

M. C. HAWKINS.

Tension Device for Needle Thread in Sewing Machines.

No. 103,609.

Patented May 31, 1870.

Fig. 1.

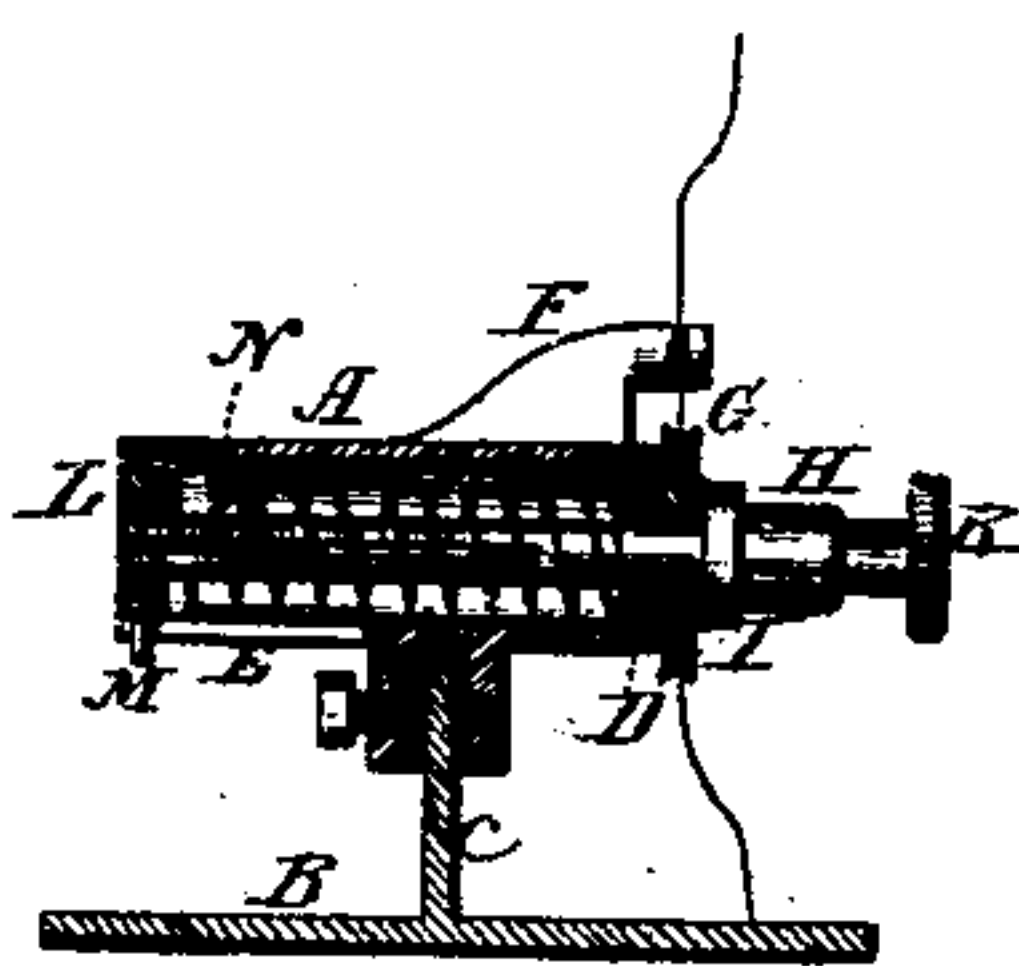


Fig. 2.

