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1,444,677.

G. F. FISCHER,
HEEL.
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Fig. 1.

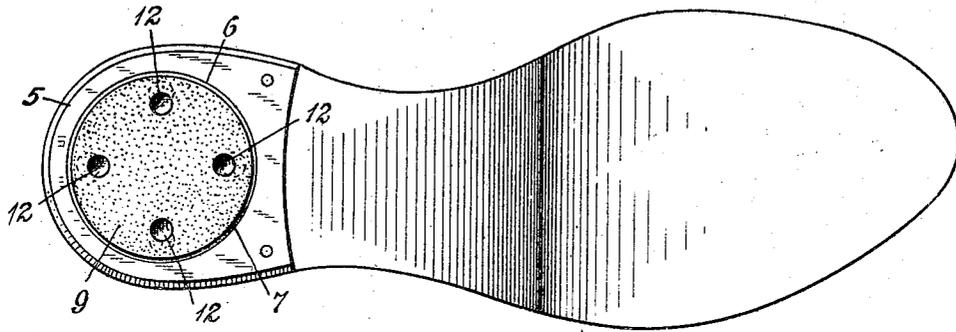


Fig. 2.

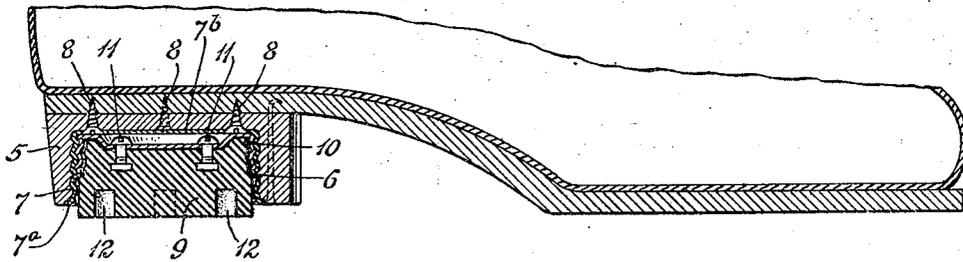


Fig. 3.

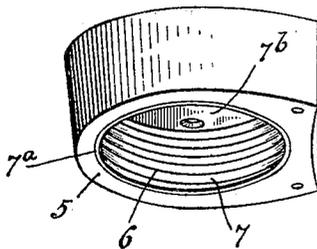
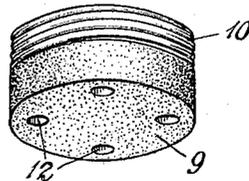


Fig. 4.



WITNESSES

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HEEL.

Application filed November 22, 1920. Serial No. 425,612.

To all whom it may concern:

Be it known that I, GEORGE F. FISCHER, a citizen of the United States, and resident of Rochester, county of Monroe, State of New York, have invented certain new and useful Improvements in Heels, of which the following is a specification.

My invention relates to boots and shoes, and more particularly to the heels thereof, and has for its object to provide an improved and novel construction in which the heel is provided with a tread block adjustable to fixed positions outwardly of the heel to compensate for wear and to protect the heel itself against contact with the surface being walked upon. Other objects of my invention will appear from the description hereinafter set forth and the features of novelty thereof will be pointed out in the appended claims.

In the accompanying drawings which illustrate a specific embodiment of my invention without defining its limits, Figure 1 is a bottom view of a shoe showing my improved heel; Fig. 2 is a longitudinal section thereof; Fig. 3 is a perspective view of the heel itself, and Fig. 4 is a perspective view of the tread block and socket member.

The heel itself may be of any suitable construction and of any suitable material such as leather, wood, fibre, paper, rubber, celluloid, etc. or said heel may be made of a suitable metal, preferably aluminum, and, as shown, comprises a main section or heel shell 5 which is formed with an inwardly extending recess 6, preferably of a diameter to include the major portion of the main section 5. If the material of which the heel shell 5 is made is incapable of being threaded or difficult to thread, the recess 6 may be provided with a metallic lining 7, constructed of drawn steel or spring brass, preferably in the form of an inverted cup, which has its peripheral edge flared outwardly as indicated at 7^a and in engagement throughout with the peripheral edge of the recess 6 as shown in Fig. 2, the bottom 7^b of this lining 7 lying in surface engagement with the inner end of said recess 6, and thus, in addition to its other functions, serving as a reinforcement not only for the peripheral side wall of said recess but also for the bottom thereof. If the latter extends completely through the heel section 5 as it may, the bottom 7^b serves to close said recess, the lining 7 in any case acting as a rein-

forcement for the heel. Furthermore, the metallic lining may serve as a medium whereby the heel section 5 is secured to the shoe; that is to say, by passing fastening devices such as screws 8 through the bottom 7^b and into the sole of the shoe, the lining 7 is fastened in place and by the action of its peripheral flare 7^a is caused to draw the heel section firmly against the shoe sole. If the recess 5 includes a bottom as in the illustration, said screws or other fastening devices will pass also through said heel bottom. The metallic lining 7, generally speaking, is screw-threaded whereby the recess 6 becomes an internally screw-threaded recess as shown in Figs. 2 and 3; if the material of which the heel shell is made is metal, the latter itself is screw-threaded interiorly of the recess 6, in which case, the lining 7 is omitted. The tread section of the heel comprises a tread block 9 constructed of rubber, wood, fibre, paper and leather or a combination of these materials and combined with a socket member which, as shown in Figs. 1 and 4, may take the form of a cap 10 of metal extending over the inner end face of said tread block and having a peripheral screw-threaded flange projecting over the periphery of said tread block. The said peripheral flange is of restricted dimensions with respect to the tread block 9 so that the major portion of said tread block projects outwardly beyond the cap, as shown in Fig. 4.

