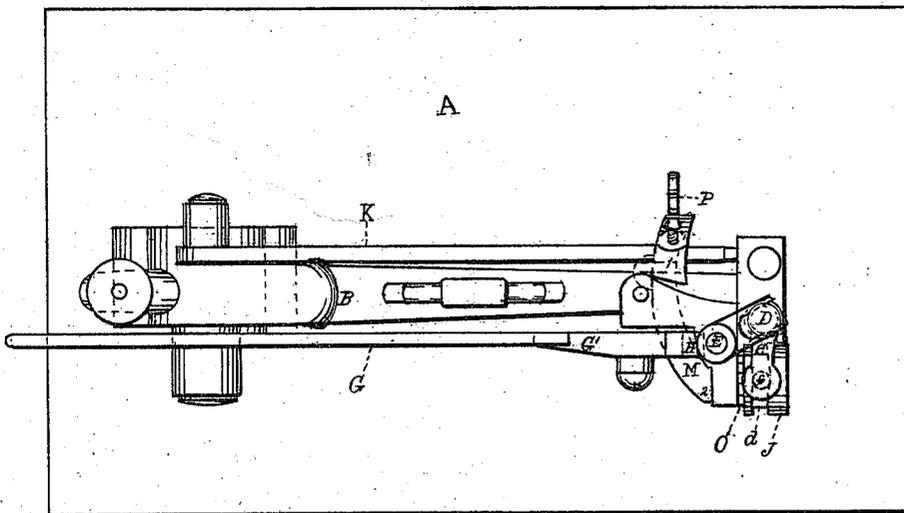
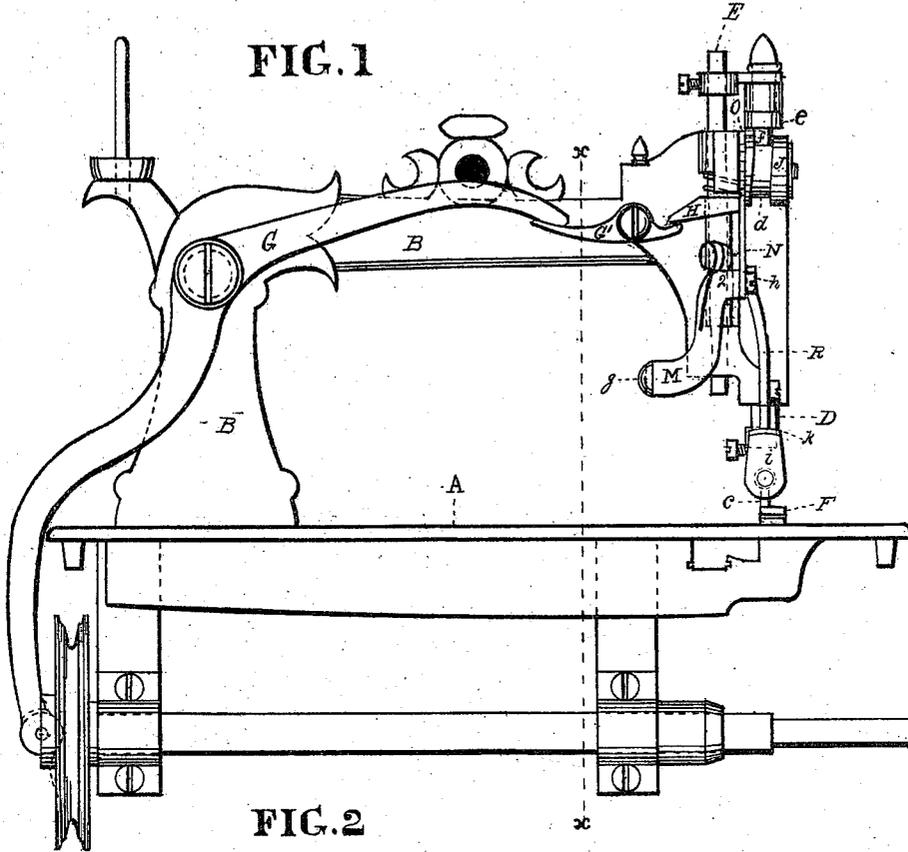


C. S. CUSHMAN.
Sewing-Machines.

No. 142,442.

Patented September 2, 1873.



