May 25, 1937. W. H. BAIN 2,081,887

PROCESS OF MAKING SHOES

Filed June 17, 1936

Fig. 1.

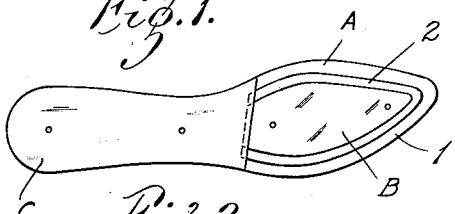


Fig. 2.

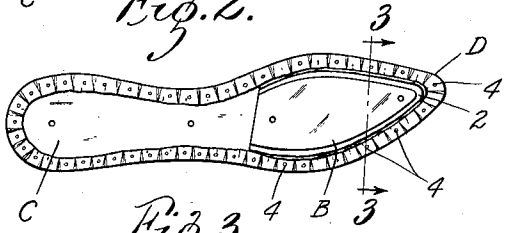


Fig. 3.

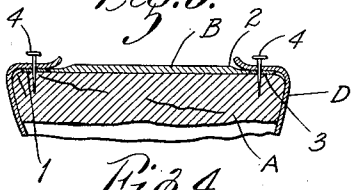


Fig. 4.

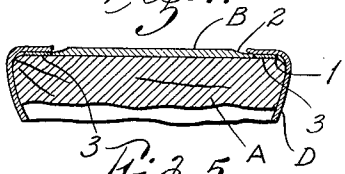


Fig. 5.

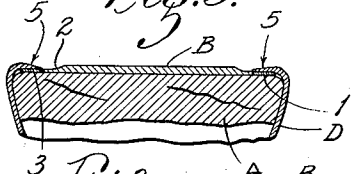


Fig. 6.

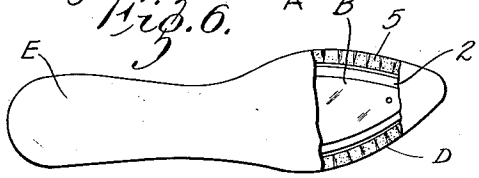


Fig. 7.

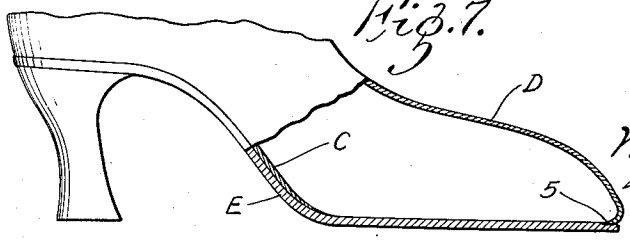


Fig. 8.

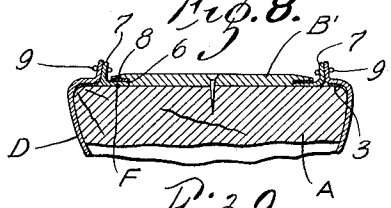


Fig. 9.

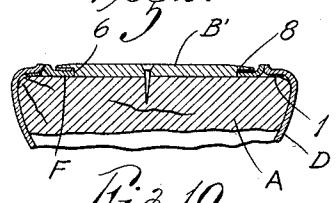


Fig. 10.

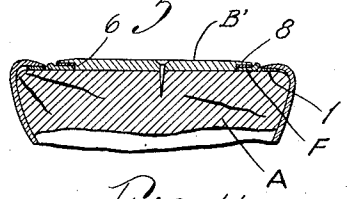


Fig. 11.

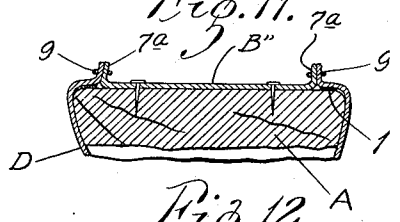


Fig. 12.

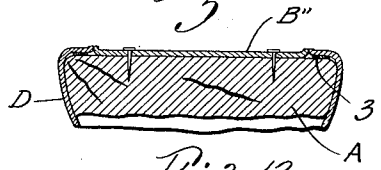
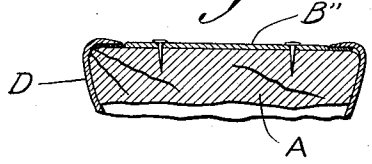


Fig. 13.



