

(No Model.)

2 Sheets—Sheet 1.

J. R. SCOTT.
TAKE-UP FOR SEWING MACHINES.

No. 515,252.

Patented Feb. 20, 1894.

Fig. 1.

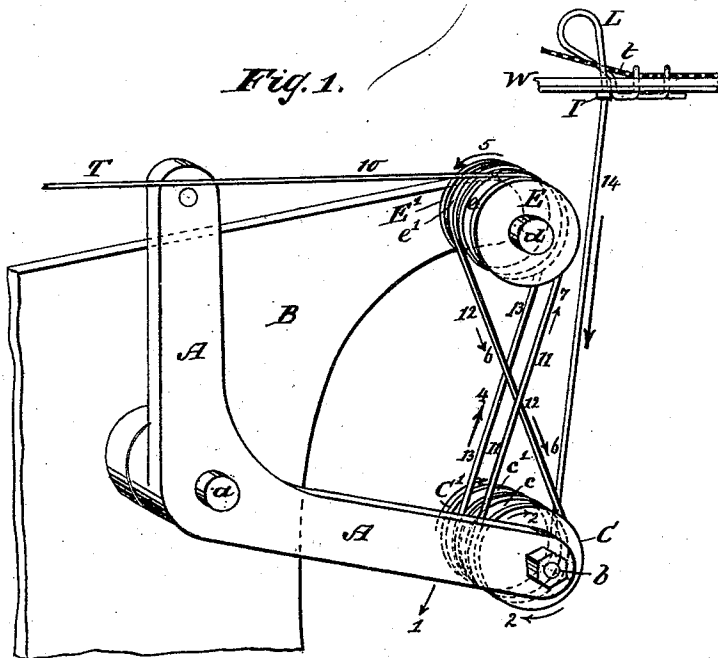


Fig. 2.

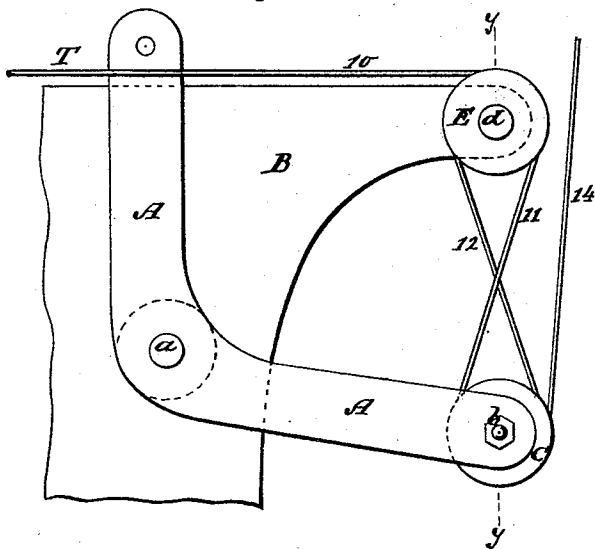
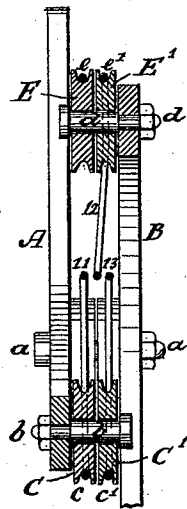


Fig. 3.



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his ATTORNEYS.

