Jan. 19, 1943. S. GALLO 2,308,873

SHOE CONSTRUCTION

Filed Aug. 16, 1941 3 Sheets-Sheet 1

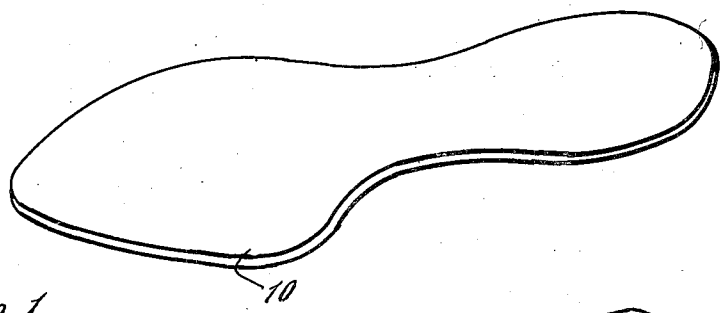


Fig. 1

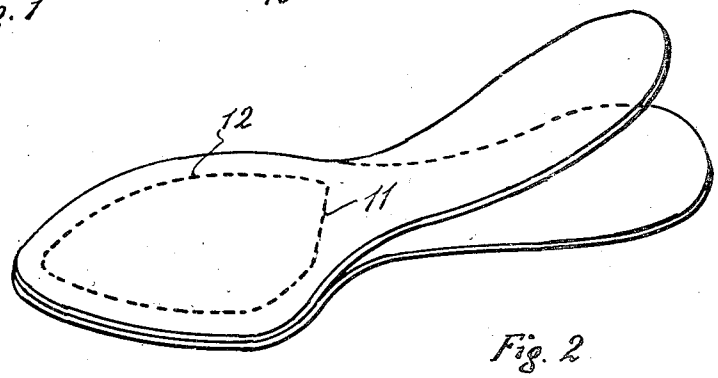


Fig. 2

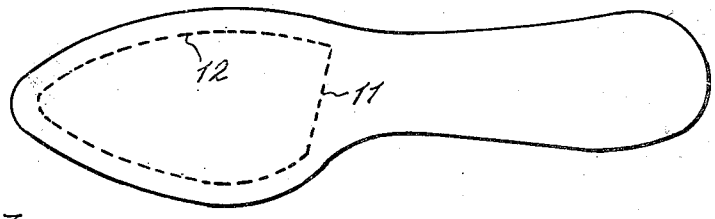


Fig. 3

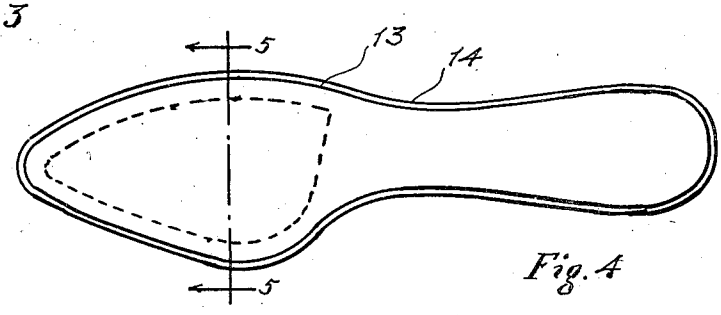


Fig. 4

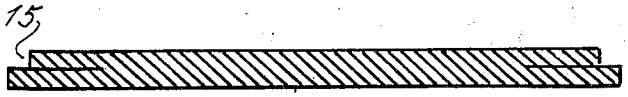


Fig. 5

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Jan. 19, 1943. S. GALLO 2,308,873