INVENTOR.
William H. Bain
by Pennie Davis Marvin & Edmonds
HIS ATTORNEYS

Patented May 25, 1937 2,081,887

UNITED STATES PATENT OFFICE

2,081,887

PROCESS OF MAKING SHOES

William H. Bain, Auburn, Maine

Application June 17, 1936, Serial No. 85,641

6 Claims. (Cl. 12—142)

This invention relates to the process of making shoes without an insole in the forepart thereof; and is a continuation in part of my copending application Serial No. 753,425 filed November 17, 1934, which discloses the improved process claimed herein.

In a prior process of making such shoes, the margin of the forepart of the upper is folded over and temporarily secured to the last or to a lip secured thereto and the outsole is secured directly to said margin. Such process also includes the step of feathering or beveling the marginal portion of the forepart of the upper to eliminate the ridge which would cause discomfort to the wearer of the shoe; and the beveling or feathering tool is likely to damage the surface of the last. Accordingly, the present invention has for its principal object to devise a simple and economical process of protecting the surface of the last against damage by the feathering or beveling tool. Another object is to hold the margin of the forepart of the upper in proper lasted position on the last. The invention consists in the improved process hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a bottom plan view of the last with the shank piece secured thereto.

Fig. 2 is a view similar to Fig. 1, showing the upper pulled over and secured to the shank piece and to the marginal portion of the forepart of the last,

Fig. 3 is a vertical cross-section on the line 3—3 of Fig. 2,

Fig. 4 is a view similar to Fig. 3, showing the lasting tacks removed and the excess lasting allowance of the upper cut away,

Fig. 5 is a view similar to Fig. 4, showing the lasted margin of the upper after the beveling or feathering operation,

Fig. 6 is a bottom plan view, showing the outsole attached to the lasted margin of the upper, the outsole being shown partly broken away,

Fig. 7 is a part side elevation and part vertical longitudinal section through the finished shoe,

Figs. 8, 9 and 10 are views similar to Figs. 3, 4 and 5, respectively, showing a modified process; and

Figs. 11, 12 and 13 are similar views illustrating another modified process.

The last A used with the process shown in Figs. 1 to 6, inclusive, of manufacturing shoes without an insole in the forepart thereof has a protecting member B of metal, fiber or other suitable material tacked or otherwise removably secured flatwise to the forepart of the last. Said member corresponds to the general contour of the forepart of the last, but is smaller than said forepart so as to leave the marginal portion 1 thereof exposed or uncovered. As shown in the drawing, the marginal portion of the protecting member is beveled, as at 2, to a thin edge continuously around the sides and toe portion thereof.

In the process of making shoes with the above last, a shank piece C of leather or other suitable material is tacked or otherwise temporarily secured flatwise to the bottom of the last and extends from the heel end to the ball or break line thereof where it overlaps the rear marginal edge of the last protecting member B. The margin of the shoe upper D is pulled over the last A and secured to the shank piece C and to the exposed marginal portion 1 of the forepart of said last by means of cement 3 and tacks 4, as shown in Fig. 3. After the cement 3 has set, the tacks 4 are removed and the excess lasting allowance of the upper cut away (see Fig. 4). The lasted marginal portion of the upper is then feathered or beveled, as at 5 in Fig. 5, by a suitable rotary tool (not shown); and damage to the last by such tool is prevented by the protecting member B which covers the portion of the forepart not covered by the upper and has its beveled edge 2 shaped to conform substantially to the peripheral cutting edge of said tool. The outsole E may then be cemented or otherwise secured to the lasted margin of the upper and the last, together with the forepart protecting member B thereof, withdrawn from the shoe; or the protecting member may be removed from the last before the laying of the outsole and the removal of the last. The cement 3, which secures the lasted margin of the upper directly to the last bottom, is a temporary cement that firmly holds said lasted margin in proper position on said last bottom, but permits separation of said margin from said last bottom when the last is removed from the shoe.