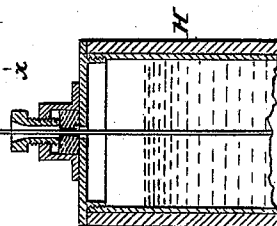
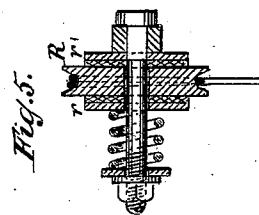
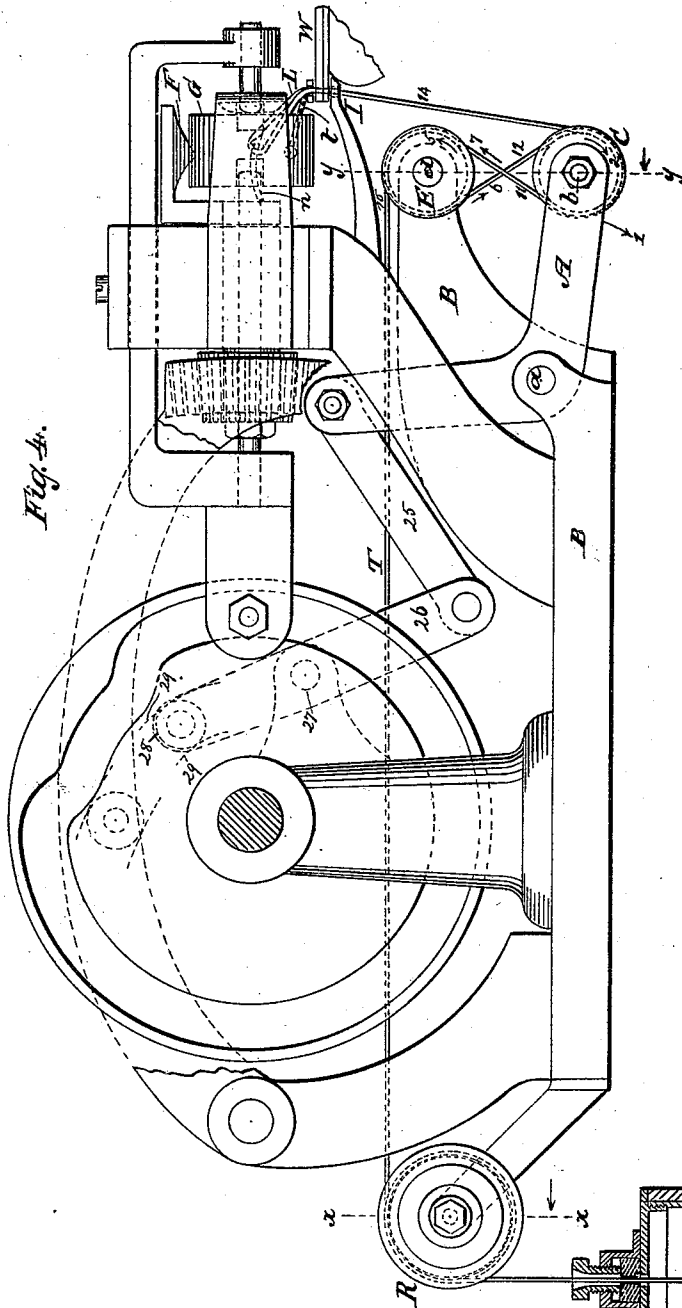
(No Model.)

2 Sheets—Sheet 2.

J. R. SCOTT.
TAKE-UP FOR SEWING MACHINES.

No. 515,252.

Patented Feb. 20, 1894.



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UNITED STATES PATENT OFFICE.

JACOB R. SCOTT, OF NEW YORK, N. Y.

TAKE-UP FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 515,252, dated February 20, 1894.

Application filed December 29, 1892. Serial No. 456,715. (No model.)

To all whom it may concern:

Be it known that I, JACOB R. SCOTT, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Take-Ups for Sewing-Machines, of which the following is a specification.

The object of this invention is a take-up mechanism which by a comparatively short movement of the take-up lever serves to draw the stitch tight and to draw out a sufficient quantity of the sewing thread to form a loop which can be drawn through the work by the needle and passed over the shuttle or bobbin holder which carries the thread for locking the stitch in a lock-stitch sewing machine.

My take-up mechanism is intended particularly for wax thread sewing machines such for instance as described in Letters Patent No. 366,935, granted to Christian Dancel July 19, 1887, or in Letters Patent No. 497,690, granted to me May 16, 1893, but it can be used with advantage for other kinds of lock-stitch sewing machines.

In the accompanying drawings Figure 1 represents a perspective view of the take-up mechanism detached. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section in the plane $y y$ Fig. 2. Fig. 4 is a sectional side elevation of part of a wax thread sewing machine embodying my invention. Fig. 5 is a transverse vertical section of the tension device in the plane $x x$ Fig. 4.

