May 4, 1943. M. I. ROVICK 2,318,014

METHOD OF MAKING SHOES

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Fig. 1

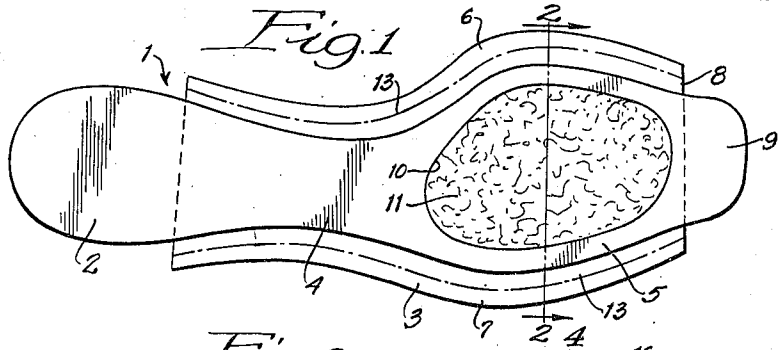


Fig. 2

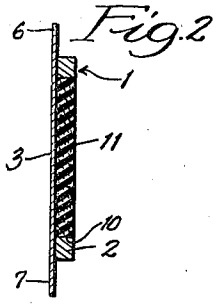


Fig. 3

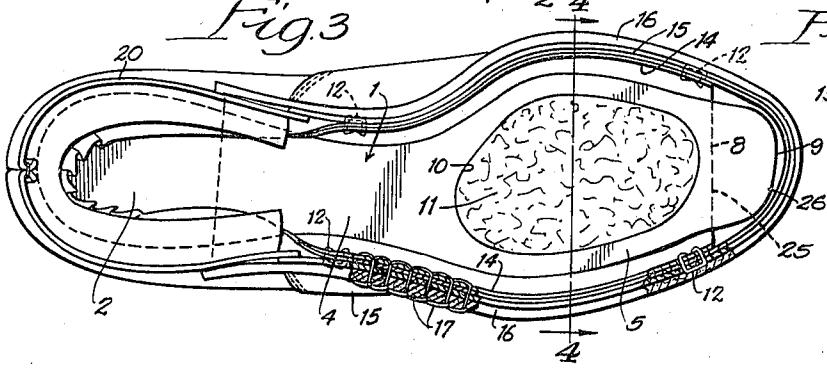


Fig. 4

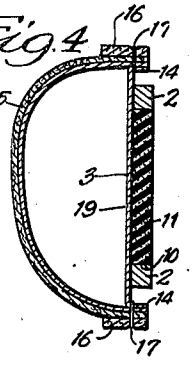


Fig. 5

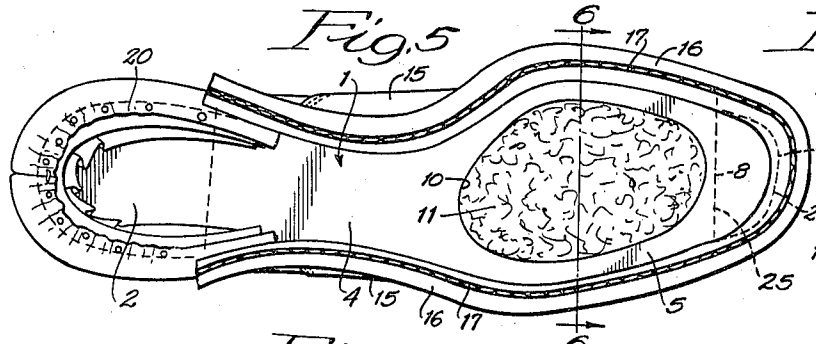


Fig. 6

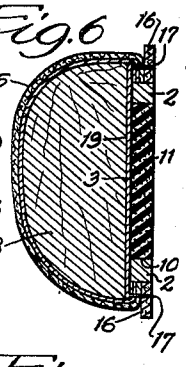


Fig. 7



Fig. 8

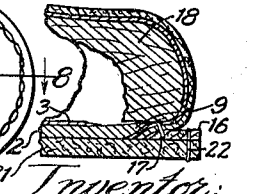
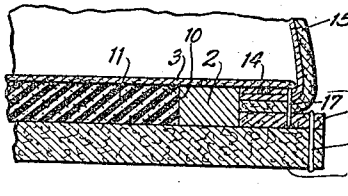


Fig. 9



Inventor:
Max I. Rovick,
By Morris Spector
Attorney.

