

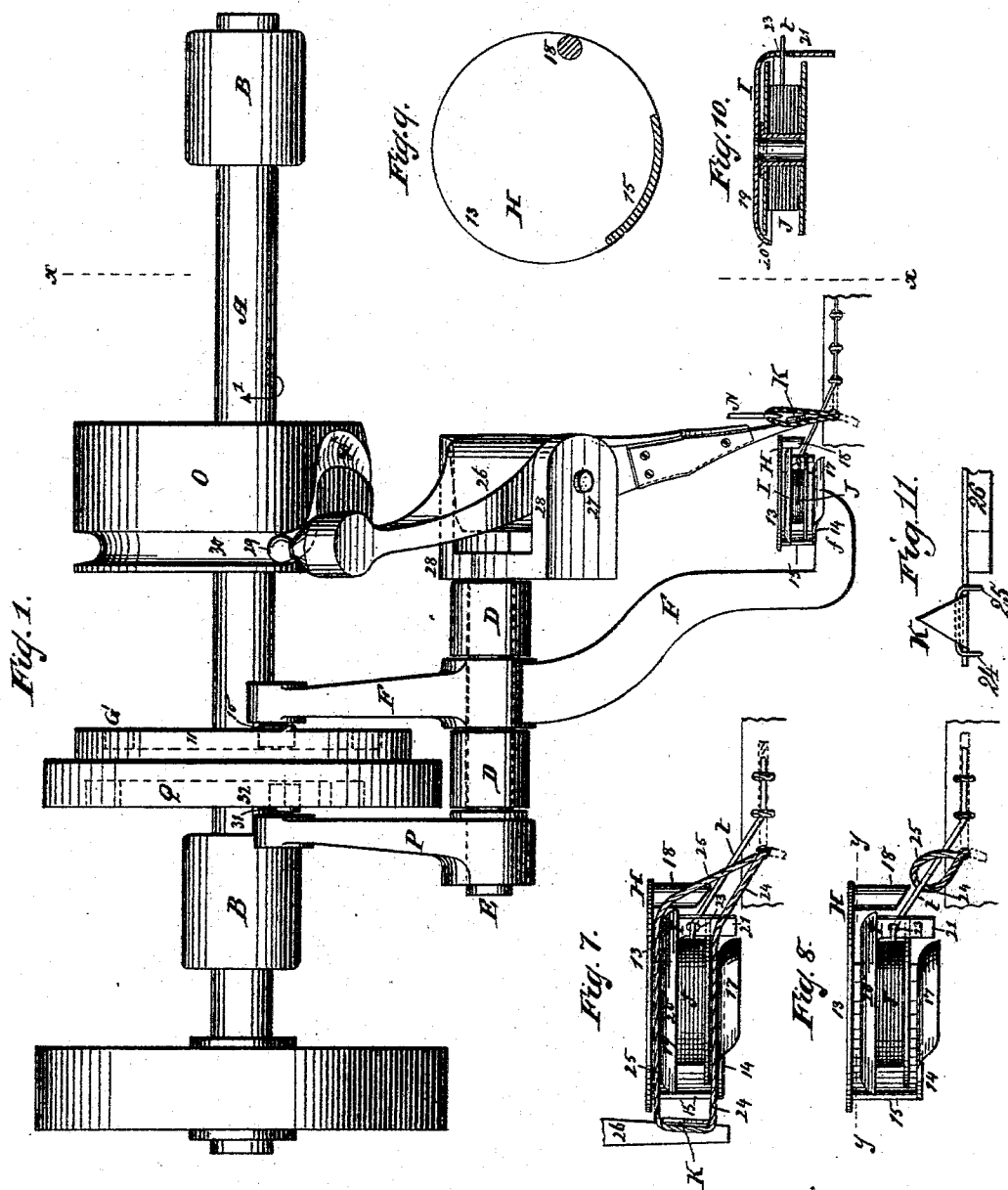
(No Model.)

3 Sheets—Sheet 1.

J. R. SCOTT.
SEWING MACHINE.

No. 515,621.

Patented Feb. 27, 1894.



WITNESSES:

Edward Hoff.
Chas. E. Dornsen.

INVENTOR:
Jacob R. Scott.
BY
Hoff & Hoff
ATTORNEYS.

