Oct. 5, 1937. J. F. R. P. TOURSIER 2,095,110

HEEL

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Fig. 1.

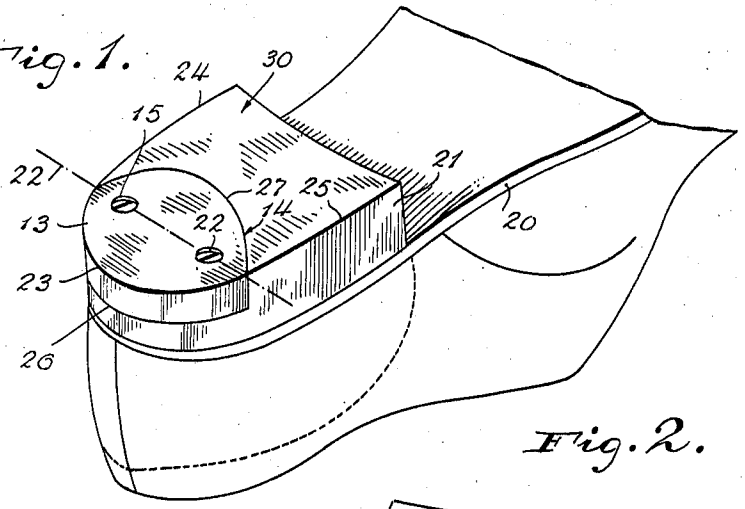


Fig. 2.

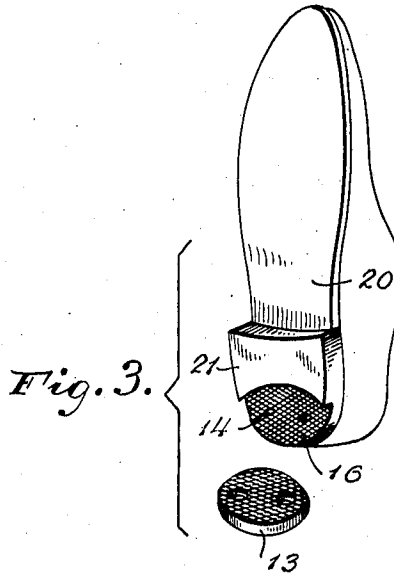


Fig. 3.

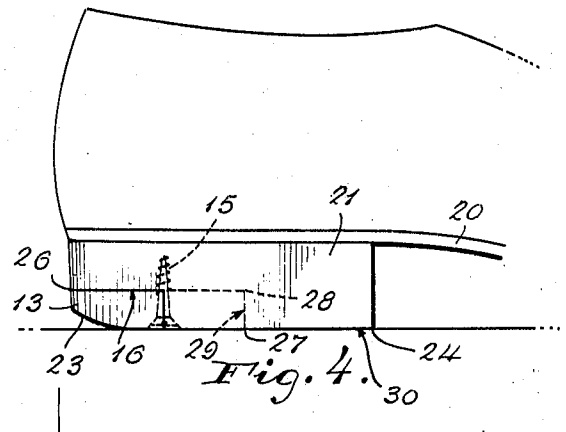


Fig. 4.

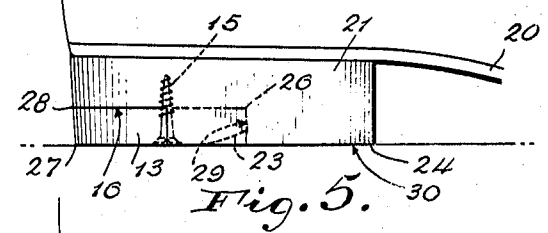
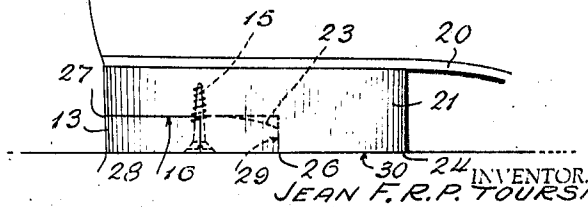


Fig. 5.



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Fig. 6.