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Isaac Rindge

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Stephen Ustick

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FIG. 3

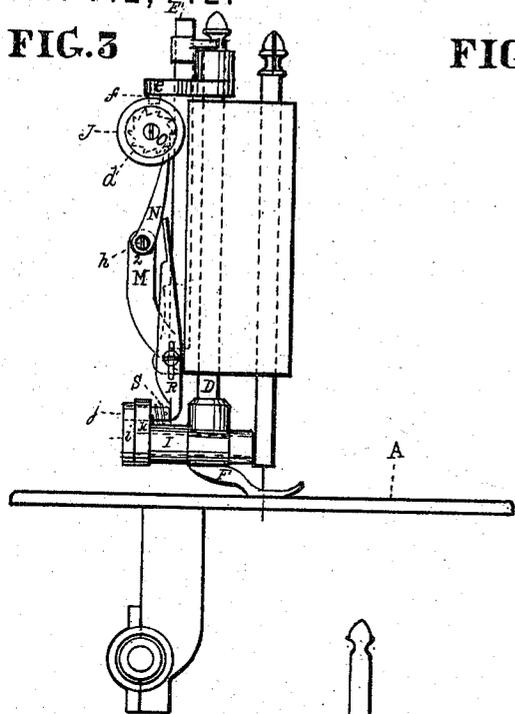


FIG. 4

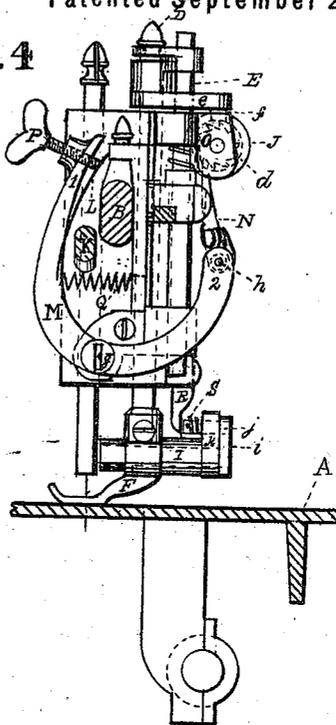


FIG. 5

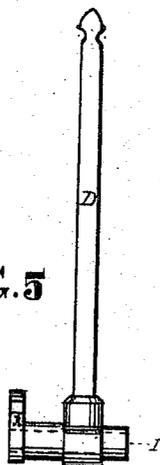


FIG. 6



FIG. 7

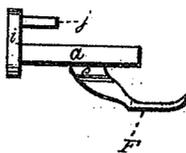


FIG. 9



FIG. 8



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UNITED STATES PATENT OFFICE.

CYRUS S. CUSHMAN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
NESBIT D. STOOPS, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **142,442**, dated September 2, 1873; application filed
July 7, 1873.

To all whom it may concern:

Be it known that I, CYRUS S. CUSHMAN, of the city of Philadelphia and State of Pennsylvania, have invented an Improvement in Sewing-Machines, of which the following is a specification:

My invention relates to a combination of devices for giving a forward, and also a swinging lateral, movement to the presser-foot, as hereinafter fully described.

Figure 1 is a side elevation of the improved machine. Fig. 2 is a plan view of the same. Fig. 3, Sheet No. 2, is a front elevation. Fig. 4 is a vertical section at the line *xx* of Fig. 1. Fig. 5 is a side view of the presser-foot bar D and socket I. Fig. 6 is a bottom view of the same. Fig. 7 is a side view of the presser-foot F, provided with a slide, *a*. Fig. 8 is a bottom view of the same. Fig. 9 is an end view.

Like letters in all the figures indicate the same parts.

A is the bed-plate, and B the arm, of the sewing-machine. D is the presser-foot bar, and E a lifting-bar, connected with the same for elevating the presser-foot F, the bar E being actuated by means of the levers G and G' and grasping-clutch H, as seen clearly in Fig. 1. As the same mechanism for elevating said bar E is shown in a pending application of mine, a particular description is deemed unnecessary. On the lower end of the presser-foot bar D is a horizontal socket, I, in which the slide *a*, of the presser-foot F, has a sliding horizontal movement parallel with the bed-plate A, for the more perfect feeding of the material to be sewed. The socket has in its lower side a vertical slot, *b*, seen in Fig. 6, in which the neck *c* of the slide moves freely. The presser-foot F has a swinging lateral movement to give a zig-zag or curved line to the stitching for ornamental purposes, the requisite movement being given by means of the cam-wheel J, which has a circumferential groove, *d*, of any desired configuration requisite to so feed the material to be sewed as to give such form to the stitching. The arm *e*, on the upper end of the presser-foot bar D, is provided with a

pin, *f*, on its under side, which is caused to move in said groove in each partial turn of the wheel to give a swinging lateral movement to the bar for the lateral movement of the presser-foot, motion being given to the same by the upward movement of the needle-arm K, the arm pressing against the incline spring L attached to the end 1 of the U-shaped lever M hung on the fulcrum-pin *g*, so as to swing the end 2 upward and cause the pawl N, connected therewith at its lower end by means of the pin *h* and its upper end engaging with the ratchet-wheel O on the rear side of the cam-wheel J, to push the wheel partly around. There is a screw, P, in the end 1 of the lever M for adjusting the spring L, to give it any desired inclination, to regulate the movement of the lever, to give the desired length to the stitches. On the downward movement of the needle-arm the lever M, being released, is returned back to its former position (seen in Fig. 4) by means of the tension-wire spring Q. Projecting upward from the slide *a*, of the presser-foot, there is an arm, *i*, which has a horizontal pin, *j*, that moves freely in a corresponding hole in the vertical arm *k* of the socket I. In the upward movement of the end 2, of the lever M, the head of the pin *h* bears against the free end of the vertical lever R, so as to bear its lower end against the end of the pin *j*, and thus to push the presser-foot forward for feeding the material to be sewed. When the lever is released by a reverse movement of the lever M, the presser-foot is returned to its former position by means of the wire-spring S on the pin *j*.

I claim as my invention—

1. The combination of the presser-foot bar D, having an arm, *e*, provided with a pin, *f*, and the cam-wheel J, for giving a reciprocating partial turn of the bar and a corresponding swinging lateral movement to the presser-foot, substantially in the manner and for the purpose above set forth.

2. The combination of the needle-arm K, U-shaped lever M, and pawl N, with the cam-wheel J, having a ratchet O, for giving a partial turn to said wheel at each upward move-

ment of the needle-arm, for producing a swinging lateral movement of the presser-foot, substantially as described.

3. The combination of the adjustable inclined spring L and screw P with the lever M, for regulating the movement of the latter to vary the length of the stitches, substantially as set forth.

4. The combination of the levers R M, socket I, pin j, presser-foot bar D, and presser-foot F, for giving a forward movement to the latter, substantially as specified.

CYRUS S. CUSHMAN.

Witnesses:

STEPHEN USTICK,

THOMAS J. BEWLEY.