

(No Model.)

H. T. CROSBY.

THREAD TENSION FOR SEWING MACHINE SHUTTLES.

No. 572,334.

Patented Dec. 1, 1896.

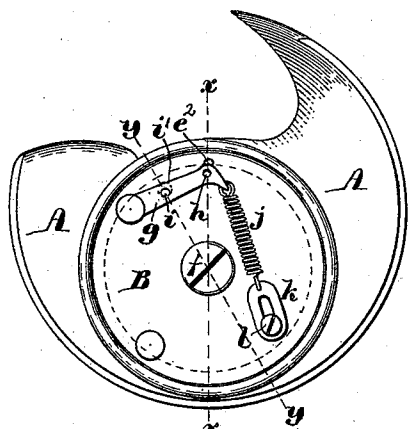


Fig. 1.

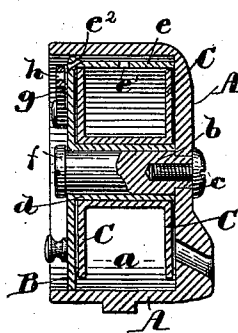


Fig. 2.

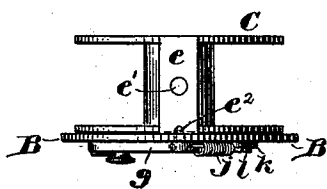


Fig. 3.

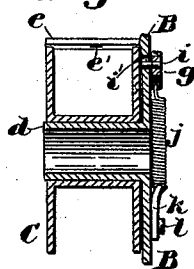


Fig. 4.

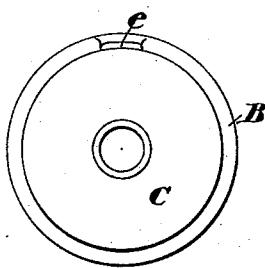


Fig. 5.

Witnesses:

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UNITED STATES PATENT OFFICE.

HANFORD T. CROSBY, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
BERTRAND SEWING MACHINE COMPANY, OF PORTLAND, MAINE.

THREAD-TENSION FOR SEWING-MACHINE SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 572,334, dated December 1, 1896.

Application filed March 9, 1896. Serial No. 582,346. (No model.)

To all whom it may concern:

Be it known that I, HANFORD T. CROSBY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Thread-Tensions for Sewing-Machine Shuttles, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to thread-tensions for sewing-machine shuttles, is designed especially for use in wax-thread sewing-machine shuttles, and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claims hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings is a front elevation of a sewing-machine shuttle with my invention applied thereto. Fig. 2 is a sectional elevation, the cutting-plane being on line xx on Fig. 1, looking toward the left of said figure. Fig. 3 is a plan of the thread-bobbin and shuttle-cover removed from the shuttle-body. Fig. 4 is a sectional elevation of said bobbin and cover, the cutting-plane being on line yy on Fig. 1 and looking toward the right of said figure; and Fig. 5 is an elevation of the inner end of the thread-bobbin and the shuttle-cover.

In the drawings, A is the shuttle-body, provided in its front face with the bobbin-chamber a , in the center of which is set the bobbin-spindle b , which is secured to the shuttle-shell by the screw c in a well-known manner.

B is the shuttle-cover in the form of a thin circular disk provided with the tubular hub or sleeve d and the arm e , as shown in Figs. 2, 3, and 4. The hub of said disk is mounted upon the spindle b so as to be revoluble thereon and secured thereon by the screw f or in any well-known manner. The arm e has formed therein near the middle of its length the thread-eye or guide-hole e' , and the disk B has formed therein at the junction therewith of the arm e the thread-guiding eye e^2 , which at the outer face of the disk B is rounded upon the side next to the axis of said disk, so as to prevent cutting the thread which passes through said eye. A tension-

lever g is pivoted to the front or exterior face of the disk B and is provided near its movable end with the thread-guiding eye h , each end of which is countersunk or has its corners rounded, as shown in Figs. 2 and 4. The movement of the lever g about its pivot is limited by means of a pin i , set in said lever and projecting into a slot i' , formed in the disk B, as shown in dotted lines in Fig. 1 and in full lines in Fig. 4. The movable end of the lever g has connected thereto one end of the spring j , the other end of which is connected to the slotted metal plate k , which is adjustably secured to the outer face of the disk B by the screw l , so that the tension of said spring may be increased or diminished by adjusting said plate k to a greater or less distance from said lever g .

The tension of the spring j tends to move the free or movable end of the lever g toward the axis of the disk B and keeps the projecting portion of the pin i in said lever in contact with the inner side of the slot i' in said disk, in which position the thread which passes from the bobbin through the eyes e' , e^2 , and h is nipped between the outer face of the disk B and the inner face of the lever g , owing to the fact that the eye h in the lever g is at that time considerably nearer the axis of the disk B than the eye e^2 through said disk.

When it is desired to thread the tension device, the thread from the bobbin is first passed outward through the eye e' in the arm e . The lever g is then moved about its axis till the rearwardly-projecting portion of the pin i comes in contact with the outer side of the slot i' , when the eyes h and e^2 will coincide and the end of the thread can be passed through both eyes at one operation, and when the lever is released the spring j contracts and moves the free end of said lever g toward the axis of the disk B and locks or clamps the thread to prevent any more thread being delivered from the bobbin until it is required, when the strain upon the thread being in a direction tending to move the free end of said lever g away from the axis of the disk B the eyes h and e^2 are again made to coincide and the desired amount of thread may be delivered.

C is the bobbin, mounted upon the hub or

sleeve *d* of the disk B, so as to be revoluble thereon, and upon which is wound the shuttle-thread in a well-known manner.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a rotary shuttle and its bobbin, of a revoluble disk for closing the bobbin-chamber of said shuttle, and provided with a thread-guiding eye near its periphery; an arm formed upon or secured to said disk near its periphery and projecting into the bobbin-chamber in close proximity to the peripheries of the bobbin-flanges and provided with a thread-guiding eye near the middle of its length; a lever pivoted to the front or outer face of said disk and provided with a thread-guiding eye near its free

end; a spring for moving said pivoted lever in one direction; and a stop to limit the movement of said lever in either direction.

2. The combination with the shuttle A and bobbin C, of the disk B provided with the thread-guiding eye *e*², and having the arm *e* provided with the eye *e'*; the pivoted lever *g* provided with the eye *h*; the spring *j*; the slotted plate *k* and the clamping-screw *l*.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 6th day of March, A. D. 1896.

HANFORD T. CROSBY.

Witnesses:

N. C. LOMBARD,
A. VAN WAGENEN.