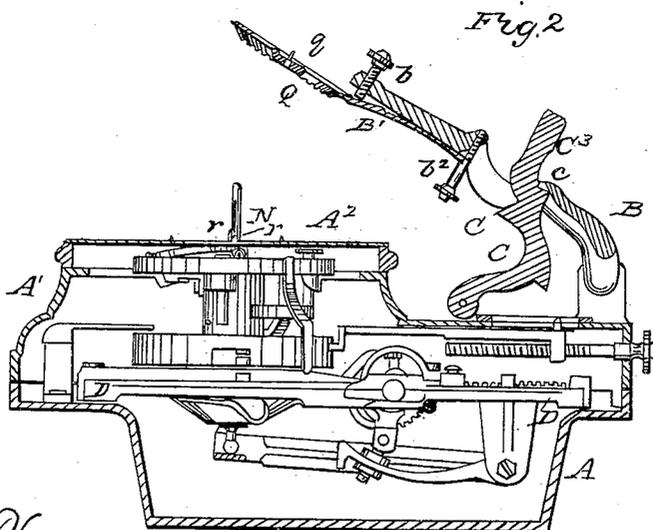
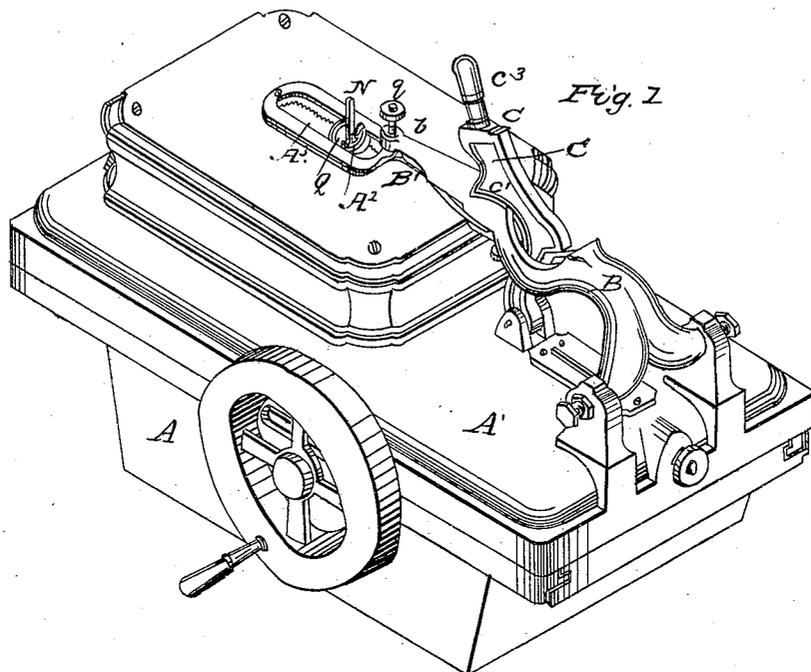


J. A. & H. A. HOUSE.

Sewing Machine.

No. 39,443.

Patented Aug. 4, 1863.



*J. A. & H. A. House  
Attorneys*

*J. A. & H. A. House  
by their Attorney  
Wm. H. Baldwin*

# UNITED STATES PATENT OFFICE.

JAMES A. HOUSE AND HENRY A. HOUSE, OF BROOKLYN, ASSIGNORS TO THEMSELVES AND AUGUSTUS G. SEAMAN, OF NEW YORK, N. Y.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 39,443, dated August 4, 1863.

*To all whom it may concern:*

Be it known that we, JAMES A. HOUSE and HENRY A. HOUSE, both of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sewing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view in perspective of a machine for working button-holes, embracing our improvements, with its parts in position for operation; and Fig. 2, a view in elevation of one side of the same, the casing and a portion of the mechanism being shown in section and the presser-lever raised in order to permit the removal or adjustment of the work.