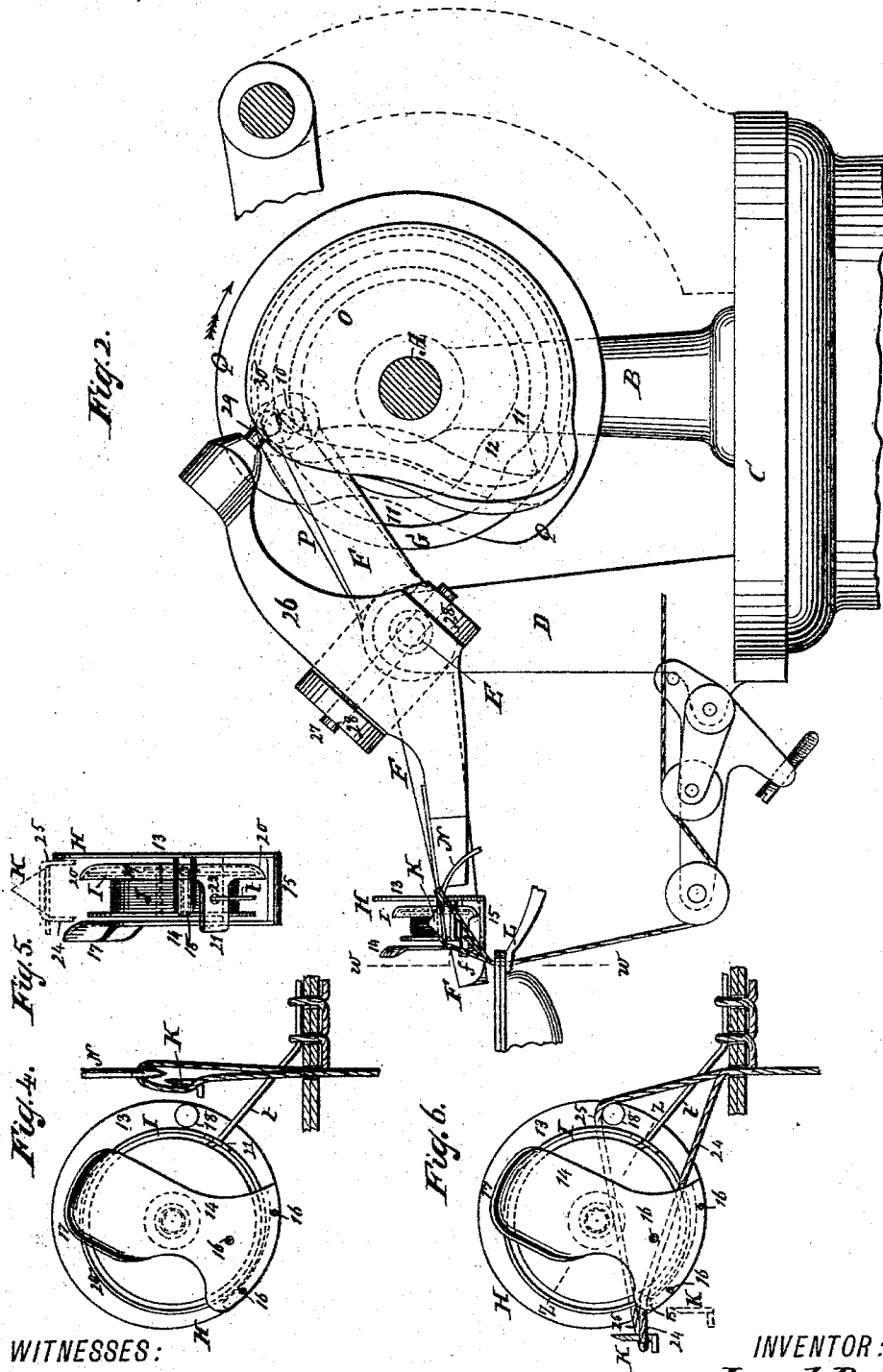
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3 Sheets—Sheet 2.

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SEWING MACHINE.

No. 515,621.

Patented Feb. 27, 1894.



WITNESSES:

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INVENTOR:
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(No Model.)