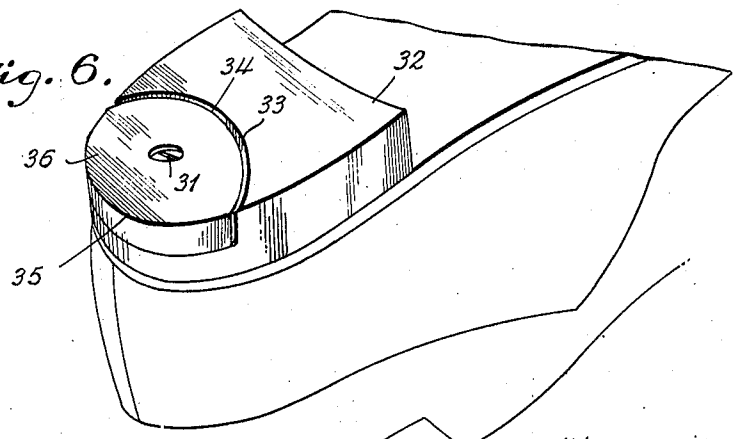


Fig. 7.

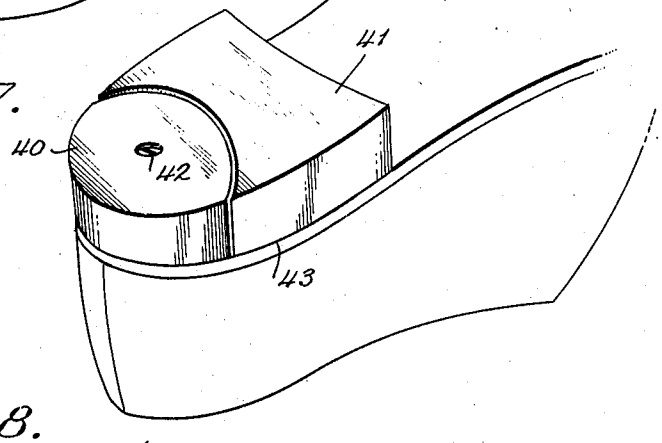


Fig. 8.

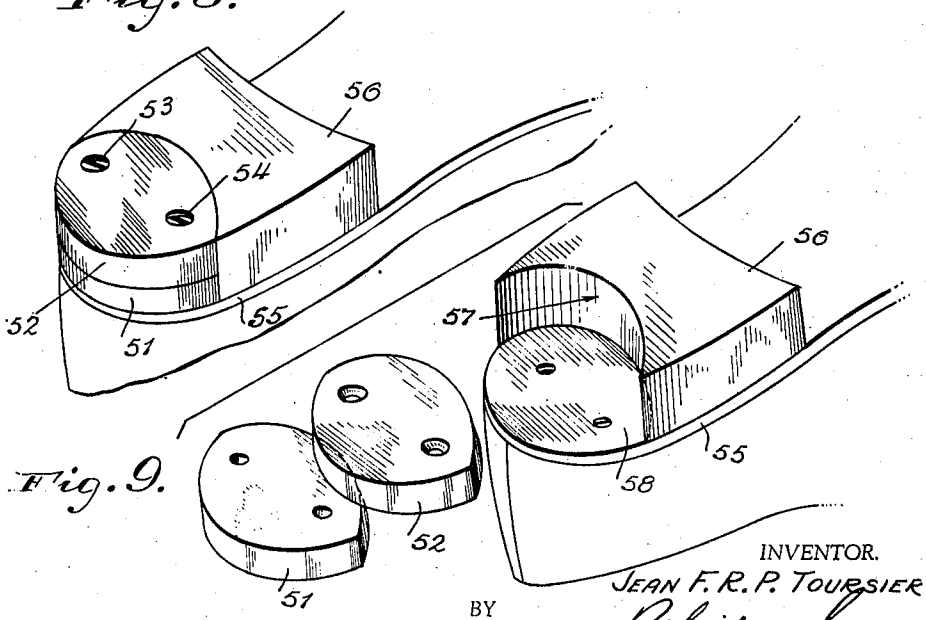


Fig. 9.

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Fig. 10.