The improvements claimed under this patent consist, first, in combining with the presser-foot of a sewing-machine a locking-lever which raises and lowers and holds it in either position, as desired; second, in combining a locking-lever with an adjusting device on the presser-lever in such manner that the pressure upon the presser-lever may be graduated at the will of the operator to adapt it to the fabric upon which the machine is operating; third, in combining in a sewing-machine a rigid presser-lever and an elastic presser-foot, by means of a set-screw or other equivalent adjusting device, in such manner that the foot may be adjusted to varying thicknesses of fabric; fourth, in combining with a sewing-machine a perforated button or disk through which a needle plays, in order that the edges of the fabric may be kept in the proper position while being stitched; fifth, in combining with the button a handle or tail to enable the operator to adjust the button without injury to his fingers from the needle; sixth, in mounting a perforated button or disk in a slot in the presser-foot of a sewing-machine in such manner that it is free to rotate or travel back and forth with the needle, and can readily be removed or replaced, and yet is always kept in place and prevented from being lost; seventh, in combining a perforated traveling button with guides or standards on the stitching-plate of a sewing-machine, by which means it is always held in its proper position while the stitching mech-

anism is in operation; eighth, in combining a presser-foot, a disk or button, and a stitching mechanism in such manner that the button, while secured in the presser-foot, travels freely with and conforms to the movements of the stitching mechanism, and yet can readily be detached from it when required; ninth, in combining in a sewing-machine a clamping device which holds down the fabric, an eye-pointed needle and a thread carrier or looper, both of which penetrate the fabric; and a perforated disk or button connected with the clamping device and conforming to the movements of the stitching mechanism in such manner as always to keep down the edges of the fabric while the stitches are being formed therein.

In order to carry out the objects of our invention, we use a clamping device, or a device for holding down the fabric while being operated upon, consisting of two parts, a rigid presser-lever pivoted to the frame in such manner as to move freely in a vertical plane, and an elastic flexible or yielding presser-foot attached to the free end of the presser-lever. To accommodate the presser-foot to varying thicknesses of fabric it is provided with an adjusting device, by which the presser-foot is always kept parallel with the table or bed-plate to hold the fabric securely. To raise and lower the clamping device a slot is made in the presser-lever, through which a peculiarly-shaped lever is passed. This lever is pivoted to the frame and oscillates in a plane parallel to the presser-lever. Its shape is such that when moved in one direction the clamping device is raised and held up by a catch or shoulder on the lever, and when moved in the opposite direction the clamping device is lowered upon the table or fabric and held there by a nose or projection on the lever. An adjusting device acting upon this lever affords a means of holding down the clamping device with any degree of pressure required. In order to keep down the fabric while being sewed or worked, a perforated disk or button is mounted loosely in a slot in the presser-foot, so that it is free to rotate upon its own axis and to traverse in a plane parallel to the presser-foot. A handle or tail on this button enables the operator to adjust it readily. As both the needle-stock and thread-carrier must play

through the button-hole in order to work to the best advantage, and as it is important to have this hole as small as practicable, it becomes essential to have some means of mounting the button so that it will be at all times in its proper relation to the needles. This we accomplish by erecting guides or standards on the stitching-plate and forming corresponding grooves in the button. These standards also serve as guides for the needle which plays between them.

From the above general description it will be seen that the button is at liberty to travel back and forth in its slot, or to rotate on its axis (which is coincident with that of the stitching mechanism) with the needle, and yet at the same time can be detached from it by merely raising the presser-foot. Our improvements can by this means be applied either to machines in which the table is stationary and the stitching mechanism travels or to those in which the mechanism is fixed while the table reciprocates. If desired, both the table and mechanism might be caused to move simultaneously in opposite directions or to move in the same direction at different speeds.

The accompanying drawings exemplify one mode of carrying out the objects of our invention. In this instance the driving-gearing and stitching mechanism are shown as mounted in a strong frame, D, which slides in guides in a casing, A, and as inclosed between it and another casing, A'. A curved and slotted presser-lever, B, is pivoted upon one end of this casing. This lever is composed of two parts, one of which is rigid, while the other (which forms the presser-foot B') is flexible, in order that it may be adjusted to different thicknesses of cloth. This adjustment is effected in this instance by means of a set-screw, *b*, which passes through the rigid portion of the presser-lever B. A peculiarly-shaped lever, C, likewise pivoted to the upper casing, passes through a slot in the presser-lever B. The construction and arrangement of this lever is such that when thrown back a catch, *c*, upon it engages the under side of the presser-lever and holds it up, as shown in Fig. 2, and when thrown forward its nose *c'* holds the lever down, as shown in Fig. 1. A set-screw, *b*<sup>2</sup>, which passes up through the lever B and strikes this nose, regulates the pressure of the presser-lever upon the bed-plate or table.

