March 6, 1973 J. R. SCHOVEE 3,718,993

OVERSHOE

Filed Sept. 2, 1970 2 Sheets-Sheet 1

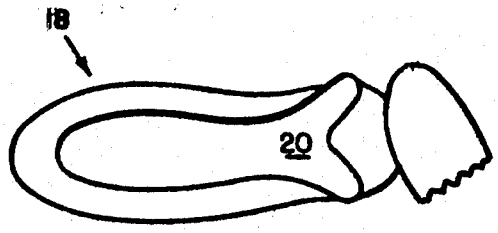

FIG. 1 (PRIOR ART)

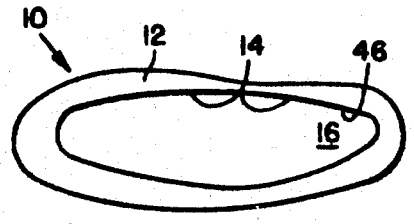

FIG. 2

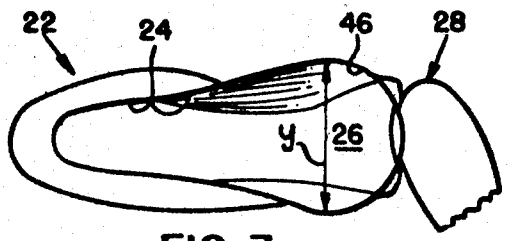

FIG. 3

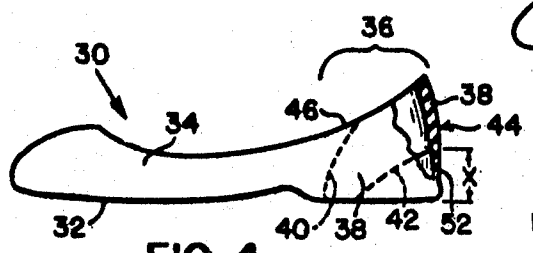

FIG. 4

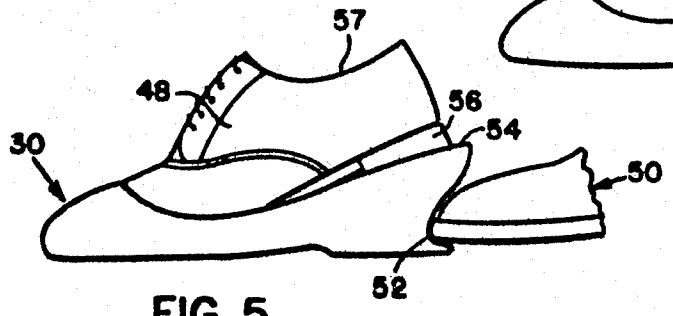

FIG. 5

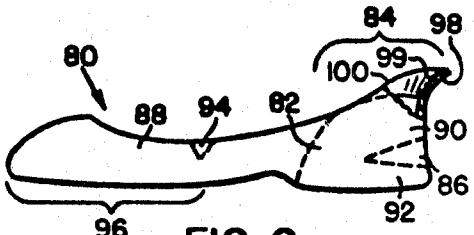

FIG. 6

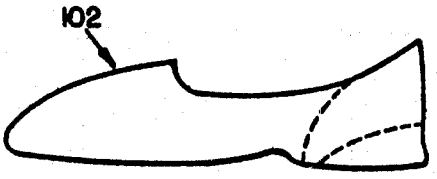

FIG. 7

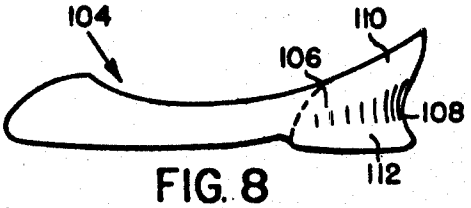

FIG. 8

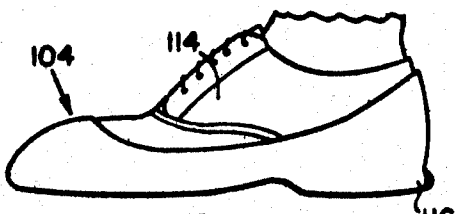

FIG. 8A

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OVERSHOE

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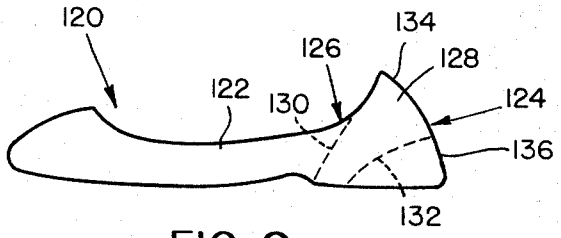

