

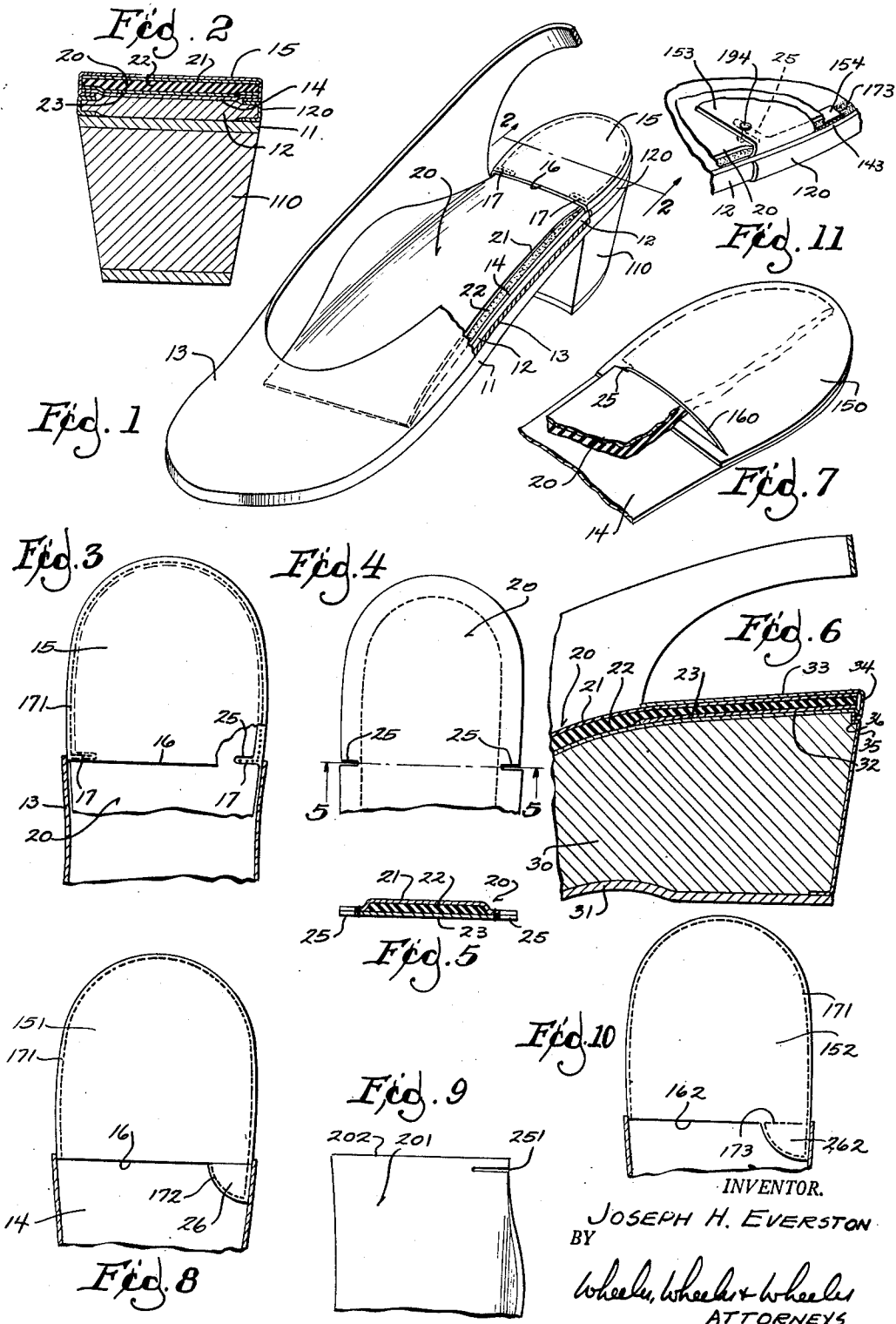
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ARCH SUPPORT AND INTERLOCKED SHOE HEEL POCKET

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ARCH SUPPORT AND INTERLOCKED
SHOE HEEL POCKET

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8 Claims. (Cl. 36—8.5)

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This invention relates to an arch support and interlocked shoe heel pocket.

