LADIES' FOOTWEAR WITHOUT UPPERS

FIG. 1

FIG. 2

FIG. 3

FIG. 4

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LADIES' FOOTWEAR WITHOUT UPPERS

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The present invention relates to a novel type of foot-
wear, and more particularly to attractive ladies' foot-
apparel.

Many attempts have been made to combine utilitarian
with esthetic considerations in the making of footwear,
particularly ladies' stockings and shoes. All prior efforts
in this direction have been confined, however, to impro-
ving the appearance of these items of apparel independently
from each other so that stockings and shoes remained
with their separate basic functions.

It is the principal object of this invention to produce
a novel functional unit of elegance and beauty, which
combines the functions of a shoe and a stocking.

This and other objects are accomplished in accordance
with the invention by detachably attaching a shoe sole
and heel unit to a stocking sole by means of a slip sole,
the stocking sole being clamped between the slip sole
and the outsole. The outsole does not have the con-
ventional uppers attached thereto and the slip sole is
inserted in the stocking to lie adjacent the stocking sole,
means passing through orifices in the stocking sole to
connect the slip sole and the outsole detachably to each
other.

In this manner, the conventional shoe is replaced by
a sole and heel unit which is held on the foot by the
stocking. This produces an extremely light and graceful
article of footwear which fully displays the charming lines of a lady's foot and ankle. Particularly when combined with sheer stockings, it constitutes un-
usually attractive footwear to be worn with evening
or cocktail dresses.

It will be obvious to the skilled in the art that the
principle of the invention may be carried out with a
variety of slip sole designs and equally as many pos-
sibilities are available for connecting the slip sole detach-
ably to the outsole.

The slip sole may be made of any suitable sheet mate-
rial, including acetyl resins, polyamides and other syn-
thetic resins, natural or synthetic rubber, woven and non-
 woven fabrics, and the like. While it may consist of a
unitary piece of material extending the full length of the
outsole, it may also be shorter than the outsole, or ad-
justable in length, or have an elastic center part joining
two end parts.

In accordance with one feature of the invention, the
circumferential edge of the slip sole is slightly spaced
from the circumference of the outsole in case the slip sole
material is relatively hard, thus protecting the sensi-
tive stocking material from wear and tear due to impact
and stresses caused by walking. On the other hand, if
the slip sole material is relatively soft, it may be preferred
to stiffen it, for instance, with cardboard and the like,
particularly in the areas where the sole connecting means
are provided.

Any suitable detachable connecting means may be used
to mount the outsole and heel unit on the slip sole,
including snap fasteners, sliding locks and like devices.

While the slip sole material may be relatively rigid,
the sole should be allowed to undergo limited longitudinal
displacement with regard to the outsole. Generally, it is
preferred to secure the slip sole to the outsole within
the range of the ball and of the heel of the foot.

Corre-
sponding portions of the stocking sole are, therefore, pro-
vided with orifices permitting the detachable sole con-
necting means to penetrate therethrough.

According to another preferred feature of the invention,
the stocking sole orifices have reinforced edges to increase
their resistance to mechanical stress to which the sole
connecting means subject them. The reinforced edges
may consist of flexible reinforcing ears applied to one
side or both sides of the stocking sole. They may also
be produced by a suitable impregnation of the orifice
dges with a latex emulsion, silicone rubber, or other
natural and synthetic binding agents combining elasticity
and tenacity so as to prevent undue rigidity of the stock-
ing fabric, on the one hand, and tearing of the stocking
due to friction with the connecting means, on the other
hand. The reinforcing ears may be applied to pre-
formed orifices in the stocking sole and may, for instance,
be autogenously bonded thereto. It is also possible to
apply a continuous tape to the stocking sole and punch
holes therethrough to form the orifices in the stocking sole
and the reinforcing edges thereof simultaneously.

The above and other objects and features of the inven-
tion will be more fully explained in the following detailed
description of certain now preferred embodiments, taken
in conjunction with the drawings wherein

Fig. 1 is a side view, partly in section, of one embodi-
ment of the present invention;

Fig. 2 is a similar view of another embodiment;

Fig. 3 is a top view of a stocking sole with reinforced
orifices;

Fig. 4 is a plan view of a slip sole and an outsole with
their fastening means, the stocking sole being eliminated
from this view;

Fig. 5 is a view similar to that of Fig. 4 and showing
a different embodiment of the slip sole;

Fig. 6 is a partial view similar to Fig. 4 but showing
another embodiment of the slip sole means;

Fig. 7 is a section along line VII—VII of Fig. 6;

Fig. 8 is an enlarged vertical section of one embodi-
ment of the slip sole and slip sole connecting or fastening
means; and

Fig. 9 is a partial perspective view of a slip sole
carrying a special coating.

Referring now to the drawing, wherein like reference
characters designate like parts in all embodiments, Fig. 1
shows the sole b with its heel c of a lady's shoe, the slip
sole carrying no uppers. The slip sole is detachably
secured to a slip sole c by means of screw bolts d whose
heads are countersunk in the slip sole. The slip sole may
be made of a synthetic resin, for instance polymethacryl-
acid methyl ester sold under the trademark "Plexiglas." The
slip sole is shown inserted into the stocking f so that
the stocking sole e is clamped between the slip sole and
the out sole, thereby holding the slip sole on the foot of
the wearer. The stocking sole has orifices g permitting
screw bolts d to penetrate through the stocking sole.

In the embodiment of Fig. 2, the rear end of slip sole
c is fastened to slip sole b by means of a button-and-slot
lock h, the button being mounted on one sole while the
slot is provided in the other sole. A snap fastener i is
provided at the front end of the soles to constitute a
detachable connecting means at that end. This provides
a very convenient means for handling the slip sole be-
cause, after opening the snap fastener, the slip sole may
be released from the slip sole simply by sliding the but-
ton of lock h along its engaging slide until the button is
disengaged.