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METHOD OF MAKING SHOES

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Fig. 10

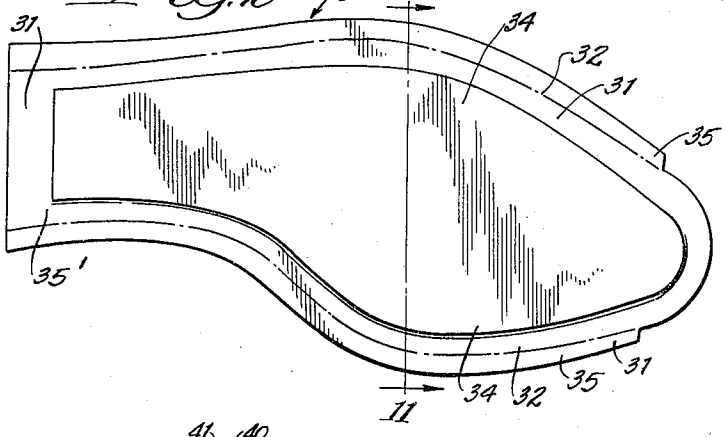


Fig. 11

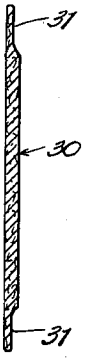


Fig. 12

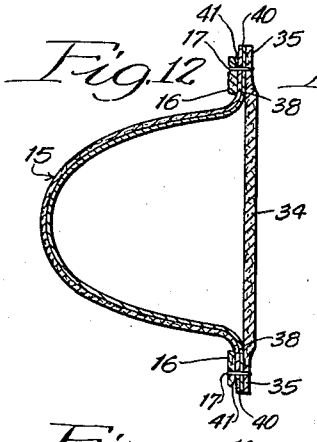


Fig. 13

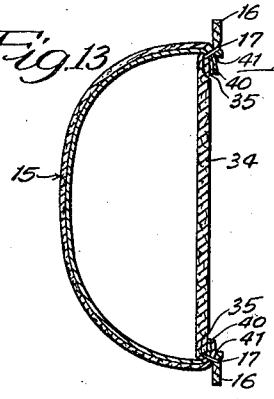


Fig. 14

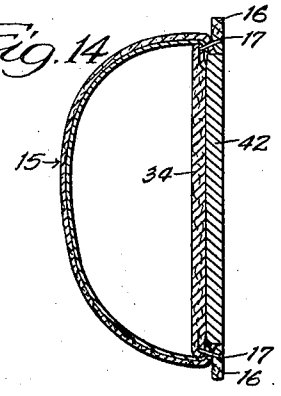


Fig. 15

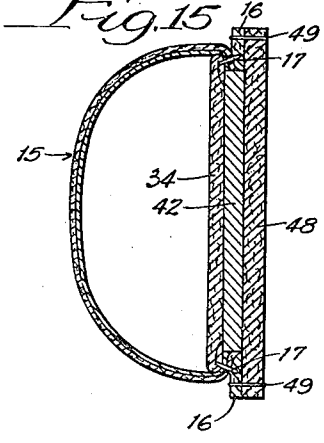
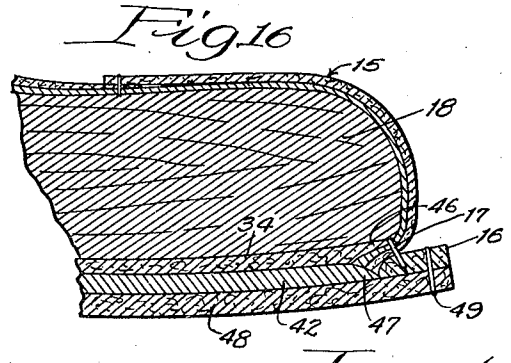


Fig. 16



Inventor:
Max I. Rovick,
By Morris Spector,
Attorney.

