periphery of said disks to hold them in place. Fig. V represents a view in perspective of the bobbin and caps, showing one of the caps removed therefrom. Fig. VI represents a view in perspective of the bobbin and bobbin-case, showing the bobbin removed from said case, to illustrate more clearly the manner of applying the tension to the thread leading from the bobbin. Fig. VII represents a front elevation of the bobbin and bobbin-case, showing the reversed side of the bobbin as seen at Fig. IV. Fig. VIII represents a side elevation of the reverse of Fig. VII. Fig. IX represents a view of the tension-spring. Fig. X represents a front elevation of the bobbin and bobbin-case assembled and ready for use. Fig. XI represents a sectional view of the bobbin and case through dotted line *x'* of Fig. X.

Its construction and operation are as follows: A and B are the two circular disks forming

the sides of the bobbin; C, the bobbin-case; D, spindle on which the bobbin may be filled; *a*, thread cop; *b*, collar on the spindle D; *c* and *m*, shoulders against which the sides of the bobbin rest; *d*, nut to hold them in place during the operation of winding; *e f*, caps or clasps to connect the disks at their periphery; *h j*, downward-projecting lips or flanges of said caps; *u g*, central holes in the disks; *l*, tension-spring; *o*, adjusting-screw for same; *p q s t*, thread-holes in tension-spring and bobbin-case.

When necessary to fill the bobbin, the disks A B (which are made of thin metal or any material stiff enough to answer the purpose) are placed on the bobbin-winder spindle. The hole in disk B is larger than the one in disk A, and is first placed over the part *v* of the spindle, (see Fig. III,) and the disk B will rest against the face *m* of the collar *b*. The disk A, in which the central hole is smaller than the one in disk B, will cause the said disk A to rest against the shoulder *c* of the spindle. This will leave the proper space between the said disks for the thread to be wound, and the nut *d* will secure the whole in place. The spindle is then made to revolve and the bobbin filled, as seen at Fig. II. The caps or clasps *e f* are then placed around the periphery of the disks A B, inclosing the cop of thread. These will serve to hold the disks together, and also prevent the unwinding of the thread from the circumference of the thread cop. The bobbin is then removed from the spindle. The end *w* of the thread (see Fig. IV) is brought from the center of the cop *a* through the hole *g* of disk A, and the bobbin is then ready for use. The holes *x* in disk A are provided should it become necessary to take up a broken thread. As before described, the caps *e f* are placed on the disks A B before they are removed from the spindle D. This is necessary, as the thread cop *a* is so compactly wound between the disks that it would be a difficult matter to do so afterward without displacing the cop. The downward-projecting lips or flanges *h j* of the clasps will effectually resist the lateral pressure of the thread cop, and thus hold the disks and caps securely in place.

To properly thread the device the spring *l*

(see Fig. VI) is swung around until the hole *p* in said spring is brought over the elongated hole *q* of the case C. The end *w* of the thread, projecting from the center of the thread cop, is passed through holes *p* and *q*, thence back over the notch *r* of spring *l*, and within the case C. The spring *l* is then swung back to its original position, as shown at Fig. VI. The thread is then passed through hole *s* of the case C, and projecting outward therefrom in readiness to be taken up by the hook. The bobbin is then placed within the case C, as shown at Figs. X and XI.

The tension-spring *l*, by means of the screw *o*, (see Fig. VI,) serves to regulate the tension on the thread. The indentations *y y* in the case C are intended to receive a bent projection on the end *z* of spring *l*, which serves to hold said spring in the two positions it will occupy. The hole *t* in the bobbin-case C, (see Fig. VIII,) which is situated directly under the hole *s*, will prevent or counteract any tendency of the thread to knot or kink while passing through the hole *p* of spring *l*. An indentation on the inner surface of case C would answer the purpose equally as well as a hole through the case, as shown.

A bobbin constructed as above described does not revolve within the bobbin-case, thus avoiding noise and friction. Unwinding from its center will also give a uniform tension throughout the entire length of the thread.

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

1. In a stationary bobbin for sewing-machines, the combination of two circular disks to form the sides of the bobbin, one or both of said disks having a central hole or opening, with two semicircular caps or clasps to embrace and hold the said disks at their periphery, substantially as shown.

2. In a stationary bobbin, the combination, substantially as set forth, of two circular disks to form the sides of the bobbin, one or both

of said disks having a central hole or opening transversely through the same, a thread cop between said disks, the same to unwind or deliver from the center through the central hole of one of said disks, with two semicircular caps or clasps having projecting lips or flanges to embrace and hold the disks at their periphery.

3. The combination, with the disks A B, one or both having a central opening, two semicircular caps or clasps, and means for securing the same at the periphery of said disks, a thread cop between said disks, said cop to unwind or deliver from its center through the central opening of one of said disks, of a bobbin-case having a tension-spring to regulate the delivery of the thread, substantially as described.

4. The combination, with disks A B, one or both having a central hole or opening, thread cop *a* between said disks, the same to unwind from its center through one of the central holes of said disks, and semicircular caps or clasps *e f*, having lips or flanges *h j*, of the bobbin-case C, having tension-spring *l*, fork end *r*, hole *p*, screw *o*, and hole *s* in said case for the thread, substantially as described and set forth.

5. The spindle D, having stop or shoulder *m* and stop or shoulder *e*, to support the disks A and B, forming the sides of the bobbin, said stops or shoulders operating to keep said disks the proper distance apart for the reception of the thread cop, the whole held firmly together during the operation of winding by means of nut *d*, or its equivalent, all combined substantially as described and set forth.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 5th day of May, A. D. 1884.

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