

Sept. 4, 1928.

1,682,868

J. S. TOUCHÉ

PROCESS OF MANUFACTURING SHOES

Filed Sept. 7, 1927

2 Sheets-Sheet 1

Fig. 1.

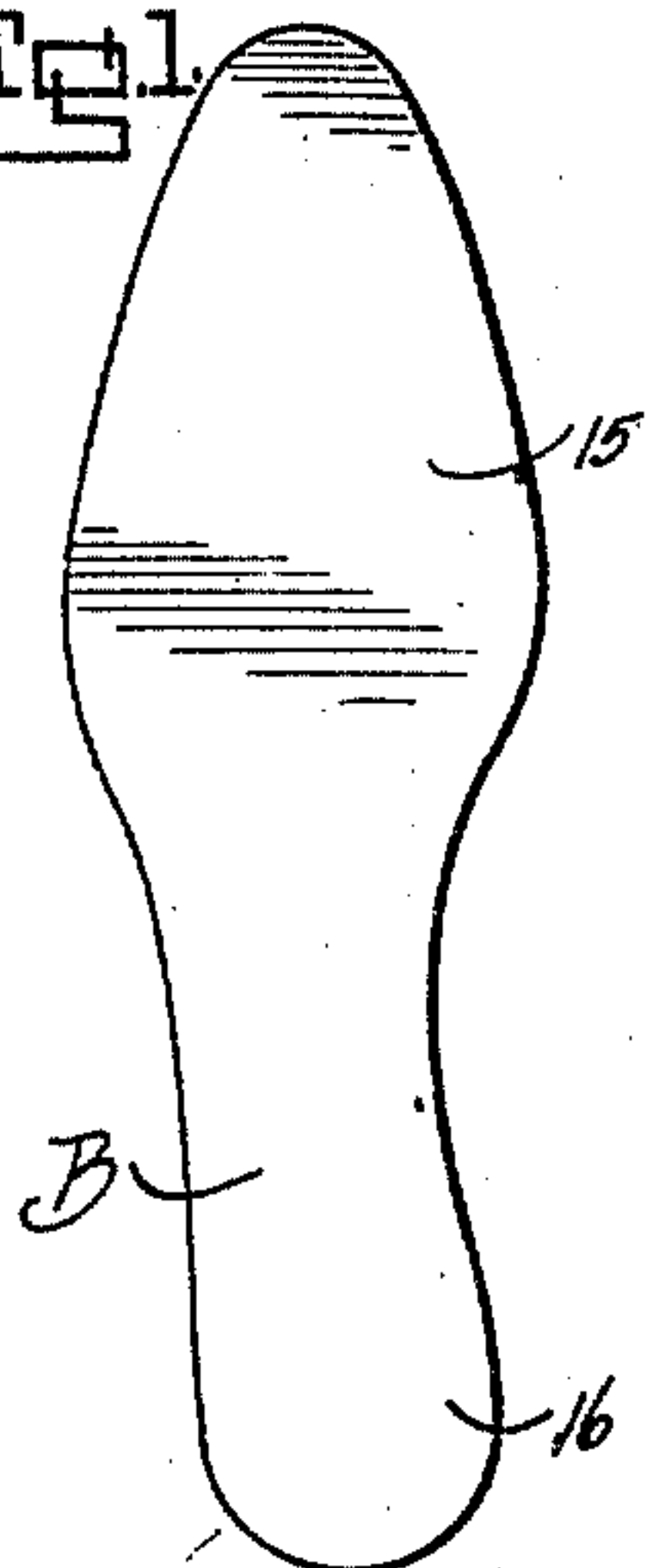


Fig. 2.

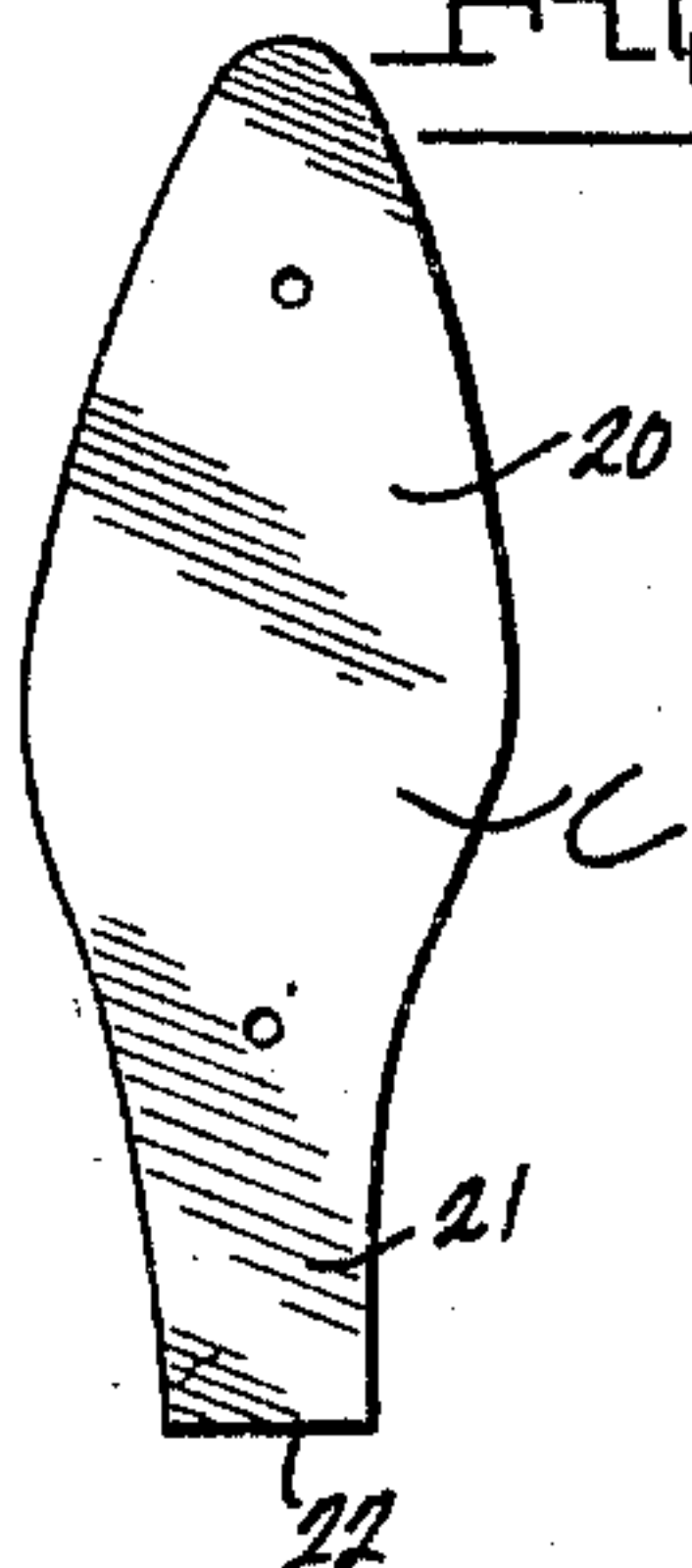


Fig. 3.

