April 12, 1932. E. H. HELLER 1,854,030

SHOE CONSTRUCTION

Filed Sept. 22, 1931 2 Sheets-Sheet 1

Fig. 1.

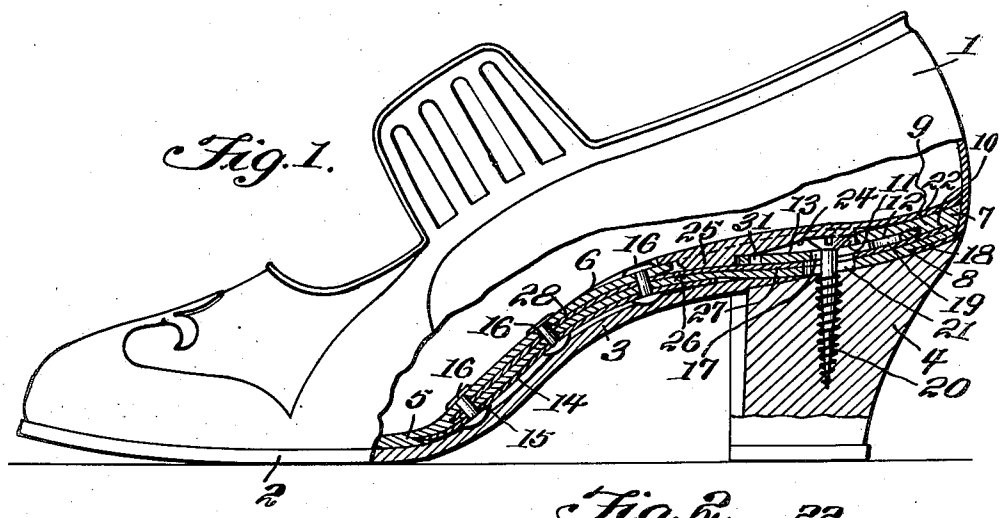


Fig. 2.

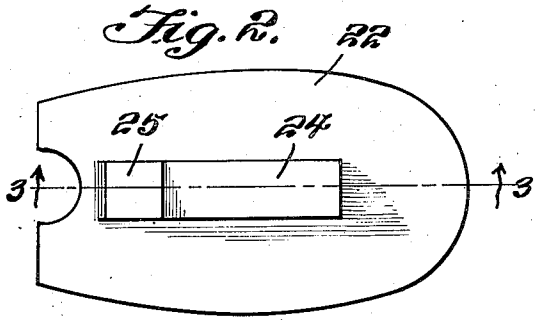


Fig. 3.

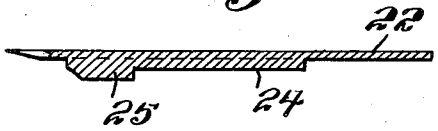


Fig. 4.

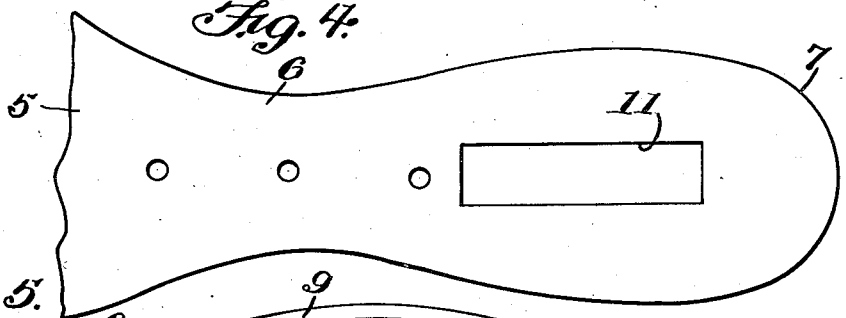
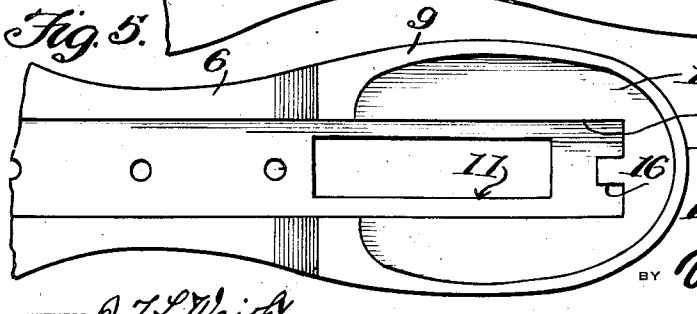