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METHOD OF MAKING SHOES

Max I. Rovick, Chicago, Ill.

Application October 26, 1939, Serial No. 301,366

1 Claim. (Cl. 12—142)

This invention relates to shoes, and more particularly to the construction of the inner sole of the shoe.

It is one of the objects of the present invention to provide a shoe having an insole so secured in place as to assure against upward flexing or curling of the edges of the same, and so constructed as to permit the use of various different types of leather for the insole, as well as the usual types of sole leather.

It is a further object of the present invention to provide a shoe with a filler or middle sole which also acts as an insole at the heel of the shoe and prevents shrinkage of the inner sole, thus helping to hold the bottom of the shoe in shape.

It is a still further object of this invention to provide a shoe in accordance with the foregoing objects and yet so constructed that the outersole may be removed and replaced, to repair the shoe, while the shoe welt remains in position.

Another object of the present invention lies in the provision of a novel method for securing the sole, welt, insole and shoe upper together.

The attainment of the above and further objects of the present invention will be apparent from the following specification taken in conjunction with the accompanying drawings forming a part thereof.

In the drawings:

Figure 1 is a bottom plan view of an insole for a shoe constructed in accordance with the present invention;

Figure 2 is a sectional view taken along the line 2—2 of Figure 1;

Figures 3, 5 and 7 are, respectively, bottom plan views of a shoe constructed in accordance with the present invention and illustrating successive stages in the manufacture of the shoe;

Figure 4 is a section taken along the line 4—4 of Figure 3;

Figure 6 is a section taken along the line 6—6 of Figure 5;

Figure 8 is a section taken along the line 8—8 of Figure 7;

Figure 9 is a fragmentary sectional view through a part of a completed shoe, said view being taken along the line 9—9 of Figure 7;

Figure 10 is a plan view of another insole embodying the principles of the present invention;

Figure 11 is a sectional view taken along the line 11—11 of Figure 10;

Figures 12 to 15 inclusive are sections illustrating progressive steps in the manufacture of a shoe embodying the present invention, said sections being taken along a line corresponding to 11—11 of Figure 10; and

Figure 16 is a view corresponding to Figure 8 and illustrating a section through the toe of a shoe embodying the present invention.

Referring now more particularly to the drawings, Figure 1 shows a bottom plan view of a shoe insole with a filler superimposed thereon to show their relative positions. The insole and filler unit, indicated in general by the reference numeral 1, comprises a filler or middle insole 2 of substantially the shape of the ultimately finished insole, and an insole 3 which may be secured together. As illustrated, the insole 3 overlies the shank portion 4 and substantially the entire forepart 5 of the middle insole 2. The insole 3 is wider than the filler or middle insole 2 so that it extends beyond the edges of the filler, forming projections 6 and 7. The insole 3 preferably, although not necessarily, terminates at the edge 8 short of the foremost toe part 9 of the filler 2. The outline of the filler 2 is substantially that of the ultimate outline of the completed insole, differing therefrom only in that it is somewhat narrower, for reasons which will be explained more fully as this description proceeds. The filler 2 is preferably, although not necessarily, provided with a centrally located opening 10 which is filled by a piece of resilient material 11, such as foam rubber. This rubber has the characteristic of being yielding in a manner similar to that of soft sponge rubber, and yet retains its resiliency for long periods of time and is not likely to become permanently compressed to a smaller thickness after prolonged usage. The filler may be made of cardboard, cork, or, if desired, of leather. The insole 3 is, preferably, made of moisture-proof material such as soft leather.