FIG. 9

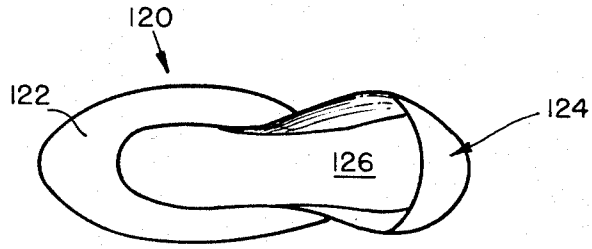

FIG. 10

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ATTORNEYS

United States Patent Office 3,718,993
Patented Mar. 6, 1973

3,718,993

OVERSHOE

John R. Schovee, Pittsford, N.Y., assignor to Paul J. Miller and Thomas R. Boston, a fractional part interest to each

Continuation-in-part of abandoned application Ser. No. 825,250, May 16, 1969. This application Sept. 2, 1970, Ser. No. 69,026

Int. Cl. A43b

U.S. Cl. 36—2.5 Y 20 Claims

ABSTRACT OF THE DISCLOSURE

An overshoe or rubber having a construction such that it can be put on a shoe without having to use the hands or bend over. The rubber is constructed such that an enlarged shoe heel receiving opening is provided. In one construction of the rubber, the enlarged opening is formed, by merely stepping on the lower portion of the heel upper, with the toe of the other shoe. In another construction of the rubber, the enlarged opening is built directly into the empty shoe.

CROSS REFERENCE TO RELATED APPLICATION

This is a continuation-in-part application of my previous application entitled Overshoe, filed May 16, 1969, Ser. No. 825,250, now abandoned.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to overshoes and more particularly to an improved rubber of the self-acting type (i.e. one that can be put on a shoe without using the hands or bending over).

Description of the prior art

The rubber or overshoe of the present invention is an improvement over the overshoe described in my United States Pat. No. 3,283,423, issued Nov. 8, 1966. The overshoe of said patent includes a heel portion of sufficient rigidity to receive the heel of a corresponding shoe, the heel portion being movable from a normally closed position to an open, heel receiving position, and actuating means for actuating the overshoe to the open heel receiving position. In one of the preferred embodiments of my prior patent, the actuating means extends outside of the overshoe and comprises a tab of flexible, semi-rigid, or rigid material connected to the heel portion.

Another known type of self-acting rubber is constructed of laminated, relatively rigid material, however, it must be of a relatively large size, compared to the shoe size, to be self-acting. Each attempt to insert a shoe into such a rubber, however, causes substantial deformation of the heel portion and consequent wear and tear thereof. Each attempt is made while balancing on the other foot and thrusting the foot to be inserted forward, scraping the rubber along the floor. The number of attempts necessary to successfully insert the shoe into the rubber depends on how large the rubber is; of course, the larger the rubber, the easier it goes on but the less tightly it is held on the shoe. Further, such rubber can not be molded and is therefore, relatively expensive to manufacture.

SUMMARY OF THE INVENTION

A self-acting rubber for a shoe, including a heel upper having a higher portion and a lower portion, and means for forcing or forming said higher portion into an enlarged opening to receive the heel of said shoe, when said lower portion is stepped on and held by the other shoe. Various embodiments are described, including (1) separate counters in the higher and lower portions, (2) a counter in the higher portion only, and (3) a single counter extending throughout both the higher and lower portions, but having a fold or pleat extending inwardly intermediate the vertical height of the heel upper. The rubber can also include an outwardly and upwardly flared wall extension at the top of the heel upper, surrounding the heel receiving opening, to facilitate insertion of a shoe.

