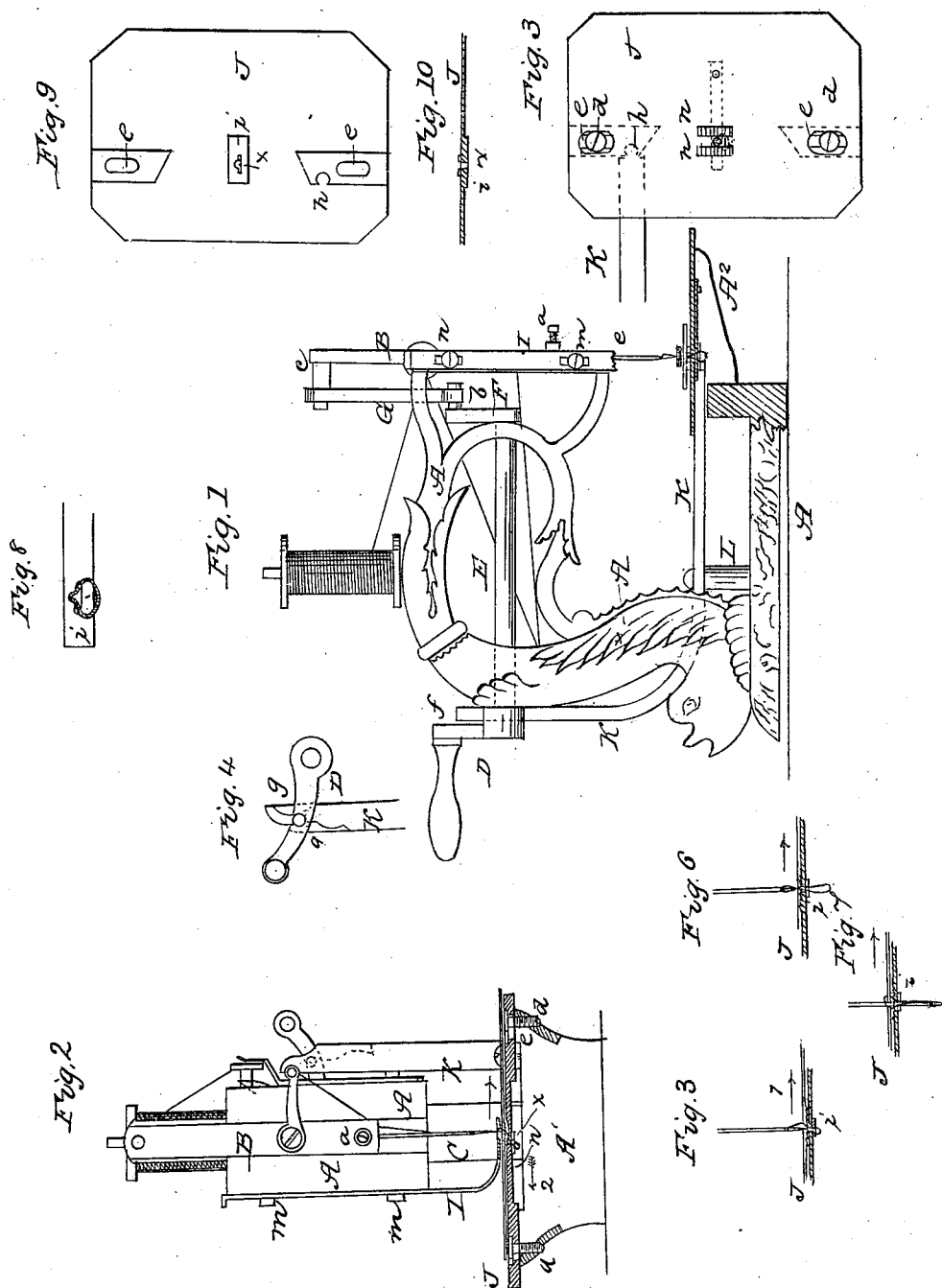


D. W. CLARK.  
Sewing Machine.

No. 19,129.

Patented Jan. 19, 1858.



# UNITED STATES PATENT OFFICE.

D. W. CLARK, OF BRIDGEPORT, CONNECTICUT.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 19,129, dated January 19, 1858.