SHOE CONSTRUCTION

Filed Aug. 16, 1941 3 Sheets-Sheet 2

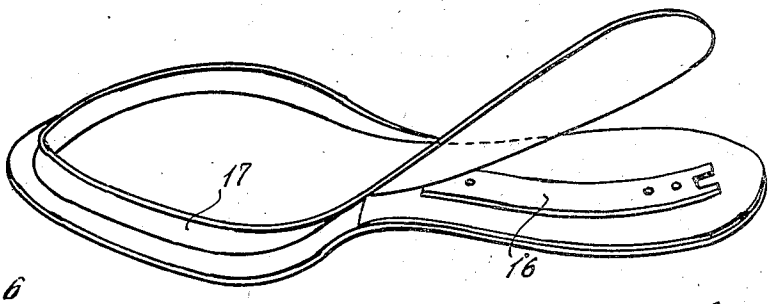


Fig. 6

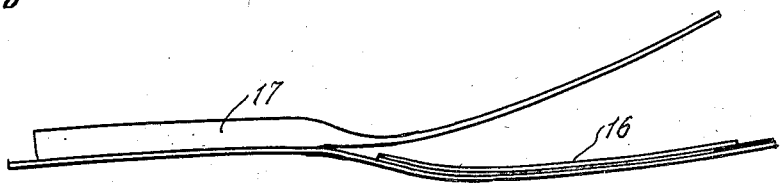


Fig. 7

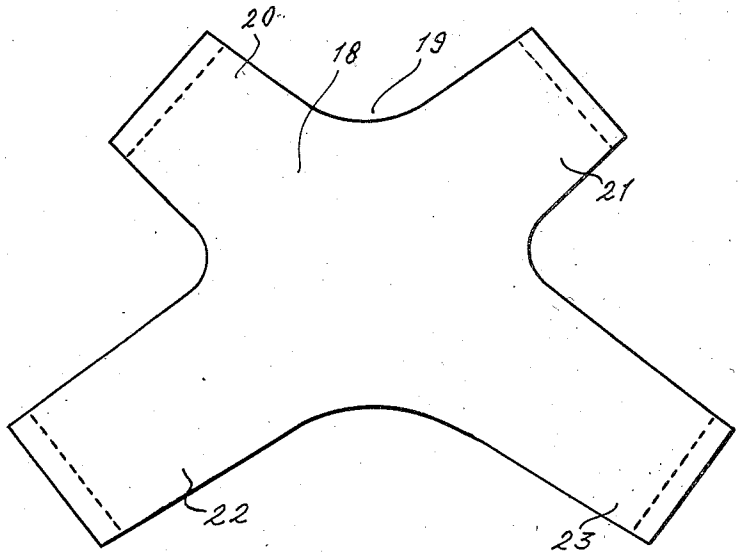


Fig. 8

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Jan. 19, 1943. S. GALLO 2,308,873

