

May 10, 1932.

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1,857,475

MEANS FOR ATTACHING HEELS TO SHOES

Filed Oct. 14, 1929

2 Sheets-Sheet 1

Fig. 1.

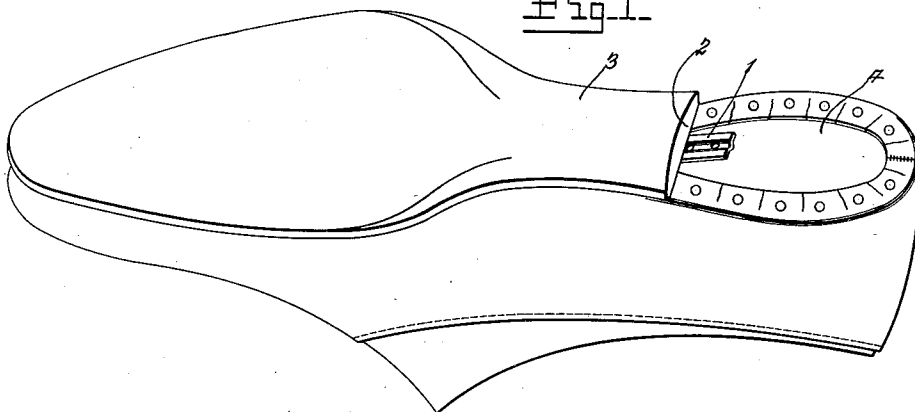


Fig. 2.

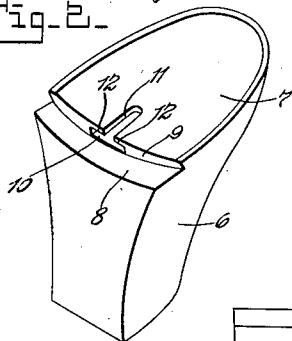


Fig. 3.

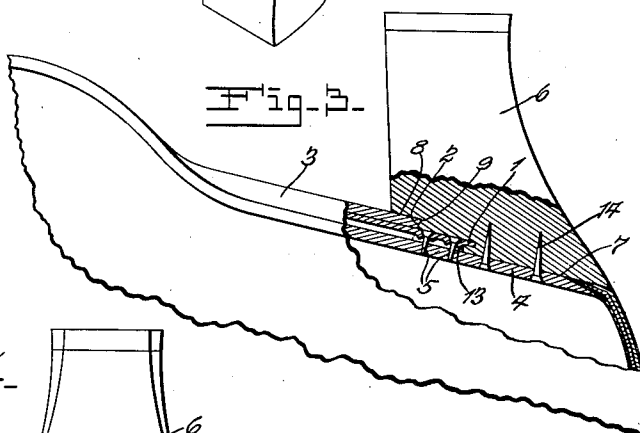
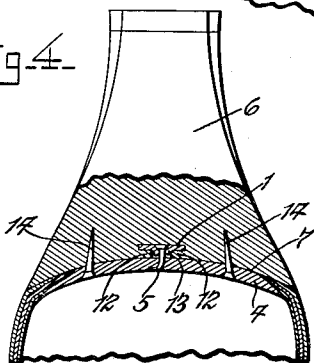


Fig. 4.



