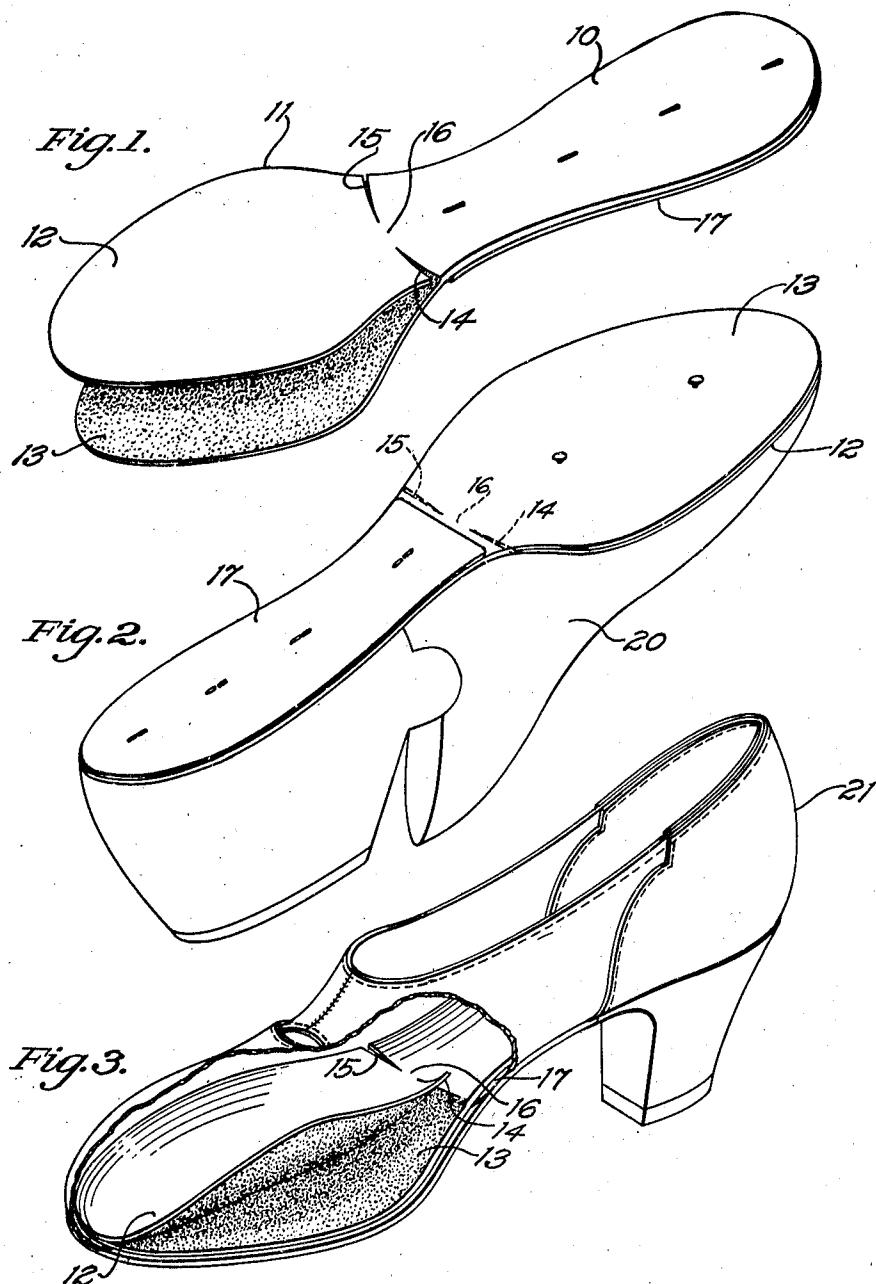


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MANUFACTURE OF FOOTWEAR
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MANUFACTURE OF FOOTWEAR

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This invention relates to the manufacture of foot-wear and more particularly to the making of shoes with flexible foreparts. The invention also relates to improved insoles for this type of shoe and the making thereof.

In the making of shoes of certain types much effort is expended to make the foreparts flexible, and to this end it has been proposed to use very thin and flexible insoles. However, use of such thin insoles results in lasting difficulties, as the wiping-in of the upper over the insole tends to buckle and distort same, causing malformation of the finished shoe. To overcome this lasting problem, it has heretofore been proposed to reinforce the foreparts of thin insoles temporarily with a stiff piece of cardboard or fibre-like material, and to remove same after completion of the lasting operation. While this method prevents distortion of the insole, it is expensive as special dies in varying sizes are required to cut out the reinforcements, and after using the reinforcements a few times, they become limp and must be discarded.

It is an object of the present invention to provide a simple but effective insole for use in shoes requiring flexible foreparts, that is, of sufficient thickness and stiffness to allow an upper to be lasted thereto in the usual manner without special care, yet which can be rendered extremely thin and flexible in the finished shoe.

A further object of this invention is to provide an improved method of making shoes with flexible foreparts which is simple, economical and efficient, and which can readily be practiced without the use of special parts of machinery to produce strong and durable shoes.

A still further object of the invention is to provide a method of making shoes with flexible foreparts by using a unitary insole without perforating and/or applying separate reinforcement to the foreparts thereof.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises the several steps and the relation of one or more of such steps with respect to each of the others, and the article possessing the features, properties, and the relation of elements, which are exemplified in the following detailed disclosure, and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in

connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a prepared insole constructed in accordance with the principles of the present invention;

Fig. 2 is a perspective view of the insole shown in Fig. 1 secured to a last; and

Fig. 3 is a perspective view of a finished shoe constructed in accordance with the principles of the present invention, a portion of the upper being broken away better to illustrate removal of a portion of the insole.

