

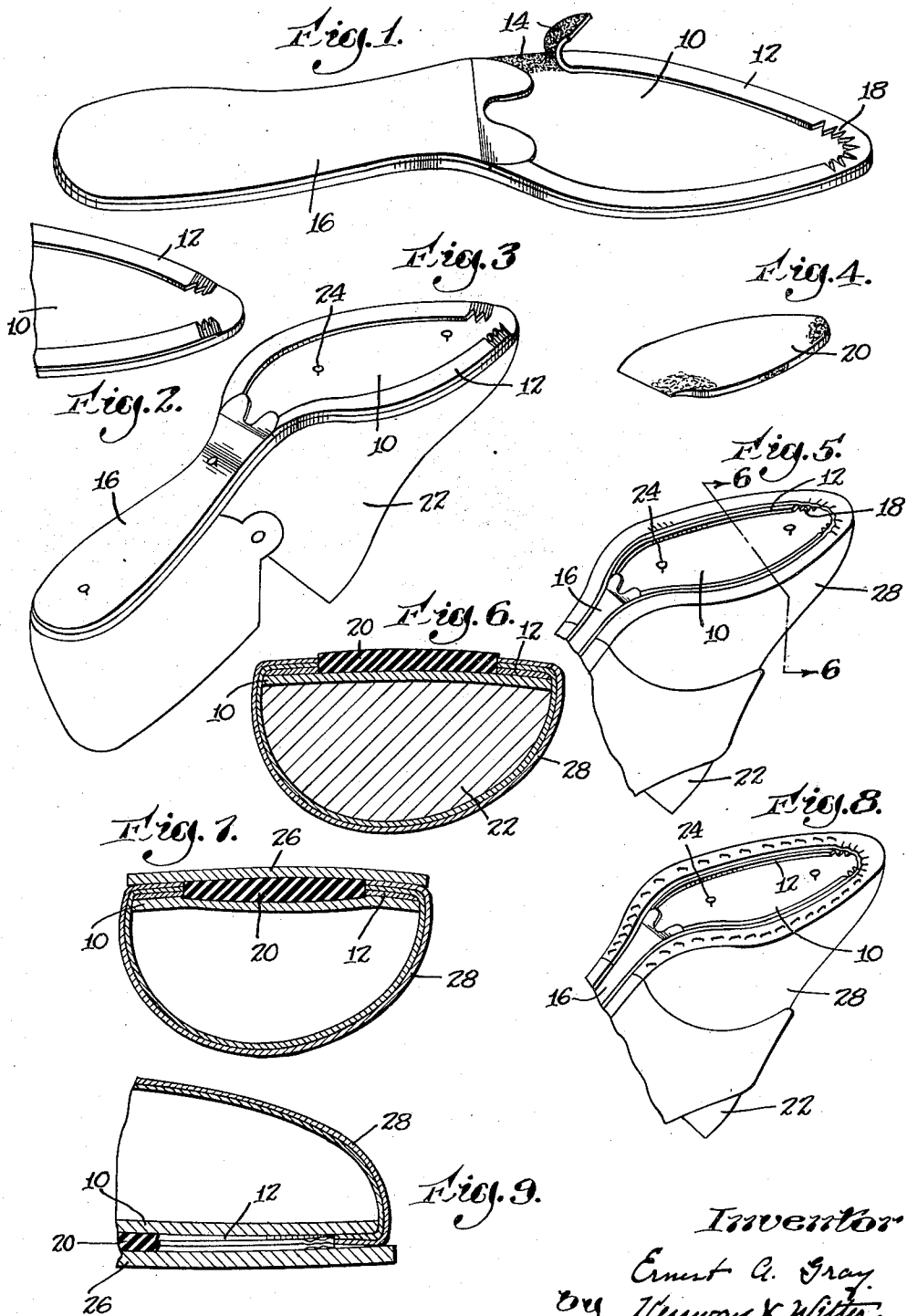
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SHOEMAKING

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## SHOEMAKING

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5 Claims. (Cl. 36—44)

This invention relates to shoes, and consists more particularly in a novel prepared innersole for cushion soled shoes and in a new and improved cushion sole shoe embodying such innersole. The invention includes within its scope the novel process of making prepared innersoles of the character herein described.