Fig. 5.



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SHOE CONSTRUCTION

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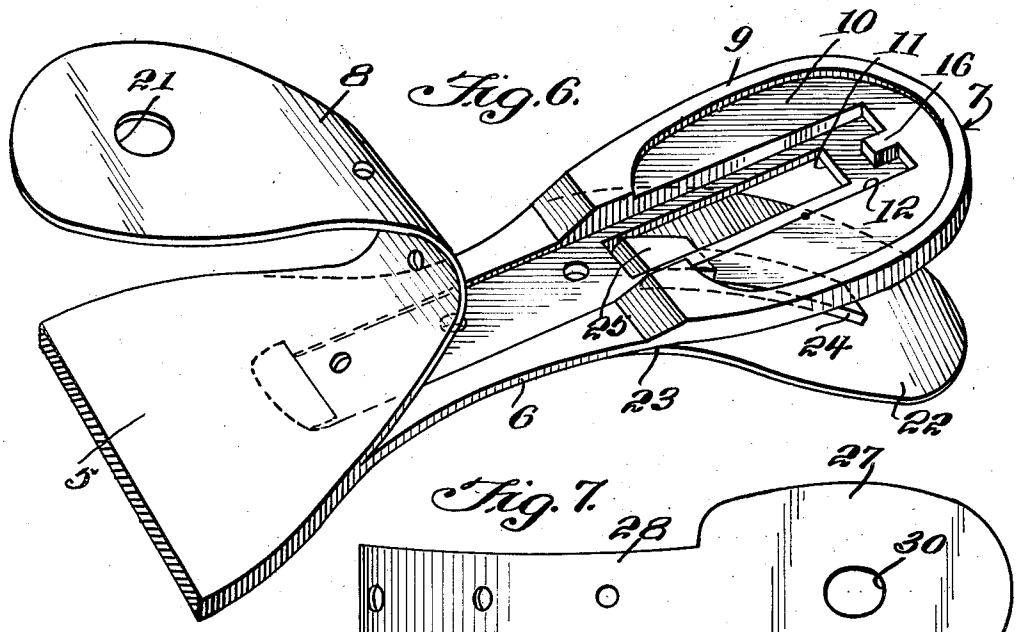
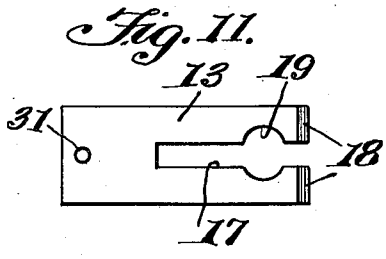
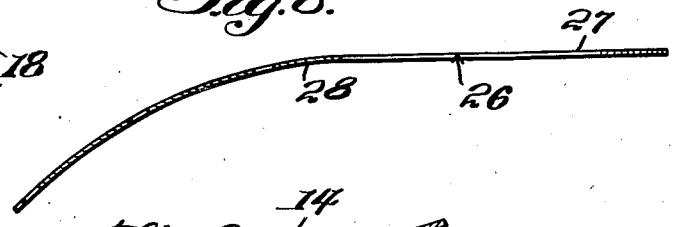