SHOE CONSTRUCTION

Filed Aug. 16, 1941 3 Sheets-Sheet 3

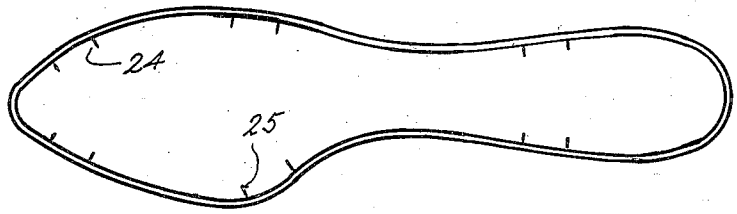


Fig. 9

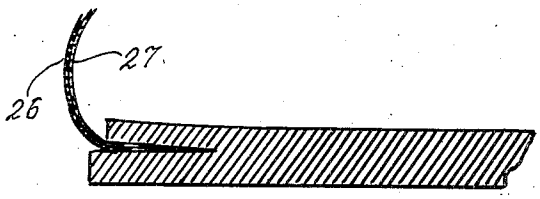


Fig. 10

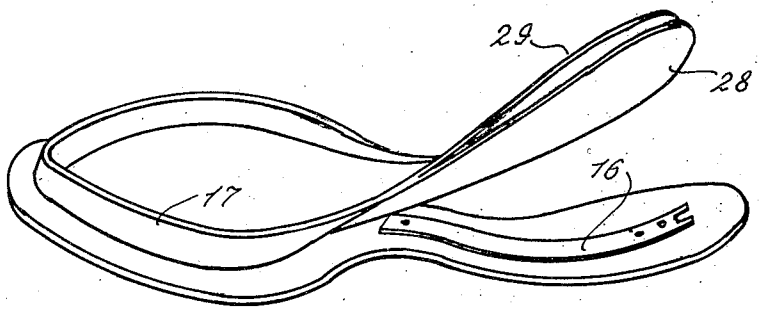


Fig. 11

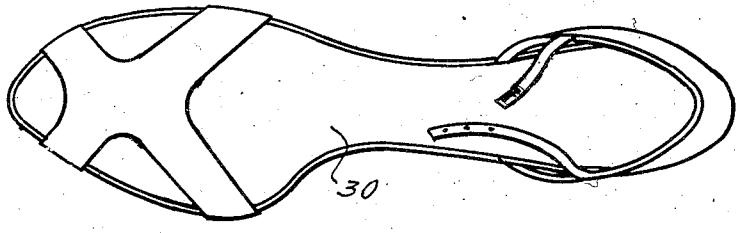


Fig. 12

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Patented Jan. 19, 1943 2,308,873

UNITED STATES PATENT OFFICE

2,308,873

SHOE CONSTRUCTION

Sebastiano Gallo, Brooklyn, N. Y.

Application August 16, 1941, Serial No. 407,159

1 Claim. (Cl. 12—142)

This invention relates to shoes, and more particularly refers to improvements in the manufacture of shoes insuring comfort, flexibility and lightness, as well as a relatively low cost of production.

According to the method of manufacture now generally in use, the main shoe structure is put together by inserting and retaining the marginal portion of the upper between the insole and the out sole and then covering the insole with the so-called sock lining, the upper having previously been joined with the inner lining of the shoe. This method of manufacture, which is followed both when the various parts are sewn together or cemented, entails the necessity of shaping the upper on a last, about which it is stretched, with its marginal portion pulled over the insole, which is tacked to the last.

According to one method of manufacture, the insole and the outsole are both obtained from the same blank, by splitting a properly shaped leather blank of a suitable thickness, the front portion of said blank being split only to a depth sufficient to receive the marginal portion of the vamp, and the central part of said front portion being cut through to form a substantially oval longitudinal opening in the insole, and a corresponding panel raised from the surrounding portion of the body of the outsole, registering with said opening.

This is done with the idea of insuring perfect matching between the insole and the outsole, when the two are subsequently cemented together with the marginal portion of the upper and lining held therebetween.

In actual practice, however, a rough inner surface is apt to result, causing discomfort to the wearer; parts may become loose with use, the sock lining may crease, due to lack of uniformity of its supporting surface, and the lasting qualities of the shoe, as well as its flexibility, may be impaired, because with constant flexing the insole and the outsole are subjected to unequal stresses, which will in the end destroy the bond therebetween.

The primary object of this invention is to provide a combination insole and outsole of a novel and improved construction, insuring to the shoe a greater amount of flexibility and comfort than heretofore obtainable.

Another object is to provide a novel and improved method of attaching the upper of open-toe or open-work shoes generally to the combination insole and outsole, whereby lasting operations may be done away with and material economies in the cost of manufacture may be effected.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claim.

My invention is illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view in perspective of a leather blank cut to size from which the combination insole and outsole forming one of the features of my invention can be obtained.

Fig. 2 is a view in perspective of the same after it has been split in the manner which will be hereinafter explained;

Fig. 3 is a plan view of the same, illustrating the manner in which the blank is split in order to produce the combination insole and outsole;

Fig. 4 is a plan view of the same after the trimming of the insole portion;

Fig. 5 is a cross sectional view, in an enlarged scale, through line 5—5 of Fig. 4;

Fig. 6 is a perspective view of the combination insole and outsole after the shank stiffener has been applied to the insole;

Fig. 7 is a side view in elevation thereof;

Fig. 8 is a plan view of an open-toe, open-work vamp;

Fig. 9 is a plan view similar to Fig. 4, showing the combination insole and outsole provided with markings, enabling the operator to make the shoe by mounting the vamp of Fig. 8 in place, without lasting, in accordance with the method forming part of my invention;

Fig. 10 is a detail cross sectional view, in an enlarged scale, showing the manner of cementing the marginal portion of the upper in place;

Fig. 11 is a perspective view similar to Fig. 6, showing the rear end of the outsole portion of the combination split to form a heel breast covering flap; and

Fig. 12 is a plan view of a sandal type of shoe formed by mounting the vamp shown in Fig. 8 on the combination insole and outsole shown in Fig. 9.

