

(No Model.)

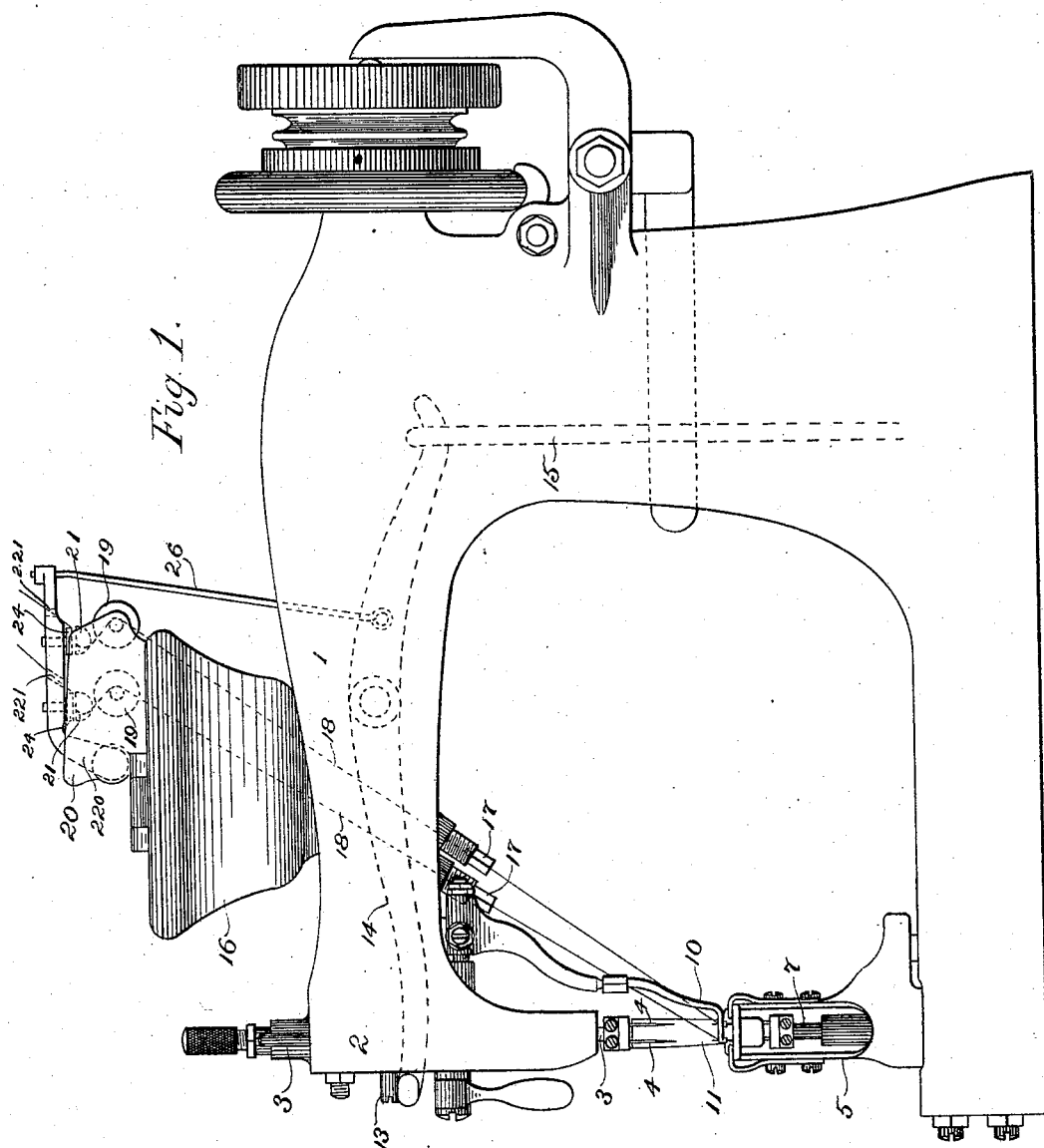
3 Sheets—Sheet 1.