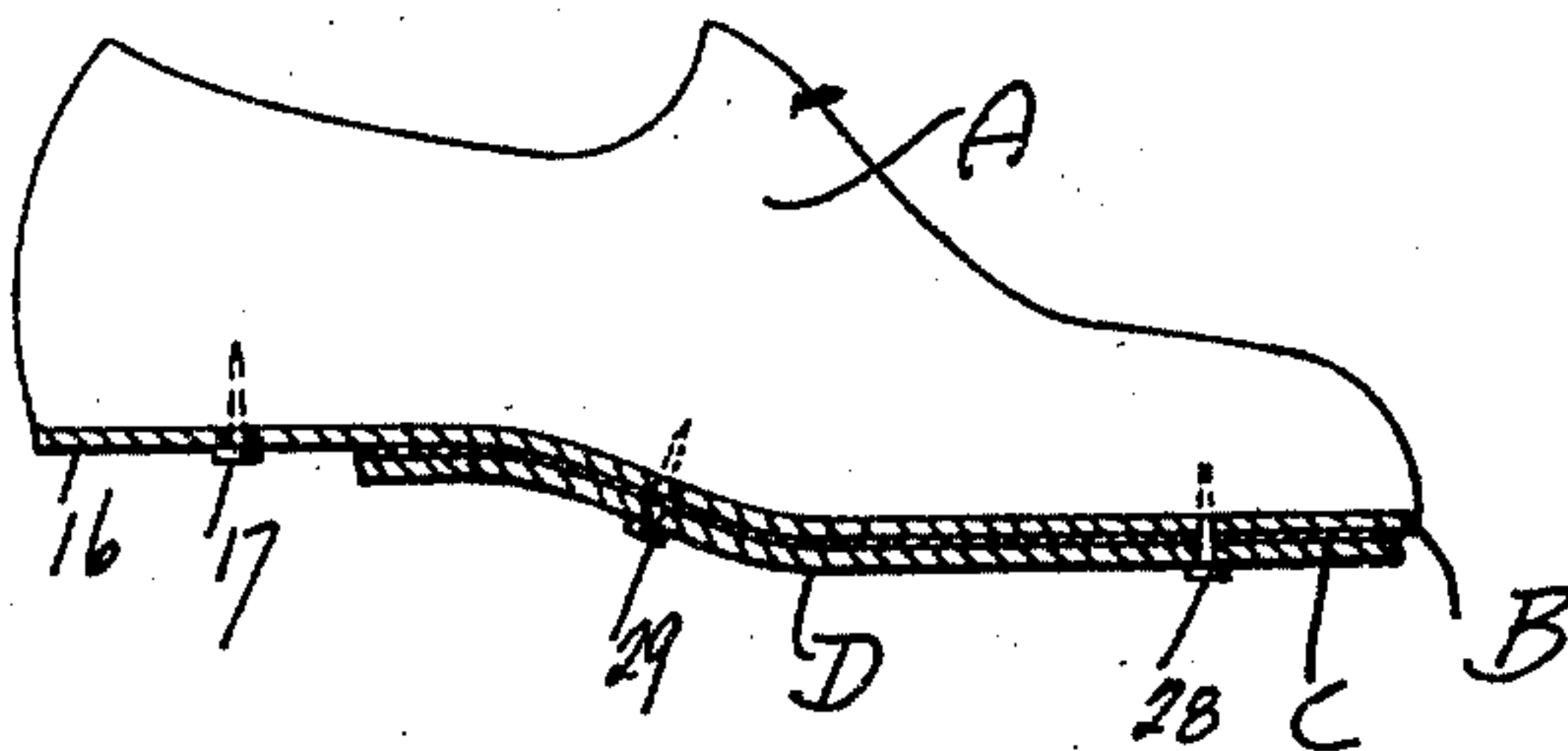


Fig. 4.

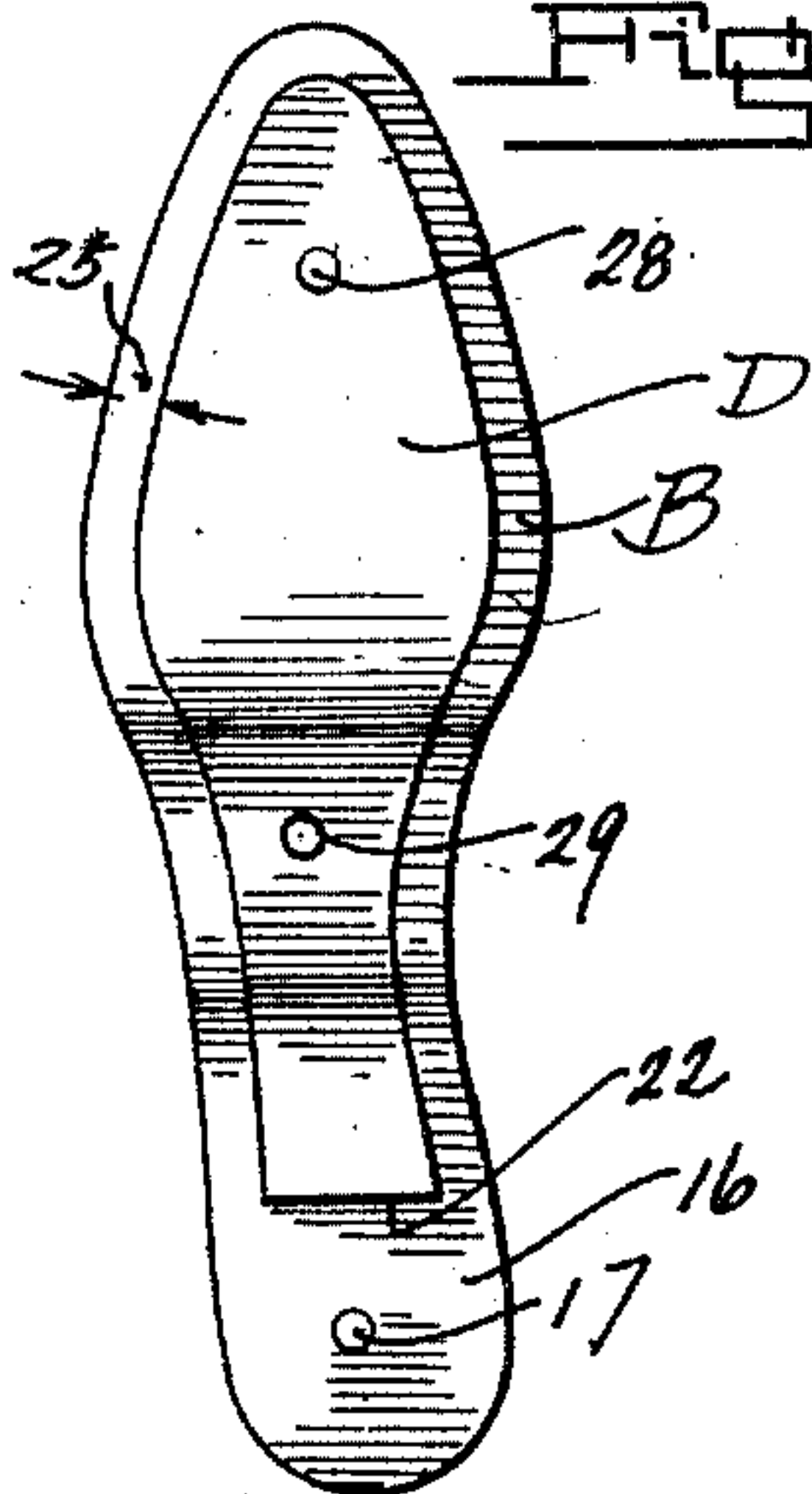


Fig. 7.

