

Dec. 2, 1947.

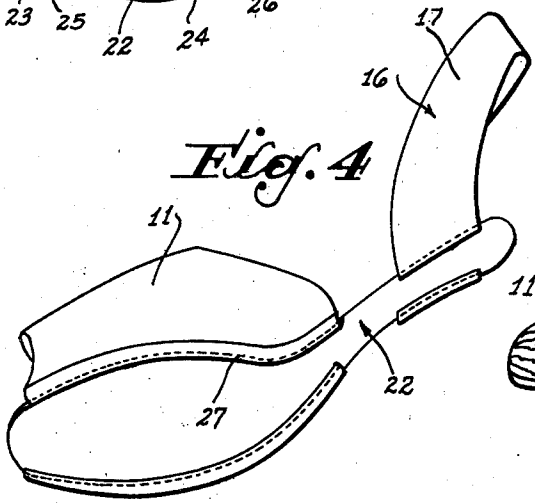
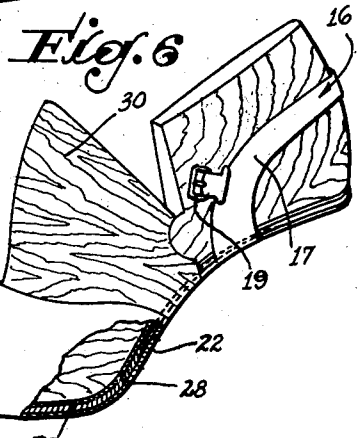
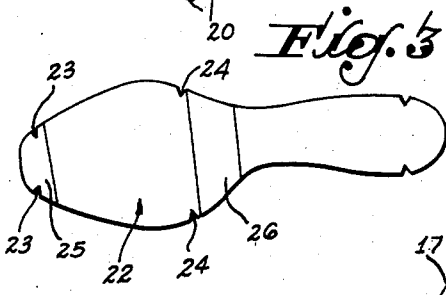
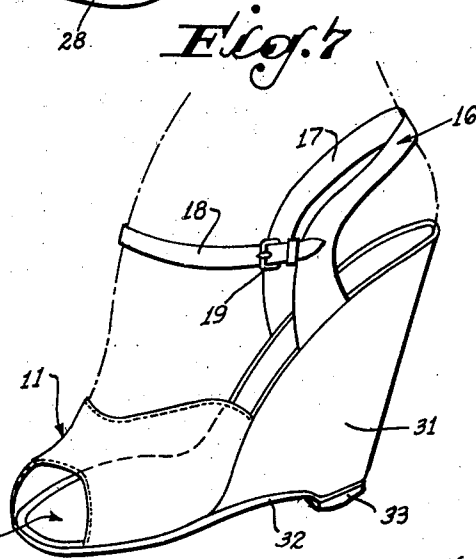
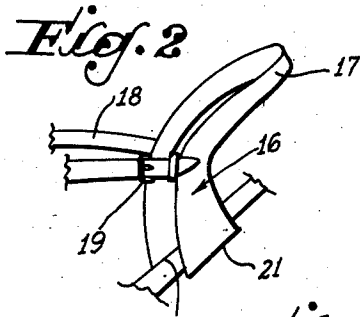
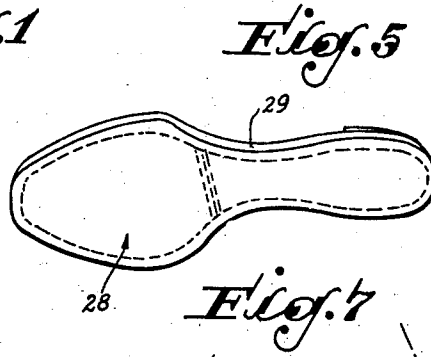
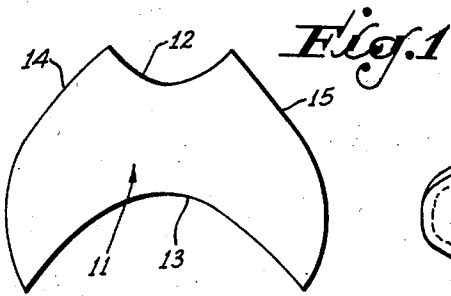
J. FERN