F. W. MERRICK.

THREAD GRIPPING DEVICE FOR WAX THREAD SEWING MACHINES.

No. 575,530.

Patented Jan. 19, 1897.



Witnesses
Oscar F. Bill
Robert Wallace.

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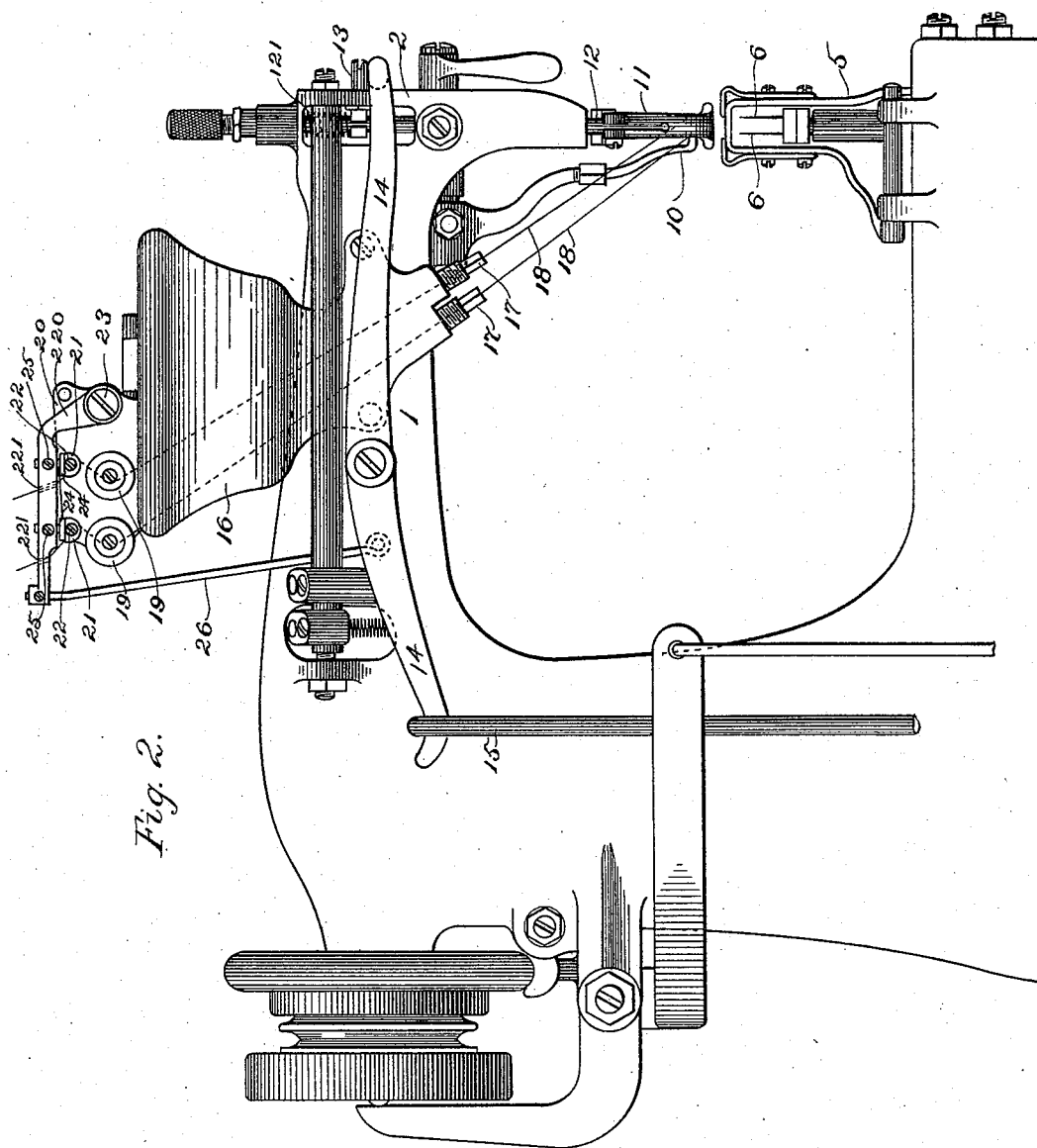


Fig. 2.

