Nov. 3, 1953 A. E. WINSLOW 2,657,477

FOOT AND/OR FOOTWEAR PROTECTOR

Filed March 18, 1952

FIG. 1

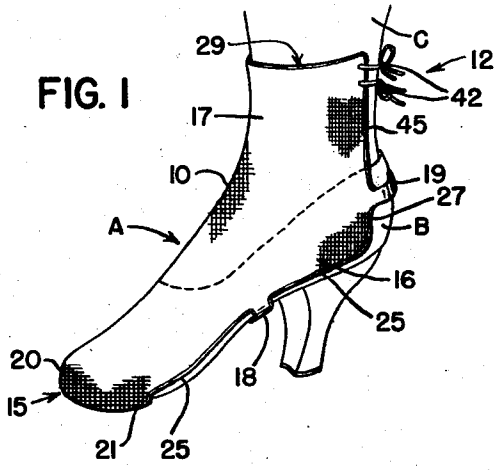


FIG. 2

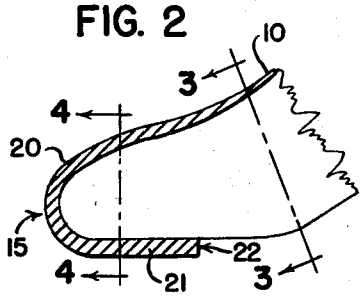


FIG. 4

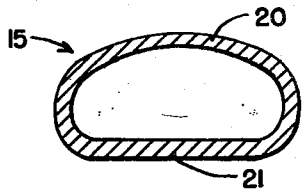


FIG. 3

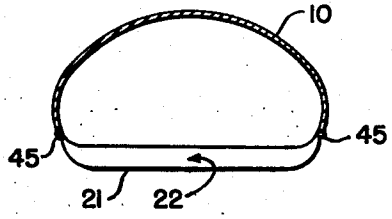
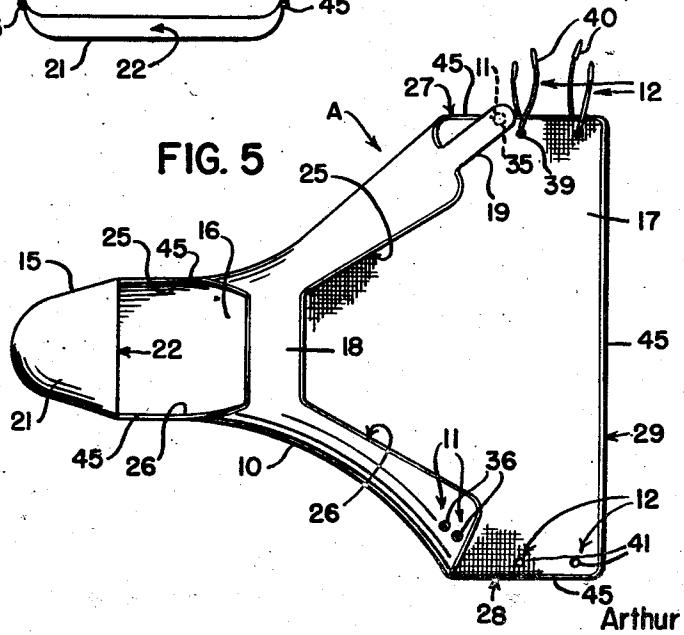


FIG. 5



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Patented Nov. 3, 1953

2,657,477

UNITED STATES PATENT OFFICE

2,657,477

FOOT AND/OR FOOTWEAR PROTECTOR

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Application March 18, 1952, Serial No. 277,137

1 Claim. (Cl. 36—2)

1

This invention relates to coverings for the human foot for the protection of the foot or of footwear. Thus protection may be, for example, against liquids, such as corrosive liquids, which would be apt to damage footwear if accidently dropped thereon. However, the coverings may be employed to protect plaster and like foot casts against soiling, and to retain hot or cold compresses in position upon the foot.

It appears that in devices of this kind which are of necessity constructed of readily flexible material, if they are to fit snugly, they are apt to tear or split after a short time, yet if they are reinforced in such a way that ridges, shoulders or the like are formed, these tend to cause the liquid dropped thereon to accumulate at these ridges, shoulders or the like and is difficult to wipe off.

An important object of the invention is to provide a reinforced protector of this kind which is, however, so constructed that it is readily cleaned and is free of depressions or shoulders where liquid may accumulate.

Another important object is to provide a protector as described which has a one-piece body, free of folded-over portions where liquids might accumulate.

A further important object is to provide a seamless and hemless protector of the kind described which is free of stitching, since thread and the like is often readily severed by liquids, such as acids.

Yet another important object is to eliminate the use of hems and the like, since folded-over portions of a flexible structure often render the article containing them less flexible so that they do not fit smoothly.

Other objects and advantages of the invention will be apparent during the course of the following detailed description of the invention, taken in connection with the accompanying drawings, forming a part of this disclosure, and in which drawing:

Fig. 1 is a perspective view of the new protector in use upon articles of footwear.

Fig. 2 is a vertical section of the new protector at the toe end thereof.

Figs. 3 and 4 are vertical sections upon their respective lines of Fig. 2.

Fig. 5 is a bottom plan view of the new protector.

