HELEN A. BLANCHARD.

Sewing-Machine.

No. 161,472. Patented March 30, 1875.

Fig. 1.

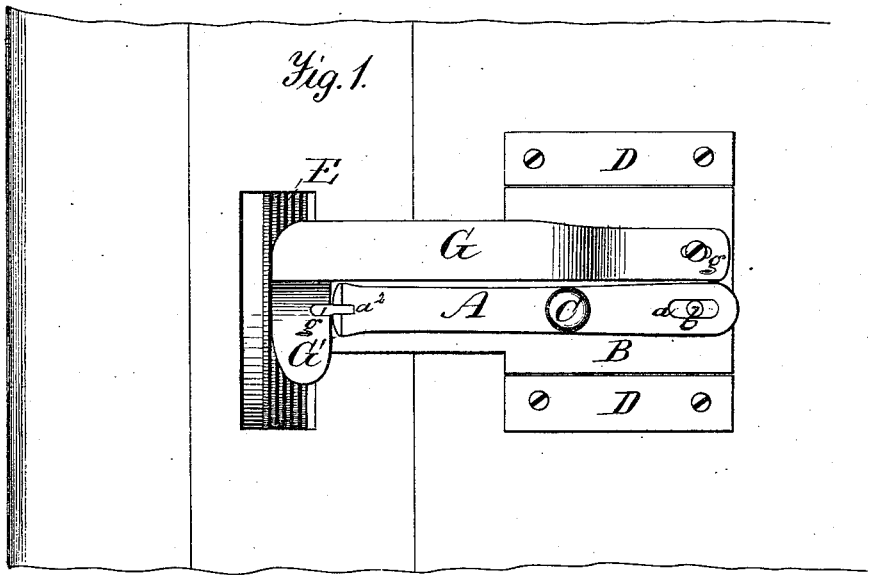

Fig. 2.

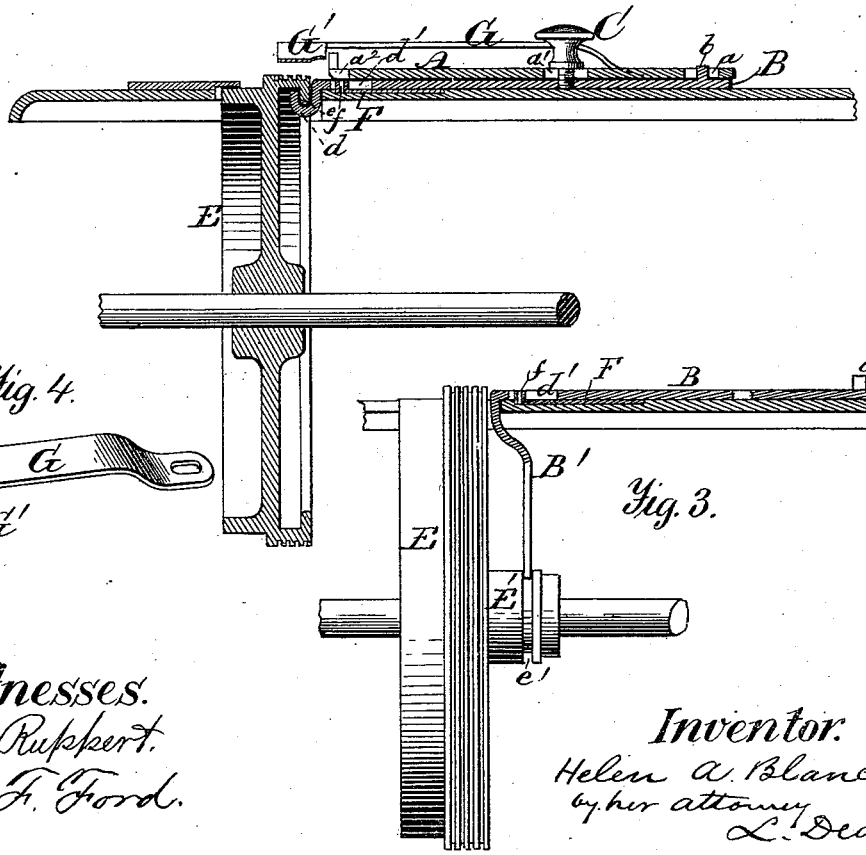

Fig. 4.

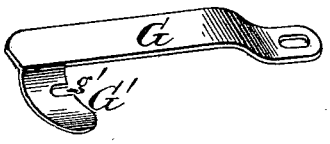

Fig. 3.