In the drawings the letter A designates the take-up lever which is mounted on a stud a secured in a portion of the frame B and to which an oscillating motion is imparted by a cam or other suitable mechanism in a manner well known to those skilled in the art. In the free end of the lever A is secured a stud b which forms the bearings for two pulleys C C' each provided with a groove $c c'$ respectively and which revolve freely one independent of the other on the stud b . In the frame B is mounted a stationary bearing composed as here shown of a stud d which supports two pulleys E E'. These pulleys rotate freely one independent of the other on the stud d and they are provided with grooves $e e'$ respectively. The sewing thread T passes from the tension to the take-up mechanism and thence

to the work W in the following manner: The branch 10 passes from the tension into the groove e of pulley E and over the outside portion of this pulley; the branch 11 of the thread passes from the groove e to the inside portion of the groove c in pulley C and the branch 12 of the thread passes from the outside of pulley C to the inside of pulley E' and into the groove e' of this pulley and the branch 13 of the thread passes from the outside of the groove e' into the inside of groove c' in pulley C' and the branch 14 runs from the outside of the groove c' to the work W as seen in Fig. 1. By referring to Fig. 1 it will be seen that in the example illustrated in this figure the work W rests upon a support I and the locking thread t is situated above the work, the loop L of the sewing thread being represented in the position which it occupies when it has been partially drawn up by the action of the take-up mechanism.

In Fig. 4 I have shown part of a sewing machine which I have described in my Patent No. 497,670 above mentioned in which I designates the work table or support and L is the loop of the sewing thread after the same has been drawn up through the work by the needle n . This needle is situated above the work support and is actuated as described in Patent No. 366,935 above mentioned. F is the loop carrier which serves to spread the loop L and to pass the same over the bobbin holder G and after the loop has passed over the bobbin holder, it embraces the bobbin thread t as shown in Fig. 1 of the drawings. The sewing thread T is drawn from the wax pot H round the tension roller R to the take-up mechanism and this tension roller is exposed to the action of friction disks $r r'$ which can be pressed up against its faces with more or less pressure as shown in Fig. 5. The take-up lever A connects by a link 25 with a lever 26 which has its fulcrum on a stud 27 fixed in the frame of the machine and which carries a roller stud 28 that engages a cam groove 29 in a hub mounted on the main shaft of the sewing machine. When the working parts of the take-up mechanism are in the position shown in Fig. 1, the take-up lever A moves in the direction of arrow 1, and since the strand 10 of the sewing thread T is held back by the

tension R, the strand 14 is drawn downward and the pulley C' which is rotated in the direction in which the strand 14 travels, must rotate in the direction of arrow 2, the strand 13 moves in the direction of arrow 4 and the strand 12 in the direction of arrow 6, so that the pulley E' turns in the direction of arrow 5 and the strand 11 which connects with the strand 10 of the sewing thread remains stationary. At the same time as the pulleys C C' move downward, all the strands 11, 12, 13 and 14 must be elongated and since the thread required for this purpose must come from the strand 14, a downward motion of the lever A for one quarter inch requires one inch thread. Consequently by a comparatively small downward motion of the lever A the loop L is drawn up tight and as the downward motion of the lever A continues, after the stitch has been drawn tight, a sufficient quantity of the sewing thread is drawn out from the waxpot H (the friction of the tension roller being overcome by the lever A) to enable the needle *n* to draw the sewing thread up through the work and to form the loop L (Fig. 4), and when the loop carrier F enters this loop and draws it over the bobbin holder G, the lever A is carried up by its cam in the manner illustrated in Patent No. 366,935 above mentioned so that the pulley C comes nearly in contact with the pulley E. From this description it will be understood that all the thread required for each stitch is drawn out of the waxpot by

the action of the lever A and the stitch forming devices have not to overcome the resistance of the tension, neither have they anything to do with the operation of drawing the stitches tight. It will also be seen that while the pulley E remains stationary during the downward movement of the pulleys C C', each of the pulleys E', C, C' rotates but the pulley C' rotates faster than the pulley E' and this pulley E' rotates faster than the pulley C and for this reason it is desirable to mount the pulleys E E' and C C' in such a manner that they can rotate one independent of the other.

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

The combination with stitch-forming devices, a tension device, a pivoted take-up lever, and means for actuating the lever, of a stationary bearing *d* carrying two independently rotatable pulleys E and E', each having a peripheral groove, and a stud *b* mounted on the free end of the take-up lever and carrying two independently rotatable pulleys C and C' each having a peripheral groove, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JACOB R. SCOTT.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.