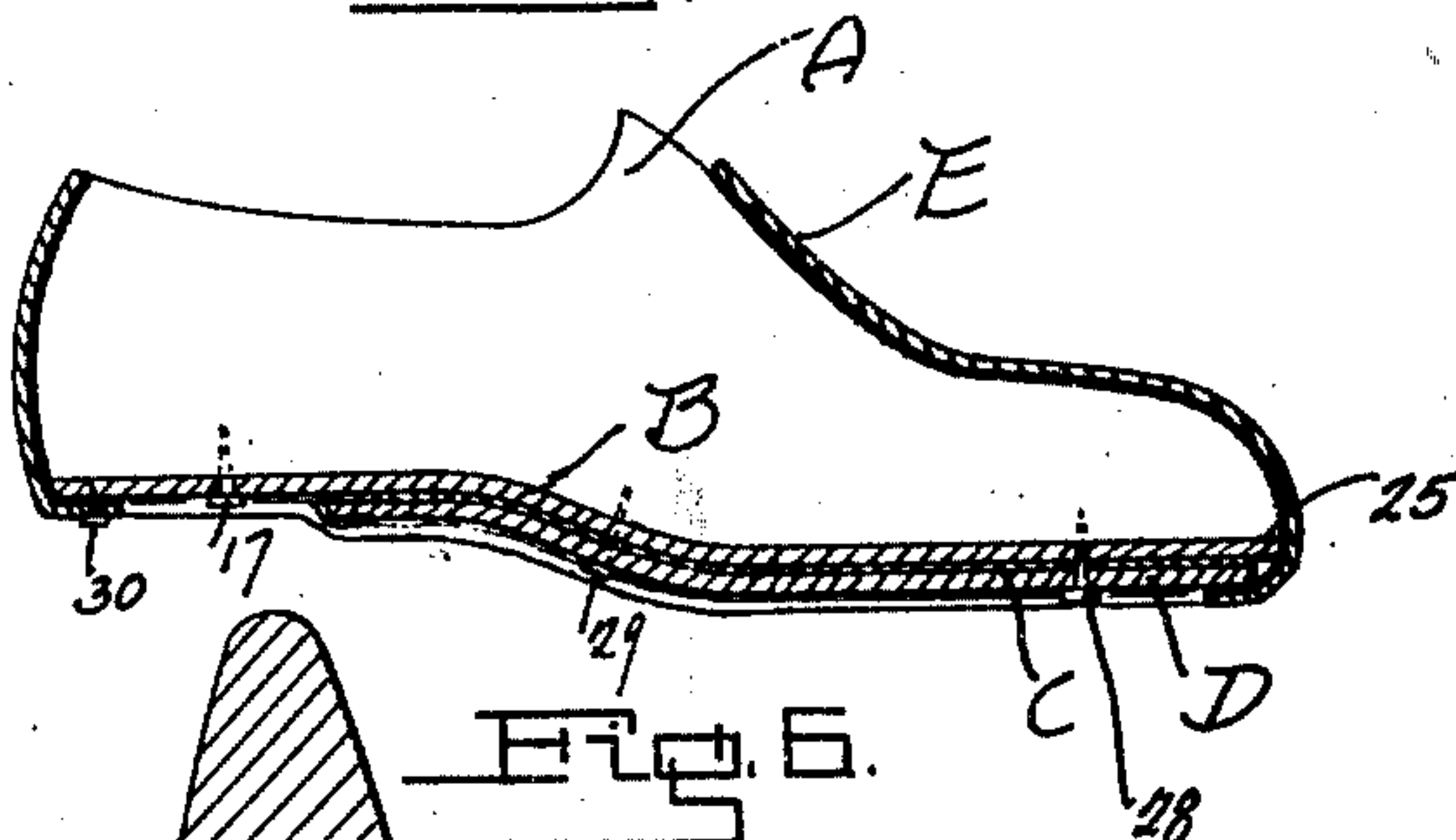


Fig. 6.