It will be seen by the above description that by merely moving the handle *c*<sup>3</sup> of the locking-lever backward or forward the presser-foot will be raised or lowered, or held securely either up or down without further adjustment or attention on the part of the operator, and thus leave his hands free to manipulate the fabric. The needle and thread-carrier play through a stitching-plate and traverse to and fro in a slot, A<sup>3</sup>, in the table A<sup>2</sup>. Two small projections or standards, *r*, arise from the stitching-plate, and serve both as guides to steady the needle-bar N' (which plays between them) and to maintain in proper position a button,

Q, through a hole in which the needle-bar also passes. This button plays freely in the slot of the presser-lever B', in order to conform to the traversing movements of the stitching mechanism, and is provided with a small handle or tail, *q*, that the operator may more readily adjust it. The button has likewise a small hole through it for the passage of a gimp or cord. The button, while free to rotate or to traverse back and forth, is prevented from escaping from the presser-foot by being mounted in a groove or slot in it. In order to remove the button from the needle-bar, the latter is brought down to the lowest point of its stroke and the locking-lever tilted backward. It is replaced by inverse means as the presser-foot is brought down upon the fabric. As the frame carrying the stitching mechanism progresses the button travels with it, and likewise turns with the needles as they sew round the eye of the button-hole, or turn to commence a new one. This conformity to the movements of the needles is essential, as they must play through the slot in the button at all times in order to form a stitch. The object of the button is to keep down the edge of the fabric around the needles while the button-hole is being worked, which has heretofore been found very difficult to do, and as in such work the stitches are always formed upon the edges of the cloth the importance of the device is manifest.

It is deemed unnecessary here to describe in detail the construction and operation of the other portions of the machine, as they are described in three other applications for Letters Patent, filed by us simultaneously with this, and respectively marked Divisions A, C, and D.

The improvements claimed under this patent are applicable to other sewing-machines; but are more especially designed as improvements upon a sewing-machine for which Letters Patent were granted to A. G. Seaman and ourselves, (as our assignees,) November 11, 1862, which patent contains a full description of the operation of our machine and the stitch formed by it.

It is obvious that the details of our arrangements might be modified in various ways without departing from the spirit of our invention, which modifications would readily suggest themselves to an ingenious mechanic after seeing our improvements.

What we claim under this patent as our invention is—

1. The combination, with the presser-foot of a sewing-machine, of a locking-lever which raises and lowers and holds it in either position, as desired, substantially in the manner described.

2. The combination of an adjusting device on the presser-lever with a locking-lever, substantially in the manner described, for the purpose of adjusting the pressure upon the fabric, as set forth.

3. The combination, in a sewing-machine, of a rigid presser-lever, an elastic presser-foot,

and set-screw or other equivalent adjusting device, substantially in the manner described, for the purpose of adjusting the presser-foot to various thicknesses of fabrics, as set forth.

4. A traveling button or disk through which the needle plays, for the purpose of keeping down the edges of the fabric, as set forth.

5. The combination, with a loose perforated button, of a tail or handle for the purpose of adjusting it without injury to the fingers of the workman, as set forth.

6. Mounting a perforated disk or button loosely in a slot in the presser-foot of a sewing-machine substantially in the manner described, so that it is free to rotate or traverse with, and yet can readily be removed from, the needle, while at the same time it is always kept in place, as set forth.

7. The combination of a perforated traveling button with guides or standards on the stitching-plate of a sewing-machine, substantially in the manner described, for the purpose of holding the button in the proper position while traveling with the needle, as set forth.

8. The combination, in a sewing-machine, of a presser-foot, a disk or button, and a stitching mechanism, in such manner that the button, while held in the former, travels freely with and conforms to the movements of the latter.

9. The combination, in a sewing-machine, of a clamping device which holds the fabric to be sewed, an eye-pointed needle and a thread carrier or looper, both of which penetrate the fabric, and a perforated disk or button connected with the clamping device and conforming to the movements of the stitching mechanism in such manner as always to keep down the edges of the fabric while the stitches are being formed therein.

In testimony whereof we have hereunto subscribed our names.

JAMES A. HOUSE.  
HENRY A. HOUSE.

Witnesses:

E. N. HOUSE,  
GEO. H. DEMOND.