

H. DUNHAM, Jr.  
SEWING MACHINE.

No. 51,157.

Patented Nov. 28, 1865.

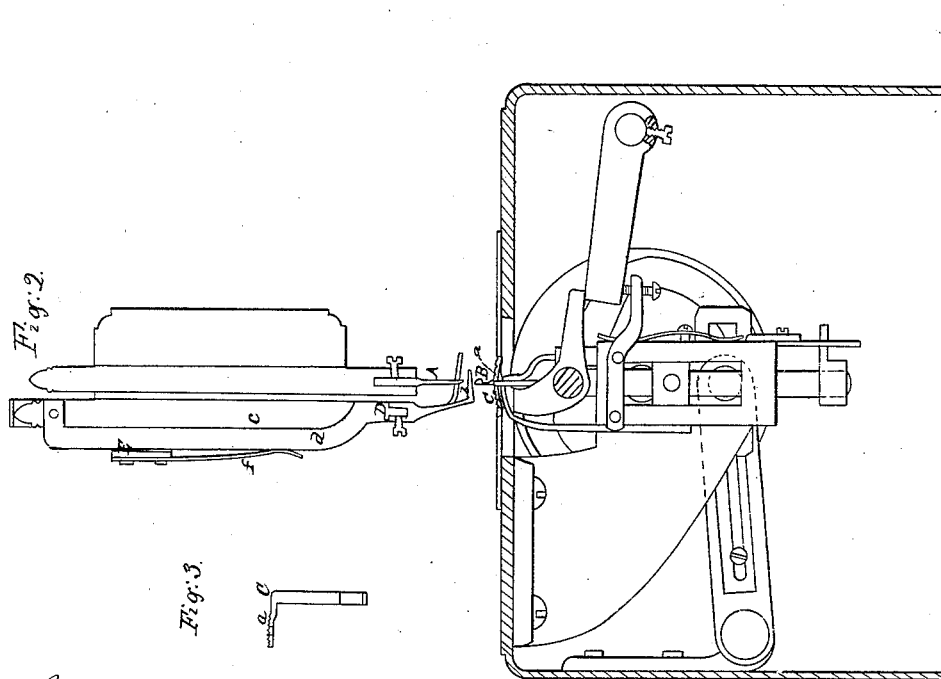
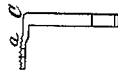
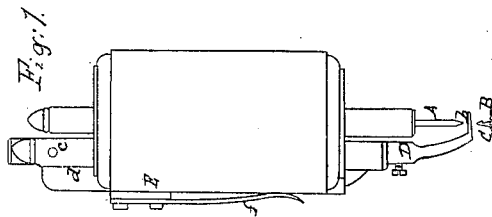


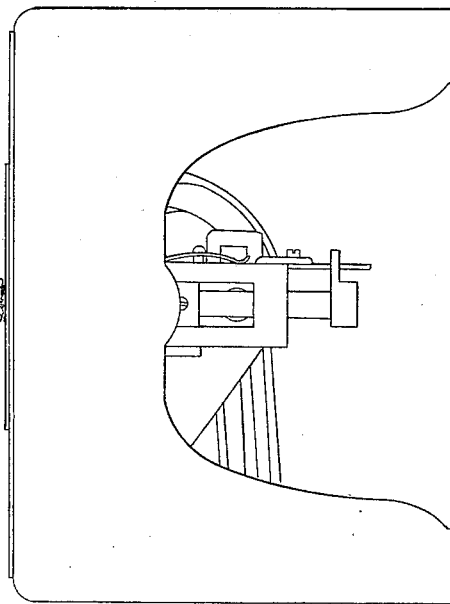
Fig. 3.



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Henry Dunham Jr.  
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# UNITED STATES PATENT OFFICE.

HENRY DUNHAM, JR., OF ABINGTON, MASSACHUSETTS, ASSIGNOR TO JACOB CHICKERING.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 51,157, dated November 28, 1865.