2,431,858

SHOE AND METHOD OF MAKING SAME

Filed Nov. 6, 1944

2 Sheets-Sheet 1



INVENTOR
 JULES FERN
 BY
 HARRIS, KIECH, FOSTER & HARRIS
Ward R. Foster
 FOR THE FIRM
 ATTORNEYS

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J. FERN

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2 Sheets-Sheet 2

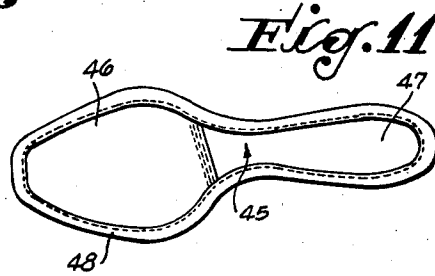
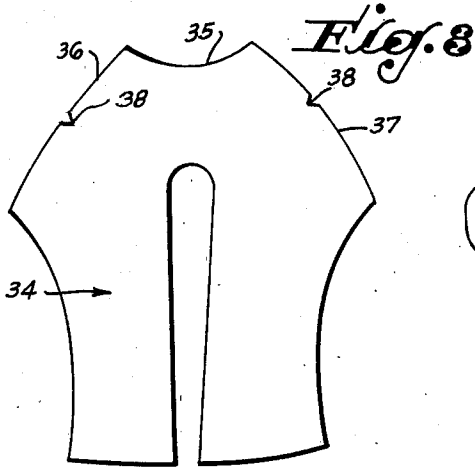


Fig. 9

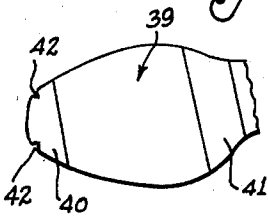


Fig. 12

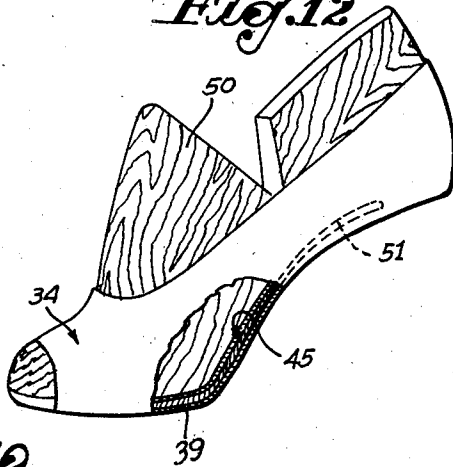


Fig. 10

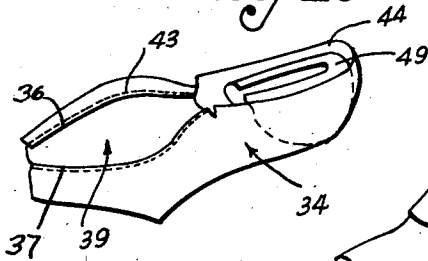
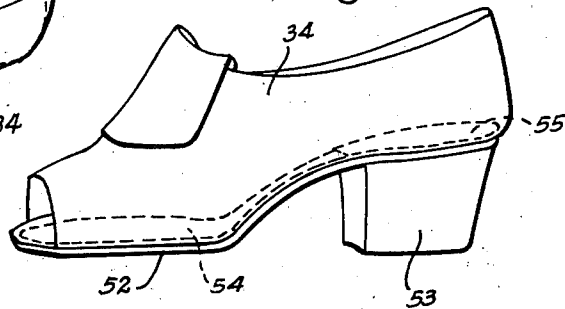


Fig. 13



INVENTOR
JULES FERN
BY
HARRIS, KIECH, FOSTER & HARRIS
Ward D. Foster
FOR THE FIRM
ATTORNEYS

UNITED STATES PATENT OFFICE

2,431,858

SHOE AND METHOD OF MAKING SAME

Jules Fern, Los Angeles, Calif., assignor to Fern Shoe Co., Los Angeles, Calif., a copartnership composed of Jules Fern, Harry Sobel, and Oscar Fern

Application November 6, 1944, Serial No. 562,088

2 Claims. (Cl. 36—19.5)

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My invention relates to an improved shoe and the method of constructing the same and has among its objects the provision of a shoe which is sturdy in construction and slightly in appearance and the provision of a method which substantially reduces both the expense and time required for the construction of such a shoe.