In the embodiment of Fig. 2, the shoe sole is illustrated
as carrying a toe strap k and a heel protecting element m.

Fig. 3 shows a stocking sole prepared in accordance with the invention. Circular orifices o and p are provided along seam n in the front and rear part of the stocking sole e, the orifices being reinforced by ears q. The ears may be made of any elastic and ductile material and they are bonded to one or both sides of the stocking sole, preferably autogenously. Obviously, the orifices need not necessarily be provided along the stocking seam. Also, reinforced edges q may consist of an impregnated applied to the stocking sole, for instance, by means of a stencil or matrix. A basic latex emulsion may, for instance, be sprayed or coated around the orifices. Silicone rubber may be used instead of latex and may be vulcanized on the stocking.

Alternatively, instead of providing orifices in the stocking sole, the stocking sole may be coated with a natural or synthetic rubber, the fastening means for the slip and the shoe soles may be applied to the rubber coating and the coating may then be vulcanized to anchor the fastening means to the stocking sole.

As will be readily understood by the skilled in the art, many autogenously bonding, thermoplastic synthetic resins will be useful for the reinforcing ears, such materials adhering to the stocking sole when heat and pressure is applied thereon. Preferably, the reinforced orifice edges will be dyed a color different from that of the stocking to facilitate insertion of the fastening means.

As shown in Fig. 4, the edge of the slip sole e may be set back a little from the edge of outsole b. Preferably, the slip sole edge is also rounded. In this manner, the stocking is prevented from fitting too closely over the slip sole and undue wear of the stocking will be avoided.

Fig. 4 also shows a top view of the fastening means described in connection with Fig. 2. The fastener includes a button r attached to the slip sole and a slot s having a circular end fitting said button r in the outsole. When the two soles are longitudinally moved in relation to one another until button r engages the circular end of slot s, the two soles may be detached after the snap fastener i is loosened. The arrangement of the sliding lock p permits the slip sole to shift slightly in a longitudinal direction during walking.

In the embodiment of Fig. 5, the slip sole is shown to consist of two end parts c\textsuperscript{1} and c\textsuperscript{2} detachably fastened to the outsole b by snap fasteners i, the end parts being interconnected by an elastic center part p\textsuperscript{0} of any suitable elastomer material, such as rubber.

The fastening means illustrated in Figs. 6 and 7 comprises a pin a mounted on a stud in the slip sole, said pin being movable by 90° to lock in a slot t in the outsole for engagement and disengagement of the two soles.

Fig. 8 shows a connecting means comprising a snap fastener v in engagement with the slip sole c and carrying an anchor w mounted on a second snap fastener x which engages the outsole b, the anchor penetrating through an orifice of the stocking f. Rubber ears y surround the stocking orifice to lie between the snap fastener flanges z and the stocking.

While the slip sole is shown to extend over the full length of the slip sole in the embodiments of Figs. 1, 2 and 4, it may also be somewhat shorter as shown, for instance, in dotted lines in Fig. 4. Also, a two-part slip sole, as shown in Fig. 5, could have a center connection different from that illustrated in this figure, such as, for instance, a simple groove.

As shown in Fig. 9, the slip sole may have a soft coating or cover, at least at its upper side, if the sole material is relatively rigid. Such a soft layer may consist of foam rubber, velvet, felt and like pliable materials. Insertion of the slip sole in the stocking will be facilitated if the soft layer is spaced from the edge of the sole, as shown in Fig. 9.

The slip sole may also carry at its underside flat suction cup cavities to constitute auxiliary fastening means. While the orifices in the stocking sole will usually be cut or punched out, it is, of course, also possible to knit them into the sole.

What we claim is:

1. Footwear comprising an outsole, a slip sole, detachable fastening means having matching portions connected to each of said soles for detachably connecting the soles, and a stocking having orifice means, said fastening means passing through said orifice means to clamp the stocking between the outsole and the slip sole.

2. Footwear according to claim 1, comprising two fastening means, one of which is a snap fastener, and the other comprises a button connected to the underside of the slip sole and a longitudinally extending slot having a round end in the shoe sole, the button being insertable in the round end and being engageable by the longitudinal slot to fasten the soles together while permitting relative longitudinal displacement therebetween.

3. Footwear according to claim 1, wherein said fastening means comprises a first snap fastener element detachably connected to the slip sole, a second snap fastener element detachably connected to the outsole, said snap fastener elements having adjacent flanges, and means passing through said stocking sole orifice means and interconnecting said snap fastener elements, the stocking being clamped between the adjacent flanges of the snap fastener elements.

4. Footwear according to claim 1, wherein said fastening means comprises a first snap fastener element detachably connected to the slip sole, a second snap fastener element detachably connected to the outsole, said snap fastener elements having adjacent flanges, anchor means passing through said stocking sole orifice means and interconnecting said snap fastener elements, the stocking being clamped between the adjacent flanges of the snap fastener elements, and elastic linings between the snap fastener element flanges and the stocking sole.

References Cited in the file of this patent

UNITED STATES PATENTS

2,398,510 Wilson Apr. 6, 1946
2,538,673 Donahue Jan. 16, 1951
2,673,651 Doughy Apr. 20, 1954
2,686,376 Burkholz Aug. 17, 1954
2,691,227 Schott Oct. 12, 1954
UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,933,830

Willi Bartels et al.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 44, second occurrence, lines 50 and 51, both occurrences, lines 58, 62, and 69, and column 3, line 61, for "slip sole", each occurrence, read -- outsole --.

Signed and sealed this 4th day of October 1960.

(SEAL)
Attest:

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