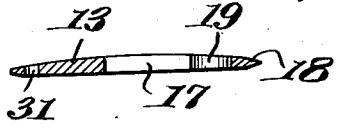
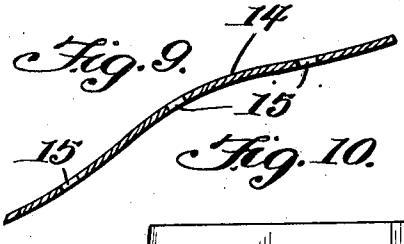
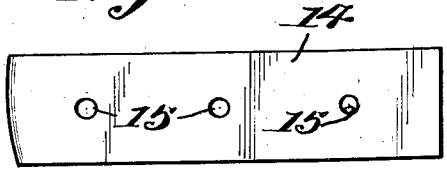


Fig. 12.





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Patented Apr. 12, 1932

1,854,030

UNITED STATES PATENT OFFICE

EDWIN H. HELLER, OF SIKESTON, MISSOURI

SHOE CONSTRUCTION

Application filed September 22, 1931. Serial No. 564,449.

This invention relates to shoes and has for the primary object, the provision of an improved means for reinforcing the arch of a shoe to retain the shoe in proper shape and also provide an efficient arch supporter for a person's foot and further providing a medium for effectively and detachably securing the heel to the upper of the shoe, and obviating the danger of the heel becoming accidentally disconnected from the upper and aiding in maintaining the heel in proper relation to the upper and sole of the shoe when worn and subjected to severe strains.

With this and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation partly in section illustrating a shoe constructed in accordance with my invention.

Figure 2 is a plan view illustrating a heel pad.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a fragmentary plan view illustrating an inner sole.

Figure 5 is a view similar to Figure 4 illustrating the opposite face of the inner sole, with an arch reinforcing strip secured thereto.

Figure 6 is a perspective view illustrating the inner sole removed from the upper of the shoe.

Figure 7 is a plan view illustrating a combined heel attaching plate and arch supporting strip.

Figure 8 is an edge view partly in section illustrating the same.

Figure 9 is a detail sectional view illustrating the arch supporting strip which is attached to the inner sole as shown in Figure 1.

Figure 10 is a plan view illustrating the same.

Figure 11 is a plan view illustrating a locking plate.

Figure 12 is a detail sectional view illustrating the same.

Referring in detail to the drawings, the numeral 1 indicates an upper of a shoe and 2 the main or outer sole secured to the upper in the usual way and including the arch portion 3. Associated with the upper 1 is a heel 4 constructed of wood, a composition material or of leather. An inner sole 5 is secured to the main sole 2 within the upper in any well known manner and includes an arch portion 6 and a heel portion 7. The portions 6 and 7 comprise strips or layers 8 and 9 separate of each other and forming an integral part of the major portion of the inner sole. The strip or layer 9 is of a greater thickness at the heel portion than the strip or layer 8 and is provided with a recess 10 in one face thereof and is also provided with a slot 11 surrounded by a recess 12, the walls of which form guides for a locking plate 13. The recess 12 extends into the arch portion of the lower strip 9 and said arch portion has positioned thereon an arch supporting strip 14 constructed of metal or any other material suitable for the purpose and is provided with a plurality of apertures 15 for receiving rivets or like fasteners 16 after passing through the strips or layers 8 and 9, thus firmly anchoring the arch supporting strip in place.

A stop or lug 16 is formed in the recess 12 and at one end thereof and is received within the open end of a slot 17 formed in the locking plate 13. By referring to Figure 11 it will be seen that the slot 17 opens outwardly through one end of the locking plate and said end is bevelled as shown at 18. The locking plate 13 is also provided with an opening 19 in communication with the slot 7 for the purpose of receiving a headed fastener or screw 20 secured to the heel 4 as shown in Figure 1. The layer or strip 8 is provided with an opening 21 to permit the fastener 20 to extend therethrough and into the slot 11. The locking plate 13 is slidably mounted in the recess 12 and is adapted to be passed under the head of the fastener 20

as shown in Figure 1 with the lug 16 fitting in the open end of the slot and with the shank of the fastener positioned in the slot 17 beyond the opening 19 thereby firmly attaching the heel to the upper.