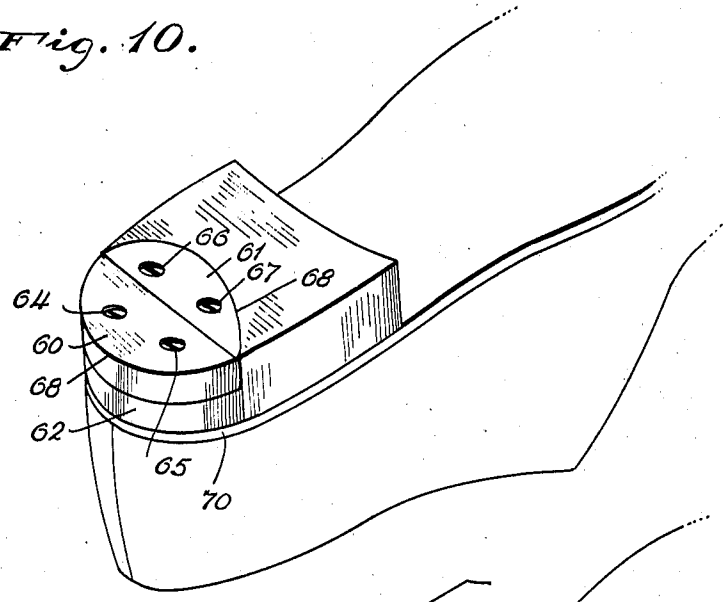
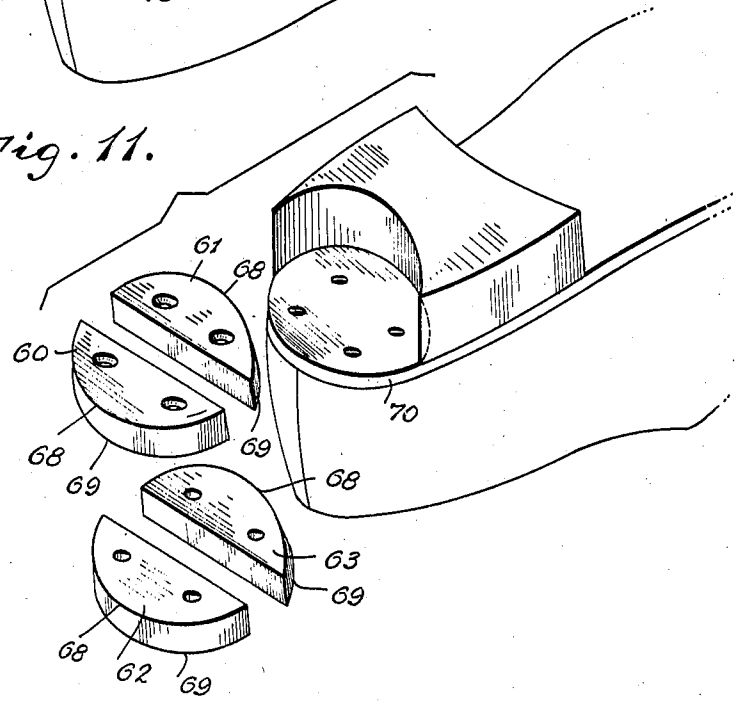


Fig. 11.



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UNITED STATES PATENT OFFICE

2,095,110

HEEL

Jean Francois Roger Paul Toursier,
Paris, France

Application May 22, 1936, Serial No. 81,192
In France May 29, 1935

5 Claims. (Cl. 36—35)

This invention refers to shoes and relates more particularly to removable and replaceable heel portions of shoes.

Experience has shown that heels, particularly the rear edges of heels, wear out more quickly than the other parts of a shoe. This is due to the fact that often the entire weight of the body rests upon the rear edge of the heel and that whenever the wearer changes the direction of his walk rapidly, his body swings while resting upon the rear edge of the heel, so that this edge is continuously rubbed and wears out quickly.

When the sharp rear edge of the heel is worn out, the shoe loses its neat appearance and becomes uncomfortable. The wearer is obliged to replace the heel by a new one at some expense.

An object of the present invention is the provision of a heel having removable and replaceable portions which can be easily and conveniently substituted for the worn out rear edges of the heel.

Another object is the provision of a heel comprising a separate rear edge portion which can be quickly and easily replaced by the wearer after it has been worn out, without requiring the services of a shoemaker and without it being necessary to provide an entirely new heel.

The above and objects of the present invention may be realized through the provision of a heel comprising a separate removable, replaceable and/or reversible rear portion having the form of a symmetrical body so that one or more of the edges of said body may be used in lieu of en edge which has been worn out. This piece is situated within a suitable cut-out portion or cavity provided in the heel and is attached to the heel by any suitable means.

The removable rear portion may be pivotally mounted and a certain amount of play may be provided between the rear portion and the adjacent surfaces of the heel to permit the rear portion to turn slightly in a horizontal plane in relation to the heel when the wearer changes the direction of his walk, thereby diminishing the friction between the heel and the ground.