In Patent No. 1,754,225, granted on an application of C. C. Eaton, is disclosed a welted shoe embodying a filler of sheet sponge rubber adapted to give elasticity and resiliency to the sole of the shoe, the filler occupying a pocket in the innersole and being held therein by the outersole which is attached to the usual welt. The primary object of my invention is to provide a prepared innersole of novel and economical construction having as its base a thin flexible insole blank of a type which may be purchased at low cost in the open market and which is then stiffened, reinforced and built up so that it may be utilized in shoes made by the McKay or Littleway Process or by any stuck-on process such as the Compo and will present a pocket or recess of sufficient depth to receive a cushion of sponge rubber or the like.

In one aspect the invention consists in a novel innersole having the peripheral portion of its forepart built up by a thin flat strip of welting or the like to provide a cushion or filler-receiving recess within the borders of the innersole, a marginal edge of sufficient thickness and bulk to afford secure attachment for the lasted margin of the upper and a flat face of substantial area to receive the lasting margin thereupon in direct face to face contact. The raised marginal portion of the forepart may be provided by attaching a ribbon-like strip or welt of the desired thickness directly to the innersole, the combined thickness of the welt and upper being substantially equal to the thickness of the cushion filler to be placed within the cavity. Preferably and as herein shown the shank and rear portion of the innersole are stiffened and reinforced by such material as fibre board which may be shaped to make a juncture with the welt strip rearwardly of the ball line. The resulting insole thus presents a stiff shank which may be molded and a heel seat which affords firm anchorage for even a high heel, while the forepart remains very flexible to transverse bending.

A shoe embodying the insole of my invention may be constructed very economically, the upper being held, by stitching, stapling, adhesives or in any suitable manner, securely between the two soles and the cushion filler supported evenly

therebetween in a manner providing a uniform and resilient cushion for the forepart of the foot, upon which the weight of the wearer is pitched.

In lasting the upper to the innersole the toe portion is necessarily somewhat gathered and bunched and unless the upper is carefully trimmed this bunching may cause the toe end of the outersole to be deflected out of line to an objectionable degree. A further feature of the invention resides in so forming my novel innersole that a space is provided at the toe end thereof for receiving a bunched portion of the upper, thereby permitting the outer sole to be brought into normal contact with the toe end of the shoe. I preferably proceed by first applying the said ribbon-like strip to the innersole and thereafter cutting away, in whole or in part, an intermediate portion thereof at the toe it being understood, however, that the same result may be accomplished by applying two independent strips to the opposite margins of the innersole so spaced apart at the toe end of the sole as to provide the desired space.

The present application is a continuation in part of my copending application Serial No. 67,250, filed March 5, 1936, which in turn was a continuation of my application Serial No. 8,672, filed February 28, 1935.

The features above enumerated and others incident to the invention will be best understood and appreciated from the following description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawing, in which

Fig. 1 is a view in perspective of an innersole embodying my invention,

Fig. 2 is a fragmentary perspective view of the innersole having the toe portion of the welt strip removed.

Fig. 3 is a view in perspective of a last with the innersole placed thereon preparatory to lasting.

Fig. 4 is a view in perspective of a cushion filler to be applied to the shoe of my invention.

Fig. 5 is a fragmentary view in perspective of the last and innersole with a shoe upper lasted thereon.

Fig. 6 is a cross sectional view taken on line 6—6 of Fig. 5 but on a larger scale.

Fig. 7 is a view like Fig. 6 but showing the outer sole attached.

Fig. 8 is a view like Fig. 5 but showing the use of staples for fastening the upper to the innersole blank.

Fig. 9 is a fragmentary sectional view taken longitudinally through the toe end of the shoe.

The foundation and essential feature of my im-

proved innersole is a thin, light weight, flexible blank, a blank split from the hide and procurable at a fraction of the cost of a grain inner sole. This blank without reinforcing and building up treatment is not suitable for use in any but the cheapest shoes, yet, when treated as herein disclosed, its employment in women's cushion sole shoes of all grades is not only possible, but highly advantageous.

Such an innersole blank 10 is represented in Fig. 1 as having been rounded to correspond with the contour of the last bottom in connection with which it is to be used. It has a uniform thickness of perhaps four irons and is homogeneous in texture, without grain and inherently extremely flexible.