Witnesses.
A. Ruppert.
B. F. Ford.

Inventor.
Helen A. Blanchard
by her attorney
L. Deane

UNITED STATES PATENT OFFICE.

HELEN A. BLANCHARD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **161,472**, dated March 30, 1875; application filed October 27, 1874.

To all whom it may concern:

Be it known that I, HELEN A. BLANCHARD, of Boston, in the county of Suffolk and State of Massachusetts, 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 thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

This invention is designed as an improvement upon my United States Letters Patent No. 152,721, dated July 7, 1874, and relates to the cloth-gage and presser-foot. It consists, first, in so connecting the cloth-gage and the rotary and laterally-reciprocating feed-wheel that the cloth-gage will have imparted to it a positive lateral movement in unison with and from the feed-wheel; second, the combination of the fixed and bossed needle-guide with a feed-wheel and a carrier-plate interlocked with the same, all substantially as will now be more specifically and in detail set forth.

In the annexed drawings, Figure 1 represents a top-plan view of my improvements. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 illustrates a modification of the means for connecting the feed-wheel and the carrier-slide; and Fig. 4 is a detail view, in perspective, of the spring presser-bar.

Letters of like name and kind refer to like parts in each of the figures.

In the delineation of my invention I have omitted all parts of the machine which do not directly bear upon my present improvements, and for a description of the mechanism giving the lateral reciprocating motions to the feed-wheel, reference may be had to my above-mentioned patent.

The cloth-gage A, slotted at a and a^1, is adjustably connected to a carrier plate or slide, B, by means of a fixed stud, b, projecting from slide B into slot a, and a thumb-screw, C, passing through slot a^1 into a tap in the slide. The cloth-gage is turned up at the end adjacent to the feed-wheel, and slotted, as at a^2, to permit the descent of the needle when the cloth-gage is in its advanced position. It is adjusted, with reference to the needle, in the usual manner.

The carrier plate or slide B moves between or in ways D D, secured to the table of the machine, and, extending forward under and beyond the needle, is bent down, reaching through an opening in the table, and curved into a hook, d, which engages an inwardly-projecting circumferential flange, e, on the feed-wheel E. Thus the feed-wheel may rotate without affecting the carrier-plate, but its reciprocating lateral movements will be imparted to the carrier-plate and the cloth-gage attached to it, so as to move the cloth alternately under and away from under the needle, enabling the latter to form the desired over or button-hole stitch.

The needle-guide F is secured rigidly to the table, underneath the carrier-plate, into a slot, d', of which its perforated boss f passes, its top being flush with the upper surface of the carrier-plate, so as to afford support to the cloth the moment the needle begins to pierce it. Unless this boss were provided, the needle would be apt to drag the cloth down into slot in the carrier-plate, which would not only render it very difficult, if not impossible, to do the work properly, but would also be liable to cause the needle to bend or spring in its descent, and then to strike the shuttle mechanism with damaging effect.

G refers to the spring presser-bar, having the form substantially as shown best in Fig. 4. It is adjustably secured at g to the carrier-plate B, and is so bent that its laterally-projecting arm G′ will bear forcibly against the presser-foot when in its elevated position. Its arm G′ is curved to conform to the usual surface contour of the presser-foot, and is provided with a slot, g', through which the needle descends. This arm overhangs the feed-wheel, and the down-stroke of the presser-foot forces the same down upon the cloth resting on the feed-wheel. The use of this independent reciprocating presser-bar enables me to apply my invention to all sewing-machines now in use.

The method of connecting the feed-wheel and carrier-plate shown in Fig. 3 consists of

a downwardly-projecting arm, B′, on the latter engaging an annular groove, *e′*, in the hub E of the former.

The presser-bar is made of thin steel, so as to oppose as little resistance as possible to the passage of the cloth.

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

1. The combination of the horizontally-reciprocating feed-wheel, carrier-plate B, interlocked therewith, as described, cloth-gage A, and spring presser-bar G, both secured to and upon said carrier-plate, substantially as and for the purpose specified.

2. The horizontally-reciprocating feed-wheel E and carrier-plate B, interlocked therewith, as described, and provided with a slot, *d′*, in combination with the fixed and bossed needle-guide F *f*, substantially as and for the purposes specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HELEN A. BLANCHARD.

Witnesses:
JOHN P. LEACH,
F. F. RAYMOND.