The invention will appear more clearly from the following detailed description when taken in connection with the accompanying drawings showing, by way of example, preferred embodiments of the inventive idea.

In the drawings:—

Figure 1 is a perspective view of a heel made in accordance with the principles of the present invention.

Figure 2 is a side view of the heel shown in Figure 1 after the rear edge of the heel has been worn out;

Figure 3 shows the heel with its rear portion removed;

Figures 4 and 5 are side views illustrating two different methods of reinserting the removable rear portion of the heel.

Figures 6 and 7 are perspective views of two different modifications of the inventive idea;

Figure 8 is a perspective view of a heel having several removable rear portions;

Figure 9 is similar to Figure 8 and shows the heel with its rear portions removed;

Figure 10 is a perspective view of a heel provided with several removable rear portions of a different form;

Figure 11 is similar to Figure 10 and shows the removable rear portions separately from the heel;

The shoe illustrated in Figures 1 to 5 of the drawings comprises a heel 21 attached to the sole 20 by any suitable well-known means.

In accordance with the present invention, the rear end of the heel 21 is cut out in the form of a cavity 14, in which a separate reversible and replaceable rear portion or piece 13 is situated. The piece 13 may consist of the same or different material as the heel 21, such as leather, rubber, wood or the like, and is attached to the heel by means of wood screws 15 and 22 which are passed through suitable openings formed in the piece 13 and which are screwed into the heel 21. The openings of the piece 13 are preferably conical in form so that the heads of the screws situated within them do not project beyond the surface 30 of the heel and do not come in contact with the ground.

As shown in Figure 1 the rear portion 13 is symmetrical about a transverse axis 22 extending substantially at right angles to the direction of the shoe. The piece 13 has a curved edge 23 which interconnects the curved edges 24 and 25 of the heel 21 and forms a continuation thereof. The edge 26 of the rear portion 13 is substantially parallel to the edge 23 and in the position illustrated in Figure 2, is in engagement with the surface 16 of the heel 21.

Since the removable piece 13 is symmetrical in relation to the axis 22, it has two other edges 27 and 28 which are substantially symmetrical to the edges 23 and 26, respectively. The edge 27 forms a continuation of the edge 23 (Figure 1), while the edge 28 forms a continuation of the edge 26. In the position illustrated in Figures 1 and 2, the edge 28 is in contact with the surface 16 of the heel 21, while the edge 27 is in

contact with the vertical surface 29 and the surface 30 of the heel 21.

As shown in Figure 3, the surface 16 of the heel may be provided with a series of parallel or intersecting grooves and the contacting surface of the separate piece 13 may be formed in the same manner in order to provide for a greater adherence of the removable piece 13 to the heel 21.

Figure 2 shows the form of the heel after the shoe has been worn for some time. It shows that after long use the sharp rear edge of the heel will disappear, changing into a substantially flat or curved surface which inconveniences the wearer and gives the shoe an unsightly appearance.

In accordance with the present invention, the wearer may then repair the shoe himself without removing the entire heel 21. This is accomplished by unscrewing the screws 15 and 22, and removing the piece 13 from the cutout portion 14 of the heel 21 (Figure 3). Then the wearer turns the piece 13 upside down, reinserts it into the cut-out portion 14 of the heel and then applies the screws 15 and 22. In this position which is shown in Figure 5, the edge 28 of the piece 13 will occupy the place of the wornout edge 23, while the edge 23 will occupy the place of the edge 28 and will be located adjacent the vertical wall 29 of the heel. Therefore, by this manipulation an entirely new edge 27 will replace the worn-out edge 23, the worn-out edge 23 being hidden from view by the adjacent walls of the heel 21, so that the shoe will again have a neat and new appearance.

The same object may be achieved by turning the removed piece 13 in a horizontal plane to the extent of 180° and then fastening it again to the heel 21. As shown in Figure 4, the edge 27 will then occupy the place of the worn-out edge 23, while the edge 23 will be situated within the cut-out portion 14 adjacent the walls 30 and 29 of the heel. Consequently, the wearer purchasing shoes manufactured in accordance with the present invention, can wear out four rear edges 23, 26, 27 and 28 of a heel before he is obliged to replace the removable piece 13 originally purchased with the shoe.