*To all whom it may concern:*

Be it known that I, DAVID W. CLARK, of Bridgeport, Fairfield county, State of Connecticut, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description, which will enable any person skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a side elevation of my improved machine. Fig. 2 is an end or front elevation of the same. Fig. 3 is a plan view of a portion of the front end of the machine. Fig. 4 is a partial elevation of the crank and lever. Figs. 5, 6, 7, elevations of the needles in different positions, showing the mode of forming the stitch; Fig. 8, enlarged plan of the plate and slot by which the loop is placed and held; Fig. 9, plan of the bottom of the table, showing the plan of the loop-slot; Fig. 10, sectional elevation of the same.

Similar letters of reference indicate the same parts in all the figures.

This invention pertains to that class of sewing-machines in which the common chain-stitch is formed.

A A' is the frame; B, the needle-holder, sliding between grooves in the front end of the machine in the usual manner; C, the needle, attached by screw *a* to the holder B; D, the driving-crank, giving motion through shaft E, crank F, pin *b*, link G, and pin *c* to holder B, all of said parts being arranged in the usual manner.

I is a foot which holds the cloth to the table J. I is attached to the frame A by screws *m m*. The bottom of I is provided with teeth or serrations, which prevent the retrograde movement of the cloth during the backward action of the feeding device. The cloth, when fed, moves in direction of arrow 1. The feeding is done by a movement of the table J in direction of arrow 1. This movement is obtained by means of a vibrating lever, K, which extends from the table back in a horizontal direction to the rear part of the machine, where it is curved upward to the crank D. The upper end of lever K is provided with two ridges, *g g*, so formed as to leave a cam-shaped space or groove between them. A pin, *f*, upon crank D fits into this groove, and when the crank is turned

the pin *f* alternately passes into the cam-shaped groove, and, striking the sides of the ridges *g g*, causes the lever K to vibrate upon its pivot L. The latter rests upon frame A. (See Figs. 1 and 4.) The front end of lever K extends into a small cavity, *h*, in a rib upon the under surface of the table J. The latter is held upon the front end of the frame A' by means of set-screws *d d*, which pass through slots *e e* in the table and enter the frame A'. The slots *e e* permit a vibration of the table in a horizontal direction. When lever K vibrates the table is correspondingly moved. (See Figs. 3 and 2.)

The central part of the upper surface of the table is provided with teeth or serrations *n n*, which incline in direction of arrow 1. When the table vibrates in that direction, the fabric or cloth upon the table will be carried along; but when the table vibrates in direction of arrow 2, the teeth upon the foot I will prevent the cloth from being carried back. Upon the central part of the under surface of the table there is attached a plate or rib, *i*, in which there is a slot, *x*, of peculiar formation. The slot is quite slender and extends or runs at right angles to the direction of the feed of the cloth. At the center of slot *x*, and just upon one side, there is a notch, through which the needle descends. The slot *x* communicates with the usual aperture in the table for the passage of the needle. In fact, the notch in the slot is the under side of said aperture. (See Fig. 8.) It is immaterial whether slot *x* be made in a separate plate or rib and attached to the table, as shown in Figs. 1, 2, 3, 8, or whether it is formed in the table itself, or in a ridge upon the bottom of the table, as shown at *i*, Figs. 9 and 10.

The stitch is formed in the following manner: The needle descends through the fabric and table and notch in slot *x*, and in rising leaves behind its slack or loop in the usual manner. (See Fig. 6.) The table now moves in direction of arrow 2, by which movement and the continued rise of the needle the loop is drawn up into the slot *x*, which places and holds the loop, as shown in Fig. 2. The table now vibrates in direction of arrow 1, which brings the needle aperture and slot *x*, with the loop opened and placed ready to receive the needle, immediately below the latter, as shown in Fig. 5. The needle now descends (Fig. 7) through

the loop, and by the tightening of the thread consequent upon said descent the loop rises or is drawn up through slot *x* and through the table, and deposited in the usual manner upon the under side of the fabric. By a repetition of these movements a continuous line of stitching, known as the "single loop" or "chain" stitch, is formed. The thread passes from the spool, located at any convenient place upon the frame, through suitable guides to the needle. The course of the thread and the positions of the loops are indicated by the red lines in all the figures.

Having thus described my invention, what I

claim, and desire to secure by Letters Patent, is—

Placing and holding the loop in position to receive the needle by means of a slot, *x*, which runs or extends at right angles to the direction of the feed, and is notched at its center for the passage of the needle, substantially as described.

December 22, 1857.

D. W. CLARK.

Witnesses:

W. KUHLENSCHMIDT,

A. E. BEACH.