A heel pad 22 is secured to the heel portion 7 of the inner portion 9 as shown at 23 and is adapted to overlie the layer or strip 9 of said inner sole and has formed thereon an elongated strip 24 adapted to enter the slot 11 for the purpose of closing said slot. A shoulder 25 is formed on the strip 24 at one end thereof and is adapted to abut one end of the locking plate when the latter is in a position for securing the heel to the upper consequently preventing the locking plate from sliding so as to disconnect from the fastener 20. With the shoulder 25 in engagement with one end of the locking plate 13 and the lug 16 within the open end of the slot 17, said locking plate is prevented from moving accidentally.

A combined attaching plate and arch support 26 is mounted between the strips or layers 8 and 9 and includes a heel portion 27 and an arch portion 28. The portion 28 is provided with openings to receive the rivets or fasteners 16 and is located in the recess 12 thereby providing a double reinforcement to the arch of the shoe. The heel portion 27 is provided with an opening 30 to permit the headed fastener 20 to extend therethrough for entering the slot 11 of the strip 9 so that the locking plate may be applied thereto. An aperture 31 is provided in one end of the locking plate whereby a pointed instrument may be inserted therein for the purpose of shifting or sliding the locking plate.

From the foregoing description taken in connection with the accompanying drawings it will be noted that a shoe construction has been provided wherein the arch of the shoe will be effectively supported for the purpose of maintaining the upper or the shoe in its entirety in its proper shape and also provides a very efficient arch supporter for the foot of the person wearing the shoe. Further it is to be seen that the arch supporting medium also reinforces and strengthens the heel portion of the upper and provides an effective attaching medium for the headed fastener carried by the heel of the shoe. The heel of the shoe attached to the upper in the foregoing described manner retains the heel against accidental displacement or against relative movement to the upper when the shoe is being worn and also permits the heel to be easily removed and applied to the upper when desired.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:—

1. A shoe including an upper provided with a main sole and a heel, an inner sole in the upper and having arch and heel portions, said portions including separable layers, an arch reinforcing strip between said inner sole and main sole, a reinforcing strip between the layers of the inner sole, means securing the reinforcing strips and layers together, a headed fastener carried by the heel, and means for engaging the headed fastener for securing the heel to the upper and carried by the inner sole and the second named reinforcing strip.

2. A shoe including an upper provided with a main sole and a heel, an inner sole in the upper and having arch and heel portions constructed from separable layers, one of said layers having a slot and the other layer having an opening, an arch reinforcing strip between said layers and having an opening in alignment with said first opening and slot, a second reinforcing strip between the arch portion of the main sole and the inner sole, a headed fastener secured to the heel, means securing the inner sole and said reinforcing strips together, a locking plate having a slot slidably mounted in one of the layers of the inner sole and against the first named reinforcing strip to receive the fastener under the head thereof for securing the heel to the upper, and a heel pad overlying a portion of the inner sole.

3. A shoe including an upper provided with a main sole and a heel, an inner sole in said upper and including arch and heel portions, said portions comprising superimposed strips, a reinforcing element secured between said strips of the inner sole and having an opening, one strip of said inner sole having an opening in alignment with the first named opening, said other strip of the inner sole having a slot aligning with the opening, a headed fastener secured to the heel and extending through the opening and slots, a bifurcated locking plate slidable between one of the strips of the inner sole and the reinforcing element to receive the headed fastener, a lug carried by the inner sole to engage in the bifurcated end of the locking plate, a heel pad secured to the inner sole, a strip on said heel cushion and extending into the slot of the inner sole and having a projection to engage one end of the locking plate.

In testimony whereof I affix my signature.

EDWIN H. HELLER.