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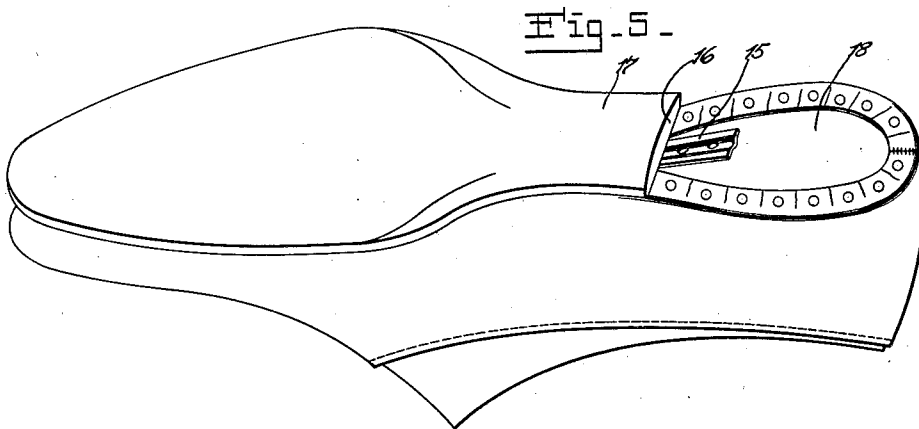
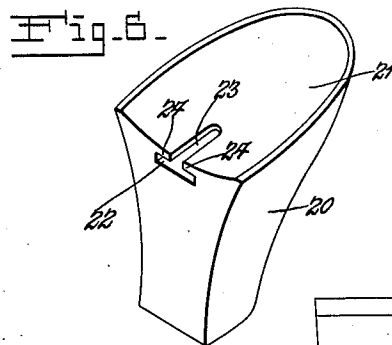
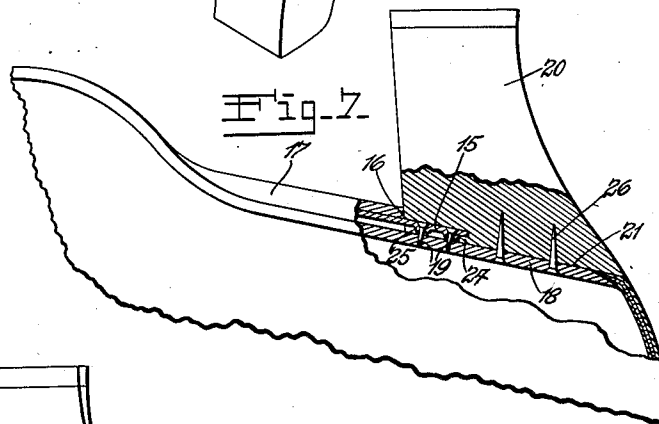
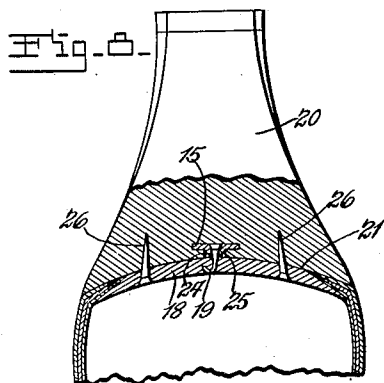
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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MEANS FOR ATTACHING HEELS TO SHOES

Application filed October 14, 1929. Serial No. 399,496.

This invention has special reference to means for attaching heels to shoes in a manner to resist the strains and stresses to which the shoes are subjected when worn.

5 An object of the invention is to provide an improved attachment for firmly holding a shoe heel in connection with a shoe by imbedding the rear end of the usual shank stiffener of the shoe in an adjacent portion of the heel so that all of the strains and stresses to which the shoe heel is subjected when worn are resisted by this connection between the heel and the shank stiffener.

15 Another object of the invention is to provide a shoe heel of novel and improved construction and having therein a cavity or recess to receive and enclose the rear end portion of the shank stiffener with which the shoe is provided.

20 Another object of the invention is to provide means for utilizing these improvements in heels of different specific constructions.

25 Various other objects and advantages of the invention will appear from the following description, reference being made to the accompanying drawings, in which

30 Fig. 1 is an inverted perspective view of a shoe showing the features and elements thereof which cooperate with my improved shoe heel.

Fig. 2 is a perspective view of the shoe heel detached from the shoe.

35 Fig. 3 is a side elevation with parts in vertical longitudinal section showing the shoe heel attached to the shoe.

Fig. 4 is a vertical cross sectional view showing the devices and construction for holding the shoe heel in rigid connection with the shoe.

40 Fig. 5 is an inverted perspective view of a shoe constructed and arranged for attachment to a heel having a construction somewhat different from the heel disclosed in preceding views of the drawings.