A very large portion of the labor cost involved in shoe construction is attributable to the operation of lasting the upper onto the insole. My invention contemplates the elimination or substantial reduction of this lasting operation and thus reduces the cost of the shoe.

Shoes constructed in accordance with the prior practice involving lasting the upper to the insole vary in dimensions and fit due to variations in the elasticity or deformability of the material of which the upper is formed and due to variations in the tensional stress applied to the upper by different workmen during the lasting operations. My invention contemplates the provision of a method for constructing shoes of uniform size and fit by the elimination or substantial reduction in the extent of the lasting operations.

Embodiments of my invention adapted for accomplishing the foregoing and other objects are described in the following specification, which may be more readily understood by reference to the accompanying drawings, in which

Fig. 1 is a plan view of the vamp portion of the upper of a sandal;

Fig. 2 is a perspective view of the quarter portion of the upper of a sandal;

Fig. 3 is a plan view of a joiner strip;

Fig. 4 is a perspective view illustrating the vamp and quarter portions of the upper secured to the joiner strip;

Fig. 5 is a plan view of the insole;

Fig. 6 is an elevational view, partially sectioned, of the upper, joiner strip, and insole positioned upon a last;

Fig. 7 is a perspective view of the completed sandal;

Fig. 8 is a plan view of the upper of a pump;

Fig. 9 is a plan view of a joiner strip;

Fig. 10 is a perspective view of the joiner strip secured to the upper;

Fig. 11 is a plan view of an insole;

Fig. 12 is an elevational view, partially sectioned, of the upper, joiner strip, and insole positioned upon a last; and

Fig. 13 is an elevational view of the completed pump.

Referring to the drawings, which are for illustrative purposes only, the numeral 11 indicates

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the vamp portion of the upper of a sandal. The vamp portion 11 includes a curved forward portion 12 defining the opening for the toes of the wearer and a curved rearward portion 13 defining an opening over the arch of the wearer.

Edges 14 and 15 are so formed as to provide the desired lasting or stitching allowance. While the allowance or margin for lasting or stitching may be varied, I have obtained very satisfactory results by making it of approximately one-half inch.

The numeral 16 indicates the quarter portion of the upper of the sandal, including a strap 17 adapted for extension around the heel of the wearer and a strap 18 with releasable securing means in the form of a buckle 19, the strap 18 being adapted for extension over the arch of the wearer.

Lower edges 20 and 21 of the quarter portion 16 are provided with a lasting or stitching allowance of the same order as is provided for the vamp portion 11. A joiner strip 22 is formed from a flexible non-elastic material, such as a closely woven fabric. The joiner strip 22 has an outline corresponding to and spaced substantially uniformly of the outline of the bottom of the last upon which the sandal is to be completed. The joiner strip 22 may be provided with notches 23 in its forward portion and notches 24 in its middle portion to indicate the peripheral portions of the joiner strip 22 which are to be connected to the vamp portion 11 of the upper if desired. A flexible reinforcing strip 25 is secured in any suitable manner, as by sewing, across that portion of the joiner strip 22 adjacent its connection to the forward edge of the vamp portion 11 of the upper, and a second reinforcing strip 26 is similarly secured across the joiner strip 22 adjacent its connection to the rearward portion of the vamp portion 11 of the upper. The reinforcing strips 25 and 26 are formed of flexible material of such character as to prevent the stretching of the joiner strip 22 laterally of the finished sandal.

The joiner strip 22 and the vamp and quarter portions 11 and 16, respectively, of the upper are then secured together in any suitable manner, preferably by stitching 27, so that the outer surface of the vamp and quarter portions 11 and 16 adjacent the edges 14, 15, 20, and 21 contact the lower surface of the joiner strip 22 adjacent its peripheral edge. This may be easily accomplished by performing the sewing operation with the vamp and quarter portions 11 and 16 of the upper turned inside out. If desired, the vamp and quarter portions 11 and 16 of the upper may be so

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secured to the joiner strip 22 that their inner surfaces adjacent the edges 14 and 15 and the edges 20 and 21, respectively, contact the upper surface of the joiner strip 22, in which construction the portions 11 and 16 of the upper need not be turned inside out during the sewing operation.

While the vamp and quarter portions 11 and 16 and the joiner strip 22 may be so dimensioned that the stitching 27 is positioned beneath the foot of the wearer, at the side of the foot and adjacent its lower surface, or at the side of the foot and above its lower surface, they are preferably so dimensioned that the stitching 27 is beneath the foot of the wearer, as illustrated in the drawings.