The last used with the process illustrated in Figs. 8, 9 and 10 is provided with a protecting member or plate B' whose underside is rabbeted, as at 6, around its sides and toe portion to accommodate the inner marginal portion of a lasting tape F whose outer margin is turned up beyond the edge of the last protecting member to form an upstanding lasting lip 7. As shown in Figs. 8, 9 and 10, the lasting tape F may be cemented or otherwise secured, as at 8, to the rabbeted marginal portion 6 of the protecting plate

B; it may also be clamped between the plate and the last; or it may be cemented or otherwise secured to the last. In making shoes with this form of last protecting member, the upper is pulled over the last with its marginal portion or lasting allowance secured by cement 8 to the exposed margin of the last and by staples 9 to the outer side of the upstanding lip 7 of the lasting tape F. After the cement 8 has set sufficiently to hold an upper to the exposed margin of the last, the lip 7 of the lasting tape and the lasted portion of the upper cooperating therewith are cut away, as shown in Fig. 9, and carry with them the staples 9 used to secure them together. The lasted margin of the upper is then feathered or beveled in the manner hereinbefore described, after which the outsole is laid and the last, together with the protecting member F and the remaining portion of the lasting tape, are withdrawn from the shoe.

The last protecting member B'' used in the process shown in Figs. 11, 12 and 13 comprises a strip of canvas or other suitable material that has its marginal portion bent up to form a lasting lip 7a located inwardly of the edge of the last. With this form of protecting plate, the upper is pulled over and secured to the exposed margin of the last and to the lasting lip, in the manner hereinbefore described. The lasting lip and the portion of the upper secured thereto are then cut away and the lasted margin of the upper is then beveled or tapered in the manner hereinbefore described. The outsole is then laid and the last, together with the remaining portion of the protecting member, are then withdrawn from the shoe.

By the arrangement described, the surface of the last is protected against damage by the feathering or beveling tool, thereby prolonging the life of the last, and the protecting member may be used as a means for holding the lasting tape in position on the last or the lasting lip may be formed integral with the protecting member. The lasted margin of the forepart of the upper is cemented directly to the exposed or uncovered margin of the last bottom, thereby firmly holding said lasted margin in proper position on said last.

What I claim is:

1. The improvement in the process of making shoes without an insole in the forepart thereof which consists in attaching a strip of material directly to the bottom of the forepart of a last inwardly of the edge thereof, cementing the lasting allowance of an upper directly to the bottom of the forepart of said last between the edge thereof and the strip thereon, securing the marginal portion of said lasting allowance to said strip, and cutting away the cooperating portions of said lasting allowance and said strip after the cement that secures said lasting allowance to said last has set.

2. The improvement in the process of making shoes without an insole in the forepart thereof which consists in attaching a member directly to the bottom of the forepart of a last inwardly of the edge thereof, cementing the lasting allowance of an upper directly to the bottom of the forepart of said last between the edge thereof and the member thereon, securing the marginal portion of said lasting allowance to said member, and cutting away the cooperating portions of said lasting allowance and said member after the cement that secures said lasting allowance to said last has set.

3. The improvement in the process of making shoes without an insole in the forepart thereof which consists in attaching a strip of material to the bottom of the forepart of a last inwardly of the edge thereof with the outer margin of said strip left free to form a lasting lip, cementing an upper to the bottom of said last between the edge thereof and said lasting lip, securing the marginal portion of said upper to the outer face of said lasting lip, and cutting away the cooperating portions of said upper and said lasting lip after the cement that secures said upper to said last has set.

4. In a process of making shoes without an insole in the forepart thereof wherein the upper is lasted over the bare bottom of a last around the margin of the forepart thereof and the excess lasting allowance cut away, the improvement which consists in covering the portion of the forepart of said last bottom located within said margin thereof with a protecting member before the lasting operation, and removing said member after the cutting away of the excess lasting allowance.

5. The improvement in the process of making shoes without an insole in the forepart thereof which consists in providing the bottom of the forepart of a last with a protecting plate whose margin is spaced inwardly from the edge of said last and with a strip of material having one margin interposed between the bottom of said last and the underside of said margin of said plate and the other margin left free to form a lasting lip, lasting an upper over said last and securing it to said lasting lip, cutting away said lip and the portion of the upper secured thereto, and removing said plate and the remaining portion of said lasting strip from the shoe.

6. The improvement in the process of making shoes without an insole in the forepart thereof which consists in providing the bottom of the forepart of a last with a member having an upstanding marginal lip that is spaced inwardly from the edge of said last, pulling the lasting allowance of an upper over the marginal portion of the forepart of the last and securing said lasting allowance to the marginal lip of said member, trimming off the excess lasting allowance and the marginal lasting lip of said member, and removing the remaining part of said member from the shoe.

WILLIAM H. BAIN.