L. & S. B. HOLDEN.

Sewing Machine.

No. 40,212. Patented Oct. 6, 1863.

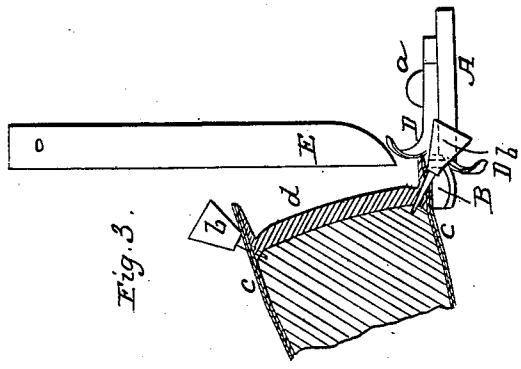

Fig. 3.

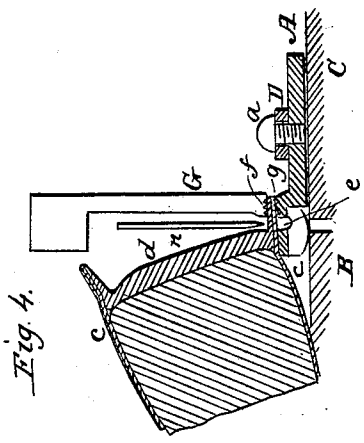

Fig. 4.

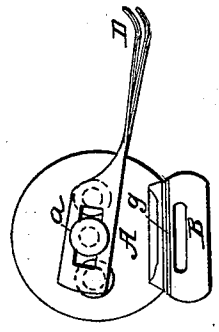

Fig. 1.

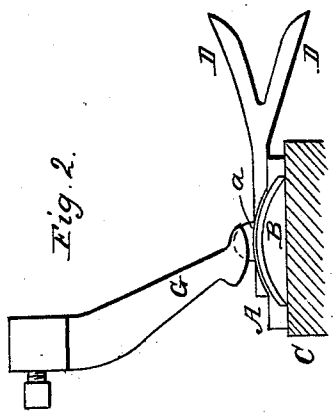

Fig. 2.

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UNITED STATES PATENT OFFICE.

LUTHER HOLDEN AND STOUGHTON B. HOLDEN, OF WOBURN, MASSACHUSETTS, ASSIGNORS TO THEMSELVES, J. C. SEELYE, AND L. L. HOLDEN.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **40,212**, dated October 6, 1863.

To all whom it may concern:

Be it known that we, LUTHER HOLDEN and STOUGHTON B. HOLDEN, both of Woburn, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

This invention relates more particularly to sewing-machines for sewing on the soles of shoes and boots, and especially to the sewing on of soles which are prepared for sewing as described in Letters Patent No. 925, of 1861.

The object of the first part of our invention is to provide for the use of tacks for the attachment of the upper to the sole and last for sewing in a sewing-machine, instead of requiring to whip the upper and sole together before sewing, as has commonly been practiced in sewing-machine work; and to this end it consists in the attachment to a sewing-machine of a tack-drawing instrument operating, substantially as hereinafter described, to draw the tacks as fast as required to prevent their interference with the sewing operation.

A second feature of our invention consists in an arched needle-die standing above the plate or bed of the machine, and slanting downward to the right or left in such form and manner as to adapt itself to the concavity of the sides of shank of the shoe in sewing on the soles; and a third feature of our invention consists in the combination of a serrated or roughened surface on the presser, and a similar surface on the needle-die to prevent the work from being drawn from between the presser and die by the operation of the needle or the other stitch-making devices.

Similar letters of reference indicate corresponding parts in the several figures.

Figure 1 in the accompanying drawings is a plan of the needle-die and the device for drawing the tacks. Fig. 2 is a side view of the die, the tack-drawing device, and the presser. Fig. 3 is a front view of the needle-die and the tack-drawing device, illustrating the operation of the latter device. Fig. 4 is a vertical section of the needle-die and a front view of the presser, illustrating their operation in holding the work.

A is a plate intended to be secured to the bed-plate C of the machine for the purpose of carrying the arched needle-die B, which may be made in the same piece with or otherwise permanently attached to the said plate A, and which stands up a short distance from the bed-plate.

D is the device for drawing the tacks, consisting of an elastic steel or other metal fork, the shank of which is rigidly secured to the plate A by a screw, *a*. This fork is so adjusted that as the lasted shoe passes over the die in the manner shown in Fig. 3 the heads of the tacks *b b*, which are employed at certain intervals to secure the upper *c* to the sole *d*, will pass directly between the prongs of the said fork.

E is a wedge attached either to the needle-bar, awl-bar, or any other reciprocating part of the machine, by which once for every stroke of the needle it may be caused to act upon the laterally-elastic prongs of the fork D in such manner as to push them aside in a direction from the shoe, by which means whenever in the feed movement of the shoe the head of a tack *b* has arrived far enough between them they are caused to draw it out. This action does not take place until the tack has arrived near the needle *n* and die B, as it is not till the tacked points in the shoe arrive at the die that the tacks would offer any obstruction to the feed movement. When the wedge E returns, after having pressed aside the fork D, the elasticity of the prongs of the fork brings them back to their normal position. The tacks, when drawn, drop form the fork into a basket or suitable receptacle. The wedge E may work downward from above the bed-plate or upward from below it to produce the withdrawal of the tacks according as the needle works downward from above or upward from below.

G is the presser, which holds the work upon the die B, having its face grooved, toothed, or roughened, as shown at *f* in Fig. 4, to make it bite firmly upon the margin of the work. The portion of the needle-die on that side of the needle-slot *e* on which the presser works is similarly grooved, toothed, or roughened, as shown at *g* in Figs. 1 and 4, to prevent the work from being drawn away from the needle. This presser is raised when the feed takes place, the feed being produced either by the needle or by the thread, as is common in the

wax-thread sewing-maches, or by other suitable means independent of the presser.

The slanting of the top of the arched needle-die in a transverse direction, as illustrated in Fig. 4, is of considerable importance, as it adapts the surface to the support of the shoe at the point where the sewing is taking place. The slant will be in one direction or the other, according as the machine is what is known as a "right-hand" or "left-hand" machine.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The tack-drawing device consisting of an elastic fork applied in combination with a sewing-machine and operated by a wedge, E, or its equivalent, substantially as and for the purpose herein specified.

2. The arched needle-die B, standing above the bed-plate of the sewing-machine and slanting transversely, substantially as and for the purpose herein specified.

3. The combination of the grooved, toothed, or roughened surface *f* of the presser G and the corresponding grooved, toothed, or roughened surface *g* of the needle-die B, substantially as and for the purpose herein specified.

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