

UNITED STATES PATENT OFFICE.

JAMES SANGSTER AND AMOS W. SANGSTER, OF BUFFALO, NEW YORK.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 19,155, dated January 19, 1858.

To all whom it may concern:

Be it known that we, JAMES SANGSTER and AMOS W. SANGSTER, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Sewing-Machines, and we do hereby declare that the following is a full and exact description of our method of constructing the same, reference being had to the accompanying drawings.

The same letters in Figures 2, 4, and 5 refer to like parts in each. Fig. 1 is a perspective view of the machine complete. It also represents the feeding apparatus.

A is the feeding-bar, which is attached to the frame-work by a screw at the point G. Its upper part is made of elastic metal, so as to spring backward. The spring-bar F is connected to the feed-bar A by a small rod, H. I is a nut for fastening said rod.

B is a bar, which terminates in an elastic foot-piece, for the purpose of holding the cloth firmly down on the plate J.

C is a nut formed of six or more squares or flat surfaces, (it may also be made round,) and screws up or down the needle-bar.

The feed motion is given as follows: When the needle-bar is ascending, the nut C rubs against the lower part of the bar F and forces it backward from said needle-bar, and at the same time, by means of its connection with the rod H to the bar A at the point I, it pulls said feed-bar A, and thus pushes the cloth (or fabric to be sewed) one stitch ahead. The downward movement of the needle-bar allows the bar A to spring backward, so that another stitch will be taken when the bar ascends again. The length of the stitch is varied by raising or lowering the nut C by means of the screw upon the needle-bar.

Fig. 2 represents the looper when it is in a position to hold the loop firmly and to open it properly for the needle to pass through.

A' is a piece of flat metal, (rounded at the point,) which catches the loop. It is jointed, and swings loosely on the bar or frame B' at the point C'.

Z is a cross-piece, upon which the point W of the bar A' rests when the loop is formed. The bar marked B' swings back and forth, and is attached to the plate D at the point E by means of a rivet, around which it is made movable.

F' is a lever, which forms part of the frame B'.

J' K are two pins, projecting upward from the plate D, and operate as stationary guides to the bar A'.

L is a groove or guide impressed in the plate D for the reception of the needle.

M is a forked bar, attached to the frame B' at the point N, and is made to move easily upon the pivot at N. This bar is made elastic, so that the points may spring together after being separated.

P is a friction-spring attached firmly to the bar M, as may be particularly seen by reference to Figs. 2 or 4 of the accompanying drawings.

G' is a lever, which gives motion to the looper and receives its motion by the revolving of an eccentric, as will be readily seen by reference to Fig. 1 of the accompanying drawings. In that figure the eccentric is attached to and revolves with the shaft R.

S is a rod fastened to the eccentric and attached to the lever G'.

T is a stay or support, upon which the lever G' swings at the point U.

The looper is worked as follows: When the lever G' in vibrating brings the pin H' down to its lowest point, as shown in Fig. 4, the frame B' is forced back from the needle and the piece A' is thrown into a horizontal position by its upper part rubbing against the pin K, and it is supported in that position by the pin J'. When the lever G' ascends, the pin H' hits against the lower end of the friction-spring P, and in passing it the pin moves the frame-work at the point E as a center. The frame-work B' is thus moved forward and moves the piece A' between the thread and the needle, thence upward to its point of rest on the cross-piece Z, below which the loop forms, and is held open, as seen in Fig. 2. The end of the piece A' is made narrower than the aperture at V, so that the thread may pass freely at each side of it. When the needle descends, the pin H' forces its way downward between the points at X in the spring-frame M, and thus reverses the action of the looper. The piece A' is thus made to release the loop, as shown in Fig. 5, and to regain its position, as shown in Fig. 4.

The whole machinery, shown by Fig. 2,

when intended for use should be made of substantial material, each part so that it will work freely and regularly. The point W of the bar A' should be made in an oval form, or nearly so, and polished so thoroughly that it will not cut the thread when the loop forms around it. The bar A' should be made sufficiently thin at and near its point to pass freely between the thread and the needle, and it should be so nicely attached to the bar B', and so operated by that bar, that its point will rest against the plate D after it passes between the thread and the needle in its course upward and till it passes onto the cross-piece Z.

We claim—

The looper A', in combination with the plate D and the cross-piece Z, substantially as herein described, for the purpose of catching the loop and causing it to be formed round the looper A' and held open in the aperture V for the reception of the needle.

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Witnesses:

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