With particular reference to shoes which are open at the back, it has been proposed to provide a pocket at the heel seat in which an arch support may be inserted to conceal its edges and prevent it from slipping rearwardly. There has been no means for accomplishing this result in a previously manufactured shoe, nor any means of positively preventing the arch support from becoming forwardly displaced. The present invention provides an interlocking construction which can be incorporated with no substantial added expense either in the fabrication of the arch support or the shoe. Desirably, the pocket is narrowed at its mouth and the arch support is transversely notched adjacent its side margin in registry with the mouth of the pocket to preclude movement in either direction. The present invention further contemplates a pocket-forming heel pad which is either integral with, or unitarily assembled upon, a sock lining to constitute a separate article of manufacture which may be incorporated in new shoes or in shoes previously constructed.

In the drawings:

Fig. 1 is a view in perspective of an open back conventionally lasted shoe having an interlocked arch support in accordance with the present invention, portions of the shoe being broken away.

Fig. 2 is a detail view taken in section on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary plan view on an enlarged scale of the heel seat portion of a modified embodiment, the upper being illustrated in section and the heel pad being partially broken away to expose a portion of the arch support.

Fig. 4 is a fragmentary plan view of the heel portion of a modified arch support.

Fig. 5 is a view taken in section on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary detail view in longitudinal section of the heel portion of a slip lasted shoe embodying the invention.

Fig. 7 is a fragmentary detail view in perspective on an enlarged scale of a slightly modified interlock between the heel seat and the arch support fragmentarily illustrated.

Fig. 8 is a fragmentary view similar to Fig. 3 showing a further modified embodiment of the invention.

Fig. 9 is a fragmentary plan view of the heel portion and arch support for use in the construction of Fig. 8.

Fig. 10 is a slightly modified form of the device

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of Fig. 8 and with which the arch support of Fig. 9 is alternatively usable.

Fig. 11 is a view in perspective on an enlarged scale showing a slightly modified embodiment of Fig. 1.

The invention is not concerned with the forepart of the shoe, nor broadly with its general construction, both lasted and slip lasted embodiments being illustrated.

The lasted shoe shown in Figs. 1 and 2 has the conventional sole 11, heel 110, insole 12 and upper 13 open at the rear except for the ankle-encircling strap. The insole may have a marginal binding 120. The sock lining 14 may be cemented in place or otherwise secured.

In accordance with the invention, a pocket-forming heel pad 15 is used. The heel pad is desirably co-extensive, or nearly so, with the heel seat portion of the shoe. The heel pad is connected in any suitable way or by any appropriate fastening means to a full or partial sock lining or other suitable part of the heel portion of the shoe and may cover or replace or expose the lining, typical exemplifications being herein disclosed.

In the exemplification shown in Fig. 1 and Fig. 2, it is preferred that the pocket-forming heel pad 15 have its side and rear edges inwardly turned about the margins of the sock lining and cemented therebeneath (Fig. 2) to bind such margins and to constitute the sock lining 14 and heel pad 15 a separate and unitary article of manufacture which may be sold as such and installed by cementing or otherwise in previously manufactured shoes as well as in shoes in process of manufacture. The forward margin 16 of the heel pad is, of course, free or nearly entirely free to permit the introduction or removal of the rear end of a longitudinal-arch support such as that shown at 20.

As shown in Fig. 11, the downwardly and inwardly turned side and rear margins 154 of the heel pad 153 may be anchored by the cement 173 to the upper surface of the sock lining 143 instead of being extended about its margins and connected with its lower surface as in Fig. 1. Fig. 11 also shows a single brad used at 194 as a means of limiting the width of the pocket mouth at the forward free margin 16 of the pocket-forming heel pad 153.

Whether the pocket-forming heel pad is cemented (Fig. 1) or otherwise mechanically connected in place, as by the stitches or other connectors 171 of Fig. 3, in any case the stitch or staple or brad connections 17 may be used at the

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mouth of the pocket for the restriction thereof.

The arch support is desirably quite flexible, at least in its rear portion, so that it may be longitudinally channeled manually by drawing its sides together to facilitate manipulating its heel portion into the pocket between the constricting connection 17. In registry with such areas, the arch support 20 has marginal notches 25 as best shown in Figs. 4 and 5. When the rear portion of the arch support is fully received into the pocket in the manner shown in Figs. 1 and 3, it is flattened out and the notches receive the pocket-restricting means at 17 to effect an interlock which precludes movement of the arch support in any direction. The restricting means may obviously be used, if desired, in the construction of Fig. 1 and Fig. 2. Yet the arch support may be readily removed, when the shoe is not being worn, by longitudinally channelling it to withdraw the side margins of its heel portions into the space between the two terminal lines of stitching from the notches.