It is a primary object of this invention to provide a self-acting rubber having a heel upper comprising a higher portion and a lower portion and means for forcing or forming said higher portion into an enlarged opening for receiving the heel of a shoe when the lower portion is stepped on by the other shoe.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will be more fully understood by reference to the following detailed description thereof, when read in conjunction with the attached drawings, wherein like reference numerals refer to like elements and in which:

FIG. 1 illustrates a prior art rubber;

FIG. 2 is a top view of what can be either the prior art rubber of FIG. 1 or the rubber of the present invention as shown in FIG. 3, for example;

FIG. 3 is a top view of a rubber constructed according to the present invention with its heel upper formed or deformed into an enlarged heel-receiving opening;

FIG. 4 is a side view, partly broken away, of one embodiment of the present invention;

FIG. 5 illustrates the self-acting insertion of a shoe into the rubber of FIG. 4;

FIGS. 6 and 8 are side views of additional embodiments of the present invention;

FIG. 8A illustrates the complete insertion of a shoe into the rubber of FIG. 8; and

FIGS. 9 and 10 are side and top views respectively, of another embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawing, FIG. 2 is a top view of a toe rubber **10** according to either the prior art or my invention, including an upper **12** surrounding and defining a shoe receiving opening **14**. The opening **14** includes a heel receiving opening **16**. The rubber construction of the embodiments of FIGS. 1–7 of the present invention does not affect the shape of the opening **14** in its normal (FIG. 2 or empty) configuration. Thus, opening **14** also represents the known shape or configuration of the opening of a conventional prior art rubber **18**, shown in FIG. 1. Whereas, in the FIG. 8 embodiment the concept does affect the shape of the opening **14** when in the normal (FIG. 8 or empty) configuration of rubber **104**. If the lower portion of the heel upper of a prior art rubber **18** were stepped on, its heel receiving opening **20** would be deformed as shown in FIG. 1.

On the other hand, FIG. 3, shows a rubber **22** made according to the present invention (for example it can be made according to any of the embodiments shown in FIGS. 4–8), having a shoe receiving opening **24** and a heel receiving opening **26**, and shows the result of the heel receiving opening **26** being greatly enlarged, particularly laterally thereof, by the act of a shoe **28** stepping on the lower portion of the heel upper. In addition, the rubber **22** is held in place by this act, while the other shoe is inserted into the rubber **22**. The importance of the present invention will be understood at once by simply comparing the three shapes and sizes of the heel receiving openings of FIGS. 1–3. The overshoe of the present inven-

tion as shown in FIGS. 1–7 provides a construction whereby the heel upper is formed in and deformed from (as hereinafter used in the patent, the term "formed" is defined as also meaning "deformed"), a first configuration (as shown in FIG. 2) wherein the heel upper defines a relatively small shoe receiving opening to a second configuration (see FIG. 3) wherein the heel upper defines a relatively large shoe heel receiving opening suitable for insertion of the shoe therein. The opening is preferably laterally expanded greatly as indicated by the arrow "*y*" of FIG. 3, thereby to facilitate receipt of a heel **56** (FIG. 5) which is substantially larger laterally than heel opening **16** of the rubber **10** (FIG. 2). Whereas once the shoe **48** (FIG. 5) is received in the rubber **10**, then the heel opening **16** (FIG. 2) of the rubber flexes back to the FIG. 2 configuration which is substantially the same as, and tends to embrace a top edge **57** of shoe **48** of FIG. 5.

Reference will now be made to the various rubber constructions of the present invention that produce the result shown in FIG. 3.

FIG. 4 shows a toe rubber **30**, formed or molded of a resilient material, preferably of rubber, and comprising a sole **32** and an upper **34**. The present invention is concerned primarily with the rear portion of the upper **34**, which portion is hereby defined and will hereinafter be referred to as a heel upper **36**. In the embodiment shown in FIG. 4, the heel upper **36** includes a partial counter **38** (the top and bottom edegs of which are shown by dotted lines **40** and **42**, respectively). The term "counter" is used hereinafter to mean a portion of an upper that is relatively stronger, stiffer, more rigid, etc., than the surrounding or remaining portions of the upper of a rubber or overshoe. The counter **38** in the illustrated embodiment extends vertically downward, at a posterior end **44** of the rubber **30**, from the top edge **46** of upper **34** to a position somewhat greater than one-half the distance to the sole **32**. The distance "*x*" from the sole **32** to the bottom edge **42** of the counter **38**, at the posterior end **44** of rubber **30**, is preferably equal to about one-half of the height of the posterior end **44** of the upper **34**; however, it will be understood that this distance can vary and depending upon the rigidity, configuration and other parameters, that this distance conceivably could vary from substantially adjacent the top edge **46** to substantially adjacent the sole **32**, as long as sufficient distance is provided at the bottom for actuation of the rubber to the enlarged shoe heel receiving opening. The counter **38**, as shown in FIG. 4, extends around all or nearly all of the heel upper **36**, especially at the top edge **46**, with both the top and bottom counter edges **40** and **42** curving convergingly downwardly and terminating adjacent the sole **32**. The counter **38** of the embodiment of FIG. 4 is made stiffer and stronger than the material of the remaining portion of the upper **34** preferably simply by using a greater thickness of material for the counter **38**. However, the strength of the counter **38** can be provided in any other known manner also, such as by reinforcing the area **38** of upper **34** with reinforcing wires or strands, for example.

