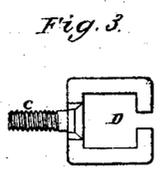
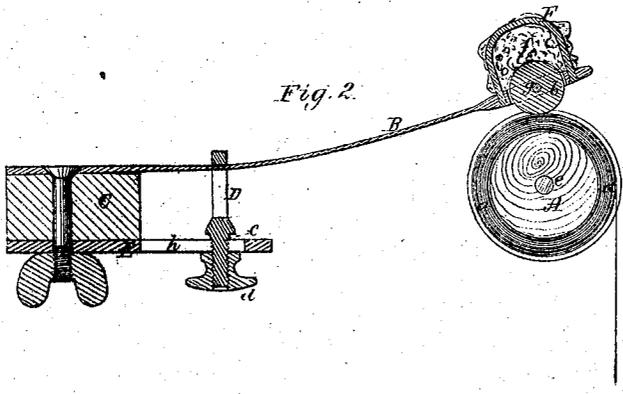
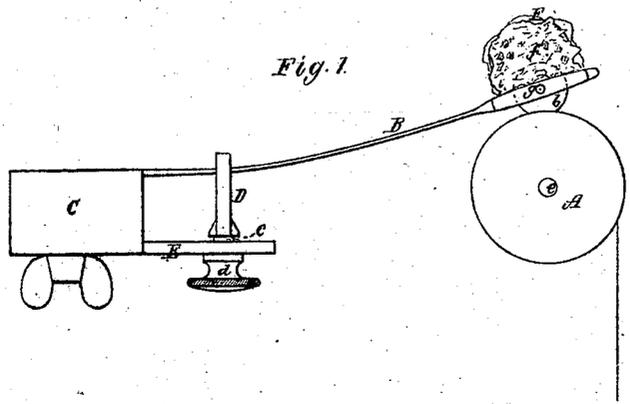


John Kimball,
Tension Appar. for Wax Thread
 117644 PATENTED AUG 1 1871
Sewing Machines.



Witnesses.
S. A. Pipher.
L. N. Miller.

John Kimball
by his attorney.
N. W. East.

UNITED STATES PATENT OFFICE.

JOHN KIMBALL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN TENSION APPARATUS FOR WAX-THREAD SEWING-MACHINES.

Specification forming part of Letters Patent No. 117,644, dated August 1, 1871.

To all whom it may concern:

Be it known that I, JOHN KIMBALL, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Tension Apparatus for the Thread-Spool of a Sewing-Machine; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, and Fig. 2 a horizontal section of the said apparatus as applied to a thread-spool. Fig. 3 is a side view of the adjustable gauge, as hereinafter described.

In such drawing the thread-spool is shown at A as supported on a pivot, *e*. Against the periphery of the tubular mass *a* of thread wound on such spool there rests a friction-roller, *b*, whose pivot *g* is arranged in and carried by a spring, B. The said spring extends from a stationary post or standard, C, and is clasped by or goes through an adjustable gauge, D, whose shank *c* is provided with a male screw to receive a nut, *d*, and goes through the slot *h* of a plate, E, projected from the said standard C, all being constructed and arranged in manner as represented. An arched bow, F, is projected from the spring on opposite sides of and with respect to the roller *b*, in manner as shown. This bow answers a double purpose, viz., as a handle to enable a person to pull the spring away from the spool-pivot *e*, and to hold against the roller a sponge, *f*, or its equivalent, which when in use is to be wet with water for the purpose of keeping the periphery of the roller moist or wet while revolving against the thread, thus causing it to be repellent of wax. The adjustable gauge and its clamp-screw serve to modify the pressure of the spring and roller against the mass of thread on the spool.

The apparatus is particularly intended for use with what are termed waxed-thread sewing-machines—that is, such sewing-machines as stitch with a waxed thread, and are used in the manufacturing of shoes, harnesses, or various other articles made in whole or in part of leather.

As the mass of thread on the spool may decrease in diameter, the power required to revolve the spool by draft on the thread is increased so much that with a friction-brake or screw, as usually applied to the head of the spool, there has to be a frequent movement or adjustment of such screw or brake in order to prevent breakage of the thread by the draft on it.

With my apparatus, as the roll of thread may decrease in diameter the spring will move inward, and consequently operate with a continually-diminishing pressure, the amount of pressure at the start being regulated as occasion may require by the adjustable gauge, which may also be used at any time afterward to cause the spring to operate with a greater or lesser degree of pressure.

The object of keeping the curved surface of the roller of the spring wet is to prevent such surface from gathering the wax from the thread, and thereby causing the roller to operate to disadvantage.

I claim—

1. The spool-tension apparatus, as composed of the spring B, the friction-roller *b*, and the adjustable gauge D, its nut *d*, and slotted plate E, constructed, arranged, and combined together and for use with a sewing-machine thread-spool, as set forth.

2. The combination and arrangement of the sponge-supporter or bow F with the roller *b*, and the spring B arranged and provided with the adjustable gauge D, and its nut and slotted plate, as explained.

3. The combination of the sponge *f*, or its equivalent, and the carrier or bow F, with the roller *b*, and the spring B provided with the adjustable gauge, all being arranged and for use substantially in the manner as specified.

JOHN KIMBALL.

Witnesses:

R. H. EDDY,
S. N. PIPER.