

M. J. STEIN.

Sewing-Machine for Boots and Shoes.

No. 126,238.

Patented April 30, 1872.

Fig. 2.

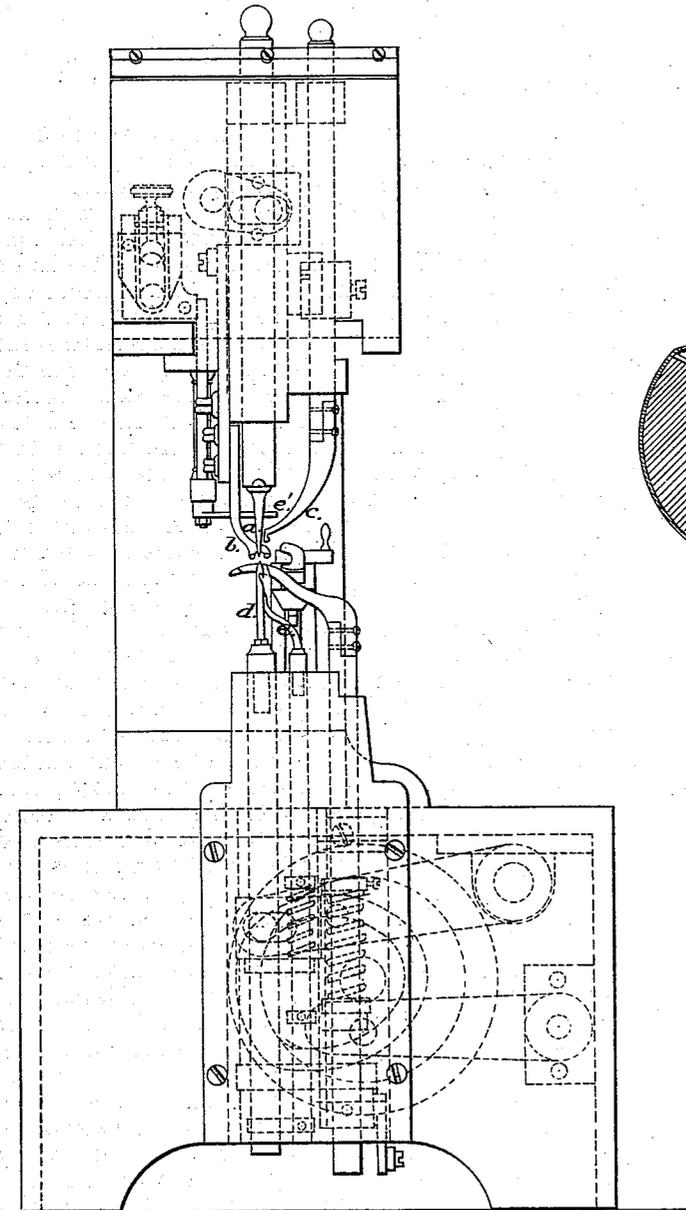
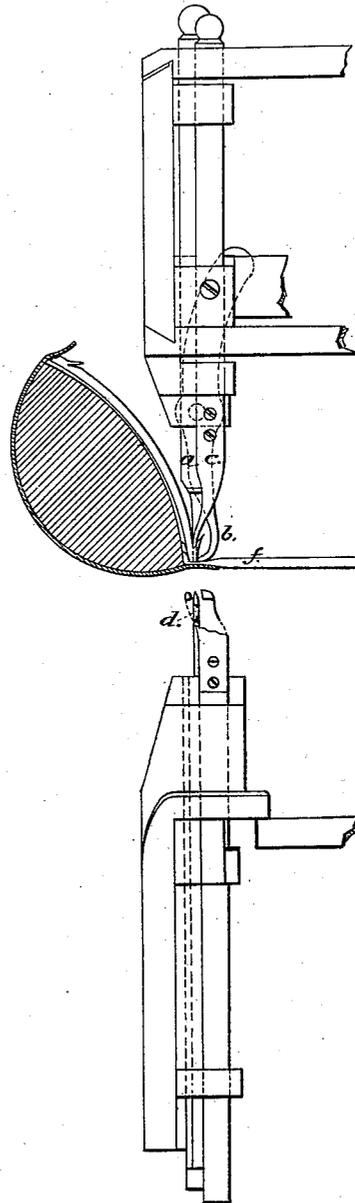


Fig. 3.



Witnesses.

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MICHAEL J. STEIN, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 126,238, dated April 30, 1872.