FIG. 5 shows the self-acting insertion of shoe **48** into the rubber **30** of FIG. 4 by the act of a second shoe **50** stepping downwardly and inwardly (inwardly meaning, as shown in FIG. 5 forward movement into the interior of the rubber) on a lower portion **52** of the heel upper **36** of rubber **30**. This stepping action causes a heel receiving opening **54** defined by the top edge **46** of rubber **30** to become enlarged as shown at **26** in FIG. 3. Shoe **48** is then inserted into rubber **30** and pushed forward, with the shoe **50** holding the rubber **30** to prevent it from also sliding forward. Heel **56** of shoe **48** is then inserted into the heel receiving opening **54**, and as soon as heel **56** is completely inside the rubber, shoe **50** is taken off, and shoe **48** is pushed downwardly the remaining distance into rubber **30**. In this manner, the self-acting rubbers of the present invention can be put on shoes without the wearer of the shoes using his hands or bending over.

FIG. 6 shows a still further embodiment of the present invention, wherein a toe rubber **80** includes a full counter **82**, extending throughout an entire heel upper **84**, except for a diamond shaped cutout or weakened portion shown in broken line **86**. Portion **86** has the same strength as the remaining portion of the upper **88**, except for the counter **82**. The counter **82** includes a higher portion **90** and a lower portion **92** separated by the weakened portion **86**. Thus, a shoe **50** would in a manner similar to that shown in FIG. 5, be applied at the weakened portion **86** and lower portion **92**, thereby to secure the rubber **80** in place and to deform the higher portion **90** into an enlarged heel receiving opening similar to opening **26** shown in FIG. 3.

The embodiment of FIG. 6 also shows two other aspects of the present invention, that can be used alone or in combination with the embodiments of FIGS. 4–8. One of these aspects includes a gusset **94** or a V shaped portion of thinner and thus more flexible material than that of the adjoining portion of the rubber, to allow toe portion **96** of the rubber **80** to stretch forward, with respect to the heel upper **84** thereof with greater ease. The other aspect shown in FIG. 6 includes an upwardly and outwardly flared extension **98** of the heel upper **84** at the edge **100** surrounding the shoe receiving opening (preferably surrounding just the heel receiving portion of the opening). The purpose of the extension **98** is to aid in the insertion of the heel (for example heel **56** of shoe **48** of FIG. 5) into the opening of a rubber. The extension **98** flares outwardly such that when the rubber **80** is received on a shoe the extension **98** does not bear tightly against the leg of the wearer. The extension **98** also acts as a limited mudguard for mud thrown up on the back of the leg as the wearer walks. The extension provides an inner wall surface **99** which tapers inwardly and downwardly into the shoe; thus, the edge of a shoe being inserted into a rubber engages only the smooth, tapering surface **99**, to aid insertion.

FIG. 7 shows another embodiment of the present invention which is similar in all respects to the rubber **30** of FIG. 4 except that in this embodiment the rubber is not a toe rubber, but is a regular rubber **102**. The self-acting operation of the rubber **102** is identical to that described above.

FIGS. 8 and 8A show another embodiment of the present invention including a toe rubber **104** including a full counter **106** which normally has the premolded shape shown in FIG. 8 wherein a fold or pleat **108** extends inwardly to effectively separate the higher portion **110** thereof from the lower portion **112** thereof. With this embodiment, the opening of the top edge of the rubber defined by the counter **110** is premolded in the greatly enlarged shape illustrated in FIG. 3 ready to receive the shoe heel such as **56** of FIG. 5. Or, alternatively the top edge can be molded in the FIG. 2 configuration and operated in the same manner as the FIGS. 1–7 embodiments, such that when foot pressure is applied at the pleat **108** downwardly on the lower portion **112**, the top edge would open to the enlarged heel receiving position of FIG. 3 (rather than being premolded in that position as is the first described alternative construction for the embodiment of FIG. 8). When a shoe **114** is fully inserted into the rubber **104** the rubber is then flexed to assume the shape of a rubber embracing the shoe **114** as shown in FIG. 8A.