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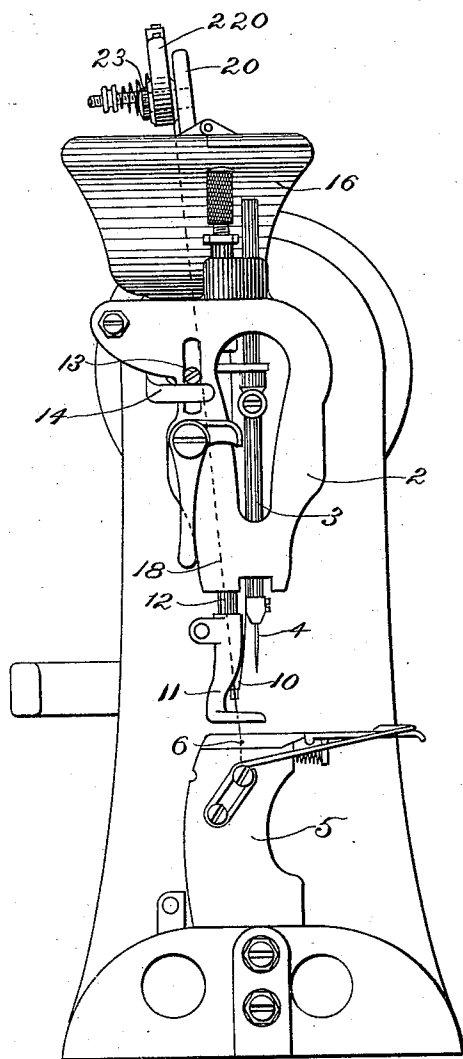


Fig. 3.

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UNITED STATES PATENT OFFICE.

FRANK W. MERRICK, OF BOSTON, MASSACHUSETTS.

THREAD-GRIPPING DEVICE FOR WAX-THREAD SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 575,530, dated January 19, 1897.

Application filed January 17, 1896. Serial No. 575,923. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MERRICK, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Thread-Gripping Devices for Sewing-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention consists in devices by means of which, when it is desired to remove the work from the sewing-machine, the thread is gripped and held, so that as the work is pulled out of the machine by the operator the strain upon the thread causes it to break at or close to the work at the point where a loop still remains engaged in the hook of the needle. By this means the use of scissors or a knife for the purpose of disconnecting the thread is rendered unnecessary, and only a short end of thread is left attached to the work to be trimmed off instead of the considerable length of thread which usually is left hanging, and through the loss of which latter when trimmed off considerable waste has resulted.

In the drawings, Figure 1 shows in front elevation part of a two-needle wax-thread sewing-machine having my invention applied thereto. Fig. 2 shows the same in rear elevation. Fig. 3 shows the same in elevation as viewed from the head end of the machine.

1 is the overhanging arm of the machine.

2 is the head.

3 is the awl-bar mounted in the said head.

4 4 are the awls which are attached to the said awl-bar.

5 is the work-post.

6 6 are the needles working upwardly through the usual needle-holes in the throat-plate, which is applied to the upper end of the work-post.

7 is the needle-bar.

10 is the thread-guide.

11 is the presser-foot.

12 is the presser-bar.

121 is the spring by means of which to press the presser-bar downwardly and bear the presser-foot upon the work.

13 is a projection extending from the presser-bar.

14 is a lever which is pivoted upon the arm 1 and has one end thereof bent or curved to

extend under the projection 13 on the presser-bar, the said lever constituting a well-known device for lifting the presser-foot.

15 is a connection, which extends from the lever 14 to a treadle or lever, whereby to actuate the said lever 14 by foot-power or hand-power for the purpose of lifting the said presser-foot from the work whenever desired.

16 is the wax-pot.

17 17 are strippers through which the threads 18 18 are drawn as they leave the wax-pot to remove the excess of wax therefrom.

19 19 are tension-disks through which the threads 18 18 are passed on their way from the source of supply to and through the wax-pot.