To whom it may concern:

Be it known that I, MICHAEL J. STEIN, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Sewing Boots and Shoes, of which the following is a specification:

My invention relates to machinery for sewing boots and shoes, in which the edge of the sole is bent and presented to the needle by means of an awl and edge-bender combined, and operating as described in my Letters Patent No. 124,393, of March 5, 1872. In the machine described in said Letters Patent, the feeding and edge-bending mechanism, while it may be used with a straight as well as a curved needle, is still more particularly adapted for the latter, and some difficulty would be experienced in using it with a straight needle, unless, as stated in said patent, the bottom of the last were somewhat modified from the usual form. The object of my present improvement is to allow the said feeding and edge-bending mechanism, even when combined with a straight needle, to be used with a last of any ordinary construction, and without rendering necessary any special modification in its form to adapt it to this machine. To this end I employ, in connection with said awl and edge-bender, when combined and operating as described in said Letters Patent, a separator or opener, which holds the edge of the sole out away from the last the proper distance to allow the awl to enter said sole at the right spot, and to maintain it at such distance from the last during the subsequent movements preparatory to the stitch, as will afford space between the sole and the last for the edge-bender to bend the edge over the point of the awl, as described in my former patent, and to push it back far enough to allow a straight needle to enter the sole at the proper point.

In the accompanying drawing I have illustrated my invention in a machine for sewing "turned work," which is equally adapted, however, for "welted work."

Figure 1 is a side elevation of the machine, the frame being in section. Fig. 2 is a front elevation of the same. Fig. 3 is a side elevation of the needle and edge-bending and feeding mechanism, detached from the machine, and shown in the position they occupy with

relation to the last when the awl has descended and partly pierced the sole preparatory to the feed and edge-bending movements.

The machine in its general arrangement and construction is similar to that described in my aforesaid Letters Patent, and therefore an extended description of it is not here necessary.

a is the awl, and *b* the edge-bender, arranged to operate as described in said Letters Patent. With them may be combined the channel-guide *c*, also described in the same Letters Patent. In lieu of the curved needle I now represent a straight one, *d*, provided with a cast-off, *e*, and operating in connection with a looper, *e'*, in the usual manner. For the purpose of holding the sole far enough out from the last to afford sufficient space between the two to allow the edge to be bent out of the path of the needle, I employ a separator or opener, *f*, consisting of a bar or metallic strip with a hook-like projection on its front end, which is inserted between the sole and the last, as shown in Fig. 3, so as to hold the two at the proper distance apart. The separator is arranged on one side of the needle, and at the point where the awl descends to partly pierce the sole, preparatory to the feed and edge-bending operations, the awl descends and partly pierces the sole, and having thus penetrated and taken a hold upon the sole, it maintains it away from the last while the edge-bender bends the edge over the point of the awl, and while the two move toward the needle to effect the feed. In this manner, by the combined action of the awl and opener or separator, sufficient space is maintained between the sole and last to allow the edge to be bent entirely out of the path of the needle, and the awl and edge-bender are thus enabled to operate in the manner described in my former patent, above named, with a last of ordinary construction, and in connection with a reciprocating straight needle.

The motion of the edge-bender is timed slightly differently from that of the edge-bender in my former patent. In the present instance, it moves toward the sole at first only enough to grasp it with sufficient tightness to carry along the work, in connection with the awl, when the forward movement of the feed begins; then, when the work has sufficiently advanced to clear the edge-bender and awl from the sep-

arator, the edge-bender, during the progression of the feed, again takes up its movement against the sole until the edge of the latter is bent entirely back out of the way of the needle. The separator is in this instance supported on a standard or rest, *g*, in rear of the needle and awl. It is placed upon a second bar or lower piece, *h*, which is provided with a pin, *i*, passing up into a hole formed in the rear end of the separator. The piece *h* is set in an open slot or groove in the top of the standard, and is provided with a turn-button, *k*, which will hold the separator down in place. The rear end of the lower bar *h* is lengthened into a cylindrical stem, *l*, which passes out through a hole formed in rear of the standard, and has, on its outer end, a nut, *m*, between which and the standard is placed a light spring, *n*, that serves to hold the separator up against the grain side of the sole, and at the same time to allow it to yield to inequalities in the leather. The portion of the separator in contact with the sole is so shaped and rounded that it will not mark or indent the sole.

On the under side of the standard is a set-screw, *o*, by means of which the separator may be slightly raised or lowered according to the depth of the outside chamfer of the sole.

The combination of the awl, edge-bender, and separator, has been described as used with a straight needle, and it is, of course, of special value in this connection; but it may also be used with a curved needle, and will, even in this case facilitate the easy operation of the machine.

Having now described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

The combination, in a machine for sewing boots and shoes, with an awl and edge-bender, operating together to bend the edge over the point of the awl, as herein described, of an opener or separator arranged to operate in connection with said parts and between the sole and the last, substantially in the manner and for the purpose herein shown and set forth, whether said combination be used in connection with a straight or a curved needle.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

MICHAEL J. STEIN.

Witnesses:

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