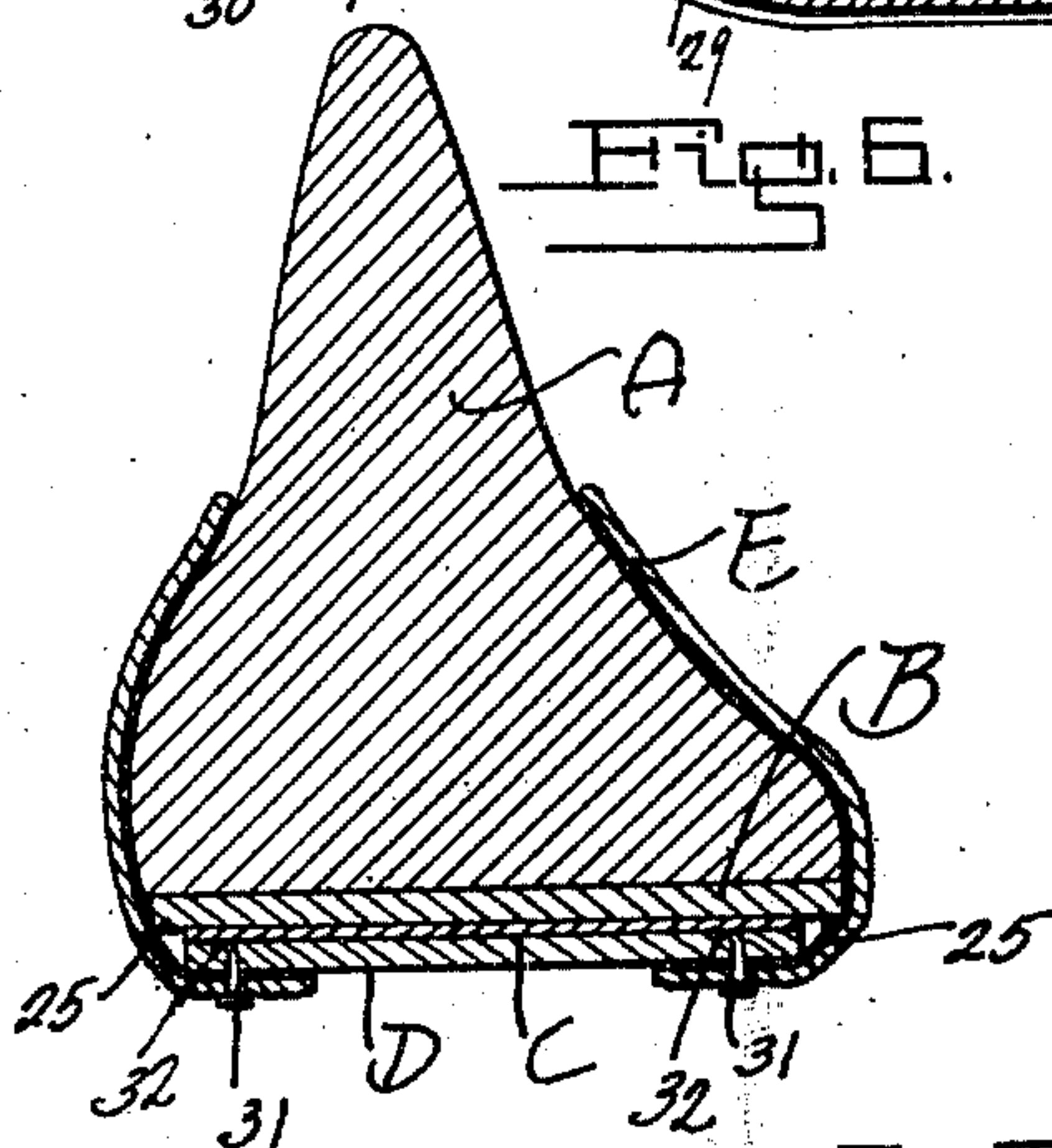
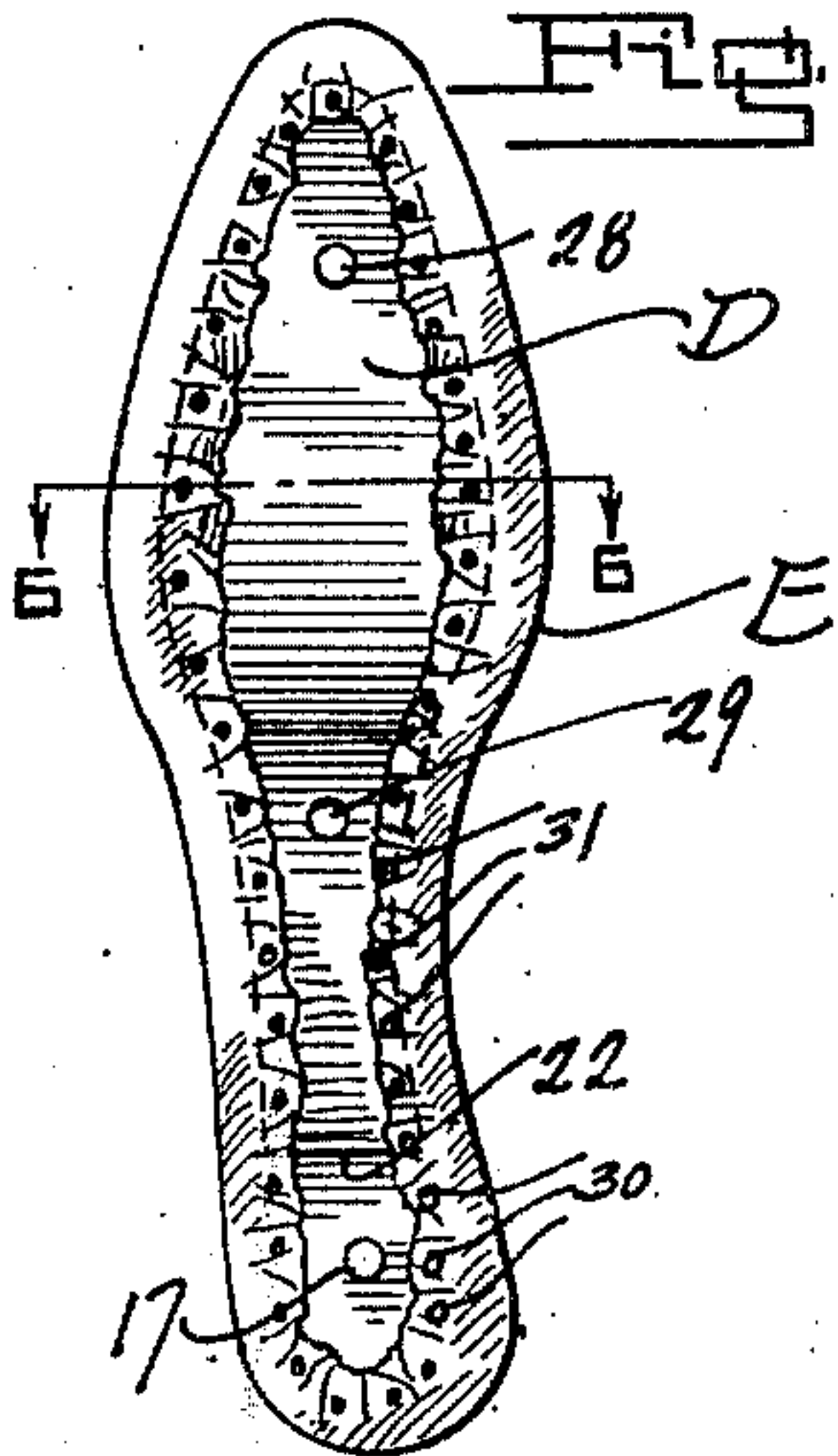


Fig. 5.



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Fig. 8.