The first step in the preparation of the innersole consists in attaching to the marginal face of the forepart of the blank 10 a thin flat strip 12. This may be also of split leather or it may be a welt strip having a grain surface, 2 or 3 irons in thickness and perhaps  $\frac{3}{8}$  of an inch in width. It may be secured to the blank 10 in direct face to face contact by cement 14 as indicated in Fig. 1 or by fasteners such as staples with its outer edge flush with the edge of the insole blank. The result is that the marginal edge of the innersole is built up to a thickness of 6 or 7 irons so that it affords sufficient substance to supply an adequate anchorage for the margin of the upper overwiped in the lasting operation, a wide flat face for attachment thereto, and a margin stiffened sufficiently to obviate distortion in the shoemaking process. Also and most importantly, the strip 12 defines and partly forms a recess for a cushion filler. As shown in Fig. 1 the strip 12 may be pinked at 18 to facilitate conforming to the sharp curvature of the toe.

It will be understood that in preparing an innersole for use with women's shoes having high heels it is important to provide sufficient rigidity in the heel seat to afford secure anchorage for the wood heel. It is also important to provide a shank of material which may be molded and which when molded will be sufficiently stiff to retain the lines of the shoe. Accordingly I propose to reinforce the rear part of the blank 10 by a sheet of fibre board or similar material, cemented in direct face to face contact with the surface of the blank and making a juncture rearwardly of the ball line with the ends of the strip 12. The shank piece 16 shown in Fig. 1 is of this character. It is shown as being notched in its forward edge to fit the end of a metallic shank piece, but the end of the shank piece may be of any desired shape and may be fitted to the rear ends of the strip 12 in any desired form of juncture, although it is important to locate this line somewhat to the rear of the ball line of the shoe in order to insure that the entire area of the sole making contact with the ground is flexible and that stiffness is imparted to the sole only rearwardly of the line at which the spring of the arch begins.

The innersole shown in Fig. 1 is suitable for use or for distribution as a commercial article as it stands, but if desired may be modified to provide a free space at the toe end to allow clearance for the bunch formed in the upper by gathering its pleats together in lasting about the toe. For this purpose the toe portion of the strip 12 may be cut away as suggested in Fig. 2, the ends of the strip preferably being beveled as indicated. While I have illustrated the strip 12 as having the toe portion entirely cut away, it may be desirable in some cases only to thin the toe

portion of the strip or to form the desired space by using two separate strips spaced from each other at the toe end of the blank.

A cushion filler pad 20 such as I contemplate using as a part or in connection with the insole by my invention, is shown in Fig. 4. Preferably the pad 20 is formed of sponge rubber cut out in such shape as to correspond in outline with the contour of the recess formed by the strip 12 and beveled on its rear edge. This filler may be cemented in place within the recess of the insole and the insole distributed as a unit in this condition, or the cushion pad may be inserted if desired at a later step in the shoemaking process after the insole has been secured to the last bot-

In Fig. 3 the innersole, as illustrated is applied to the bottom of the last 22 and is temporarily held in position thereon by tacks 24. The upper 28 of the shoe is then assembled upon the last 20 and in the lasting position the overwiped margin is drawn over the face of the welt strip 12 and secured in lasted condition temporarily by lasting tacks or permanently by an adhesive. In this operation the gathered and bunched pleats of the upper at the toe are received in the space provided for that purpose in the marginal strip 12 of the innersole. The upper and lining material of the overlapped margin build up thickness of the welt strip 12 increasing the depth of the recess formed thereby in the shoe bottom. If the cushion filler 20 has not already been incorporated in the innersole, it is now placed in its receptacle completely filling the same and projecting slightly therefrom as best shown in Fig. 6.

In Fig. 7 the outer sole 26 is shown in its position in the completed shoe, being secured in place on the shoe bottom by suitable adhesive in direct face to face engagement with the overwiped margin of the upper material and of the cushion filler. In the completed shoe the cushion filler 20 is closely and securely confined in the shoe bottom between the innersole 10 and the outersole 26. The filler is meanwhile confined within marginal walls formed by the strip 12 and the overwiped margin of the upper. It is thus prevented from shifting in wear and its inherent texture precludes bunching or other deteriorations which would tend to disturb or destroy the uniformity of the filler or its uniform resilient action beneath the wearer's foot.