45 Fig. 6 is a perspective view of a heel constructed and designed for attachment to the shoe shown in Fig. 5.

50 Fig. 7 is a side elevation, with parts in longitudinal section, showing the heel of Fig. 6 attached to the shoe.

Fig. 8 is a vertical cross sectional view showing the attachment of the heel to the shoe.

The shoe shown in Fig. 1 has the heel portion thereof generally of conventional construction. This is because very little, if any, variation of the shoe structure is required in order to provide appropriate adaptation for use of the present invention. The rear end portion 1 of a metallic shank stiffener is shown extending beyond the rear end 2 of the outsole 3 of the shoe. The shank stiffener shown is a metallic strip of sufficient length and width to stiffen the shank of the shoe, as desired, and is confined between the outsole 3 and the insole 4 of the shoe. This shank stiffener is attached to the insole by tacks 5 extending through holes in the shank stiffener and into the insole. The outsole which is thereafter attached to the shoe by the usual method of manufacture covers the shank stiffener and cooperates with the fasteners 5 to hold the shank stiffener in proper position.

75 The heel comprising important features of the present invention includes a body 6 of appropriate shape and size and is formed with a concave recess 7 in its upper end to receive an adhesive and bonding substance and filler for attachment to the heel portion 4 of the insole. This heel as shown is formed at its upper forward corner with a notch having a transverse wall 8 and a wall 9 extending downwardly and rearwardly to intersection with the wall 8. The vertical width of the wall 9 is approximately equal to the vertical thickness of the rear end 2 of the outsole 3 so that when the heel is attached to the shoe the wall 8 seats against the under side of the rear end portion of the outsole and the wall 9 abuts against the rear end 2 of the outsole.

85 The upper portion of the heel body is formed with a recess or cavity to receive and to imbed in the heel the rear end portion 1 of the shank stiffener that extends beyond the rear end 2 of the outsole. Said recess or cavities comprise a portion 10 having a lateral width at least equal to the width of the rear end portion 1 of the shank stiffener and 100

a vertical width at least equal to the thickness of the shank stiffener. A slot 11 extends rearwardly from the wall 9 and opens into the cavity or recess 10 leaving lips 12 at the sides of said slot 11. The slot or cavity 10 may extend rearwardly beyond the rear end of the slot 11, as clearly shown in Fig. 3.

This heel is attached to the shoe by placing the heel against the shoe in a relationship for attachment in which the rear end portion 1 of the shank stiffener extends into the recess or cavity 10 and in which the shelf wall 8 bears against the undersurface of the end portion of the outsole, while the inclined wall 9 abuts against the end wall 2 of the outsole. The presence of the tacks 5 securing the rear end portion 1 of the shank stiffener to the insole does not in the least interfere with the application and attachment of the heel to the shoe. For, if tacks 5 are used to secure the rear end portion 1 of the shank stiffener to the insole, said tacks will be received in the slot 11 which also receives the burrs 13 produced by punching through the shank stiffener the holes to receive the tacks 5. Glue may be used to secure the heel in this relationship and the usual nails 14 are driven through the heel portion of the insole and into the heel body so as to fasten the heel in rigid connection with the shoe.

In the form of the invention shown in Figs. 5 to 8 inclusive, the shoe includes a shank stiffener having its rear end portion 15 projecting rearwardly beyond the end wall 16 of the outsole 17. The shank stiffener is attached to the insole 18 by tacks 19 passing through spaced holes in the shank stiffener and engaging the insole.

The heel provided in this form of the invention comprises a heel body 20 of the desired shape and size and having a concavity 21 in its upper end to receive the filler and adhesive by which the heel is secured to the shoe. From the breast wall of the heel a recess or cavity 22 is formed to extend rearwardly in the upper portion of the shoe heel and is of sufficient vertical and lateral width to receive the rear end portion 15 of the shank stiffener. A slot 23 extends rearwardly from the breast wall of the heel and opens into the recess 22, leaving lips 24 at the sides of said slots 23 to engage between the insole 18 and the lateral portions of the shank stiffener 15. The slot 23 is provided to receive any tacks 19 that extend through the rear portion of the shank stiffener 15 and to receive any burrs 25 formed by punching holes for tacks in the rear end portion of the shank stiffener.