### *To all whom it may concern:*

Be it known that I, HENRY DUNHAM, JR., of Abington, in the county of Plymouth and State of Massachusetts, have invented a new and useful Improvement in Machines for Sewing Leather; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a front end elevation, and Fig. 2 a vertical and transverse section, of a machine provided with my invention, the said section being taken through the presser-foot carrier and its operative spring.

The machine on which the improvement is made is one not only having an awl, A, a hooked needle, B, and a reciprocating feeder, C, but a presser, D, the stitch formed by such machine being the ordinary chain-stitch.

The several mechanisms for operating on the said parts, except the presser, need not be referred to or described, as they may be such as are well known and in general use.

The feeder I make with a slot, *a*, extending down through it, such slot being to enable the needle to pass through the feeder, and the latter to extend on opposite sides of the needle so as to hold the work on all sides of it. This slot is shown in Fig. 2, and also in Fig. 3, which is a transverse section of the feeder. The presser-foot *b* is also furcated for reception of the needle, and instead of being firmly fixed to a vertical slide, *c*, as is usual, it is projected from a vibratory carrier or arm, *d*, which at its upper end is so jointed to the slider *e* as to enable the carrier to be swung forward of the slider while the latter may be at rest. A spring, *f*, fastened at one end to the machine-frame or arm E, and having its free end bearing against the front edge of the presser-foot carrier *d*, serves to move back such carrier at the proper time.

In the operation of the machine, the presser-foot, instead of being stationary, or of having vertical movements only, by which it would be pressed on and raised off the leather or material while such may be in the act of being sewed, will have a forward movement with the material and the feeder, and afterward will fall back with the feeder, these movements taking place during the formation of each stitch.

The advantage of this action of the presser-foot and the reciprocating feeder is that by moving back with the feeder the presser-foot and feeder will enable an attendant of the machine to more readily turn the material so as to vary the curve or direction of the line of sewing than can be done when the feeder has a continuous motion in one direction only, and the presser-foot either has a forward and backward movement, or, instead thereof, remains at rest while the material is in the act of being advanced by the feeder. There are also other advantages resulting from the improvement.

With my invention the leather is supported on opposite sides of the needle by the feeder and the presser, so that the leather can be turned or varied in position to better advantage than would be the case were a feeder having a continuous motion employed, for in the latter case the feeder would have to be entirely on one side of the needle, and therefore the leather would not be supported on opposite sides, but only on one side of the needle.

I am aware that it is not new, in a common needle and shuttle sewing-machine, to have the presser-foot move in opposite directions—that is, forward and back—in which case the feeder was a wheel, and had a continuous feed-movement in one direction about its axis. Therefore I do not claim such.

I am also aware that a needle, an awl, and a reciprocating feeder and a presser having no lateral or pendulous movements simultaneous with the movements of the feeder have been used before my invention, and therefore I do not claim such.

When there is no swinging movement of the presser-foot simultaneous with the movement of the feeder, as described, the leather or material while being sewed is liable to become stretched, more or less, owing to its friction against the friction of the presser-foot, the leather or material being caused thereby to bend or pucker in rear of the foot, owing to which the said bend or pucker, after the leather or material may have been punctured by the awl, is liable to be suddenly removed, whereby the hole made by the awl will be liable to be drawn out of its correct position to receive the needle, the same causing the needle, during its next longitudinal movement, either to punc-

ture the leather or material, or perhaps become bent or broken. By having the presser-foot move forward with the feeder there will be no danger of overstraining the material while in the act of being sewed, and no liability of the hole made by the awl being moved out of the position for the reception of the needle.

I claim—

The combination of the awl, needle, feeder,

and a presser having its foot so constructed and applied as to be capable of operating with forward and backward motions in the direction of the movement of the leather or material while in the act of being sewed, the whole being substantially as described and represented.

HENRY DUNHAM, JR.

Witnesses:

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