

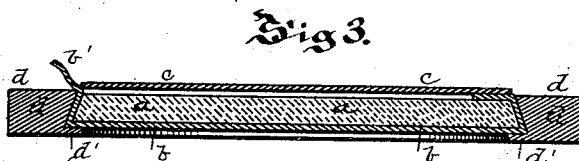
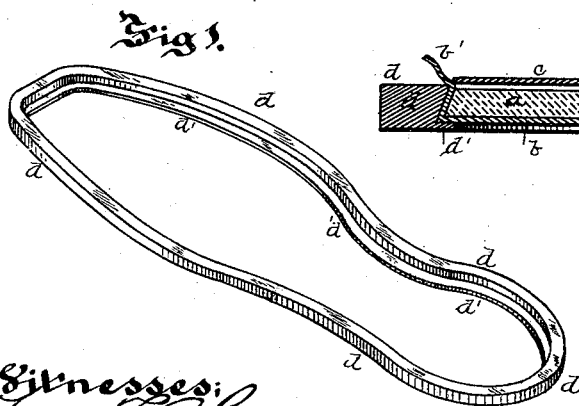
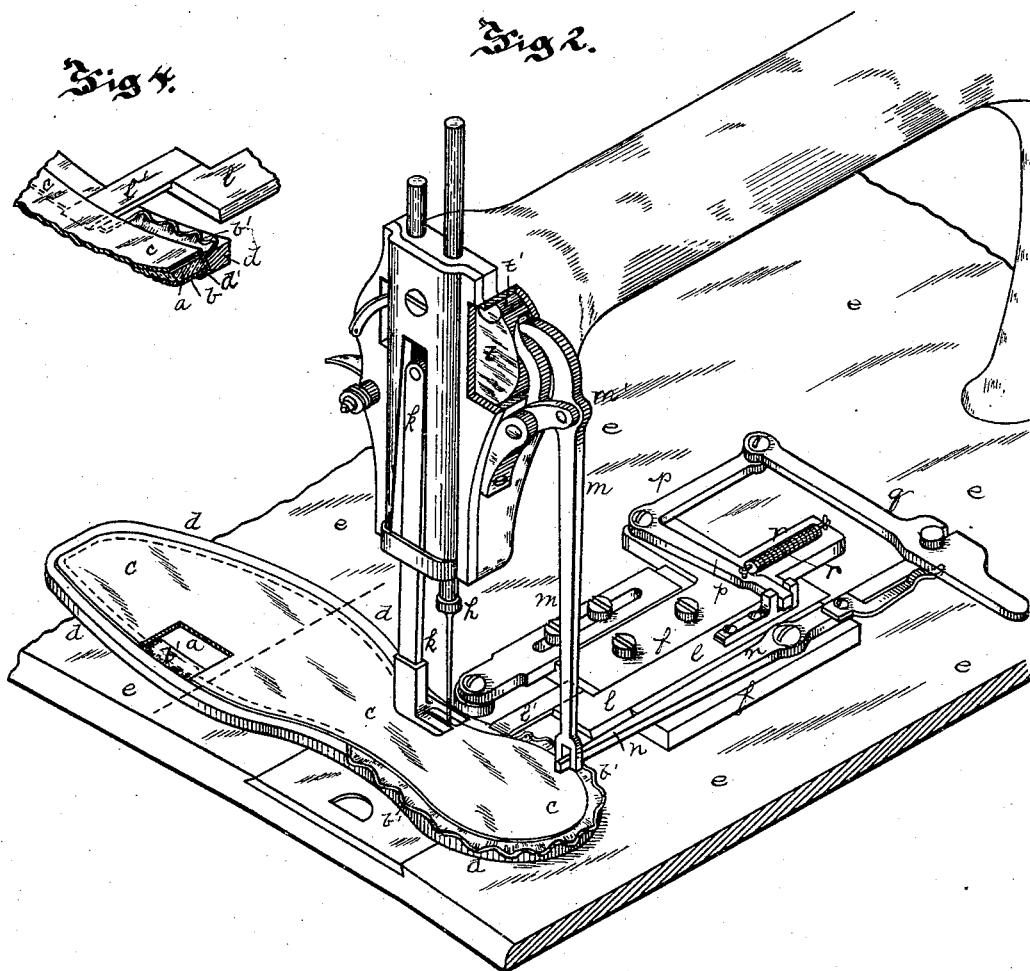
(No Model.)

E. MEISE.

FRAME FOR THE MANUFACTURE OF INSOLES.

No. 343,670.

Patented June 15, 1886.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDUARD MEISE, OF PITTSBURG, PENNSYLVANIA.

FRAME FOR THE MANUFACTURE OF INSOLES.