The embodiment of FIG. 8, however, illustrates another aspect of the present invention which can be used on any of the preceding embodiments, and that is the feature of a slight protrusion **116** at the bottom of the posterior end of the rubber **104** which protrusion **116** can have a rough textured upper surface to prevent the other shoe (the complement of shoe **114**) from slipping off of the rubber **104** when the shoe **114** is inserted into the rubber **104**. None of the aspects of the gusset **94**, the extension **98**, or the protrusion **116** are essential to

the self-acting operation of the rubbers of the invention.

FIGS. 9 and 10 show another embodiment of the invention comprising a rubber **120** including an upper **122** and a heel upper **124** molded, laminated, or otherwise shaped to have the configuration shown in FIGS. 9 and 10, wherein the heel upper **124** leans forward and also provides an enlarged shoe heel receiving opening **126** when the rubber **120** is empty. When a shoe is in the rubber **120**, the shoe forces the flexible heel upper **124** to conform to the shape of and to embrace the shoe. The heel upper **124** is preferably provided with a counter **128** located as indicated between the two dotted lines **130** and **132** in a higher portion **134** of the heel upper **124**, above a weaker lower portion **136** of the heel upper **124**. The forward lean is advantageous in improving the ease with which the one shoe holding the rubber **120** can be properly positioned in place for stretching and holding the rubber **120**, prior to inserting the other shoe into the ubber **120**. The one shoe can simply be applied almost straight down on the lower portion **136** of the rubber **120** to secure the back of the rubber while the shoe to be received in the rubber **120** is being inserted. The structure of this embodiment prevents any tendency of the rubber **120** to slide forward, as the one shoe is applied in heel securing position to the heel upper **124** thereof. There can be a tendency for the rubbers of the other embodiments, described above, to slide forward, especially on a slippery surface. The forward lean preferably forms an angle of about 30° to the vertical, although other angles can be used as will be understood by one skilled in the art. Since this embodiment of the invention already has a rubber upper deformed into a laterally enlarged opening, it is not essential that the rubber of this embodiment include the means of the embodiments of FIGS. 1–8 for deforming a higher portion of a heel upper into a laterally enlarged opening. However, when the rubber **120** of this embodiment is stepped on by a shoe, the opening **126** is slightly modified to form an opening having the same shape as opening **26** of FIG. 3.

The invention has been described in detail with particular reference to preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention as described hereinabove.

I claim:

1. In an overshoe, the improvement comprising a heel upper including a higher portion and a lower portion and means for deforming said higher portion into a laterally enlarged opening for receiving the heel of a shoe when said lower portion is stepped on by a shoe.

2. The article according to claim **1** wherein said heel upper leans forward when said overshoe is empty at an angle of approximately 30° to the vertical.

3. An article according to claim **1** wherein said higher portion includes a first counter.

4. An article according to claim **1** including a permanent extension connected to the top edge of said heel upper adjacent said opening and extending upwardly and outwardly for providing an enlarged opening for the heel of a shoe to be received in said overshoe.

5. In an overshoe, the improvement comprising a heel upper including a higher portion and a lower portion and means for deforming said higher portion into an enlarged opening for receiving the heel of a shoe when said lower portion is stepped on by a shoe, said higher portion including a first counter and said lower portion including a second counter separated from said first counter.

6. In an overshoe including a sole and an upper connected to the sole and having a shoe receiving opening, said overshoe being adapted to receive one shoe of a wearer, the improvement wherein:

(a) said overshoe includes a heel upper having a higher portion and lower portion;

(b) said lower portion includes means adapted to be stepped on and held by the other shoe of said wearer; and

(c) means responsive to inward and downward pressure being applied to said lower portion for deforming said higher portion into an enlarged opening for receiving the heel of said one shoe when said lower portion is stepped inwardly and downwardly upon by the other shoe of said wearer.

