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J. TENDLER
ACCESSORY DEVICE FOR SHOE HEEL AND SHOE CONSTRUCTION
EMBODYING SAID DEVICE
Filed May 12, 1967

3,400,474

FIG. 1.

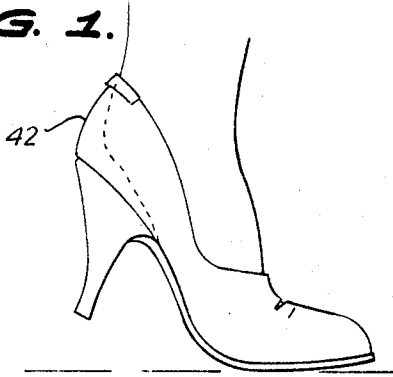


FIG. 2.

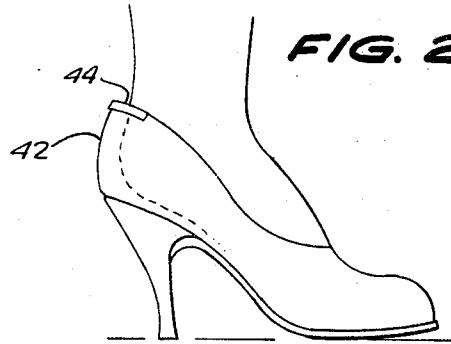


FIG. 3.

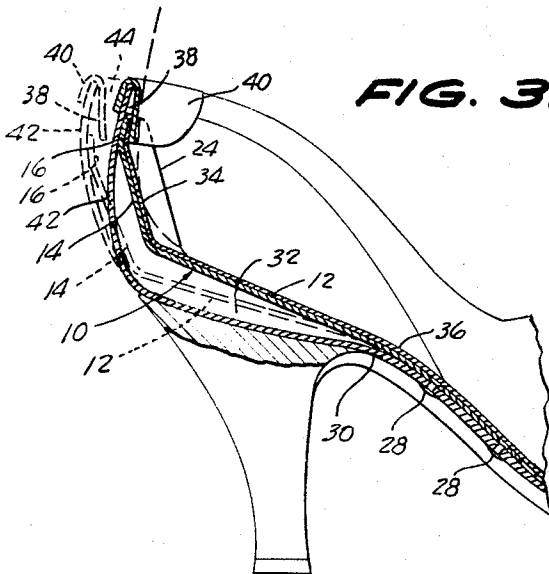


FIG. 4.

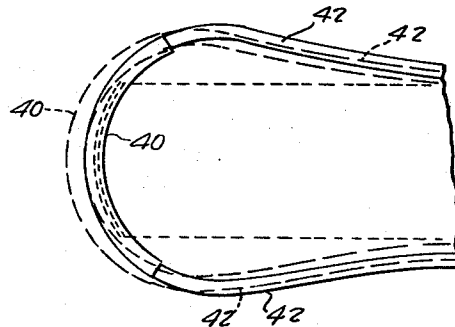


FIG. 6.

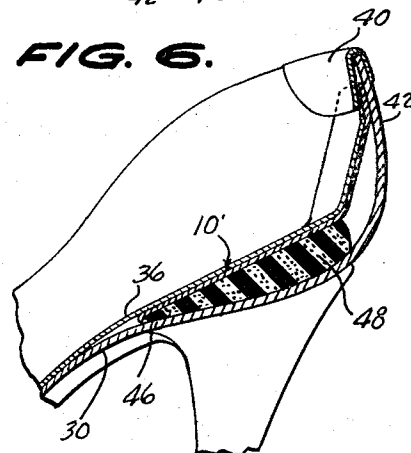
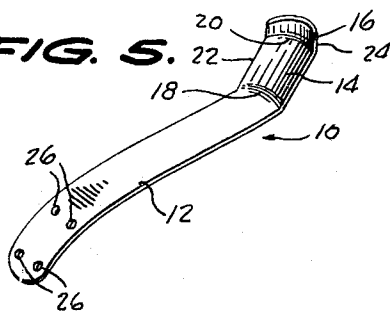


FIG. 5.