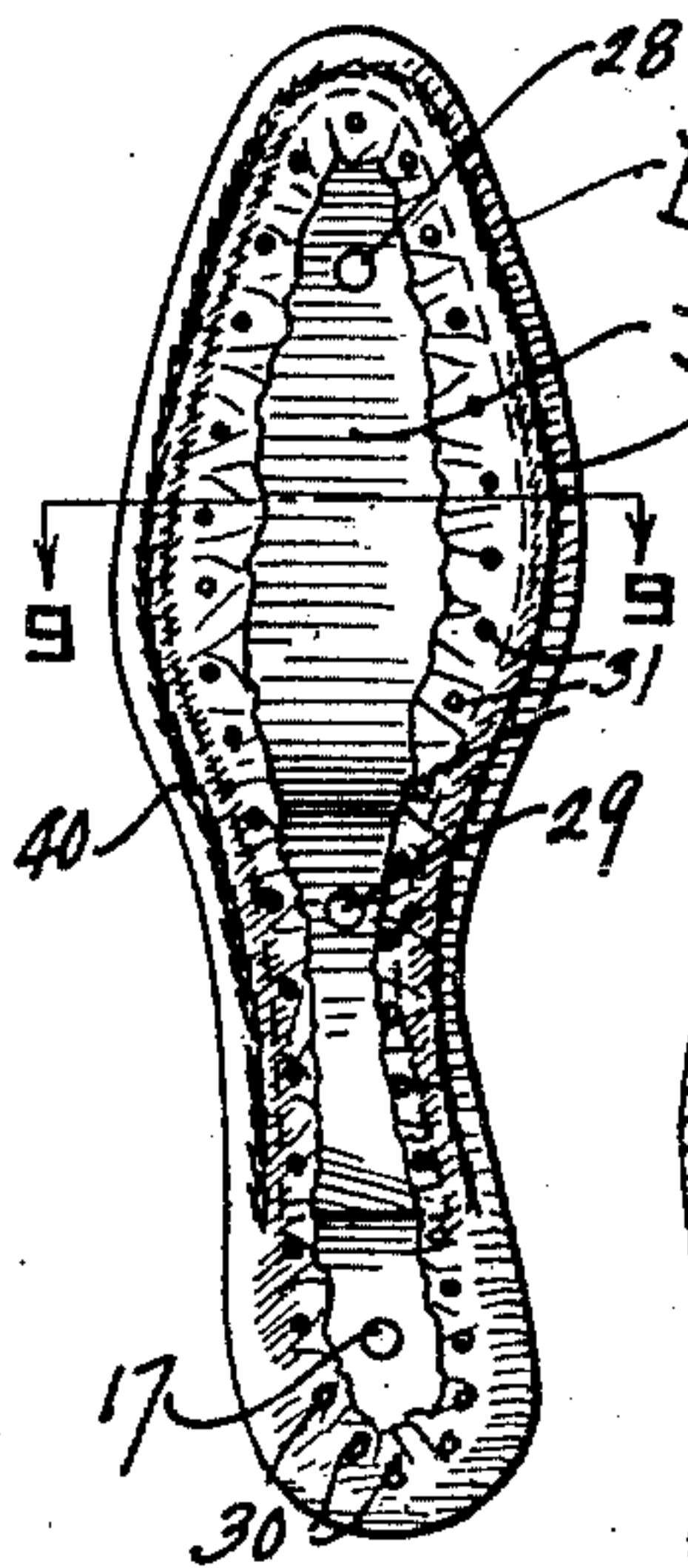


Fig. 9.

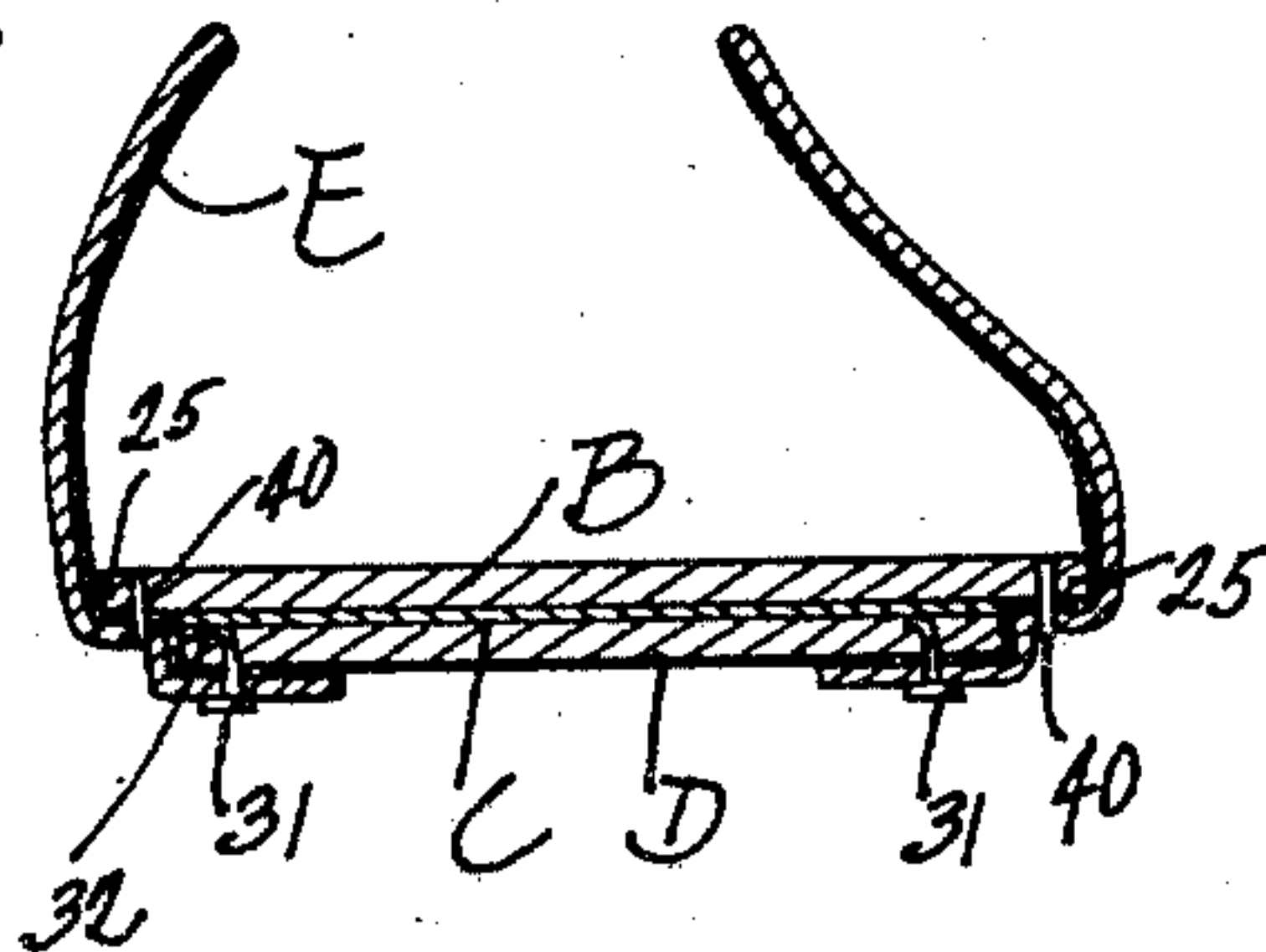


Fig. 10.