The projections 6 and 7 are folded downwardly approximately midway of their width along a line 13 to form downwardly extending flanges 14 along the shank and forepart of the inner sole and temporarily secured to a shoe upper 15 by four small staples 12 located along or adjacent the fold line 13. The depth or height of the projections 14 is approximately equal to the distance between the projection and the edge of the filler 2, as may be seen from Figure 4. The shoe upper and a welt 16 are then sewed to the flange 14 by a line of stitching 17, the stitching extending continuously around the shoe from one side of the shank adjacent the heel, around the forepart and front of the shoe, to the opposite side of the shank portion

of the insole adjacent the heel, as indicated in Figure 5. It is to be noted that the line of stitching 17 in Figure 4 is located as close as possible to the corner of the fold. As previously stated, the fold line is indicated at 13 in Figure 1. This, therefore, clearly indicates that the flange 14 in Figure 4 terminates short of the foremost toe portion of the sole, to-wit, at the edge 8. Therefore the shoe upper and the welt are not sewed to the inner sole at the tip of the toe portion of the shoe.

The shoe thus partially formed is then in condition for receving a last for shaping the shoe as required. A last 18 of the desired shape is inserted into the shoe through the foot receiving opening of the shoe. Thereafter the rim formed below the line of stitching 17 and including the flange 14 of the cover 3 is bent inwardly from the position illustrated in Figure 4 to the position illustrated in Figure 6 so that the welt 16, which previously extended upwardly from the insole, now extends horizontally parallel to the insole. The back of the shoe, indicated at 20, is shaped over the bottom of the filler 2. After shaping of the shoe the shoe is then ready to receive an outer sole 21 which may be secured to the welt in any desired manner as, for instance, by a line of stitching 22 extending through the outer sole 21 and through the welt 16, but spaced from the line of stitching 17. By this arrangement, if the outer sole 21 is later removed for repairing the shoe, such removal does not affect the connection of the welt with the inner sole.

While I have spoken of folding of the insole to the position of Figure 4 as being done before the stitching 17, this sequence may be reversed, the insole being folded after the insole and shoe upper and welt have been sewed together and after the last has been inserted into the shoe.

It is to be noted that when the flange 14 with the welt and shoe upper secured thereto is folded inwardly, the edge of the flange reaches the outer edge or periphery of the filler 2, and that the thickness of the filler is substantially the same as the combined thickness of the welt, folded under part of the shoe upper, and folded under part of the insole 3. As a result the inside surface 19 of the insole 3 is perfectly smooth throughout the entire width of the forepart of the shoe, there being no elevated or depressed seams on the inside of the shoe at or around the periphery of the insole. Also the line of stitching 17 is not exposed from within the shoe. The filler 2 is secured to the insole 3 before or after the shoe upper 15 and the welt 16 have been secured in place. The filler 2 may be secured to the shoe after the flange 14 is turned inwardly from the position illustrated in Figure 4 to the position illustrated in Figure 6. Furthermore, while it is desirable to secure the filler 2 and the insole 3 together, as by cement or the like, this is not indispensable, as the filler and the insole 3 may be positioned relatively to one another in the manner indicated in Figure 6 without being secured together, the filler being held against sliding movement by the rim formed by the inturned shoe upper and welt 16 and, then being locked in place by the sole 21 which is thereafter secured in place.

As may be seen from Figure 3, the insole terminates a slight distance rearward of the front inside of the shoe, as indicated by the line 25, so that the toe portion of the filler which is forward of the line 25 has no cover or inner insole thereover. If desired the insole 3 may include a tongue portion which overlies the toe part 26 of the filler forward of the line 25 and is of an outline following the outline of that forward toe part 26.

In Figure 10 I have shown a somewhat different insole. This insole, indicated generally by the reference numeral 30, is skived along its periphery as indicated at 31. The margin of the insole is adapted to be folded along a fold line 32 which is substantially the line along which the insole is ultimately stitched. The insole includes the usual portion 34 upon which the sole of the foot rests, and the shank portion 35' adapted to extend along the shank of the shoe on the inside thereof.