In carrying out my invention a piece of sole leather is cut to the shape required by the outsole of the shoe to be produced, as shown at 10 in Fig. 1.

Said sole piece is then split through the heel and shank portion from the heel end to the line 11, substantially at the ball line, as shown in dotted lines in Figs. 2 and 3. The front portion of the sole piece, that is, the sole portion proper, is then split peripherally starting from line 11 at

one side and ending at said line 11 at the other side, as shown in dotted lines at 12, by slitting the thickness of the sole piece to a depth of, say, five-eighths to three-quarters of an inch.

As a next step, the insole portion of the combination is then trimmed along its periphery so that its edge 13 will remain inwardly spaced from the edge 14 of the outsole about one-eighth of an inch, forming a shoulder, indicated at 15 in Fig. 5.

The shank portion of the insole is then stiffened with a shank piece 16, as shown in Figs. 6 and 7, and the split marginal portion 17 of the outer part of the combination insole and outsole, corresponding to the outsole proper, is then turned up in order to expose the inner surface of the marginal portions defined by the slit.

The exposed surfaces are then treated with a coating of suitable adhesive cement, preferably one having a rubber latex base, and the upper is cemented in place by pressing its edge portion against the treated surface of the insole portion of the combination insole and outsole, and then by turning down and pressing against it the marginal portion 17 of the outsole portion.

When the upper is of the closed toe or closed back type, the sole piece thus prepared will be placed on a last in the usual manner and the upper will be pulled in place over the last. However, my invention is particularly directed to the manufacture of open-toe, open shank shoes in that my improved method of joining the upper to the sole piece makes it possible to do away with lasting operations.

Taking for example the sandal vamp 18, shown in Figs. 8 and 12, formed with an open-toe portion 19, two front strap extensions 20, 21, and two rear strap extensions 22, 23, according to my method, I make suitable markings in the sole piece, as shown at 24, 25 in Fig. 9, exactly indicating the place where the end of the corresponding strap extensions should be inserted between the two split marginal portions of the sole piece.

With the aid of these markings, the vamp or upper, previously cut to size by means of a suitable die, is cemented in position with the greatest ease without the necessity of placing the parts on a last.

The required operations of inserting the end portions of the strap extensions in place and then cementing them between the two split marginal portions of the sole piece can be performed by unskilled labor with the greatest ease and speed, so that the cost of manufacture of the finished article will be materially less than that of a similar article produced in the ordinary manner.

Before the upper is mounted on the sole piece it is, of course, joined to the lining, as shown in Fig. 10, where 26 represents the upper and 27 the lining, and the marginal portion of the upper is roughened before being cemented in place, if necessary.

If the shoe is to have a built-up leather heel, the heel portion of the outsole need not be split. If the shoe is provided with a shaped wooden heel, or the like, the said heel portion is preferably slit, forming an inner split portion 28 and an outer split portion 29, said outer split portion being cemented to the front face of the heel, and cut to fit the outline of said face, as will be understood.

In Fig. 12 I illustrate a completed sandal type of shoe 30, resulting from joining the vamp shown in Fig. 8 to the sole piece shown in Fig. 9.

By virtue of the construction described, I produce a shoe having a flexible single sole adapted to be easily and economically assembled.

It will be understood that minor operating details may vary from those described without departing from the inventive idea. The drawings should, therefore, be understood as being intended for illustrative purposes only and not in a limiting sense.

I, accordingly, reserve the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claim.

I claim:

The method of making open-toed foot coverings, which method comprises providing a sole blank that is split inward from its edge face to form the edge portion of the sole into inner and outer flaps, applying marks on the edge portion of the sole to indicate the proper location for the ends of an upper, trimming back the edge material of the inner flap for a distance at least as great as the thickness of the upper with which the sole is to be used, separating the flaps by turning the outer flap into an angular position with respect to the remainder of the sole blank, coating the confronting faces of the flaps with adhesive, placing the marginal edges of the upper in contact with the adhesive on the upper flap, said upper being positioned by registering the ends of the upper with the marks on the sole, securing the upper to the outer flap by the adhesive only and without the use of tacks, and pressing the lower flap into contact with the marginal edges of the upper.

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