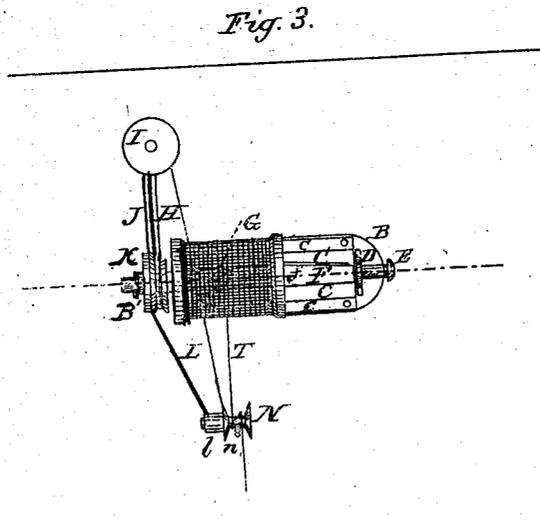
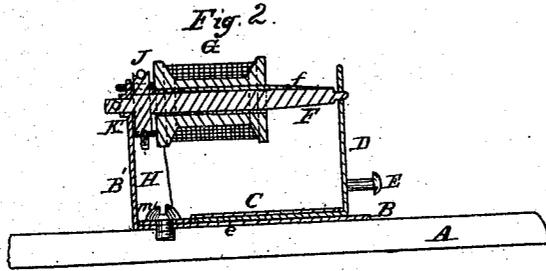
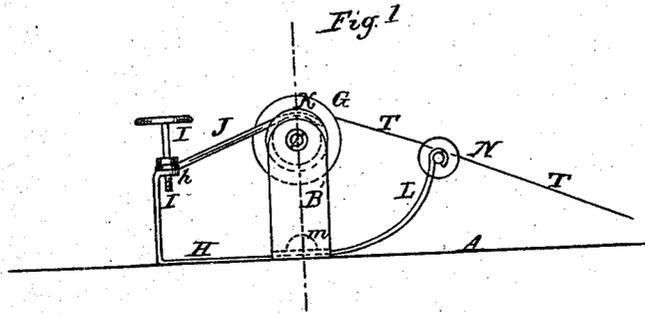


S. SNYDER.
 THREAD TENSION FOR SEWING MACHINES.

No. 75,654.

Patented Mar. 17, 1868.



Witnesses
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United States Patent Office.

SOLOMON SNYDER, OF HARRISVILLE, PENNSYLVANIA.

Letters Patent No. 75,654, dated March 17, 1868.

IMPROVEMENT IN THREAD-TENSION MECHANISM FOR 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, SOLOMON SNYDER, of Harrisville, in the county of Butler, and State of Pennsylvania, have invented a new and improved Spool and Thread-Regulator and Divider-Attachment for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, sufficient to enable those skilled in the art to which my invention appertains to make use of it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end elevation,

Figure 2 a longitudinal vertical section, and

Figure 3 a plan of my invention.

The object of this invention is to simplify and render more perfect the spool-holding and tension-devices of sewing-machines, by which any kind of thread, whether even or uneven, and whether prepared for the sewing-machine or not, can be used without difficulty. In the drawings,

A represents the table, bed-plate, or other part of the machine upon which the device is supported.

B represents a metallic plate, resting upon the part A, and having one end turned up, as shown at B', forming a standard and a bearing for the spool-shaft.

C represents a flat plate, having flanges, *c c*, turned down along its side edges, and resting lengthwise upon the plate B, being supported by its flanges, which are riveted to the plate B, under it. The other end of the spool-shaft is supported by and bears in a standard, D, the lower end of which, *e*, is bent into a horizontal position, and slides between the plates B and C, which form a socket to hold it, and thereby secure the standard in position.

E is a knob, by which the foot of the standard can be more conveniently inserted into or removed from its socket.

F is the spool-shaft, being made square, and provided with a flat spring, *f*, lying along it, to keep the spool firmly fixed in position, and G is the spool in position on its shaft. The spool is inserted upon the shaft by removing the standard D, as above described, which is only the work of an instant.

H is an arm of the plate B, extending horizontally outward from its side, then bending upward, and terminating in a horizontal lip, *h*, through which passes a vertical screw-clamp, I. This clamp serves to adjust a spring-tension bar, J, one end of which rests upon the lip *h*, the other lying upon and operating like a brake, in connection with a grooved pulley, K, fixed to and revolving with the spool-shaft. By clamping the bar down with different degrees of force, the friction of the bar J upon the pulley will give any required tension to the thread.

L is an arm, somewhat similar in shape to the arm H, but not forming a part of the plate B. On the contrary, its foot rests upon that plate, just inside of the standard B', and is clamped firmly down upon it by a large screw, *m*, which serves the triple purpose of thus fastening the arm L, of attaching the plate B to the part A, which supports it, and of forming a pivot upon which the whole device can be turned horizontally to any position relative to the other parts of the machine. The upper end of the arm L forms a support and bearing for a short thread-guide, N, working on a spindle, which fits closely into a socket, *l*, so that the thread-guide can be turned or rotated, but not very easily, for a purpose hereafter explained.

The thread-guide is in the form of a short, deep spool, provided with a pin, *n*, projecting out from its body, about midway between its terminal disks. The thread, T, from the spool, passes over the guide on one side of the pin *n*, then under and around, passing off on the other side of the pin, by which arrangement that part of the thread which is feeding from the spool to the guide is kept entirely separate from that part which is feeding from the guide to the needle, and is thereby prevented from wearing or catching. By turning the guide, the pin *n* may be brought to any inclination towards or from the spool, so that the thread may be fed from the guide to any direction, and the friction of its spindle in its supporting-socket will hold it in that position as long as desired.

Besides the extreme cheapness, simplicity, and perfection of operation attained in this device, it may be observed that, when the tension is once adjusted, the spool can be changed any number of times without dis-

turbing the tension, and without any necessity for re-adjusting it. It is only necessary to pull the standard D out, remove the spool, and place another on the shaft, and push the standard into place again, and the apparatus is in the same condition as before, with a new spool in place of the old one.

The device has been thoroughly tested, and it is found to work perfectly with any common sewing-thread.

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

The tension-apparatus above described, when its several parts are constructed and combined to operate substantially in the manner and for the purposes set forth.

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