The insole 30 is first secured to the edge of the shoe upper by four staples, in the manner illustrated in Figure 3, to hold the shoe upper and the insole in proper relative positions during the subsequent stitching operation. At this time the periphery of the shoe upper is temporarily flexed outwardly, as illustrated at 38 in Figure 12. The shoe upper and a welt 16 are then secured together and to the insole 30 by a line of stitching 17, as in Figure 4. The line of stitching follows the line indicated at 32—32 in Figure 10, thus securing the shoe upper, the welt, and the insole together. With shoe uppers having a soft toe it is preferable, during the stitching operation, to flex the upper out of its normal position, as at 38, rather than to bend the insole at this time, as illustrated in Figure 4. However either procedure may be followed. At the toe part of the shoe there is no extended or projected part 35 on the insole. There the line of stitching 17 extends only between the welt and the shoe upper. The shoe upper is sufficiently flexible to permit deformation thereof in the manner illustrated in Figure 12, during the sewing or stitching operation. At that time the edge 40 of the shoe upper terminates substantially flush with the edge of the projection 35 of the insole. The edge 41 of the welt terminates slightly inwardly of the edge 40 of the shoe upper.

After this stitching operation a last is placed into the shoe and the extended portion 35 of the insole, together with the adjacent parts of the shoe upper and the welt are bent around to an angle approximately 180°, from the position illustrated in Figure 12 to the position illustrated in Figure 13. The bent over parts extend along the rim of the base of the sole of the partially completed shoe. This forms a slightly projecting rim around the sole of the shoe. The space formed by this rim is then filled by a filler 42 which is the shape of the sole of the shoe and may, and preferably extends across the shank of the shoe and under the heel portion of the shoe in the same manner as does the filler 2 of the shoe previously described. The filler may include a resilient insert such as the insert 11 of Figure 1, if desired.

The forward skived end of the insole 30 extends over the top of the bent over portion around the periphery of the shoe upper, as illustrated at 46 in Figure 16. The forward end of the filler 42 is skived, as illustrated at 47. The edges of the bottom of the shoe upper, adjacent the front of the shoe, bear against the forward skived portion 47 of the filler 42. Thereafter an outsole 48 is secured to the shoe in any desired manner, as by cementing it in place or by a line of stitching 49 extending between the outsole and the welt along

the entire periphery of the shoe, as is common in the art.

From the descriptions above given it is apparent that the insole of the shoe of the present invention may be made in a simple and convenient manner and it is also apparent that the outer edge of the insole is securely held in place so that it cannot bulge upwardly after the shoe has been in use. Furthermore, there is no possibility of the insole becoming rough or irregular along its periphery. Because of the construction of the insole as above set forth it is possible to use a high grade thin or thick leather for making the insole without the heretofore accompanying objection of curling of the edges, thus removing many of the objections heretofore inherent in the use of leather soles, as well as the objections inherent in the use of a cloth liner or cover for the insole. Also, the filler may be made of a cheaper material, such as cardboard.

In compliance with the requirements of the patent statutes I have here shown and described a few preferred embodiments of my invention. It is, however, to be understood that the invention is not limited to the precise constructions here shown, the same being merely illustrative of the principles of the invention. What I consider new and desire to secure by Letters Patent is:

The method of making a shoe which comprises providing an inner sole having an edge of reduced thickness extending along the opposite sides of the inner sole from the shank portion to the toe portion but terminating short of the toe portion and each reduced edge being adapted to be folded upon itself, positioning the edge of a shoe upper along the edge of the inner sole and positioning a welt at an edge of the shoe upper but with the edge of the shoe upper located outwardly of the adjacent edge of the welt, securing the shoe upper, the welt and the inner sole together by a single continuous line of stitching through the welt, the shoe upper and the reduced edges on opposite sides of the inner sole whereby the toe end of the inner sole is not stitched to the shoe upper, folding the reduced edges of the inner sole beneath the bottom surface of the inner sole and lasting the partially formed shoe and bringing the inner edge of the welt towards the adjacent edge of the shoe upper, and then securing an outsole to the welt.

MAX I. ROVICK.