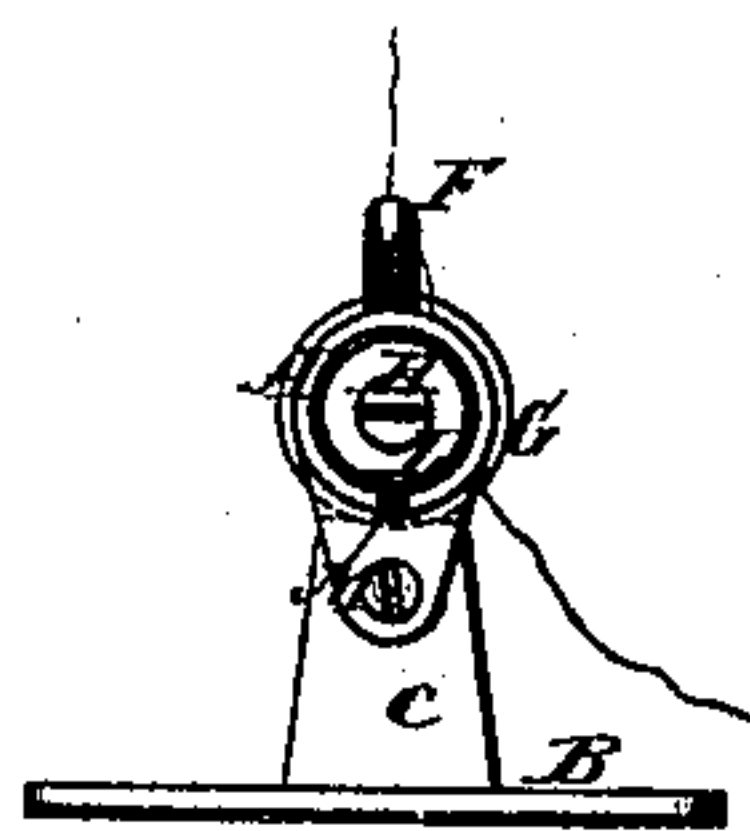


Fig. 3.



Witnesses:

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MOSES CHAMPERO HAWKINS, OF EDINBOROUGH, PENNSYLVANIA.

Letters Patent No. 103,609, dated May 31, 1870.

IMPROVEMENT IN TENSION DEVICE FOR NEEDLE-THREAD IN SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MOSES CHAMPERO HAWKINS, of Edinborough, in the county of Erie and State of Pennsylvania, have invented a new and improved Needle-Thread Tension; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification.

This invention relates to improvements in needle-thread tension devices for sewing-machines, and consists in an arrangement in the axis of a short tube suitably constructed and arranged for attachment to the needle-supporting arm of the machine transversely thereof; of an adjusting screw, carrying two tension plates or disks at one end of the tube, and having within the tube an adjusting nut and tension spring, so arranged that by turning the screw, which has a milled head at the ends supporting the tension plates, the tension may be varied as required, the said nut being capable of moving along the screw in the tube, but incapable of turning with it.

The tube is also provided with a guide-arm, through which the thread passes to the said tension plates.

Figure 1 is a longitudinal section through the tube; Figure 2 is a rear end view; and

Figure 3 is a view of the adjusting screw, detached from the other parts.

Similar letters of reference indicate corresponding parts.

A is the tube, mounted on a stand, B, adapted for attachment to the fixed arm of the machine, which supports the needle and presser devices, or it may be attached to other parts, or the said tube may be attached to a stud, C, rising from the said arm or other part.

This tube is provided with a head, D, at the front end, and is open at the other end. It is slotted from the latter end toward the stand, as shown at E, and an arm, F, having a thread-guide, is mounted on the top of the front end, the said guide being suspended beyond the end, so as to coincide vertically with the

line of the meeting surfaces of the tension disks G, supported at the end of the tube A, on the adjusting screw H, arranged in the axis of the tube, and projecting through the head D at the front end, the said projecting end being provided with a collar, I, and a milled head, K. The other end, which is split for a considerable distance, and the two parts set to spring away from each other, is screwed into a nut, L, fitted to slide back and forth in the tube, and having a pin or spline, M, working in the slot E, to prevent it from turning with the screw.

N is a coiled spring arranged on the screw to bear against the head D at one end and the nut L at the other, for pressing the tension disks G up against the end of the tube, by drawing the collar I of the screw against the side of the outer one.

The object of causing the two parts of the screw where it is split to spring away from each other, is to produce sufficient friction in the nut to prevent the screw from turning with the disks.

This arrangement provides a very simple and efficient tension device, which may be manipulated for adjustment wholly by application to the milled head K, which may be reached in the most convenient manner by the right hand of the operator when sitting in the working position in front of the machine, and when it is desired to relieve the thread of the tension altogether, it may be done by pulling the screw outward, so as to take the force of the spring entirely off the disks.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The slotted tube A; tension screw H, disks G, movable nut L, and tension spring, when all constructed and arranged substantially as specified.

2. In combination with the above, the guiding arm P, substantially as herein shown and described.

M. C. HAWKINS.

Witnesses:

H. M. CURTIS,
M. L. HAWKINS.