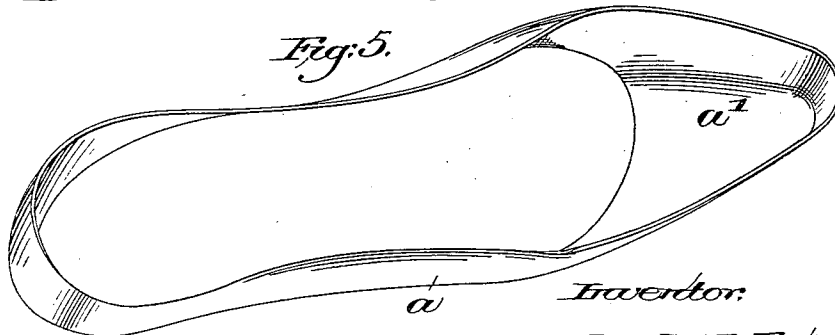
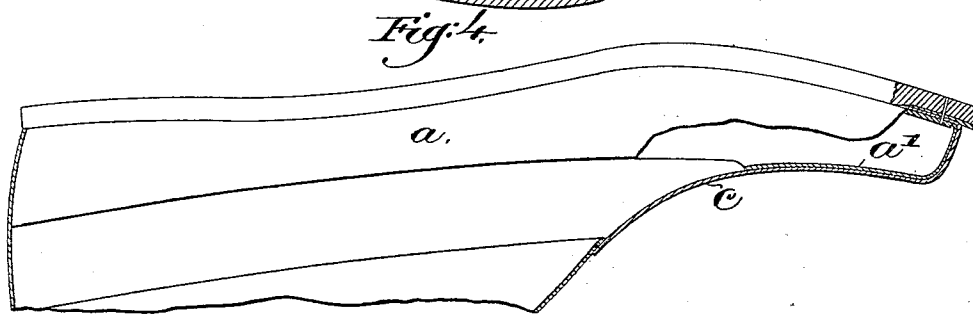
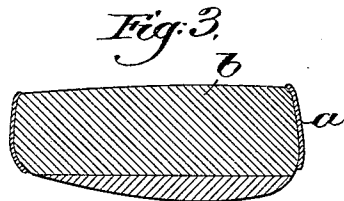
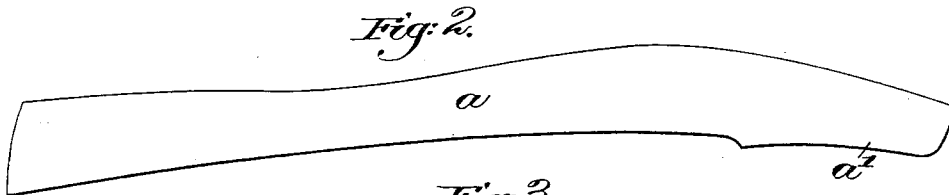
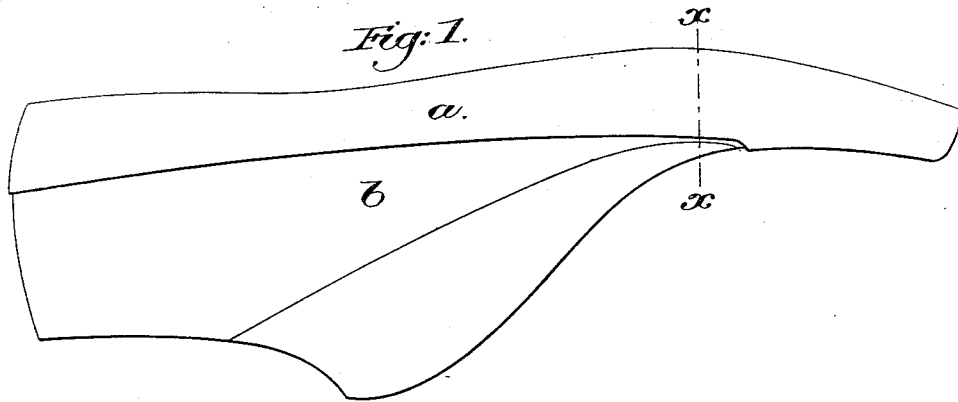


(No Model.)

S. F. EATON.
SHOE FORM.

No. 560,200.

Patented May 19, 1896.



Witnesses.
Fred S. Grunke
Thomas J. Grunke

Inventor:
Shepherd F. Eaton
by Crosby & Legony. Attys.

UNITED STATES PATENT OFFICE.

SHEPHERD FREEMAN EATON, OF MILFORD, MASSACHUSETTS.

SHOE-FORM.

SPECIFICATION forming part of Letters Patent No. 560,200, dated May 19, 1896.

Application filed May 2, 1895. Serial No. 547,873. (No model.)

To all whom it may concern:

Be it known that I, SHEPHERD FREEMAN EATON, of Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Shoe-Forms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the manufacture of some kinds of boots and shoes, particularly in the manufacture of what are known as "McKay sewed shoes," it is necessary during certain processes or operations to remove the usual last for a greater or less period of time, during which the shoe is without any interior support to hold it in shape and usually becomes more or less distorted, requiring subsequent treeing to restore it to its original and proper shape, and sometimes even this subsequent treeing will not remove the distortion.