An insole 28 is accurately formed with an outline coinciding with the outline of the bottom of the last upon which the sandal is to be completed. The insole 28 is preferably formed of a soft, resilient flexible material, such as felt or other suitable fibrous material. A liner 29 is secured to the insole 28 so that it covers the entire upper surface thereof and extends around the edges of the insole 28 and overlaps the lower surface thereof. The liner 29 is formed of a flexible material, such as fabric, leather, or the like, and is preferably secured to the insole 28 by cement.

The insole 28 is positioned within the vamp and quarter portions 11 and 16 of the upper and upon the upper surface of the joiner strip 22, to which it is secured in any suitable manner, as by cement. The insole 28 is formed of material of sufficient deformability and is of sufficient thickness to prevent any discomfort to the foot of the wearer from the intumed joined edges of the vamp and quarter portions 11 and 16 of the upper and the joiner strip 22, which edges are covered by the insole 28.

The assembled vamp and quarter portions 11 and 16 of the upper, joiner strip 22, and insole 28 are then positioned upon a last 30. The portions 11 and 16 of the upper and the joiner strip 22 are so dimensioned and joined together that, when they are positioned upon the last 30 with the insole 28 in firm contact with the bottom of the last 30, they are taut or under tension.

Inasmuch as the row of stitching 27 joining the upper portions 11 and 16 to the joiner strip 22 may be very accurately placed, and the outline of such parts of the sandal may be very accurately cut, it will be seen that, utilizing insoles 28 of uniform thickness and deformability, a quite uniform degree of tension will be provided in different assemblies of the parts illustrated in Fig. 6 when they are placed upon the last 30, resulting in a uniform size and fit for all of the sandals completed upon the last 30.

A wedge heel 31 is secured, as by cementing, to the lower surface of the joiner strip 22 and the intumed edges of the quarter portion 16 of the upper. Thereafter an outsole 32 of leather, rubber, or composition is secured, as by cementing, to the forward portion of the joiner strip 22 and the intumed edges of the vamp portion 11 of the upper and to the lower surface of the wedge heel 31. The securing of a heel lift 33 by nails or cement to the outsole 32 beneath the wedge heel 31 completes the construction of the sandal.

Embodiment of the shoe of my invention in a pump is illustrated in Figs. 8 to 13, inclusive, which illustrate also a variation in the method of my invention.

Referring to Fig. 8, the numeral 34 indicates

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an upper for a pump. The upper 34 has a forward curved edge 35 defining an opening for the toes of the wearer. Edges 36 and 37 are cut with a lasting or stitching allowance as previously described and may be provided with one or more triangular cut-away portions 38 to facilitate the flexure of the edges 36 and 37 and their attachment to a joiner strip 39.

The joiner strip 39, as illustrated in Fig. 9, extends from the toe of the pump to the instep or shank and has an outline corresponding to and spaced inwardly substantially uniformly of the outline of the bottom of the forepart of a last upon which the pump is to be assembled. The joiner strip 39 is formed of flexible inelastic material, such as a closely woven fabric, and is provided with reinforcing strips 40 and 41 extending across the joiner strip 39 adjacent the ends of its connection to the upper 34.

Notches 42 may be provided in the periphery of the joiner strip 39 adjacent its forward extremity to indicate to the operator the position in which the upper 34 is to be secured to the joiner strip 39.

As illustrated in Fig. 10, the joiner strip 39 is secured to the edges 36 and 37 of the upper 34 by a row of stitching 43, preferably applied so that the outer surface of the upper 34 adjacent the edges 36 and 37 contacts the lower surface of the joiner strip 39. As is also illustrated in Fig. 10, the lower edges of the upper 34 are cut inwardly at the rearward end of the joiner strip 39 so that a lasting allowance 44 in the rearward portion of the upper 34 may more easily be lasted to an insole 45.

The insole 45 is preferably formed of a flexible material having cushioning properties in its forepart, indicated by the numeral 46, and of a comparatively rigid material, such as leather, fibre board, composition, or the like, in its rearward portion 47. The insole 45 has applied thereto a tape 48, which extends around the edge of the insole 45 and overlaps both its top and bottom surfaces adjacent its edge. The tape 48 is secured to the insole 45 in any suitable manner, preferably by cementing.