The tread block 9 may be secured in the cap 10 in any convenient manner; for instance, if the tread block 9 is constructed of rubber, bolts and nuts 11 may be utilized for this purpose, the nuts in such case being embedded in the rubber and the bolts passing through suitable apertures into connection with said nuts, as shown in Fig. 2. If, on the other hand, the tread block 9 is made of leather or other material, screws 11^a or equivalent fastening devices may be used to secure said tread block 9 and socket member together. The tread block 9 with its socket member 10 is of a relatively large diameter corresponding to that of the recess 6 and is arranged to screw into said recess as shown in Fig. 2, recesses 12 being provided, if desired, in said tread block for the accommodation of a suitable implement or tool whereby manipulation of the tread block is facilitated.

As shown in Fig. 2, the tread block 9 pro-

jects beyond the lower surface of the heel and provides a tread which is of approximately the same dimensions as the customary heel and thus affords a firm support when the shoe is worn, in contradistinction to devices in the nature of studs located at spaced intervals upon the heel. As the tread block 9 is gradually worn down, the same may be adjusted to a new operative position by simply rotating said tread block in a direction to cause the co-operating screw-threads of the lining 7 and the socket member 10 to move said tread block outwardly relatively to the recess 6. Because of the positive connection between the tread block and the heel through the medium of the aforesaid screw-threads, each adjustment of said tread block is a fixed adjustment in which the block occupies a position stationary with respect to the main section 5 and yet is easily manipulated to bring it to a new position when this is required. Because of the relatively small size of the flange of the cap 10, a large range of adjustment is provided and the greater portion of the tread block 9 is capable of being utilized, that is to say, effective adjustment of the tread block may be had until the flange of the cap 10 begins to project outwardly beyond the lining 7. When this happens, the tread block may be completely unscrewed from the recess and a new one substituted which itself is capable of the adjustment so far described or as is preferred, a new tread block 9 may be fastened in the cap 10 so that it does not become necessary to discard the socket member each time a new tread block is required. With the arrangement set forth, the heel, or rather the main section or heel shell 5 thereof, is protected from contact with the street or other surface being walked upon and thus maintains its original shape and height while the possibility of its becoming worn down or crooked is effectually eliminated. At the same time, the heel block, particularly when constructed of resilient material, provides a cushion tread corresponding to that of the customary rubber heels and at the same time, because of its relatively large size corresponding, approximately, to the dimensions of the usual heel, provides a firm and secure tread surface or footing which squarely meets the street or other surface being walked upon and prevents angular distortion of the shoe in walking from which a turned ankle or other injury might result.

In order to fully appreciate and understand the importance of the improvement as well as the novelty of the subject matter described and illustrated in this present application for Letters Patent, it is necessary first of all, to center attention upon the materials from which the heel shells are to

be made and the shape these materials are to take. Leather, rubber—both hard and soft, pressed paper, fibre, wood, celluloid and gutta-percha, must be employed in order to insure their manufacture at a nominal cost. This being the case the rear wall of the heel shell has of necessity to be made very thin in order for the tread block to efficiently perform its intended functions, that of guarding the heel shell from contact with the pavement or other surface. In making the rear wall of the heel shell thin as was necessary, the same becomes somewhat unstable.

Now in order to overcome this defect, a means had to be devised for overcoming it. To this end the lining or cup was conceived and adapted for the purpose of stabilizing the heel shell. This being done, another difficulty presented itself; owing to the thinness of the rear section of the heel shell, the usual fastening agents such as nails or adhesive glues could not be successfully employed, so after a great deal of experimenting, the lining or cups were so shaped as to serve both as a stabilizing means for the heel shell, and as a fastening agent whereby the heel shell is secured to the sole of a boot or shoe. In the manufacture of the heel shells, especially when rubber, both hard or soft, fibre, pressed paper, celluloid or gutta-percha is used, this material is placed into moulds along with the lining or cups whether the latter are plain or threaded, and both are pressed and moulded together, so that upon leaving the moulds, they are a finished article of commerce, ready for use upon boots or shoes without further labor.

The device may be easily applied to existing heels, is simple in construction and application and provides an efficient arrangement whereby the original construction of the heel is preserved and the life thereof is materially prolonged.

Various changes in the specific form shown and described may be made within the scope of the claims without departing from the spirit of my invention.

I claim:

1. A heel comprising a heel shell provided with a recess of a diameter to include the major portion of said shell, a screw-threaded lining in said recess, a screw-threaded, relatively shallow cap arranged to fit said lining, and a tread block of correspondingly large diameter fixed in said cap and projecting beyond the same in an axial direction, said cap being arranged to be screwed outwardly relatively to said recess, whereby said tread block is adjustable to fixed positions to compensate for wear.

2. In a shoe, a heel comprising a heel shell provided with a recess, a cup-shaped screw-threaded lining in said recess having a peripheral flare in engagement with the

peripheral edge of said recess, fastening de-
vices passing through the bottom of said
lining whereby said peripheral flare is
drawn against said peripheral edge to se-
cure said lining in place and to draw the
5 heel shell firmly against the sole of the shoe
and a tread block externally screw-threaded
throughout only a part of its periphery and
arranged in screw-threaded engagement

with said lining whereby said tread block is 10
adjustable outwardly to compensate for
wear.

In testimony whereof I have hereunto set
my hand.

GEORGE F. FISCHER.

Witnesses:

A. F. M. DAVIS,
FLOYD S. FISCHER.