The heel of this form of the invention is applied and attached to the shoe by placing the heel in connection with the shoe in the relationship shown in Figs. 7 and 8 in which the rear end portion of the shank stiffener 15 is received in the cavity 22 and in the slot 23. In this position and relationship the

upper end of the breast wall of the heel abuts securely against the end wall 16 of the outsole 17. The usual glue and appropriate filler are used to hold the heel in connection with the shoe and the usual nails 26 are driven through the heel portion of the insole and into the heel body so as to obtain a rigid attachment.

By use of heels of either type shown, a much stronger and better connection with the heel portion of the shoe upper is obtained than is possible when the outsole extends over the top of the shoe heel and when the shoe heel is attached directly to the outsole and does not contact with the insole. This is because, in the invention shown in Fig. 1, the heel has a shelf extending under the rear end portion of the outsole and abuts against the end of the outsole; and because the rear portion of the upper end of the heel is attached directly to the insole above the plane of the shelf which bears the under side of the rear end portion of the outsole. It is known that when the Louis or the Cuban types of heels are worn, there is a distinct tendency for the heels to separate from the shoes at the rear. By the construction shown in Figs. 2 to 4, inclusive, this tendency is wholly, or at least in a large part, overcome due to the fact that the forward portion of the upper end of the heel is fulcrumed and bears against the under side of the outsole below the surface of the upper end of the heel which is attached directly to the insole. The connection is further strengthened by the engagement of the shank stiffener within the body of the upper portion of the heel.

These advantages are obtained, in part at least, by the construction shown in Figs. 6 to 8, inclusive. Another distinct advantage of both types of heels is due to the fact that shorter pieces of leather can be used for the outsoles than is possible in other types of heels where the outsoles extend to, or almost to, the rear end of the heel and of the shoe upper. In factories having large outputs, this saving is very substantial. It is due to the novel and improved construction of heels shown that these advantages and savings are obtained.

Of course, it is unimportant whether the metallic shank stiffeners shown be the usual shank stiffeners used in shoes or be of special construction. And the particular formation of the cavities or holes in the upper ends of the holes may be varied, as desired.

It is now apparent that the invention, comprising a heel and having an appropriate hole or cavity therein for receiving and imbedding in the heel body the rear end portion of the usual shank stiffener or other stiffening member, obtains all of its intended objects and purposes in an efficient and economical manner. By this invention a rigid connection of the heel with the shoe is ob-

tained so that the heel will resist and will withstand all of the strains and stresses to which it is subjected when the shoe is worn. The shank stiffener, being imbedded in the heel and also in the shoe structure, provides a joint and connection which is much stronger than other attachments. The heel may conveniently be removed for replacement or repair purposes by simply withdrawing the nails 14 and 26 and breaking the adhesive connection.

The invention may be varied in numerous other respects than as specifically shown and described without departure from the nature and principle thereof. I contemplate such variations as may be needed from time to time to adapt the invention to varying constructions of shoes and do not restrict myself in these or other unessential respects.

What I claim and desire to secure by Letters Patent is:—

1. A heel of the character described comprising a heel body having a recess in its front upper portion for receiving the rear end portion of a shank stiffener and having a shelf in front of and below said recess for receiving and supporting the rear end portion of an outsole.

2. The combination with a shoe having an insole extending to the rear end of the heel portion of the shoe and an outsole terminating near the front of the heel portion of the shoe, and a shank stiffener confined between said insole and said outsole, of a heel imbedding the rearwardly extended portion of said shank stiffener and having a shelf extending under and against the rear end portion of the outsole, and means attaching the said heel to the heel portion of the insole.

