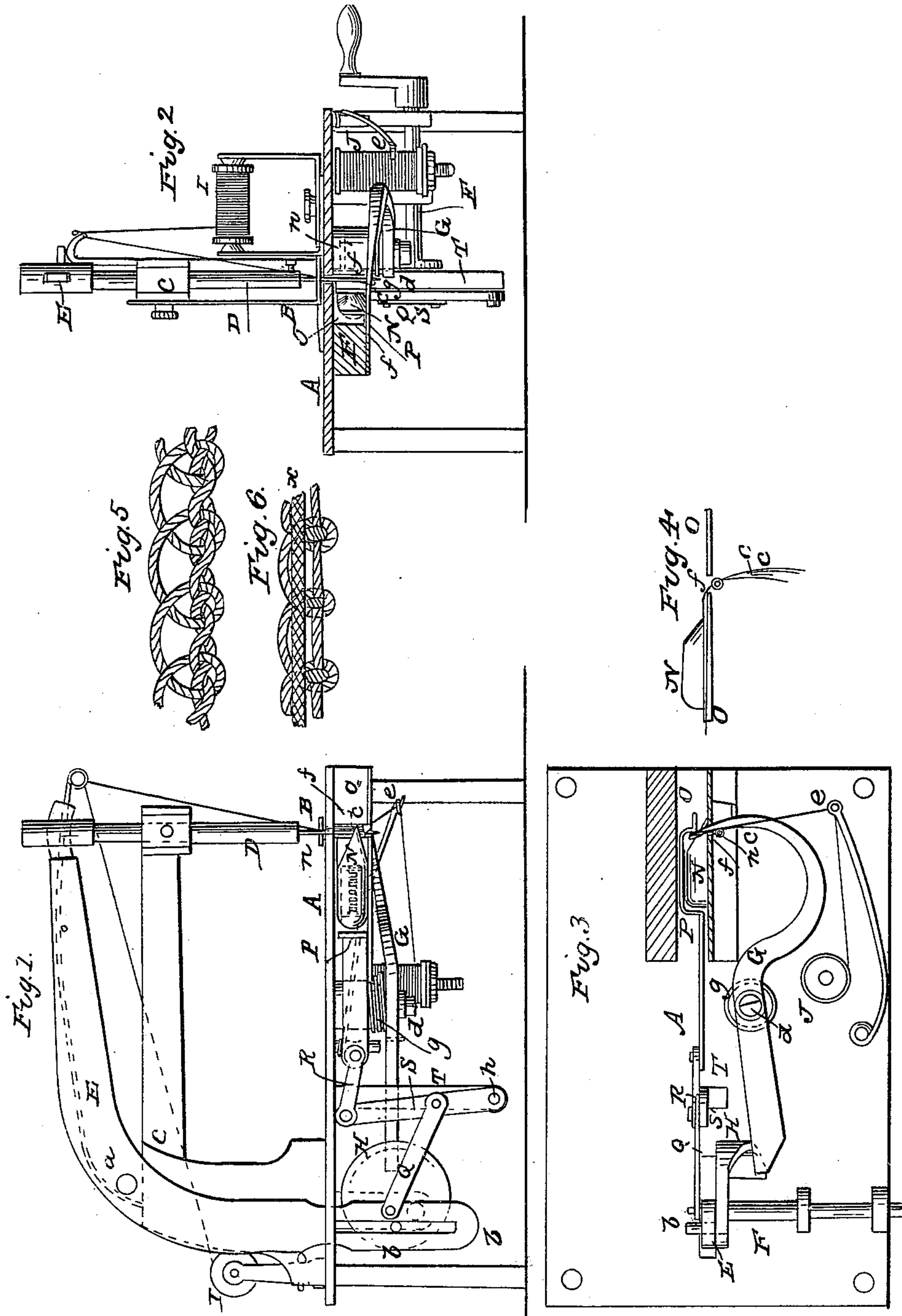


I. M. ROSE.
Sewing Machine.

No. 26,057.

Patented Nov. 8, 1859.



WITNESSES
Math Hughes
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ISRAEL M. ROSE, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 26,057, dated November 8, 1859.

To all whom it may concern:

Be it known that I, ISRAEL M. ROSE, of the city, county, and State of New York, have invented a new and Improved Sewing-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are vertical sections of the machine, taken at right angles to each other. Fig. 3 is an inverted plan of the same, with the shuttle raceway in section. Fig. 4 is an inverted plan of the stitch-making devices, in a different condition to that shown in Fig. 3. Fig. 5 represents the structure of the stitch made by the machine, the threads being all left loose to show the method of interlacing. Fig. 6 represents a section of the cloth close to the stitch, showing the arrangement of the threads in the cloth when the stitch is drawn tight.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in a novel mode of combining and operating two needles and a shuttle or their equivalents to make a stitch of a novel character with three threads.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the bed-plate of the machine, upon which the cloth or other material is supported in the sewing operation.