7. An article according to claim **6** wherein said upper portion includes a first counter.

8. In an overshoe including a sole and an upper connected to the sole and having a shoe receiving opening, said overshoe being adapted to receive one shoe of a wearer, the improvement wherein:

(a) said overshoe includes a heel upper having a higher portion and lower portion, said upper portion including a first counter;

(b) said lower portion includes means adapted to be stepped on and held by the other shoe of said wearer, said lower portion including a second counter separated from said first counter; and

(c) means for deforming said higher portion into an enlarged opening for receiving the heel of said one shoe when said lower portion is stepped on by the other shoe of said wearer.

9. In an overshoe including a sole and an upper connected to the sole and having a shoe receiving opening, said overshoe being adapted to receive one shoe of a wearer, the improvement wherein:

(a) said overshoe includes a heel upper having a higher portion and lower portion;

(b) said lower portion includes means adapted to be stepped on and held by the other shoe of said wearer; and

(c) means for deforming said higher portion into a laterally enlarged opening for receiving the heel of said one shoe when said lower portion is stepped on by the other shoe of said wearer.

10. In an overshoe, the improvement comprising a permanent portion of the upper, adjacent the shoe receiving opening, extending upwardly and outwardly and forming a laterally enlarged shoe receiving opening when said overshoe is empty.

11. An article according to claim **10** wherein said upper includes a heel upper having an inwardly extending pleat intermediate the vertical height thereof.

12. In an overshoe adapted to receive one shoe of a wearer, the improvement comprising a heel upper including a higher portion, said higher portion including a counter, and at least a portion of said heel upper below said higher portion being of lesser strength than said higher portion, thereby to provide a weakened area below said counter, said weakened area being of sufficient area to be stepped on by the other shoe of said wearer, without said other shoe also stepping on said higher portion.

13. In an overshoe, the improvement comprising a heel upper having a laterally enlarged shoe heel receiving opening when said overshoe is empty.

14. In an overshoe, the improvement comprising a heel upper having permanent, built-in, means for shaping said heel upper to lean forward and to provide a laterally enlarged shoe heel receiving opening when said overshoe is empty.

15. The article according to claim **14** wherein said heel upper incluudes a higher portion and a lower portion and wherein said shaping means comprises a counter in said higher portion.

16. In an overshoe, the improvement comprising a heel upper having permanent, built-in, means for shaping said heel upper to lean forward and to provide a laterally enlarged shoe heel receiving opening when said overshoe is empty, and said shaping means including means for forcing the heel end of the heel upper to lean forward when the overshoe is empty and for forcing the sides of

the heel upper to extend laterally outwardly from said heel end to provide said enlarged opening.

17. The article according to claim **16** wherein said forward lean forms an angle of approximately 30 degrees to the vertical.

18. In an overshoe including a sole and an upper connected to the sole and having a shoe heel receiving opening therein, said overshoe being adapted to receive one shoe of a wearer, the improvement wherein:

(a) said upper includes a heel upper having means for shaping said heel upper to lean forward with respect to the lean of the heel upper when a shoe is received therein, and to provide a laterally enlarged opening when said overshoe is empty.

19. In an overshoe, the improvement comprising a heel upper having permanent, built-in, means for shaping said heel upper to lean forward and to provide a laterally enlarged shoe heel receiving opening when said overshoe is empty, and said shaping means comprising a counter in said heel upper forcing the heel end of said heel upper to lean forward and forcing the sides of said heel upper to extend laterally outwardly forming said laterally enlarged opening.

20. In an overshoe including a sole and an upper connected to the sole and having a shoe heel receiving opening therein, said overshoe being adapted to receive one shoe of a wearer, the improvement wherein:

(a) said upper includes a heel upper having means for shaping said heel upper to lean forward and to provide a laterally enlarged opening when said overshoe is empty, and said shaping means comprising a counter forcing the heel end of said heel upper to extend laterally outwardly therefrom to form said opening.

References Cited

UNITED STATES PATENTS

3,283,423	11/1966	Schovee	36—7.3
3,146,535	9/1964	Owings	36—7.3
2,188,603	1/1940	Hamalainen	36—2.5 Y

FOREIGN PATENTS

1,474,201	2/1966	France	36—2.5 Y

PATRICK D. LAWSON, Primary Examiner

U.S. Cl. X.R.

36—7.3