3. The combination with a shoe having an insole extending to the rear end of the heel portion of the shoe and having an outsole terminating near the front of the heel portion of the shoe, of a heel having a notch formed in its upper front corner, one wall of said notch extending under and constituting a shelf supporting the rear end portion of the outsole and another wall of said notch abutting against the rear end of the outsole, and said heel having a recess extending rearwardly therein above the bottom of said notch for receiving a fastening member, and means rigidly securing the heel in connection with the heel portion of the shoe.

4. The combination with a shoe having an insole extending to the rear end of the heel portion of the shoe and having an outsole terminating near the front of the heel portion of the shoe, of a heel having a notch formed in its upper front corner, one wall of said notch extending under and constituting a shelf supporting the rear end portion of the outsole and another wall of said notch abutting against the rear end of the outsole, a shank stiffener confined between said insole

and said outsole and having a portion projecting rearwardly beyond the rear end of the outsole and imbedded in said heel, and means holding said heel rigidly in said relationship in connection with the heel portion of the shoe.

5. The combination with a shoe having an insole extending to the rear end of the heel portion of the shoe and having an outsole terminating near the front of the heel portion of the shoe, and a shank stiffener confined between the shank portion of the insole and outsole and having its rear portion extending rearwardly beyond the rear end of the outsole, of a heel imbedding said rearwardly extended portion of said shank stiffener and having a shelf supporting the rear end portion of the outsole forwardly from the rear end of the outsole.

6. A heel comprising a body having a shelf below its upper end for receiving and supporting the rear end portion of an outsole that terminates near the front end of the heel portion of a shoe and having above said shelf a recess for receiving and imbedding a rearwardly projecting portion of a shank stiffener.

7. A heel comprising a body having a shelf below its upper end for receiving and supporting the rear end portion of an outsole that terminates near the front end of the heel portion of a shoe and having above said shelf a recess for receiving and imbedding a rearwardly projecting portion of a shank stiffener, and having a slot opening downwardly from the upper end of the shoe into said recess for receiving the fasteners holding the shank stiffener in connection with the insole of the shoe.

8. The combination with a shoe having an insole extending to the rear end of the heel portion of a shoe and having an outsole terminating near the front of the heel portion of a shoe and provided with an abrupt end, and a shank stiffener secured between the shank portions of the insole and the outsole and having its rear portion extending rearwardly beyond the abrupt rear end of the outsole, of a heel imbedding said shank stiffener and having a shelf extending under the rear end portion of the outsole, a wall forming one side of said shelf abutting against the rear end of the outsole, and means firmly holding said heel in said position.

9. A heel of the character described having a recess in its upper forward portion adapted to receive the rear end of the shank stiffener of a shoe and having a slot of less width than said recess opening upwardly from said recess to the upper end of the heel, and having a transverse notch at its forward upper portion for supporting the rear end portion of an outsole, said heel being adapted to have fasteners driven therein rearwardly and laterally from said recess and rearwardly from

said notch to attach the heel to the heel portion of a shoe.

10. The combination with a shoe having an insole, an outsole having an abrupt end wall at the front of the heel portion of the shoe, and a shank stiffener confined between said insole and said outsole and projecting rearwardly beyond the rear end of the outsole, of a heel having a recess in its upper forward portion receiving the rear end of said shank stiffener and having a lip extending over the rear and lateral portions of said recess and said stiffener, and fasteners extending through the heel portion of said insole and into the heel body rearwardly and laterally from said recess and holding the heel and the shoe in rigid relationship in which the rear end of said outsole abuts closely against an adjacent portion of the front of the heel.

11. The combination with a shoe having an insole, an outsole having an abrupt end wall at the front of the heel portion of the shoe, and a shank stiffener confined between said insole and said outsole and projecting rearwardly beyond the rear end of the outsole, of a heel having a recess in its upper forward portion receiving the rear end of said shank stiffener and having a lip extending over the rear and lateral portions of said recess and said stiffener, fasteners attaching said stiffener to said insole rearwardly of the end of the outsole, and fasteners extending through said insole and into the body of said heel rearwardly and laterally of said recess and holding said heel and said shoe in rigid relationship in which the end of said outsole abuts against said heel.

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