To obviate this liability of distortion, my present invention comprehends an improved form to sustain the upper and adjacent parts of the shoe during the sewing, this form being of thin rigid material, such as sheet-steel.

My invention comprehends a form of special design, the shape being such as to permit the ready removal of the last without any tendency thereby to lift or distort said form or to disarrange in the slightest degree the adjacent parts of the unfinished shoe. The form is inserted with the last. When it becomes necessary to remove the last for any purpose, this sustaining material remains in the shoe, and its structure is such that it retains the shoe in shape until the last is again inserted within it or until the shoe is completed, when it or it and the last are removed.

In the preferred form of my invention this sustaining material will be employed in the form of a skeleton, which will be of a special shape, as hereinafter set forth, corresponding to and adapted to sustain the entire toe of the shoe, and will extend up at the sides of the shoe from one-half to one inch, more or less, according to the style of shoe.

In the drawings, Figure 1 is a side view of a last with the sustaining material or form upon it; Fig. 2, a side view of the sustaining material or form by itself; Fig. 3, a cross-section on the dotted line *x x*, Fig. 1; Fig. 4, a cross-section of a shoe, showing the sus-

taining material in position upon the last within the shoe; and Fig. 5, a perspective view of the sustaining material in the shape of a form such as I prefer to use.

At the beginning of the manufacture of the shoe the sustaining material, in the shape of a form *a*, such as is shown in Fig. 5, and which is of galvanized iron, steel, or any other suitable material or substance, is placed upon the last *b*, as shown in Fig. 1, or, in other words, the last is inserted in the form, the latter at *a'* covering the toe of the last and at the sides of the latter extending upwardly, as shown in Fig. 3. The shoe is now lasted upon the last *b* and the form *a*, precisely as at present—*i. e.*, the sustaining material in the shape of the form *a* is lasted into the shoe and between the latter and the usual last, it being so thin that it does not interfere with the proper manufacture of the shoe. I find in practice that this sustaining material makes the difference of about one size in the shoe.

The form *a* is terminated on its upper side at the toe part of the instep-block and at a point removed from the toe only such a distance, according to the shape of the shoe, as will allow the lifting of the heel portion and the consequent sliding back of the toe portion of the last beneath the vamp of the shoe and without any tendency thereof to lift and strain the top of said form. The heel portion also of the form terminates at an angle in the arc of movement of the end thereof as it is removed. In other words, this end portion of the heel is formed with an inwardly-retreating lower base portion, as very clearly shown in Figs. 1 and 2, which is in the form, viewed in side elevation, of an arc having its radius extending to the center of movement of the lower edge of the last as it is lifted at the heel portion for the purpose of removal from the shoe. The last and form being inserted in the shoe, it results from this construction that when it is desired to remove the last the toe part of the form does not interfere in the slightest degree with the removal of the instep-block of the last, inasmuch as it is terminated short of said instep-block, and at the same time the heel of the last is perfectly free to move out of the heel portion of the form without any tendency to

lift the same and without any necessity for springing or spreading said form. The last is turned up on its toe end in the usual manner and at the same time gently pulled up 5 and toward the heel, the substantial shape of the form at its heel end readily permitting of this movement. The thickness of the sustaining material is such that it does not interfere with the sewing of the shoe, and in 10 fact assists the sewing, because it provides a smooth firm edge against which the machine-horn may be run, thereby providing a more uniform stitching than would be otherwise possible. When the last is to be again in- 15 serted, it is inserted as usual, it slipping readily within the sustaining material *a* within the shoe practically as though the material were not there. After the shoe is completed— 20 meaning by "completed" when an inner support is no longer needed—the last is first removed and then the sustaining material, or they are both removed together, as the case may be.

I am aware that forms have been previously 25 devised and used for the same purpose herein set forth; but these forms have either been too shallow to afford proper support and direction to the shoe-upper, being mere narrow bands surrounding the edges of the last ad- 30 jacent to the sole, or they have been extended to such a height over the body of the last as to prevent ready removal therefrom of the last, so as to require that the form should be sprung in order to remove the last or else 35 that the last should be loose in the forms. A type of these extended forms is shown in

patents numbered 254,150 and 292,682. By reference to the latter it will be seen that I have materially improved the heel formation by forming its lower portion with retracting 40 or converging sides for the purpose of permitting the ready lifting and removal therefrom of the last, as fully explained above.

I do not lay claim to any of the features set forth in the patents referred to, inasmuch as 45 my invention is limited to improvements thereover, as definitely set forth herein and more particularly specified in the claim.

I claim—

The herein-described skeleton sustaining- 50 form for inclosing the lower portion of a boot or shoe last and for insertion therewith into the shoe in the process of manufacture, said form comprising a body portion in the form of a band having its lower edge terminated 55 to correspond with the inside bottom line of the shoe, having a toe portion terminating adjacent to but short of the instep-block of the last, said form having its upper edge extended therefrom to the heel portion in a line ap- 60 proximately parallel to its lower edge, and having its heel portion formed with sides and ends uniformly converging from the top to the bottom, substantially as described.

In testimony whereof I have signed my 65 name to this specification in the presence of two subscribing witnesses.

SHEPHERD FREEMAN EATON.

Witnesses:

HERBERT S. ELDREDGE,
BYRON BIRRET.