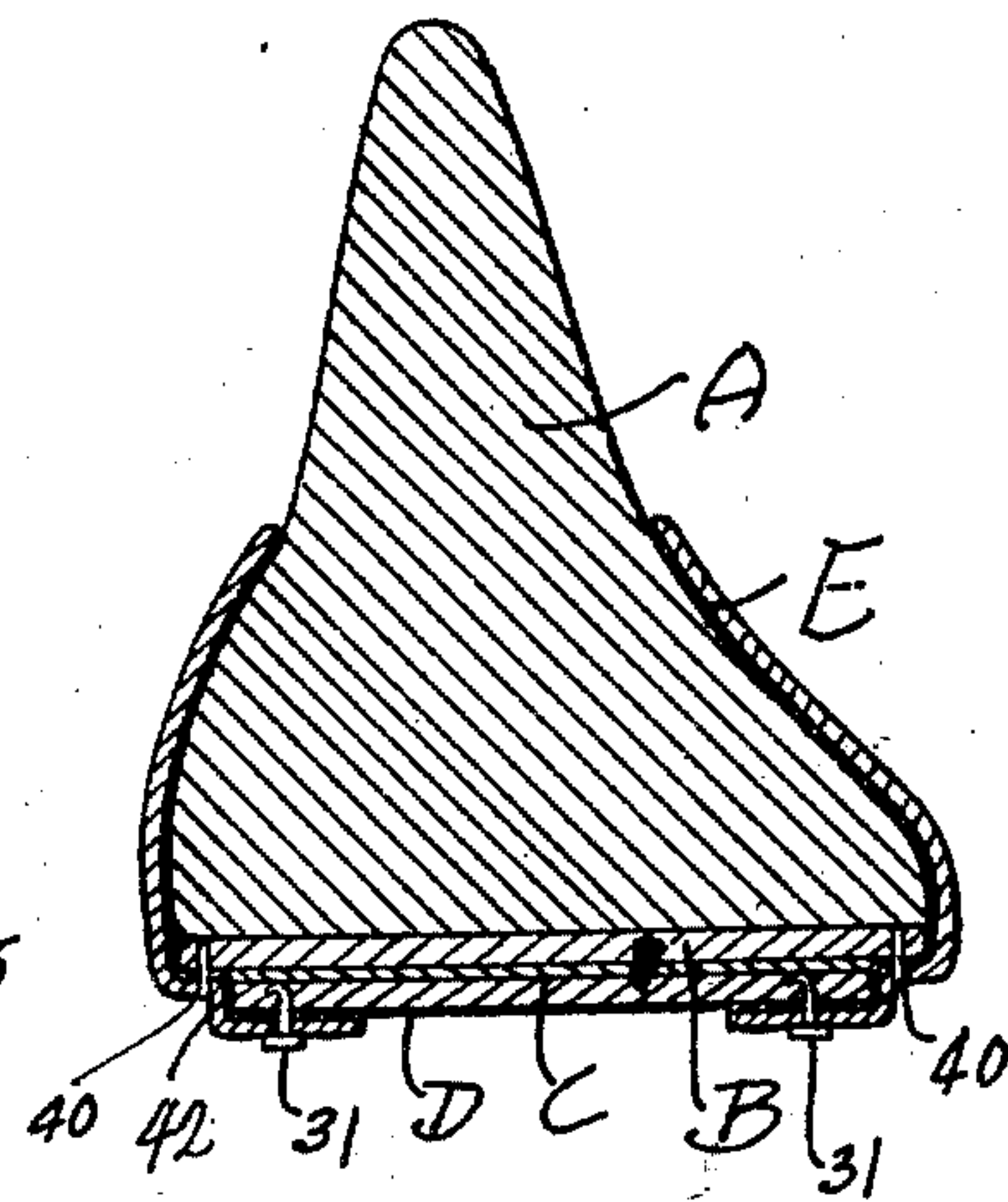


Fig. 11.

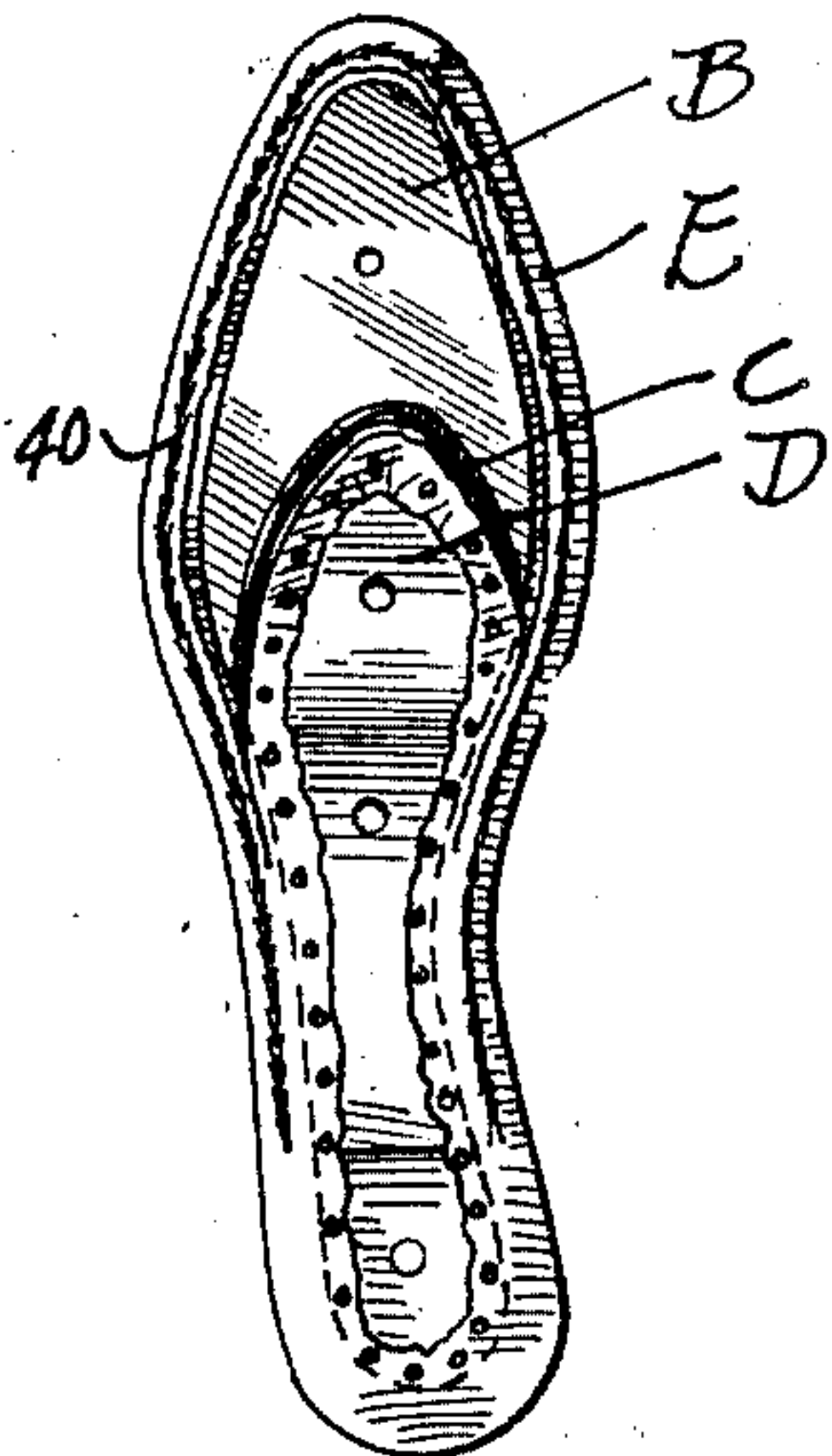
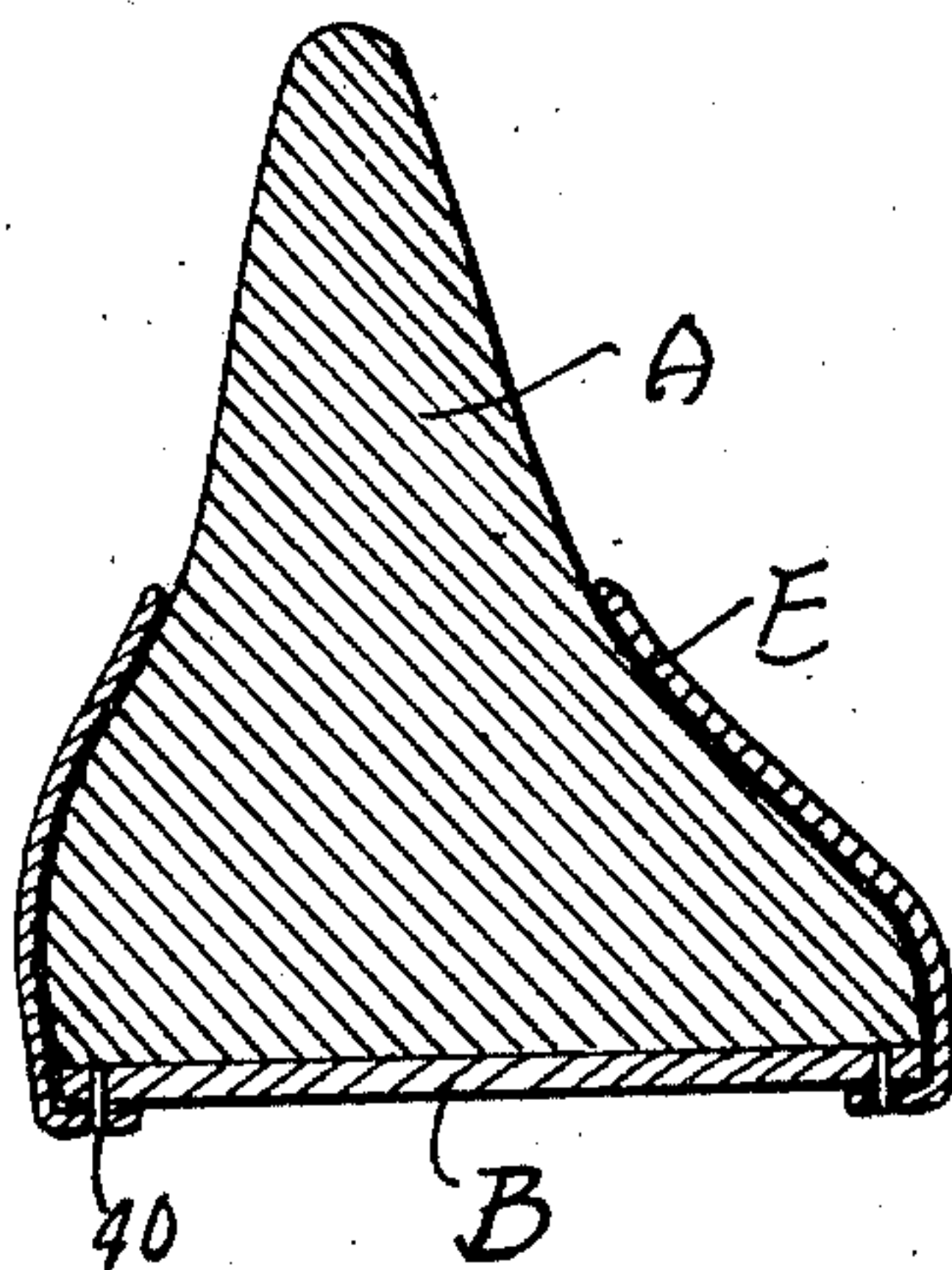