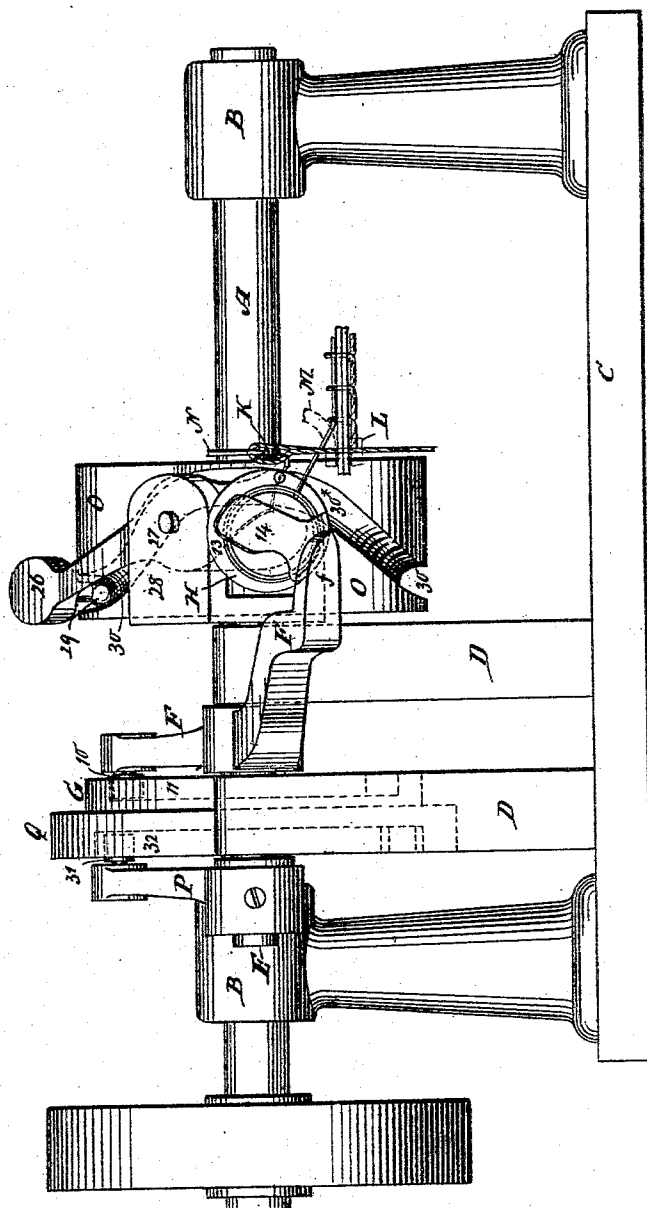
3 Sheets—Sheet 3.

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Fig. 3.



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UNITED STATES PATENT OFFICE.

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

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 515,621, dated February 27, 1894.

Application filed May 4, 1893. Serial No. 472,995. (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 Sewing-Machines, of which the following is a specification.

This invention relates to certain improvements in sewing machines as pointed out in the following specification and claims and illustrated in the accompanying drawings in which—

Figure 1 represents a plan or top view. Fig. 2 is a transverse vertical section in the plane $x x$ Fig. 1. Fig. 3 is a front elevation. Fig. 4 is a front elevation of the non-rotary support for the bobbin holder the needle and the loop carrier, the latter being in position to engage the loop of the sewing thread, on a larger scale than the previous figures. Fig. 5 is a side elevation of the fixed support, the bobbin holder and the bobbin, showing the loop carrier in dotted lines. Fig. 6 is a vertical section showing the non-rotary support for the bobbin holder and the loop carrier in full lines just before it leaves the loop of the sewing thread and in dotted lines after it has left said loop, the plane of section being indicated by the line $w w$ Fig. 2. Fig. 7 is a plan or top view of the parts shown in Fig. 6. Fig. 8 is a similar view showing the loop of the sewing thread partly drawn up. Fig. 9 is a section of the fixed support detached in the plane $y y$ Fig. 8. Fig. 10 is a section of the bobbin holder and the bobbin in the plane $z z$ Fig. 6. Fig. 11 is a face view of the loop-carrier detached.

My invention relates particularly to the construction of the bobbin holder together with its fixed support and the construction and operation of the loop carrier, which serves to spread the loop of the sewing thread and to pass the same over the bobbin holder and the bobbin which are placed loosely into the fixed support, so that the loop of the sewing thread can be finally drawn up by the take-up mechanism.

My invention can be applied to different kinds of lock-stitch sewing machines but in the example illustrated by the drawings I have shown parts of a waxthread sewing machine of the class described in Letters Patent No.

366,935, granted to Christian Dancel, July 19, 1887, in order to explain the movements of the various parts requisite for the formation of a stitch.

In the drawings the letter A designates the main shaft to which a revolving motion is imparted by any suitable means. This shaft has its bearings in standards B B which rise from the base C and from this base rise also two standards D D which form the bearings for the rockshaft E.

F is a lever which is mounted loosely on the rockshaft E and on the inner end of which is secured a roller-stud 10 which engages a groove 11 in the face of a hub G which is firmly mounted on the mainshaft A.

In the example shown in the drawings the groove 11 has a short cam 12 (Fig. 2) so that by the action of this cam on the roller stud 10 a short oscillating motion is imparted to the lever F.

The outer end of the lever F is provided with an arm f on which is firmly secured the non-rotary support H for the bobbin holder. This non-rotary support is constructed of a circular plate 13 and an irregularly shaped plate 14 united by a segmental jacket 15, (see Figs. 4, 5 and 9) and it is firmly connected to the arm f of the lever F by rivets or screws 16 which are shown in section in Figs. 4 and 6 and which pass through the irregularly shaped plate 14. The loose edge of this plate is provided with a curved lip or flange 17 which serves to guide the outer branch 24 of the loop of the sewing thread between the bobbin and the plate 14 of the non-rotary support (Fig. 7) as will be presently more fully explained.