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ACCESSORY DEVICE FOR SHOE HEEL AND SHOE CONSTRUCTION EMBODYING SAID DEVICE

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10 Claims. (Cl. 36—58.5)

ABSTRACT OF THE DISCLOSURE

An accessory device for incorporation in the heel of a shoe to prevent chafing, comprising a member formed of spring material having a flat forward portion shaped to conform to the heel and shank of the sole of a shoe and normally seating slightly above and inclined to the shoe sole, an arcuate, upwardly and rearwardly inclined portion extending from the rear of the forward portion and adapted to engage the rear of the heel of the wearer, and means for fixing the forward end of the forward portion to the shank of the shoe so that during walking the member will move downwardly and the upper edge of said inclined portion will push the shoe heel counter away from the heel of the wearer each time weight is taken on the foot, the member returning to its normal position and allowing the shoe heel counter to embrace the heel of the wearer each time the foot is lifted.

This invention relates to improvements in footwear, and more particularly to an improvement in the heel construction of a shoe.

It frequently occurs, particularly with women's shoes of the pump type, but with other types as well and with men's shoes as well as women's shoes, that shoes, which are fitted too tight, during walking will not flex sufficiently with the foot. As a result, a rubbing and chafing occurs, particularly in the heel, causing sores to form on the back of the heel of the wearer. With continued walking, such sores are chafed with each step and become very painful to the point where walking must stop and the shoes taken off, in order to relieve the discomfort.

It is a primary object of this invention to provide a shoe construction utilizing a shoe accessory which will prevent chafing even with very tight shoes, and will relieve the irritating effect and continued chafing when the heel of the wearer has already been chafed by previous wearing of another shoe.

It is another object of the invention to provide a heel accessory capable of incorporation in a shoe, which will turn and bend with each downward step and taking of the weight during walking so as to press the shoe heel counter rearwardly and away from the heel of the wearer, said accessory returning to a normal position under its own resiliency each time the foot is lifted, thus permitting the heel counter to return and embrace the rear of the heel of the wearer.

It is a further object of the invention to provide a heel accessory, having the above described characteristics, which functions to loosen the rear of the shoe heel counter during a portion of each walking step and to return the heel counter to its normal heel embracing condition during the remaining portion of each walking step.

Yet another object of the invention is to provide a shoe accessory, having the above described characteristics, which is simple in construction, inexpensive to manufacture and to incorporate within a shoe, and reliable in operation.

Still another object of the invention is to incorporate in a shoe heel counter an accessory, having the above described characteristics, and which embodies a bent resilient member secured at its front end to the shank of

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the shoe for turning movement about the securing means as a fulcrum to push the counter rearwardly when the weight of the wearer is taken during each step, said resilient member returning to its initial position, slightly raised above the sole of the shoe at the heel portion, each time the foot is lifted during walking.

A still further object of the invention is to provide a heel accessory, having the above described characteristics, and which includes a camming section adapted to be moved by the bottom and back of the heel of the wearer so as to bend the member while it is moving, to assist in pushing the heel counter of the shoe rearwardly.

The novel features that are considered characteristic of the invention are set forth with particularity in the appended claims. The invention, itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of specific embodiments when read in connection with the accompanying drawings, wherein like reference characters indicate like parts throughout the several figures and in which:

FIG. 1 is a side elevation of a shoe incorporating the invention and illustrating the manner in which the heel fully embraces the wearer during lifting of the foot in taking a walking step;

FIG. 2 is a side elevation similar to FIG. 1 showing the heel counter pushed rearwardly and away from the heel of the wearer when the weight is taken;

FIG. 3 is an enlarged, side elevation partially broken away to reveal the internal shoe construction in section, the position of various parts being shown in full lines corresponding to the lifting of the heel of the wearer and the same parts being shown in broken lines in their positions when the weight of the wearer is taken during walking;

FIG. 4 is a plan view of the heel portion of the shoe of FIG. 3 showing the position of certain of the shoe elements in full lines when the foot is being lifted, and in broken lines when the foot is implanted and the weight taken on the heel;

FIG. 5 is a perspective view of the heel accessory device alone and removed from the shoe of FIGS. 1-4; and

FIG. 6 is a side elevation partly broken away to reveal parts in section, and showing a different embodiment of the heel accessory incorporated in a shoe.

Referring now more particularly to the drawings, in FIG. 5 is shown an accessory device according to the invention as comprising a member 10 formed of resilient material and having a forward portion 12, a cam section 14 and an upper, heel counter engaging section 16 which is substantially perpendicular to said forward portion 12. The cam and counter engaging sections together form a rear portion of the lever 10 which is inclined to the forward portion about a first bend line 18. The cam section 14 extends between the first bend 18 and a second bend 20, the latter being along a line close to the rear and upper edge of the lever. Desirably, both the cam and the counter engaging sections are arcuately shaped to provide forwardly directed side edges 22, 24 which embrace the sides of the heel of the wearer. The forward portion 12 is formed as a strip shaped to conform to the inner sole of the shank and heel of the shoe, being substantially flat at the rear and curving downwardly and forwardly at the front end. In the forward end are a plurality of apertures 26 for reception of means for securing the member 10 in the shoe, such as the rivets 28, FIG. 3, or other suitable fastenings.