SPECIFICATION forming part of Letters Patent No. 343,670, dated June 15, 1886.

Application filed November 14, 1885. Serial No. 182,807. (No model.)

To all whom it may concern:

Be it known that I, EDUARD MEISE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Frames for the Manufacture of Insoles; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the covering of insoles for shoes—such as cork soles and similar removable insoles—its object being to cheapen and improve their manufacture, my invention having special reference to the improvements set forth in Letters Patent No. 319,740, granted to me June 9, 1885, for method of forming insoles for shoes, the application for which was filed April 6, 1885, and in application for Letters Patent for improvement in apparatus for forming insoles for shoes filed by me April 6, 1885, Serial No. 161,274, the present application being a division of said application Serial No. 161,274, and the said division being made at the requirement of the Office. The only method in general use for securing the covers on cork or other bodies of these insoles prior to my invention as covered by said Letters Patent and by said application filed April 6, 1885, and the present application, has been to paste the overlapping edges of the canvas or canton-flannel cover to the body, and after drying to sew this canvas cover and the oil-cloth cover to the body at the same time, the canvas covering one face of the body and overlapping onto the other face thereof, and the oil-cloth covering the other face of the body and hiding the overlapping edges of the canvas cover. The principal expense in this method of manufacture was the pasting and drying, this costing double the amount paid for sewing, and the pasting stiffened the edges of the insole and prevented its fitting so neatly to the shoe. On account of the flexibility of the material employed no means has been heretofore devised for sewing the covers without stretching out of shape and wrinkling the canvas cover, and no commercially perfect goods have been so made.

My present application refers to the apparatus for practicing the method set forth in said Letters Patent dated June 9, 1885, and particularly to the frame within which the insole is sewed, the said application, Serial No.

161,274, referring to this apparatus and consisting, generally, in combining this frame with the stitch-forming mechanism, and with means for turning over the overlapping edge of the canvas cover onto the insole during the sewing operation.

My present invention consists, essentially, in a bottomless frame having its inner edge corresponding in size and shape to the body of the insole, within which the canvas or flannel cover is stretched on the body of the insole in such position that it can be secured thereto.

It also consists in providing this bottomless frame with a lip extending around the base of its inner edge to support the insole and its cover within the frame.

It also consists in forming the inner face of this frame dovetailed, to assist in stretching the cover upon the insole more perfectly.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved frame. Fig. 2 is a like view of a portion of a sewing-machine, illustrating the manner in which the said frame is used. Fig. 3 is an enlarged cross-section of the frame, showing the insole therein in position for sewing; and Fig. 4 is an enlarged detail view illustrating the overlapping operation.

Like letters of reference indicate like parts in each.

My invention is illustrated in connection with what is known as a "Singer Vibrating Presser Sewing-Machine," this machine being especially adapted for sewing this class of work, though other suitable machines may of course be employed, or my improved frame may be employed where the cover is secured to the insole by other suitable means.

I have not considered it necessary to fully describe the stitch-forming mechanism, as it is well understood by the skilled mechanic, and varies according to the machine with which my improved frame is employed.

The body *a* of the insole is formed of cork, pasteboard, or similar material, and the bottom cover, *b*, of canvas or canton-flannel, while the top cover, *c*, is generally formed of oil-cloth. The canvas cover *b* corresponds in

shape to the body *a*, and is sufficiently large to form an overlapping edge, *b'*, which is turned over the edge of the body and overlaps on the opposite face thereof, and the top cover, *c*, corresponds substantially both in size and shape to the body. The frame *d*, within which the canvas cover is stretched over one face of the insole, is made of metal or gutta-percha, and corresponds in shape to the body of the insole, the inner edge thereof being substantially the same shape and size as the body of the insole, and the frame being sufficiently thick and wide to form a stiff frame, suitable for supporting the insole when the cover is secured thereto, the frame having the same width of body throughout, as shown, to act as a guide in sewing the cover to the insole. The frame *d* is formed bottomless, as shown, this having great advantage over a frame provided with a solid base, as it permits the sewing of the insole and its cover when they are supported in the frame.

Extending around the base of the inner face of the frame *d* is the lip *d'*, to support the insole and cover therein, the canvas cover *b* being placed over the frame *d*, and the body *a* being pressed into it, thus stretching the canvas cover over the lower face of the body, in which position the parts are ready for the sewing operation. The inner face of the frame is preferably made dovetailed, its upper edge corresponding in size to the body of the insole, and said face then receding slightly, and, as the body of the insole is slightly elastic, when it and the cover are pressed into the frame it is first compressed slightly, and then expands into the dovetailed seat, and so stretches the cover more perfectly and holds it within the frame.