From the circular plate 13 of the non-rotary support H projects a stud 18. The bobbin holder I consists of a circular disk 19 provided with a curved flange 20 and with a throat plate 21 and in its center is secured an arbor 22 which fits the hub of the bobbin J. (Fig. 10.) This bobbin consists of two circular plates united by a central hub which is bored out to fit the arbor 22 of the bobbin holder. The bobbin-thread t is drawn out through the throat 23 in the throat plate 21. By referring to Figs. 7, 8 and 10 it will be seen, that the curved flange 20 of the bobbin holder I extends over the edge of the bobbin J, so that

it serves to guide the inner branch 25 of the loop of the sewing thread between the circular plate 13 of the non-rotary support H and the bobbin holder I (Fig. 7).

5 K is the loop carrier.

L is the work-supporting table.

M is the presser foot and N is the needle. In the example shown in the drawings this needle is a hook needle which is situated above
10 the work-supporting table and which can be operated in the manner described in Patent No. 366,935 above mentioned, but it will be readily understood, that an eye pointed needle may be used without departing from my
15 invention.

The loop carrier K is firmly secured to the outer end of a lever 26 which oscillates on a pin 27 secured in a bracket 28 which is firmly attached to the rockshaft E. (Fig. 1.) On
20 the inner end of the lever 26 is secured a roller stud 29 which engages a cam groove 30 in the circumference of a hub O which is firmly mounted on the main shaft A. On the rockshaft E is also secured a lever P from which
25 projects a roller stud 31 into a cam groove 32 formed in the face of a hub Q which is firmly mounted on the main shaft A. At the moment when the needle N has drawn up the loop of the sewing thread to the position
30 shown in Figs. 1, 2, 3 and 4, the loop carrier K passes into the loop and immediately thereafter the roller stud 29 of the lever 26 enters the curved portion 30* of the cam groove 30 (the motion of the main shaft A being in the
35 direction of arrow 1, Fig. 1) and the loop carrier K is moved up to the position shown in dotted lines in Fig. 5 and then down to the position shown in Figs. 6 and 7, so that the branch 25 of the loop passes between the circular plate 13 of the non-rotary support H
40 and the plate 19 of the bobbin holder I, while the branch 24 of the loop passes down between the plate 14 of the non-rotary support H and the bobbin J as shown in Figs. 6 and 7. Immediately thereafter the loop carrier K moves from the position shown in full lines in Fig. 6 to that shown in dotted lines in said figure, thereby releasing the loop so that the same
45 can be drawn up tight by the take-up mechanism.

50 By referring to Figs. 6 and 7 it will be seen that when the loop carrier K has reached the position shown in full lines in Fig. 6, both branches 24 and 25 of the loop bear upon the
55 edge of the segment 15 of the non-rotary sup-

port H, said edge forming a stop whereby the loop is retained while the loop carrier moves from the position shown in full lines in Fig. 6 to that shown in dotted lines. In order to prevent the sewing thread from being clamped
60 between the bobbin holder and the stud 18 by the tension of the bobbin thread the hub G is provided with the cam 12 (Fig. 2) whereby a slight downward movement is imparted to the outer end of the lever F and that part of
65 the bobbin thread between the throat plate 21 and the work is slackened, so that the sewing thread can follow the action of the take-up mechanism.

When the loop of the sewing thread is being drawn up, it embraces the bobbin thread
70 as shown in Fig 8, so as to form a lockstitch.

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

1. The combination with a needle and a
75 bobbin holder, of a non-rotary support composed of two side plates 13 and 14 and a fixed part 15 rigidly connecting said side plates together and constituting a loop-stop, a loop-carrier which carries both branches of the
80 loop round the bobbin holder and between the latter and the two side plates of the non-rotary support and places both of said branches upon the aforesaid stop which retains the loop while the loop-carrier is disengaged there-
85 from, and mechanism for operating the loop-carrier, substantially as described.

2. The combination with a needle, and a swinging lever, of a non-rotary support fixed to the lever and composed of side plates 13
90 and 14, and a segment 15 connecting said plates and one edge of which constitutes a loop-stop, a bobbin-holder arranged within the non-rotary support and having its bobbin rotated by drawing the thread therefrom, a
95 loop-carrier which carries both branches of the loop around the bobbin-holder and between the latter and one of the side plates of the non-rotary support and places both of said branches upon the aforesaid stop which re-
100 tains the loop while the loop-carrier is disengaged therefrom, and mechanism for operating the loop-carrier, substantially as described.

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

JACOB R. SCOTT.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.