The arch support 20 may be of any desired form. Preferably it includes a top or cover ply 21 and a cushion 22. At least at the rear, there is desirably also a slip ply 23 (see Fig. 6) to facilitate the introduction of the arch support into the socket. If the sponge rubber or other cushion were exposed at the bottom of the arch support, its high co-efficient of friction would make difficult the task of positioning the device in the pocket. The slip ply 23 rides smoothly on any underlying surface, such as those of the sock lining 14 or insole 12.

In the slip lasted construction shown in Fig. 6, the platform 30 intervenes between sole 31 and the insole or sock lining 32. The pocket-forming heel pad 33 has its side and rear margins turned downwardly at 34 and inwardly between the intumed margins of the sock lining 32 and the heel wrapper 35, all such margins being stitched together at 36.

In the construction shown in Fig. 7, the pocket-forming heel pad 150 is unitary with sock lining 14 and is slit at 160 near its forward margin to receive the laterally notched arch support 20. The pad portions beyond the end of the slit form the restriction which is received into the notches 25. In this construction, the extension of the stitching at 17 is not required and the slit 160 may be formed in the same operation in which the heel pad is die cut.

In the construction shown in Fig. 9, the arch support 201 has only a single slit at 251 in one of its side margins. It may have a heel portion, as in Figs. 1 to 7, or may terminate at 202, immediately behind the slit 251. The heel portion may be omitted from any of the arch supports shown. In the shoe with which this arch support is used, the heel pad 151 may be of entirely conventional form, being stitched at 171 to the heel seat (Fig. 8) and having its forward margin at 16 unrestrictedly open to receive and lap the rear end 202 of the arch support 201. Immediately forward of the heel pad, I provide an orthopedic lift 26 at the inside of the shoe below the scaphoid of the wearer. This lift may be anchored by an extension at 172 of the stitching used to secure the heel pad 151 to the sock lining 14. The lift at 26 supplements the conformation of the arch support to throw to the outside of the shoe the weight of the wearer's foot, thus contributing to better balance. It is covered, in use, by the arch support. Under weight of the

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wearer's foot, the heel portion of the arch support is marginally locked behind the lift 26.

As suggested in Fig. 10, the lift 262 may be made integral with the heel pad 152 and the stitching 171 may be extended completely around the lift 262 as indicated at 173. In this construction, the margin 162 which gives access to the pocket is restricted by the width of the lift 262. The same arch support shown at 201 in Fig. 9 (or that shown in Fig. 4) may be used with this device, but will have to be manipulated as above described to insert it into the restricted opening of the pocket.

I claim:

1. In a shoe having a heel seat portion, the combination with a heel ply marginally connected at its side and rear with said portion and having an open forward margin, said heel ply and heel seat providing a forwardly opening pocket, of an arch support having a forward longitudinal arch-supporting portion substantially co-extensive in width with the shoe and a rear portion immediately behind said arch supporting portion and disposed in said pocket underlying said heel ply, and means interlocking the forward margin of the heel ply and the rear portion of the arch support whereby to restrain disengagement of the arch support from beneath the heel ply.

2. The device of claim 1 in which said heel ply is provided with means adjacent its forward margin affording restricted access to said pocket.

3. The device of claim 2 wherein said arch support is provided with a lateral indentation in its rear portion, said heel ply being provided with a slit adjacent its forward margin, an end of said slit being spaced from the side margins of the ply, the portions of the ply beyond said end comprising said restricting means and being accommodated by said indentation to provide said interlock.

4. The device of claim 2 wherein said arch support is provided with a lateral indentation in its rear margin portion, the said forward margin of the heel ply being provided with anchoring stitching connecting it with the heel seat and extending slightly inwardly from the side margin of the heel ply and comprising said restricting means, the laterally indented margin of the arch support receiving the stitch-anchored portion of the heel ply to provide the interlock aforesaid.

5. The device of claim 2 in which said restricting means comprises an orthopedic lift adjacent the inner side of the shoe and with which the arch support is interlockingly engaged.

6. The device of claim 2 in which said shoe further comprises an insole and a sock lining adhesively laminated to said insole, said insole and sock lining being substantially co-extensive with the interior of the shoe and providing the said heel seat, said heel ply having its side and rear margins extending downwardly about corresponding marginal portions of the sock lining and connected thereto beneath said margins.

7. As a new article of manufacture, a sock lining having in unitary connection with its rear end a heel pad having an open forward margin affording access to a pocket space beneath the heel pad, and means adjacent said forward margin restricting said opening.

8. The device of claim 7 in which the heel pad is superimposed upon the sock lining and has means connecting its side and rear margins with the sock lining.

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