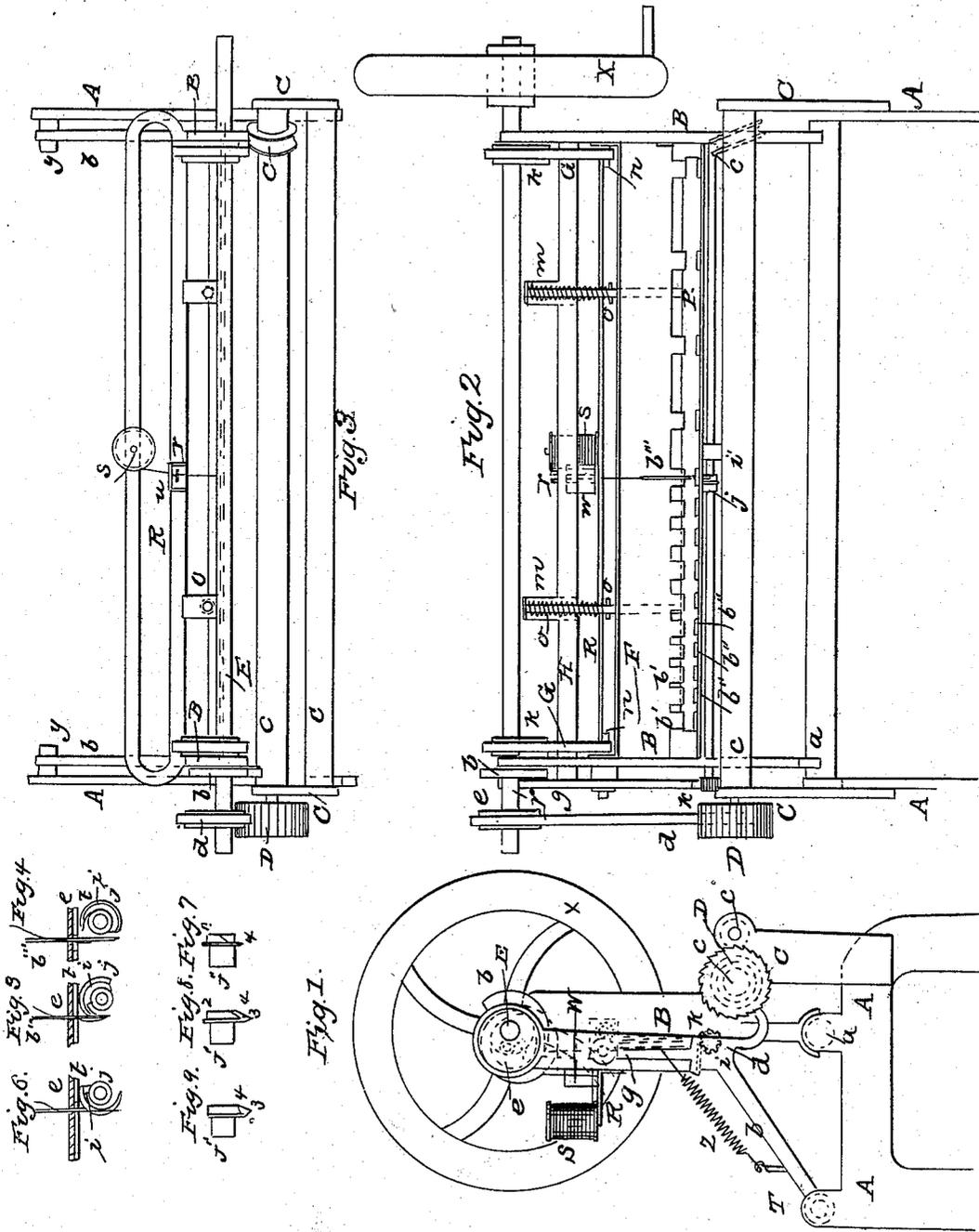


L. COOPER.
Sewing Machine.

No. 32,415.

Patented May 28, 1861.



WITNESSES
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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 32,415, dated May 28, 1861.

To all whom it may concern:

Be it known that I, LEWIS COOPER, of Philadelphia, in the State of Pennsylvania, have made certain new and useful Improvements in Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an end view of my sewing-machine; Fig. 2, a side view; Fig. 3, a top view. Figs. 4, 5, 6, 7, 8, and 9 represent detached views of the looper.

The nature of my improvement consists in combining a series of needles, arranged in a frame, (each needle having its pressure-pad, spool, and revolving looper,) with a guide, C', to control the movement of the needle-frame so as to cause all the needles to quilt similar figures.

F is a needle-frame, to which the desired number of needles are attached, as at $f' f' f'$, &c. At f'' a needle is thus shown. Each needle is provided with a pad, $f'' f'' f''$, &c., to hold the work down while the needle is being drawn up. The needle-frame is caused to work up and down by means of the eccentrics k and k on the shaft E. The pads $f'' f''$ are attached to rods $o o$, running through the needle-frame and through a guide above it. A spiral spring surrounds the upper part of these rods, by means of which the pads are pressed firmly upon the goods to be sewed. As the needles and needle-frame ascend they, at the proper moment, raise these bars by means of the small catch e' on the rods, and permit the cloth to be sewed to be drawn forward by the feed apparatus. S is the spool containing the cotton for the needle, each needle being provided with its separate spool. Each needle is also furnished with a revolving looper, J. These loopers are all on the same shaft, i , and are operated by the rack g , working over a pinion on the end of the shaft i . The upper end of the shaft g rests against

an eccentric on the end of the shaft E. A spring, z , causes the rack to return to its proper place. The cloth is fed by means of the motion communicated to it by passing between the rollers $c c$, &c. The roller c is furnished with a cog-wheel, D. This roller is moved by means of the ratchet-hook d , suspended on the eccentric e , so that it will lean against the side of the cog-wheel D. On the other end of the roller c is a guide-wheel, c' , having a groove in which a pin on the frame runs. The groove in this wheel is placed at any angle with the axis of the roller, so as to make any pattern desired. The drawings represent it as diagonal. The effect of its revolution is to cause the needle-frame to slide to and fro laterally; or any wheel may be put on which will give the motion necessary to create different figures desired. The needles may be placed at any desired distance apart, as may be necessary to produce the desired figure in quilting.

The operation of the machine is as follows: Motion is communicated to the machine by means of the crank X and shaft E. The needles and needle-frame are moved upward by means of the eccentrics k and k on the shaft E. At the same time the needle-pads are raised and the cloth moved forward in the proper direction by means of the rollers $c c$, operated as above described.

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

Giving to the frame which carries the sewing mechanism a reciprocating movement in a direction at right angles to that of the feed-motion at the time the pressure-feet are lifted from the cloth by means of the pawl d , ratchet D, and cam C', substantially as and for the purpose above specified.

LEWIS COOPER.

Witnesses:

J. GMINI CHILD,
F. D. BAQUET.