All of the foregoing parts are or may be as usual or as preferred, and they operate in known manner. I have shown and described the same for the purpose of making clear the application and purpose of my invention as well as the mode of operation thereof. I will proceed now to present my invention in detail.

20 is a suitable plate or support which I apply to one side of the wax-pot 16.

21 21 are blocks similar to each other and fastened by screws 22 22 or otherwise in any desired manner to the plate or support 20. These blocks constitute supports over which the threads 18 18 are passed on their way to the tension-disks, wax-pot, &c. At one side thereof each of the said blocks is slotted vertically to permit of the passage of the corresponding thread, the side walls of the slot in the block constituting guides to restrain the thread from slipping laterally out of proper position.

220 is a lever that is pivotally secured by a screw 23 to the plate 20.

221 221 are holes in the lever 220, through which holes the threads pass on their way from the source of supply to and over the blocks 21 21.

24 24 are clamping members that are secured to the said lever and arranged to co-operate with the top surfaces of the blocks 21 21 in clamping the threads 18 18. As shown, each of the said clamping members consists of a plate or disk having a stem which projects vertically through a hole in lever 220, the said stem being engaged by a clamping-

screw 25 and the clamping member thereby being secured in the desired position of vertical adjustment relatively to the lever 220 upon which it is mounted.

5 26 is a rod connecting lever 220 with the lever 14, whereby the presser-bar and presser-foot are raised by foot-power or hand-power, as described hereinbefore.

10 The invention and its working are simple and will be understood readily from the foregoing, taken in connection with the following: So long as the machine is regularly at work, with the presser-foot resting upon the top surface of the work, the clamping members 15 24 24 are held raised above the blocks 21 21, as in Fig. 1 of the drawings, and the threads pass freely over the latter on their way to the wax-pot and sewing devices. When, however, a seam has been stitched and it is desired to remove the work from the machine, 20 the threads are engaged by the finger of the operator at a point between the wax-pot and the thread-guide 10 and are drawn upon to afford a sufficient slackness to permit the work to be withdrawn from its position on the work-post. After the said slackening of the threads has been effected the lever 14 is operated to raise the presser-foot, and thereby the clamping devices are operated to grip the 30 threads and hold them fast, as shown in Fig. 2. Then the work is drawn by the operator toward himself. This causes the portions of the threads which still remain engaged in the hooks of the needles, and which by the last descent of the needles were drawn down 35 and held in the form of loops by the said hooks, to be strained against the hooks and the cast-offs and thereby cut or broken. The further withdrawal of the work causes the 40 free ends which lead from the thread-guide 10 to draw freely out of the holes last pierced in the work by the awls, leaving only short ends of thread projecting from the under side of the work. When lever 14 is relieved 45 from pressure, the spring 121 acts to return

it to its normal position and also to raise the clamping-lever and thereby release the threads.

While I have chosen to represent my invention as applied to a two-thread sewing-machine, it will be apparent that the invention is fitted perfectly for use in connection with machines employing but a single thread or more than two threads. The precise form and arrangement of the thread-gripping devices are immaterial in the broadest phase of my invention and admit of being varied widely without involving a departure from the spirit of my invention.

I claim as my invention—

1. The combination, with stitch-forming devices, work-holding and releasing devices, and thread-holding devices, of means whereby the operation of the work-holding devices to release the work operates the thread-holding 65 devices to hold the thread and arrest the supply, substantially as described.

2. The combination with the stitching devices, a presser-bar and presser-foot, and means to raise the said presser-bar and 70 presser-foot by foot-power or hand-power to release the work and permit it to be withdrawn from the said stitching devices, of thread-gripping devices, operated by the said means to hold the thread to arrest the supply, 75 substantially as described.

3. The combination with stitching devices, the presser-bar and presser-foot, and the lifting-lever 14, of a thread-gripping device connected with the said lever 14 and actuated 80 thereby when the said lever is moved to raise the presser-bar and presser-foot, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK W. MERRICK.

Witnesses:

CHAS. F. RANDALL,
WM. A. MACLEOD.