In Fig. 8 the upper 28 is suggested as being staple-lasted to the built up margin of the innersole 10 and secured to the surface of the strip 12, instead of being cemented in place as suggested in Fig. 5.

In Fig. 9 the toe portion of the shoe is shown in longitudinal section and it will be noted that the gathered upper fills the space made available by cutting out the strip 12 at the toe. As illustrated the forward part of the cushion pad 20 is shown as broken away to disclose the position of the strip 12 and the marginal material of the upper behind it.

While the features of the invention have been shown and described in their preferred embodiment, it will be understood that the invention may be embodied otherwise than as shown in the drawing and described in the specification and yet be within the scope of the following claims.

What I claim is:

1. In a cushion-soled shoe, an innersole having elongated ribbon-like strip material secured to the peripheral portion of the bottom face of

the forepart thereof in fixed face-to-face contact substantially over the area of the contacting faces and extending from a point back of the ball line to the toe on one side and from a point back of the ball line to the toe on the other side to provide an open cushion-receiving recess within the borders of said peripheral portion, the strip material having end portions disconnected from each other back of said ball line and the exposed bottom face of the peripheral portion of the innersole and strip material having an open space therein at the toe end thereof due to an absence of said strip material thereat, a shoe upper having the lasting margin thereof in face-to-face contact with the exposed face of the strip material and extending into said space, a resilient filler within said recess, an outsole covering the filler and having its edge portions in face-to-face contact with the overlapped margin of the upper, and means securing the outsole, the upper and said strip material together.

2. An innersole adapted to form the foundation of a cushion-soled shoe, comprising a relatively thin and flexible innersole blank having an elongated ribbon-like strip secured to the peripheral portion of the bottom face of its forepart in fixed face-to-face contact substantially over the area of the contacting faces and extending from a point back of the ball line to the toe on one side and from a point back of the ball line to the toe on the other side to provide an open recess adapted to receive a resilient filler within the borders of said peripheral portion, the strip having end portions disconnected from each other back of said ball line and the exposed face of the strip being flat and of substantial area and adapted to receive the lasting margin of the shoe upper thereupon and in face-to-face contact therewith, and the strip being cut away at the toe of the sole to provide an open space for the purpose described.

3. An innersole adapted to form the foundation of a cushion-soled shoe, comprising a relatively thin and flexible innersole blank having two elongated ribbon-like strips secured to the peripheral portion of the bottom face of its forepart thereof in fixed face-to-face contact substantially over the area of the contacting faces, the two strips being located respectively at op-

posite sides of the center line of the sole and each extending from a point back of the ball line to the toe portion but short of the toe point on either side to provide an open space therebetween at the toe and an open cushion-receiving recess within the borders of said peripheral portion, the strips having end portions disconnected from each other back of said ball line.

4. A prepared innersole having a thin and flexible leather blank as a base, thin, flat and ribbon-like fibrous welt strip material cemented directly in face to face and unitary contact to the blank about the margin of its forepart, thereby building up and reinforcing the sole edge for attachment to the lasted margin of an upper and providing a recess adapted to receive a cushion filler of a corresponding shape, the entire inner face of the welt strip being in contact with the base blank and the inner edge thereof providing an abrupt shoulder for contacting in abutting relation with the edge of the filler to hold the filler against shifting movement within the recess, and a fibre shank piece secured in face to face contact with and stiffening the base blank rearwardly of the welt strip.

5. An improved cushion-sole shoe comprising a prepared innersole having a thin and flexible leather blank as a base and thin, flat and ribbon-like fibrous welt strip material cemented directly in face to face and unitary contact to the blank about the margin of its forepart, thereby building up and reinforcing the sole edge for attachment to the lasted margin of an upper and providing a recess adapted to receive a cushion filler of a corresponding shape, a fibre shank piece secured in face to face contact with and stiffening the blank rearwardly of the welt strip, a cushion filler disposed in said recess, the entire inner face of the welt strip being in contact with the blank and the inner edge thereof providing an abrupt shoulder contacting in abutting relation with the edge of the filler and holding the filler against shifting movement within the recess, an upper having its lasted margin secured to the margin of the innersole which is built up by said welt strip, and an outsole overlapping the lasted margin of the upper and enclosing the filler in its recess.

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