In the drawings wherein for the purpose of illustration is shown a preferred embodiment of the new device and wherein similar reference characters designate corresponding parts

2

throughout the several views, the letter A designates the new protector, and B and C articles of footwear.

The protector A comprises a one-piece or integral body 10, detachable securing means 11 and detachable securing means 12.

Referring mainly to Fig. 5, the body 10 comprises a forward or toe portion 15, upper and instep-covering portion 16 extending therefrom, ankle covering portion 17 extending upwardly from the portion 16, shank strap 18 and heel strap 19. The body portion 10 is a hardened plastic, preferably natural or synthetic rubber. A natural rubber of low sulphur content and vapor cured may be employed or a synthetic rubber as neoprene (The Merck Index, 6th edition, 1952, published by Merck & Co., Inc., Rahway, N. J.) or Vistanex (Handbook of Plastics by Simonds, Weith and Bigelow, second edition, 1949, published D. Van Norstrand Co., Inc., New York.) may be used. The rubber should be flexible, lightweight, but tough and resistant to extremes of temperatures and to chemicals. Obviously, in the special employment of the protector in industry where protection is desired from one or a group of chemicals, a resistant plastic will be selected most suitable for the specific use. The body is moulded to shape.

The toe portion 15 is best shown in Figs. 2, 4 and 5 and has a box-covering part 20 and sole-covering part 21 with the part 20 of material thicker than the general thickness of the same material comprising the portions 16 to 19 inclusive, and the thickness of the material forming the sole-covering part 21 is thicker than the thickness of the part 20. For example, the thickness of the part 20 is preferably twice as thick as the general thickness of the body portion 10 while the sole-covering part 21 is three times as thick as this general thickness. The part 21 may extend rearwardly for substantially two-and-one-quarter inches and has a substantially straight rear edge 22. It is desirable that the toe portion of footwear be wholly covered by this toe portion 15.

As in Figs. 2 and 5, especially, the upper and instep-covering portion 16 extends from the sides and upper part of the toe portion 15 and is intended to hug the upper of the article of footwear both along the sides and top and extend around to the heel, with bottom edges 25 and 26 and rear edges 27 and 28 respectively, which join the edges 25 and 26 respectively.

If desired, the ankle-covering portion 17, which extends upwardly from the upper-covering por-

tion 16, may extend upwardly any desired distance and its rear edges are continuations of the edges 27 and 28. An upper or top edge 29 joins the upper ends of these continuations.

The shank strap 18 joins the edges 25 and 26 and is adapted to fit under the shank of the footwear of the wearer, while the heel strap 19 may extend from the edge 27 with its longitudinal axis substantially normal to the edge 27.

Detachable securing means 11 is associated with the strap 19 and body 10 and may be a male snap fastener element 35 carried by the strap 19, and a suitable number of spaced-apart female snap fastener elements 36 carried by the body 10 and disposed substantially as in Fig. 5.

Means 12 to detachably secure the two edges 27 and 28 together to extend in abutting relationship or in spaced-apart relationship may be a suitable number of ties 42 extending through suitable openings 39 inwardly of one edge, as the edge 27 and having ends, which are preferably provided with stiffened extremities 40 for easy insertion into suitable spaced apart openings 41 spaced inwardly of the other edge, as the edge 28, whereupon the ties 38 may be tied in bows.

Extending along the edges 25 to 29 inclusive is beading 45 to provide a rounded reinforcing for the edges and this beading is integral with the body 10; being a continuation of the material of the latter. By beading I do not mean a hem, for I do not desire to have any upwardly-facing shoulder at the edges of the body 10.

In use, with the ties 38 untied and the elements 35 and 36 separated, the user slips his toe or the toe portion of his footwear into the hollow defined by the parts 20 and 21 and with the shank strap beneath his foot or footwear, then secures the heel strap 19 in place and ties the ties 38.

It is now apparent that there are no shoulders, ridges or the like to catch and retain liquids dropping upon the protector or covering and the enlarging in thickness of the material of the toe portion 15 over the other portions of the body 10, not only reinforces the toe portion which is subjected to most wear but there is less tendancy of the toe portion to spring off the toe portion of his foot or footwear as has been found to be the case when the user swings his foot backwardly along a surface, as the floor, and the toe portion is not of substantial thickness.

Various changes may be made to the form of the invention herein shown and described without departing from the spirit of the invention or scope of the claim.

What is claimed is:

A foot and footwear covering including a one-piece flexible body of plastic material having a toe portion comprising an upper part and a lower part joined thereto, a second portion extending from the upper part and sides of the toe portion and having a pair of lower edges and a pair of upwardly extending rear edges, and an ankle-covering portion extending upwardly from the toe portion and second portion and having a pair of rear edges joining the first-named rear edges, and an upper edge joining the second-named rear edges, the thickness of the material forming said second portion and the thickness of the material at the lower part of said toe portion being greater than the thickness of the material at said upper part of said toe portion, rounded beading extending along all of said edges and being integral with said body, the entire surfaces of said material being imperforate and smooth above and inwardly of said beading, whereby said covering above and inwardly of said beading is free of bulges, depressions and openings which tend to collect and retain liquids, means to secure said rear edges together adjacent said bottom edges, detachable means to secure said rear edges together adjacent said upper edge, and a strap extending from one bottom edge to the other bottom edge and disposed between said toe portion and said rear edges.

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