My improved frame may be employed with any form of sewing-machine or other apparatus for securing the cover to the body while it is stretched over it, that preferred by me being the apparatus illustrated in the drawings, and consisting of any suitable sewing-machine and an overlapper, which extends over the body of the frame *d* and acts to turn the overlapping edge *b'* of the canvas cover onto the body *a*, and down upon the same in position to be caught by the feeding mechanism, and be held thereby until the needle enters the material.

In this apparatus *e* is the bed-plate; *h*, the needle; *k*, the presser-foot of the feeding mechanism; *l*, the overlapper, the lip or knife *l'* of which extends over the frame *d* and acts to turn the overlapping edge *b'* of the canvas cover onto the body, as above described. The overlapper may either be stationary during the greater part of the sewing operation, in this case extending over the frame a short distance onto the canvas cover in front of the presser-foot, or may be reciprocating, in order to fold the material down in a direct line from the edge of the insole. When the overlapper is reciprocating, it moves in suitable guides on the plate *f*, and the reciprocating motion is

obtained in any suitable manner from any part of the sewing-machine, that shown in the drawings being suitable for the purpose, and the power being obtained from the cam-wheel *t* of the machine and through a suitable lever, which operates the presser-bar *k*, a friction-wheel, *t'*, extending beyond the face of the cam-wheel *t* and pressing onto this lever, the said lever, in order to give room for its movement, extending through a suitable slot in the side of the arm of the machine. Pivoted on said arm at *m'* is the lever *m*, the upper end of which presses against the back of the said lever so that the movement of that lever is imparted to the lever *m*, and this lever *m* is connected at its lower end to the lever *n*, pivoted to the plate *f*, the opposite end of the lever *n* being connected to the crank-lever *p* by means of the bar *q*, and this lever *p* being connected to the reciprocating overlapper *l*, the overlapper being advanced by means of this mechanism, and being retracted by the spring *r*.

When my improved frame is employed with this stitch-forming and overlapping mechanism, after the stretching of the canvas cover *b* over the body *a* of the insole within the bottomless frame, the top cover, *c*, is generally placed on top of the body *a*, so as to coincide therewith, as shown, and, as the apparatus is fed to the machine the overlapper acts to turn the overlapping edges *b'* of the cover *b* on the upper surface of the body *a*, pressing this overlapping edge under the top cover, *c*, between it and the body, and as the sewing proceeds the parts being brought in proper position for sewing by the overlapper, as above described, the operation being continued until the sewing is almost completed, and the lip *l'* being then withdrawn in any suitable manner, to permit the stitching of the cover around its entire edge, as the lip would strike against the stitching where it was commenced unless the lip was so withdrawn.

If desired, the flannel cover may be first stitched to the body, and the top be secured thereto by the separate row of stitching; but this is not necessary, and would simply increase the expense of manufacture.

My improved frame acts to support the insole and its canvas cover when the covers are secured to the insole, holding the parts rigidly, and, as the frame is bottomless, making it possible to sew the parts together by any suitable machine. On account of the dovetailed inner face of the frame the canvas or flannel cover is stretched more perfectly over the face of the insole and held firmly thereto during the sewing operation, and by means of the lip *d'* of the frame the insole and its cover are so supported that the canvas cover does not bear upon the bed-plate of the machine and can be more easily fed thereto, while at the same time there is no liability of soiling the cover by oil or other substance on the bed-plate.

It is evident that my improved frame can also be employed for sewing the cover to the

insole by hand or securing it by other suitable means, and it is also evident that my improved frame can be employed for other purposes—such as in the manufacture of shoes—and the same is included in this application as far as said frame is applicable thereto.

No claim is made herein for the combination of my improved frame with the stitching mechanism or with the overlapper, nor the apparatus for operating the overlapper, this being the subject of said application filed April 6, 1885, Serial No. 161,274, of which this application is a division.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In apparatus for covering insoles, the continuous bottomless frame having its inner edge corresponding in shape and size to the outline of the insole, and acting to stretch and hold the cover on the insole during the secur-

ing of the overlapping edges of the cover thereto, substantially as and for the purposes set forth.

2. A bottomless frame for the manufacture of insoles, having its inner edge corresponding in shape and size to the outline of the insole, and provided with a lip at the base of its inner edge, for supporting the insole, substantially as set forth.

3. A bottomless frame for the manufacture of insoles, having its inner edge corresponding in shape and size to the outline of the insole, said frame having a dovetailed inner face, substantially as and for the purposes set forth.

In testimony whereof I, the said EDUARD MEISE, have hereunto set my hand.

EDUARD MEISE.

Witnesses:

JAMES I. KAY,

J. N. COOKE.