B is a pressure-pad, of the kind commonly used in sewing-machines to confine the cloth to the bed-plate, held by the stationary arm C, which also contains the guide for the vertical needle-slide D, which carries a needle, *n*, of the ordinary eye-pointed kind, operating in the same manner as the perforating-needles of other sewing-machines. The movement of the needle-slide is effected in a well-known manner by a lever, E, which works on a stationary fulcrum-pin, *a*, the said lever deriving its motion from a crank or eccentric wrist-pin, *b*, carried by the driving-shaft F, which is arranged below the bed-plate, the said pin *b* working in a slot, *b'*, in the lever. The needle *n* takes its thread in the usual manner from a spool, I, arranged above the bed-plate. The thread of this needle is tinted blue.

c is another needle, which, like *n*, has an

eye near its point. This needle is represented as forming a part of a lever, G, which is arranged to work horizontally, below the bed-plate A on a fixed fulcrum, *d*, and which derives such a motion of the said fulcrum through the combined agencies of a cam, H, on the driving-shaft F and a spring, *g*, that the said needle *c* is capable of passing between the needle *n* and its thread after the latter has been protruded through the cloth and through the bed-plate, the needle *n* having its end at right angles, or nearly so, to the movement of the needle *c*, and having a recess just above its eye on the side which the needle *c* passes, to facilitate the passage of the latter needle between it and its thread. The eye *c'* of the needle *c* is vertical, and the thread passes through it in an upward direction, being conducted to the same eye by a springing guide, *e*, and supplied from a spool, J, arranged below the bed-plate, the said spool and the spool I having applied to them friction apparatus of a substantially similar kind to what is commonly applied to the spools of sewing-machines. Instead of the needle *c* forming part of the lever G, it may be made like an ordinary needle, and either carried by a lever like G, or by a slide or any contrivance that will give it the necessary reciprocating motion, as will be better understood when the operation of making the stitch has been explained.

N is the shuttle, working horizontally and nearly at a right angle to the needle *c* in a raceway, O, that is arranged close under the bed-plate A. This shuttle need not pass as near the needle as the shuttle of the ordinary shuttle sewing-machine, but may work at some distance from the needle, as shown in Fig. 2; but there is an opening, *f*, Figs. 2 and 3, in the side of the raceway opposite to the needle, to permit the passage of the threads, and the same opening is extended across the bottom of the raceway, as shown in Fig. 2, where the section is through said opening, to admit the needle *c*, which works close under the shuttle.

P is the shuttle-driver, deriving motion from the needle-operating lever E, through the agency of two connecting-rods, Q and R, and a rocker, S, which works on a fixed pin, *h*, in a stationary hanger, T, secured under the bed-plate. The shuttle motion is so timed relatively to the needle motion that the shuttle advances rather later than the shuttle of an or-

dinary shuttle sewing-machine, to give proper opportunity for the operation of the needle *c*, as will be understood when the combined operation of the parts is described. The shuttle-thread is shown in green color.

Almost any of the well-known feed-motions can be adapted to this machine, and I therefore have not considered it necessary to represent any feed-motion in the drawings.

The operation of sewing is performed by this machine in the following manner: The two needles and the shuttle having been threaded, the end of the thread from the needle *c* should be secured either by drawing it up through the needle-hole in the bed-plate and placing it under the cloth below the pressure-pad or by some contrivance under the bed-plate, and the machine may be set in motion. The descent of the perforating-needle *n* through the cloth having been completed, the needle *c* is caused, by the action of the cam *G*, to advance from the position represented in Fig. 4, and to enter between the needle *n* and its (blue) thread, as shown in Figs. 1, 2, and 3, the needle *n*, in the meantime, rising and forming a loop of its (blue) thread below the bed-plate. The advance of the needle *c* is almost instantly followed by the advance of the shuttle between the needle *n* and the (red) thread of the needle *c*, as shown in Figs. 1, 2, and 3, to form a loop of the latter thread within the loop of the (blue) thread of the perforating-needle *n*, and when the shuttle has passed about half its length between the needle *c* and the (red) thread of the needle *c* the latter needle moves back quickly to the first-described position, (illustrated in Fig. 4,) arriving there just as the shuttle completes its advance and the needle com-

pletes its ascent, and so completing a stitch, the shuttle-thread having passed through and locked with its (green) thread a loop of the (red) thread of the needle *c*, which is left within and locks the loop of (blue) thread that has been protruded through the cloth by the perforating-needle *n*. The shuttle retreats while the needle *n* descends and perforates the cloth, and every perforation of the cloth by the said needle *n* is succeeded by similar operations of the needle *c* and shuttle to those I have described, and a similar interlacing of three threads is effected at every such series of operations—that is to say, a thread is protruded through the cloth in the form of a loop, a second thread is placed in the form of a loop through the first loop, and a third thread is passed through the loop of the second. The seam thus produced (represented in Fig. 6, where the cloth is indicated by the letters *xx*) showing a single thread—viz., that of the perforating-needle—on one side of the cloth and the other two threads on the opposite side.

I do not claim, broadly, the employment of two needles, operating in combination with one shuttle, to form a seam with the threads; but

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

The combination of two needles and a shuttle or their equivalents, to operate substantially as herein set forth, for the purpose of producing a stitch of the structure herein described and represented.

I. M. ROSE.

Witnesses:

M. M. LIVINGSTON,
MICH. HUGHES.