Figure 6 shows a heel 32 having a removable piece 36 which is connected by a single screw 31 with the heel. The removable piece 36 and the adjacent wall 33 of the heel 32 are so shaped, that a small space or slot 34 is provided between the wall 33 and the adjacent surface of the removable piece 36. Due to this arrangement, the piece 36 may turn to a certain extent around its pivotal screw 31 when the wearer turns on his heels. At that time there is a slight relative movement between the removable piece 36 and the heel 32, with the result that the frictional forces and the wear upon the rear edge 35 of the piece 36 are disminished, so that the edge 35 will last longer.

In the shoe shown in Figure 7 of the drawings the removable piece 40 is of the same thickness as the heel 41. Consequently, the pivotal screw 42 which connects the removable piece 40 with the shoe extends in this case to the heel portion of the sole 43 and is held by the sole. Of course, care must be taken that the screw 42 does not project beyond the sole 43 in order not to inconvenience the wearer.

Figures 8 and 9 illustrate two superposed removable pieces 51 and 52 which are both attached by means of the screws 53 and 54 to the sole 55 of the shoe, and which are situated in a suitable cavity or cut-out portion 57 formed in the heel 56.

After the four edges of the removable piece 52 have been worn out one after the other by the wearer, he can reverse the position of these pieces by placing the worn-out piece 52 upon the surface 58 of the cut-out portion 57 and by placing the piece 51 upon the worn-out piece 52. Thus the heel shown in Figures 8 and 9 is provided with eight rear edges which can be worn-out successively one after the other by the wearer.

The heel shown in Figures 10 and 11 of the drawings, comprises four removable pieces 60, 61, 62 and 63. The removable pieces 60 and 62 are placed one on top of the other and are attached to the sole 70 of the shoe by means of screws 64 and 65, while the removable pieces 61 and 63 are attached to the shoe by means of screws 66 and 67. The pieces 60 and 61 are situated one next to the other and are similar in form. Each of the four pieces 60 to 63 comprises two curved edges 68 and 69 which may be used as the rear edge of the heel.

Obviously, the heel may be provided with any convenient number of removable pieces which may be in contact with each other along any suitable horizontal and/or vertical surfaces.

The wearer may be provided with a supply of reserve pieces at the time he purchases his shoes. As soon as the rear edges of his heels are worn out, he will be able to replace them without any additional expense and without resorting to the services of a shoemaker, either by reversing the removable piece, or by replacing it with a new one. His shoes will retain their neat and new appearance and their durability will be much greater.

What is claimed is:

1. In a shoe, a heel having a cut-out portion at the rear thereof, a plurality of separate removable and replaceable pieces adapted to be placed one on top of the other, said plurality of separate pieces fitting into said cut-out portion of the heel, and means connecting said plurality of separate pieces with said heel, each of said separate pieces having at least one edge adapted to constitute the rear edge of the shoe when that piece is placed on top of the other pieces in the reversed position of the shoe.

2. In a shoe, a heel having a cut-out portion at the rear thereof, a plurality of separate removable and replaceable pieces placed one on top of the other, means for removably securing said pieces to the cut-out portion of the heel, whereby said pieces may be entirely free from one another and whereby the order of said pieces may be reversed to be brought successively into contact with the ground as the edge of each piece becomes worn down.

3. In a shoe, a heel having a cut-out portion at the rear thereof, a plurality of separate layers placed one on top of the other fitting into said cut-out portion of the heel, means for removably securing said layers to said heel in said cut-out portion whereby said layers may be entirely free from one another and whereby the order of the pile may be reversed to bring said layers successively into contact with the ground as the edge of each layer becomes worn down, said layers being divided along their axes of symmetry to form each layer into two halves whereby the number of reversible positions of said layers will be increased.

4. A shoe comprising a heel and a sole, a symmetrical cavity in said heel, a symmetrically

shaped rear heel portion removably mounted in said cavity, said rear heel portion comprising a plurality of separate layers placed one on top of the other, said layers normally being entirely free from one another whereby the order of the pile may be reversed to bring said layers successively into contact with the ground as the edge of said layer becomes worn down and whereby the number of edges which may be utilized will be increased.

5. A heel for shoes and the like having a symmetrical cavity at the rear thereof, a symmetrically shaped protector removably mounted in said cavity, said protector being divided into a plurality of separate layers placed one on top of the other, said layers normally being entirely free from one another whereby the order of the pile may be reversed to bring said layers successively into contact with the ground as the edge of each layer becomes worn down and whereby the number of edges which may be utilized will be increased.

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