Fig. 12.



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UNITED STATES PATENT OFFICE.

JORGE S. TOUCHÉ, OF MONTEREY, MEXICO.

PROCESS OF MANUFACTURING SHOES.

Application filed September 7, 1927. Serial No. 217,984.

This invention relates to an improved method or process for the manufacture of McKay shoes.

The primary object of this invention is the provision of an improved method for the manufacturing of McKay shoes, in which an upper is secured in such relation with respect to a permanent sole, that the upper and inner sole may be marginally stitched along the sole portion without the necessity of driving tacks through the sole portion of the inner sole and into the last to temporarily hold the upper in assembled relation with the inner sole prior to stitching.

A further object of this invention is the provision of an improved method for the manufacture of shoes and boots, which includes the placement of a permanent inner sole on the bottom of a last, and therebelow successively placing a metal sole piece and a temporary nailing sole, in such relation that the marginal portions about the sides and sole of the permanent sole are not overlapped by the metal sole or temporary nailing sole, so that an upper may be placed on the last and overlap beneath the temporary nailing sole, and tacked in place on the temporary nailing sole in such relation that the tacks are clinched beneath the temporary nailing sole when they come into abutment with the metal nailing sole, and without the necessity of inserting the tacks through the permanent inner sole and last. This structure provides a shoe upper secured in such relation that a stitching machine may stitch the upper to the inner sole about the margins thereof and in such relation that the metal sole and temporary nailing sole may be removed with the clinched tacks.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawings, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views,

Figure 1 is a plan view of an inner sole showing the sole and heel portions thereof.

Figure 2 is a plan view showing the shape of both the metal sole piece and temporary nailing sole, which are of the same formation.

Figure 3 is a longitudinal sectional view of the inner sole, metal sole piece, and temporary nailing sole piece, showing the same applied to the bottom of a last.

Figure 4 is a bottom plan view showing the relation in which the metal sole piece and temporary nailing sole are placed upon the bottom of the inner sole.

Figure 5 is a bottom plan view showing the relation in which the upper is secured to the soles in a step succeeding that illustrated in Figure 4.

Figure 6 is a transverse sectional view taken substantially on the line 6—6 of Figure 5.

Figure 7 is a sectional view taken longitudinally of the last, showing the arrangement of parts as illustrated in Figure 5, with the upper on the last and secured at its margins to the sole pieces.

Figure 8 is a view showing the relation of parts succeeding that illustrated in Figure 5, after the last has been removed and the upper has been marginally stitched to the inner sole.

Figure 9 is a sectional view taken substantially on the line 9—9 of Figure 8.

Figure 10 is a sectional view similar to Figure 9, with the last inserted to facilitate a trimming operation.

Figure 11 is a view showing the arrangement of parts in a step of manufacturing succeeding the placing of the last as illustrated in Figure 10, and showing how the metal sole piece and temporary nailing sole are removed with the clinched tacks and marginal trim portions of the upper, subsequent to stitching of the upper to the inner sole.

Figure 12 is a transverse sectional view taken through the shoe showing the upper stitched to the inner sole, after removal of temporary and auxiliary parts, and just prior to a finishing operation.

In the drawings, wherein for the purpose of illustration is shown only a preferred embodiment of the invention, the letter A may generally designate a last of any approved formation, adapted to receive on the tread thereof an inner sole B; temporary metal sole piece C, and temporary nailing sole D. A shoe upper E is provided which is associated and secured on the last and to the soles in a novel relation of parts.

The last A is of approved formation, and the inner sole B is placed on the tread thereof. The inner sole B includes the sole portion 15, and heel seat 16, it being preferred to tack the heel seat 16 and 17 to the heel portion of the last A, as shown in Figures

3 and 4 of the drawings. The inner sole B, which is the permanent inner sole, covers the entire bottom of the last A, in accordance with conventional practice. This inner sole is preferably of leather, although it may be of other suitable material.