As illustrated in solid lines in FIG. 3, and with some-

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what exaggerated spacing, member 10 is secured by rivets 28, so that in the unstressed condition of the member the rear of the forward portion 12 is slightly elevated above the inner sole 30 leaving a space 32. In this normal condition of the accessory, or member, the rear bottom portion of the heel of the wearer engages the cam section 14 at the point 34 which is approximately half-way between the top and bottom of the cam section. Desirably, the entire upper surface of the member is covered by a lining 36 which may be of leather, or other suitable material, and which may be adhered to the member by glue, cement, or other suitable adhesive.

The upper, counter engaging section 16 of the member rides in a pocket 38 formed by a flap 40 at the upper part of the heel counter 42. The rear of the flap 40 is fastened in any suitable manner to the exterior top portion of the heel counter 42, while the forward flap portion hangs downwardly within the shoe and is unfastened, at least in the portion surrounding the member section 16.

In operation, and during walking, the member 10 normally embraces the sole and the back of the heel of the wearer as illustrated in full lines in FIG. 3, so that the shoe heel counter 42 tightly embraces the heel of the wearer as the wearer steps forwardly, lifting his foot. In this condition, therefore, the wearer has a comfortable feeling that the shoe is tightly on the foot, preventing any feeling that the shoe is likely to drop, or fall, as the wearer's foot is lifted. When, however, the wearer steps down and takes full weight on the heel, the forward portion 12 of the member will move about the line of the upper fastening parts 28, causing the inclined rear portions 14, 16 to move rearwardly with respect to the foot of the wearer, at which time the section 16 will push the heel counter 42 rearwardly, opening up a space 44 at the rear of the heel of the wearer, and which is shown in exaggerated manner in FIG. 3 and also in FIG. 2. The opening of this space relieves pressure on the back of the heel of the wearer, avoiding possibility of causing a sore by rubbing, or chafing, and prevents the possibility of irritating an existing sore, which would otherwise occur if the shoe is too tight and the accessory member were not present. At the same time the member is moving downwardly under the weight of the foot, the back of the heel and bottom thereof at point 34 cams the section 14 rearwardly and downwardly, deflecting or bending the same about the lower bend line 18. This aids and increases the amount of rearward pushing of the shoe counter away from the heel of the wearer. As soon as the wearer lifts his weight by flexing his foot intaking a forward step, the member, through its inherent resiliency, begins to move back toward its normal condition, so that by the time the foot is entirely lifted, the member will have returned to its normal position, as shown in full lines in FIG. 3, and the heel counter will have returned to embrace the heel of the wearer. The described actions are repeated with each step the wearer takes.

It is apparent from FIG. 4, that when the heel counter and cover flap 40 are pushed rearwardly to their broken line positions, the sides of the shoe are pulled inwardly to more tightly embrace the sides of the foot, so that even when the rear of the shoe heel, or counter, is loosened, the shoe is effectively tightened on the foot at the sides. Consequently, there is no danger that the shoe will slide or tend to pull off during any part of the walking motion, i.e., either when the foot steps down or is lifted.

In the modified embodiment shown in FIG. 6, the member 10' is, in all respects, similar to the lever 10 shown in FIG. 5, except that the apertures 26 for fastening elements are omitted and the forward end of the forward portion 12 is turned at 46 to provide a groove, or sheath, for a wedge-shaped pad 48, formed of rubber, or other resilient material. The member 10' is held fixed at its forward end by the liner 36 and the inner sole 30, together with the pad 48 so that the member will tend to fulcrum about the forward end just as if it were fastened

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by rivets, or the like. The member 10' of FIG. 6 may be made more rigid and less resilient than the member 10 of FIG. 5, because the pad 48 will return the member to its normal position each time the foot is lifted. When the weight of the wearer is taken, during walking, the member 10' will move, compressing the pad 48 and camming the counter 42 rearwardly in substantially the same manner as described for the FIG. 3 embodiment.