There is inserted in the rearward portion of the upper 34 a counter 49 molded to conform to the last upon which the pump is to be assembled, and the insole 45 is cemented to the inner surface of the joiner strip 39.

The assembled upper 34, joiner strip 39, and insole 45 are then positioned upon a last 50, as illustrated in Fig. 12. The upper 34 and joiner strip 39 are so dimensioned and jointed by the stitching 43, and the insole 45 is of such thickness that, when they are assembled upon the last 50, as illustrated in Fig. 12, the upper 34 and joiner strip 39 are subjected to the desired degree of tension, compressing the insole 45 against the bottom of the last 50.

Thereafter the lasting allowance 44 is lasted upon the bottom of the counter 49 and insole 45 in the conventional manner, and a shank stiffener 51 is positioned upon the bottom of the insole 45. An outsole 52 of leather or the like is then secured, as by cementing, to the bottom of the joiner strip 39 and at the shank of the pump to the bottom of the insole 45, and a heel 53 of the style and dimensions for which the last 50 is designed is secured to the counter 49 and rearward portion 47 of the insole 45, as by a screw or nails.

A liner 54 is secured to the upper surface of the insole 45, covering all of that portion thereof

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not covered by the tape 48 and extending from the forward portion of the insole 45 to adjacent the rearward end thereof. A heel seat 55 is secured upon the upper surface of the insole 45 at the rearward portion thereof to conceal the nails or screws with which the heel 53 is secured in place and protect the heel of the wearer from contact therewith. Both the liner 54 and the heel seat 55 may be readily secured in place by cement, and the liner 54 may, if preferred, be made of a different color from that of the tape 48 to enhance the appearance of the pump.

From the foregoing it will be apparent that the only lasting operation necessary to the construction of the pump illustrated in Figs. 8 to 13, inclusive, is limited to lasting only the rearward portion of the upper 34. Since in this lasting operation the upper is lasted around the counter 49, which is molded to the desired shape, and the insole 45, which is accurately cut to the desired outline, a uniformity of size and fit of all of the shoes made upon the same last may be readily secured.

While I have described a sandal and a pump as examples of the shoes of my construction and as illustrating the method of my construction, my invention is to be understood as not so limited, but as including shoes having a closed toe and a closed back, shoes having an open toe and a closed back, shoes having an open toe and an open back, and shoes having a shank with or without an open toe or open back.

It is to be understood also that my invention contemplates that the uppers may be of any desired material and style and may be provided with a lining of appropriate material. Likewise the insole may be formed of non-resilient material, such as fibre, fibre board, leather, imitation leather, or the like, having the same or different properties in the forward and rearward portions of the insole. Similarly the outsole may extend over part or all of the upper surface of the heel or may end at the breast of the heel. These and other modifications, which will readily occur to those skilled in the art, may be adopted without departing from my invention, the scope of which is defined by the following claims.

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I claim as my invention:

1. The method of constructing a shoe, which includes the steps of: providing a joiner strip of flexible material with an outline spaced inwardly substantially uniformly of portions of the periphery of the bottom of a last; securing a stretch-resisting reinforcing strip across an end of said joiner strip; securing the lower edges of an upper to the edges of said joiner strip; providing an insole with an outline congruent with the bottom of the last; securing said insole within said upper and upon the upper surface of said joiner strip; placing said upper, said joiner strip, and said insole upon the last, the thickness of said insole being so related to the dimensions of said upper and said joiner strip that said upper and said joiner strip are taut when said insole is in firm contact with the bottom of the last; and securing an outsole and heel beneath said joiner strip.

2. In a shoe, the combination of: an upper; a flexible joiner strip having its edges secured to the lower edge of said upper; a stretch-resisting reinforcing strip secured across an end of said joiner strip; an insole secured to the upper surface of said joiner strip; an outsole secured to the lower surface of said joiner strip; and a heel secured beneath the rearward portion of said upper.

JULES FERN.

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The following references are of record in the file of this patent:

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Certificate of Correction

Patent No. 2,431,858.

December 2, 1947.

JULES FERN

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows: Column 4, line 55, for the word "jointed" read *joined*; column 6, list of references cited, under "United States Patents" add the following—

2,048,048 Ayers July 21, 1936

and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 16th day of March, A. D. 1948.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.