Dec. 30, 1930. E. J. DEMPSEY ET AL 1,786,984

MANUFACTURE OF FOOTWEAR

Filed May 11, 1929

Fig. 1.

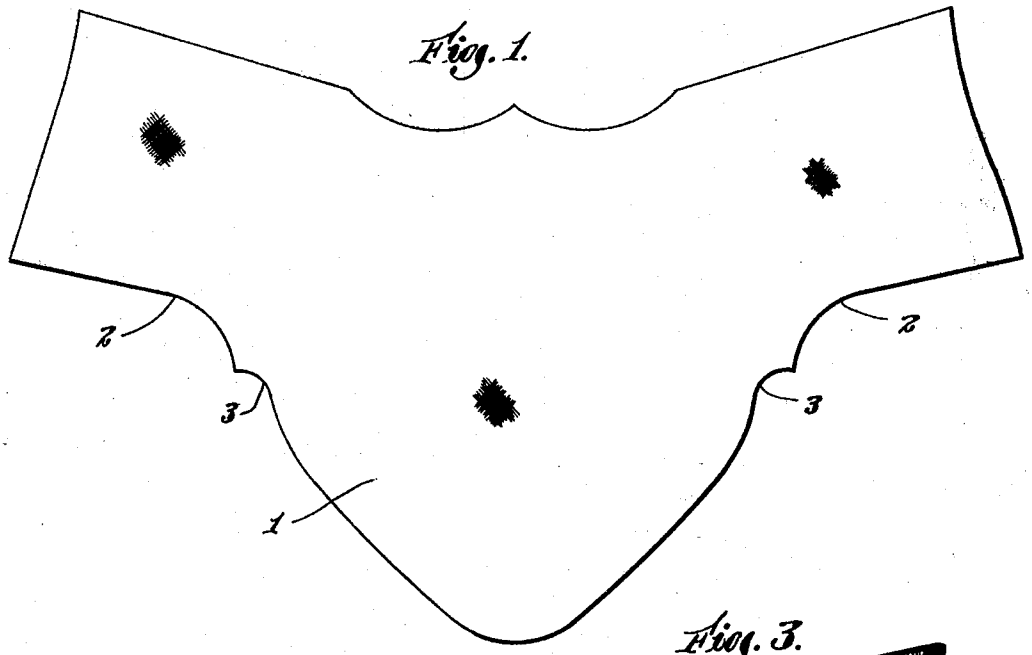


Fig. 3.

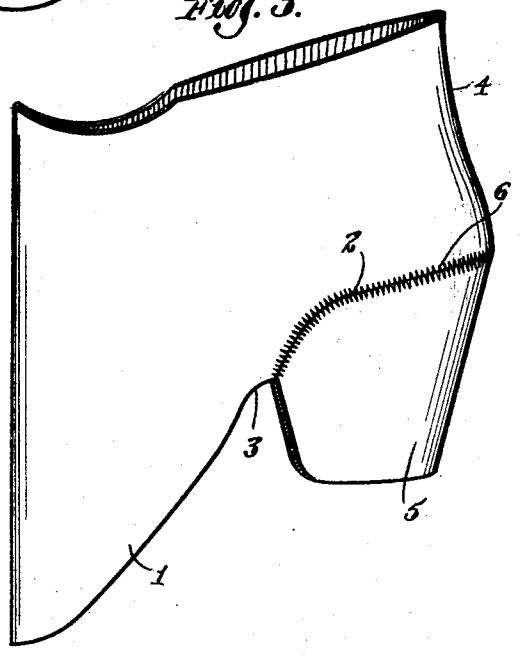
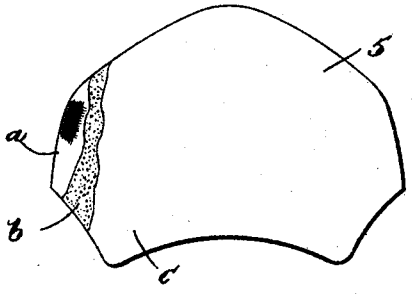


Fig. 2.



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UNITED STATES PATENT OFFICE

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MANUFACTURE OF FOOTWEAR

Application filed May 11, 1929. Serial No. 362,390.

This invention relates to the manufacture of footwear, and more especially to that type of footwear which is made of rubberized material.

In the making of such shoes it has been the practice heretofore to make the upper of such shoes in several pieces, the whole being built up, as it were, piece by piece on the last. In the assembling of these pieces it has been customary to first apply a lining to the last whose inner surface is a finished one. To this lining has been added a reinforcing counter around the rear lower part to give the heel portion of the shoe the requisite stiffness and strength. Over this counter the outer layers of the shoe are laid as well as the external heel piece that forms the finished outer surface when the shoe is complete. These successive layers of material at the heel undoubtedly produce the desired stiffness but do so at the expense of lightness and appearance, the edge of the reinforcing counter being clearly discernible in the finished shoe.

Although shoes are still being made multi-piece, it is now the vogue to cut the vamps, pockets and quarters from double texture cloth,—such as stockinette which is a knitted fabric having finished surfaces on both sides. But with this material it has heretofore been necessary to add a counter over the heel portion of the upper, as the double texture cloth is decidedly pliable.