Referring more particularly to the drawing, there is shown in Fig. 1 an insole prepared in accordance with my invention for use in making shoes with flexible foreparts. The insole which may be of "Onco," leather, or other suitable material of two or three irons in thickness, is prepared by splitting the forepart portion from the toe approximately to the start of the shank portion so as to form an upper flap and a lower flap 13. The thickness of the flaps may of course be varied according to the final insole thickness desired in the forepart of the finished shoe.

The flap 12 or the one which is to be placed towards the last bottom during making of a shoe is partially severed by cuts 14 and 15 which may be made at right angles to the face of the insole or may be at any bevel, thus leaving the flap connected to the insole shank portion by the narrow portion 16. This partial severing of the flap 12 allows the flap to be readily torn away from the shank portion, as more fully described hereinafter.

The above operations can be performed on the machines already available in shoe factories; and the partial severing of the flap 12 could be a cut extending from one side of the insole only, or an incision could be made in the center of the connecting portion of the flap so as to leave a narrow connection at either side.

The flaps 12 and 13, being only about one-half the thickness of the original insole, are limp and flexible and in order to make the insole relatively stiff to resist distortion during the operation of lasting a shoe upper thereto, the flaps are temporarily secured together with an adhesive such as rubber cement or the like.

It may be desired in certain cases to temporarily cement the two flaps together immediately after splitting them and thereafter form the incisions 14 and 15.

Further preparation of the insole, which includes securing a shank stiffener piece 17 in place,

is carried along in the usual manner, and if an open type shoe is being made an edge-binding can be applied to the unsevered flap 13.

The prepared insole 10 is attached to the bottom of a last 20 of suitable size with the partially severed flap 12 facing towards the last bottom, as shown in Fig. 2, and an upper is assembled therewith and pulled over in the usual manner. Lasting of the upper is accomplished by any desired method as the insole is rigid enough to resist the wiping action of lasting machines or the tensioning of the upper by pincers, and the upper is preferably secured in flat overlying relation to the unsevered insole flap 13 by an adhesive as is common practice.

Upon completion of the lasting operations, the overturned lasting allowance is roughed and cemented and an outsole is applied in the usual manner. The heel may then be attached and other finishing operations performed, and the last removed from the shoe.

A finished shoe 21 constructed as above described is shown in Fig. 3 and to impart flexibility to the forepart thereof the partially severed insole flap 12 is lifted away from the flap 13 and the narrow connection 16 to the shank portion is torn away and the entire flap removed, leaving the thin flap 13 which is secured to the lasting allowance inside the shoe to present a smooth surface for the foot.

It will be seen that there has been provided an insole and method of making flexible footwear which is well suited for production purposes and which can be performed without the aid of special separate pieces.

It will be understood that various changes may be made in the described illustrative structure and process without departing from the spirit of the invention.

Thus the insole flap 12 may be entirely severed from the shank portion and then temporarily cemented back in place, instead of only partially severing same. However, the particularly described and illustrated forms are regarded as preferred embodiments of the invention.

Since certain changes in carrying out the above process, and certain modifications in the articles which embody the invention may be made without departing from its scope, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. That improvement in methods of making shoes which comprises providing an insole having its forepart split into two flaps, assembling said insole and a shoe upper on a last, lasting the

marginal edge of said upper in flat overlying relation to said insole and securing it thereto, securing an outsole to said lasted upper, removing the last from the shoe, and thereafter removing one of said insole flaps from the inside of the shoe.

2. That improvement in methods of making shoes which comprises providing an insole having its forepart split into two flaps temporarily secured together, assembling said insole and a shoe upper on a last, lasting the marginal edge of said upper in flat overlying relation to said insole and securing it thereto, securing an outsole to said lasted upper, removing the last from the shoe, and thereafter removing one of said insole flaps from the inside of the shoe.

3. That improvement in methods of making shoes which comprises providing an insole having its forepart split into two flaps, one of which is partially severed from its shank portion, assembling said insole and a shoe upper on a last with said partially severed insole flap towards the last bottom, lasting the marginal edge of said upper in flat overlying relation to said insole and securing it thereto, securing an outsole to said lasted upper, removing the last from the shoe, and thereafter tearing said partially severed insole flap from its shank portion and removing it from the shoe.

4. That improvement in methods of making shoes which comprises providing an insole having its forepart split into two flaps temporarily secured together, one of which is partially severed from its shank portion, assembling said insole and a shoe upper on a last with said partially severed insole flap towards the last bottom, lasting the marginal edge of said upper in flat overlying relation to said insole and securing it thereto, securing an outsole to said lasted upper, removing the last from the shoe, and thereafter tearing said partially severed insole flap from the shank portion and removing it from the shoe.

5. That improvement in methods of making shoes which comprises providing an insole having its forepart portion split to the beginning of its shank to form two flaps, one of which is partially severed from its shank portion at approximately the end of the split, assembling said insole and a shoe upper on a last with said partially severed insole flap towards the last bottom, lasting the marginal edge of said upper in flat overlying relation to said insole and securing it thereto, securing an outsole to said lasted upper, removing the last from the shoe, and thereafter tearing said partially severed insole flap from the shank portion and removing it from the shoe.

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