The temporary metal sole piece C and the temporary nailing sole D are of exactly the same shape, each including a sole portion 20, and a shank 21 terminating at its rear edge 22 short of the normal heel seat of the last and inner sole. The metal sole C is of course of rigid formation, and bent to conform to the bottom of the last sole tread and arch, and the temporary nailing sole D is preferably flexible and may conform to the arching of the last and metal sole piece C, and the said temporary nailing sole D is preferably of leather, or it may be of other suitable material, such as cardboard, or the like. The side edges of the sole pieces C and D lie flush with each other, and the said sole pieces are in an entirely conforming relation when applied to the bottom of the inner sole B after the latter has been assembled on the last. The said sole pieces C and D are assembled in a particular relation upon the bottom of the inner sole B, and it is to be particularly noted that there is a marginal edge designated at 25 in Figure 4 of the drawings, and extending between the side edges of the sole pieces C and D and the outer edges of the inner sole B, which the sole pieces C and D do not overlap. The dimension of this margin 25 may vary, although it is preferably $\frac{3}{8}$ ths of an inch for the formation of ordinary McKay shoes. Thus it is to be noted that marginally about the sides edges of the inner sole, on the bottom surface of the inner sole, the sole pieces C and D do not overlap and in this space 25 the stitching of the upper takes place in a relation of parts to be subsequently mentioned. The soles C and D are of a temporary nature and are secured in position by means of tacks 28 and 29 at the sole and arch portions respectively; the metal sole piece C being suitably apertured for the placement of each pair of tacks 28 and 29, as illustrated in the drawings.

Subsequent to the placing of the permanent inner sole B and temporary sole pieces C and D on the last A, the upper E is next assembled and applied in conventional manner, the bottom edge of the upper E being overlapped beneath the last soles B, C and D, and tacks 30 secure the portion of the upper E which overlaps the heel seat 16 of the permanent inner sole B, to the permanent inner sole, and it may be to the last, in case the last is not suitably reinforced to clinch the tacks 30. The tacks 31 along the margins at the sides of the sole are driven thru the edging of the upper E into the marginal portions of the temporary

nailing sole piece D, and the points of the said tacks 31 are clinched at 32 as they strike the metal sole piece C, as is illustrated in Figure 6 of the drawings, and the tacks 31 are thus prevented from entering the inner sole B, or the last A. It is only at the heel seat that tacks enter the inner sole, and along the marginal sides and toe of the sole, the tacks 31 are clinched by being driven into engagement with the hard preferably metal temporary sole C, as can readily be understood from Figure 6 of the drawings. In this view of Figure 6 are clearly shown the portions 25 at the margins of the permanent inner sole B, which extend beyond the side edges of the temporary sole pieces C and D.

In the next step, the last A is removed, and the upper is marginally stitched to the marginal portions 25 of the inner sole which extend laterally of the outer edges of the temporary sole pieces C and D, as is illustrated in Figures 8 and 9 of the drawings. With this step the inner sole B is permanently secured or stitched to the sole overlapping portions of the upper E, and the last A may then be placed in the shoe upper, as illustrated in Figure 10 of the drawings, and in an approved cutting operation the material of the upper E between the row or line of stitching 40 and the adjacent edging of the temporary sole pieces C and D is cut, at approximately the location 42 illustrated in Figure 10 of the drawings, this cutting line following the stitching 40 at the inside thereof, and the cutting continues about the margins of the shoe sole to the heel seat of the last, where the trim of the upper E, together with the temporary sole pieces C and D are severed; the relation in which the trim of the upper E and the sole pieces C and D lift away from the permanent inner sole B being more particularly illustrated in Figure 11, it being shown in cross section in Figure 12 that the inner sole is neatly stitched to the margins of the upper overlapping the inner sole.

The shoe is then finished with any approved and appropriate construction well known to the art.

From the foregoing description of this invention it is apparent that a novel method for making shoes has been provided, which does away with tacking of the upper to the inner sole and to the last. The method shown facilitates not only the manufacture of the shoe, but provides a better appearing job, and renders the manufacture of the shoe more expeditious. The temporary nailing sole D if made of leather, may easily be reclaimed by pulling the upper trim and tacks therefrom. It is even contemplated to remove the clinched tacks immediately after the stitching operation and thus to remove the sole pieces C and D, and permit the trim of the upper to remain in place over the

bottom of the inner sole. This, however, is not preferred, but is optional.

Various changes in the steps of the method of manufacturing shoes herein illustrated and described, as well as changes in the shape, size, and rearrangement of parts may be made without departing from the invention or the scope of the claims.

I claim:

1. Those steps in the method of manufacturing shoes which consist in securing an inner sole to the bottom of a last, securing a metallic sole piece on the bottom surface of the inner sole in non-overlapping relation with the marginal portions of the inner sole, securing a temporary nailing strip over the metallic sole piece, drawing an upper over the last in margin-overlapping relation to the inner sole and the temporary nailing strip, tacking the marginal portions of the upper to the temporary nailing strip so that the points of the tacks engage the metal sole and clinch on the temporary nailing strip to secure the upper margin thereto without entry of the tacks into the inner sole or last, removing the last, stitching the upper beyond the peripheral edges of the metal sole to the marginal portion of the inner sole, removing the temporary nailing strip, clinched tacks, and metal sole without mutilation of said stitching, and finishing the shoe in any approved manner.

2. Those steps in the art of shoe manufacturing which consists in securing a permanent inner sole to the tread of a last, applying a metallic sole piece over the sole portion of the inner sole of less width than the latter so that the inner sole margin extends beyond the peripheral edge of the metallic sole piece, applying a temporary nailing sole over the metallic sole piece, drawing an upper over the last and nailing it to the temporary nailing sole so that the tacks clinch upon the metallic sole piece without entering the inner sole and last, stitching the upper at its edge portion to the marginal part of the inner sole which extends beyond the edge of the metallic sole piece, removing the metallic sole piece and temporary nailing sole with clinched tacks from the upper and inner sole, and finishing the shoe in any approved manner.

3. The method of manufacturing McKay shoes which consists in applying an inner sole to the bottom of a last, applying a metal sole piece and temporary sole piece of the same shape and formation and each of less width than the corresponding portion of the inner sole over the inner sole so that the marginal edge of the inner sole is exposed beyond the peripheral edges of the said metallic and temporary tacking soles, securing an upper to the heel seat of the inner sole, tacking the edge of the upper to the temporary tacking sole so the tacks clinch the temporary tacking sole upon the metallic sole piece, stitching the upper to the marginally extending portion of the inner sole, removing the metallic sole, the temporary tacking sole, and clinched tacks on the temporary tacking sole from the upper and last, removing the last, and finishing the shoe in any approved manner.

4. The method of manufacturing shoes which consists in securing a flexible permanent inner sole to the bottom of the last at the sole and heel seat of the last, securing a metal temporary sole piece over the under surface of the inner sole along the body and margin portions of the inner sole and terminating short of the heel seat of the inner sole, securing a temporary tacking sole to the outer surface of the metal sole piece and of the same shape as the metal sole, said metal sole piece and temporary tacking sole being applied to the inner sole so that marginal portions of the latter extend beyond the side and toe peripheries of said metal sole piece and temporary tacking sole, placing an upper about the last and tacking it to the heel seat of the permanent inner sole, tacking the upper to the temporary nailing sole immediately over the metal sole piece to clinch the tacks on the temporary tacking sole and prevent entry thereof into the inner sole and last, stitching the upper at the under surface of the margin of the inner sole, cutting away and removing the metal sole piece and temporary tacking sole, clinched tacks and trim of the upper between the line of stitching and peripheral edge of the metal sole piece, and finishing the shoe in approved manner.

JORGE S. TOUCHÉ.