It is an object of the present invention to eliminate the counter, as such, from a shoe made of rubberized material and to provide a novel heel piece which serves both as a lining and a counter and provides a surface to which the finishing foxing may be directly vulcanized. Such a heel piece is particularly suitable for use with double texture fabric and this particular application of the invention is herein disclosed, but it is to be understood that this is merely illustrative and not to be taken as limiting the scope of the invention. It is a feature of the invention that it simplifies greatly the method of making the heel portion of the shoe, thereby reducing the cost in respect to both material and labor and produces a lighter, better looking shoe albeit having the strength and stiffness heretofore attained by the usual methods.

According to the present invention, the upper or quarter is cut without any heel portion, as it were, the lower edge of the upper extending sharply upward from the shank to about the middle of the back of the shoe. To this lower edge a novel heel piece is attached preferably being butt-stitched thereto so that, internally at least, the upper and this novel heel piece form a continuous surface. This heel piece comprises an inner facing of inexpensive sheeting which is preferably dyed to match the lining of the upper, if there be one, or to match the double texture cloth when this is used. The middle layer of the heel piece is made of rag stock which during the vulcanizing process becomes rather stiff and gives to the heel piece the counter effect required. The outer layer is friction sheeting or Osnaburg, on which the heel foxing or outer finishing piece is laid. An upper comprising this heel piece requires no lining and no separate counter. Being stitched firmly to the heel piece, the quarter need not extend downward thereover, indeed in the improved upper of this invention it should not do so, and the finishing heel foxing is applied directly to the Osnaburg surface. As a consequence in the finished shoe there is at the heel portion only the reinforcing heel piece and the external foxing which together are relatively light in weight, only slightly thicker than the top part of the upper, and yet exceedingly strong and stiff when vulcanized.

It is intended that the patent shall cover by suitable expression in the appended claims whatever features of patentable novelty exist in the invention disclosed.

In the accompanying drawings:

Figure 1 is a plan of an upper shaped in accordance with the present invention;

Figure 2 is a plan of the novel reinforcing heel piece, parts being cut away to show its make up; and

Figure 3 is a side view showing the upper and reinforcing heel piece attached together.

Referring to the drawings, the upper 1 is cut from a sheet of rubberized material such

as double texture cloth which has both its surfaces finished with a layer of vulcanizable rubber in between. This upper is of the type disclosed in our co-pending application Serial Number 362,389, filed as of even date herewith, but this is to be taken as merely illustrative of any form of upper including those commonly used having two or more pieces. According to the method of this invention the upper whether made of one or more pieces is so shaped as to have no heel portions, but terminates along lines 2 extending upward from the shank 3 to a point well up on the back near where the top edge of the usual external heel foxing ends. The side extremities of this upper are secured together along a back seam 4. To the lower edge of the upper at the heel is attached the novel reinforcing piece 5 shown in Figure 2.

This is made up of a light layer of inexpensive sheeting *a* preferably matching in color the double texture cloth of the quarter. The middle layer *b* is also of inexpensive material, for example ground up rag stock. The outer layer *c* is Osnaburg or friction sheeting. The layers are firmly bound together by suitably calendering operations to form a composite sheet from which the heel piece is cut in the shape seen in Figure 5. The heel piece is butt-stitched to the lower edge 2 of the quarter as illustrated in Figure 3. The finished surface is of course on the inside and the Osnaburg surface on the outside. The upper when lasted is pulled down over the last and its bottom edges secured to the insole in the usual manner. No additional lining is required, nor need any counter be added because the upper and the heel piece together provide the finished inner surface of the shoe and the heel piece alone constitutes a counter as it were. Accordingly the usual external finishing foxing can be applied to the impregnated outer surface of the heel piece, its upper edge slightly overlapping the butt seam 6.

When the shoe is finally subjected to vulcanization, the heel piece becomes exceedingly stiff, though pliable, and affords the requisite strength and support at the heel of the shoe. Yet there is no bulging of the shoe at the heel and no discernible line at the edge of the heel piece. The appearance of the shoe is thus enhanced and because of the direct application of the foxing to the heel piece a stronger and tighter construction at the heel is achieved. And it is evident that by the method herein disclosed, the cost of making the shoe is less than that of the usual shoe because of the obvious saving in material and in labor.

What we claim as our invention is:

1. The method of making a shoe of vulcanizable material which comprises cutting a quarter from stock having finished surfaces on both sides and forming the lower edge of the quarter along a line extending from the shank upward toward the back edge; cutting a reinforcing piece from stock having a finished surface on one side and a rubber impregnated surface on the other side; joining said reinforcing piece to the upper along the said line, with the impregnated surface outward; and completing the manufacture of the shoe including applying the finishing foxing directly to the said impregnated surface.

2. An upper for a shoe of vulcanizable material having a quarter cut along a line extending from the shank upward toward the back edge, and having a reinforcing piece of substantially the same thickness as the quarter butt-stitched to the quarter along said line and forming the heel piece of the upper; the said reinforcing piece having a finished surface on the inside and having a rubber impregnated surface on the outside adapted to receive a finishing foxing directly applied thereto.

Signed at Providence, Rhode Island, this 30th day of April, 1929.

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