It will be apparent from the above, that the described accessory device, when mounted in a shoe, will function efficiently to loosen the counter and move it away from the heel of the wearer during a portion of each walking step and thus prevent any relative rubbing, or chafing, vertical movement between the wearer's heel and the shoe. Thus, there will be no danger, due to tightness of the shoe, of irritating, or causing sores on the back of the heel. Even if such sores have been engendered by wearing of other shoes, the pressure and rubbing on such sores will be alleviated and/or prevented by the accessory device of the present invention. In spite of the action of the described accessory in periodically loosening the heel of the shoe, the loosening at the rear is accompanied by a tightening at the sides, and during a portion of each step the shoe heel returns to embrace the heel of the wearer completely, so that there can be no feeling of looseness or sloppiness in the heel as the wearer walks.

Although certain specific embodiments of the invention have been shown and described, it is obvious that many modifications thereof are possible. The invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

What is claimed is:

1. An accessory device, for insertion in a shoe heel to prevent chafing, comprising an elongate member formed of spring material and having a forward portion of substantial length adapted to lie against and under the longitudinal arch and heel of a wearer, and an upwardly and rearwardly inclined portion of substantial length but less than the length of said forward portion extending from the rear of the forward portion and adapted to engage the lower rear of the heel of the wearer, said inclined portion forming a substantially obtuse angle with respect to said forward portion at their upper faces, said inclined portion terminating in a rearwardly exposed bearing surface substantially perpendicular to said forward portion adapted to push the counter of a shoe rearwardly when the wearer steps down and the rear of his heel exerts pressure on the center of said inclined portion.

2. An accessory device for the heel of a shoe according to claim 1 wherein said inclined portion is arcuate and curved to embrace the back and part of the sides of the heel of a wearer.

3. An accessory device for a shoe heel according to claim 2 wherein a first bend is provided at the connection between said inclined portion and the forward portion, a second bend is provided in the same direction along a line close to the upper edge of said inclined portion to thereby define said uppermost part for engaging a heel counter to push it rearwardly, and a camming section, between said two bends, engageable by the lower part of a wearer's heel to further deflect the member in the same direction while it is being moved.

4. In combination with a shoe having a counter portion, an accessory device to prevent chafing, said device comprising an elongate member formed of spring material and having a forward portion shaped to lie against and under the longitudinal arch and heel of a wearer, and an upwardly and rearwardly inclined portion extending from the rear of the forward portion and terminating in a bearing surface having substantially parallel surface engagement with the interior counter portion of the shoe, said member having a normal position when in unloaded condition which locates the rear of the forward portion slightly above the shoe sole, said bearing surface of said in-

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clined portion engaging the counter portion when the member is in loaded condition to deflect the counter portion rearwardly, and means securing the forward end of said forward portion to the shank of the shoe, whereby during walking said member will move downwardly so that the upper edge of said inclined portion will push the shoe counter away from the heel of the wearer each time weight is taken on the foot, the member returning to its said normal position allowing the counter to embrace the heel of the wearer each time the foot is lifted.

5. The combination set forth in claim 4, wherein a sole liner is secured to the entire upper face of said member.

6. The combination set forth in claim 4, wherein a pocket is formed at the top of the shoe heel counter and the upper edge of said inclined portion rides freely in said pocket.

7. The combination set forth in claim 6 wherein said pocket comprises a loose flap extending downwardly over the upper edge of said rearwardly inclined portion.

8. The combination set forth in claim 4 wherein said inclined portion is arcuate and curved to embrace the back and part of the sides of the heel of a wearer.

9. The combination set forth in claim 8 wherein a first bend is provided at the connection between said inclined portion and the forward portion, a second bend is provided in the same direction along a line close to the upper edge of said inclined portion to thereby define a

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part which engages the shoe heel counter to push it rearwardly, and a camming section, between said two bends, for engagement by the lower part of a wearer's heel to cam and further bend the member in the same direction while it is being turned under weight of the foot of the wearer.

10. The combination set forth in claim 4 wherein a resilient pad is inserted between said forward portion of the member and the inner sole of the shoe to assist the member in returning to its normal, unloaded position.

References Cited

UNITED STATES PATENTS

81,690	9/1868	Savoy	36—76
1,530,583	3/1925	Trimbur	36—1
2,446,777	8/1948	Menenko	36—1
3,097,438	7/1963	Evans	36—1
3,142,910	8/1964	Levine	36—76 X

FOREIGN PATENTS

954,918	6/1949	France.
1,354,929	2/1964	France.

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