A convertible shoe ensemble with a heel that is manually attachable to and removable from the shoe, and a manually attachable and removable heel cover of substantially less height than the heel for attachment to the shoe when the heel is detached.
CONVERTIBLE SHOE ENSEMBLE

FLING HISTORY

[0001] This application continues from provisional applica-
tion sent under serial No. 60/211,659 filed on Jun. 15, 
2000.

BACKGROUND OF THE INVENTION

[0002] This invention relates to a shoe that is readily 
convertible between dress and casual styles.

SUMMARY OF THE INVENTION

[0003] Briefly, the present invention is a woman’s or girl’s 
shoe ensemble in which the shoe, for a formal or dressy 
look, has a heel of any desired style that is manually 
removable and attachable, a substantially flat, thin, manually 
attachable and removable heel cover for attachment to the 
shoe in place of the heel when a casual look is desired, and 
the bottom of the shoe has sufficient flexibility to lie 
substantially flat when the user wears the shoe with the heel 
cover in place. The shoe has a heel base or support at the 
back with a recess for the attachment of the heel and the heel 
cover alternatively, with one or more locking elements 
acting between the heel or heel cover and the heel base of the 
shoe to releasably lock the heel or heel cover in place on the 
shoe.

[0004] The uses and advantages of the invention will be 
apparent from the following detailed description of several 
presently preferred embodiment thereof which are illustrat-
ed in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a top perspective view of a woman’s shoe 
with a detachable heel in accordance with a first embodi-
ment of this invention;

[0006] FIG. 2 is an exploded top perspective view of the 
removable heel and the heel base at the back of the FIG. 1 
shoe, with the heel removed from the shoe;

[0007] FIG. 3 is an exploded bottom perspective view of 
the back part of the FIG. 2 shoe and the heel, again with 
the heel detached from the shoe;

[0008] FIG. 4 is a fragmentary top plan view showing in 
full lines an upwardly facing annular shoulder in the heel 
base of the shoe and in phantom the attachment segment at 
the top of the detachable heel seated on this shoulder in the 
position of the heel when it is worn on the shoe;

[0009] FIG. 5 is a top perspective view of a heel cover for 
attachment to the FIG. 1 shoe when the heel is removed;

[0010] FIG. 6 shows the FIG. 1 shoe with the heel cover 
in place, and the shoe flattened for casual wear;

[0011] FIG. 7 is a top perspective view of a woman’s shoe with a 
detachable heel in accordance with a second embodi-
ment of this invention;

[0012] FIG. 8 is a top perspective view of the removable 
heel and the heel base at the back part of the FIG. 7 shoe, 
with the heel partly removed from the shoe;

[0013] FIG. 9 is a perspective view of the heel base of the 
FIG. 7 shoe, with the heel detached;

[0014] FIG. 10 is a perspective view of the fully detached 
heel in this embodiment of the present invention;

[0015] FIG. 11 is a perspective view of a heel cover for 
attachment to the FIG. 7 shoe when the heel is removed;

[0016] FIG. 12 is a perspective view of a woman’s shoe with 
a detachable heel in accordance with a third embodi-
ment of this invention;

[0017] FIG. 13 is an exploded top perspective view of the 
removable heel and the heel base of the FIG. 12 shoe, with 
the heel removed from the shoe;

[0018] FIG. 14 is an exploded perspective taken from the 
rear of the FIG. 12 shoe with the removable heel detached 
from it;

[0019] FIG. 15 is a top perspective view of the heel cover 
for attachment to the FIG. 12 shoe when the heel is removed;

[0020] FIG. 16 is a perspective view of a shoe with a 
detachable heel in accordance with a fourth embodiment 
of this invention;

[0021] FIG. 17 is an exploded perspective view of the 
FIG. 16 shoe with the detachable heel removed from it;

[0022] FIG. 18 is a side elevation of a shoe with a 
detachable heel in accordance with a fifth embodiment 
of this invention;

[0023] FIG. 19 is a side elevation of the FIG. 18 shoe with 
the heel cover attached in place of the heel shown in FIG. 18;

[0024] FIG. 20 is a fragmentary vertical section of the 
heel base of the FIG. 18 shoe and the heel removed from it; and

[0025] FIG. 21 is a vertical section of the heel cover 
shown on the shoe in FIG. 19.

DETAILED DESCRIPTION OF THE 
INVENTION

[0026] Before explaining the present invention in detail it 
is to be understood that the invention is not limited in its 
application to the particular arrangements shown and 
described herein since the invention is capable of other 
embodiments. Also, the terminology used herein is for the 
purpose of description and not of limitation.

[0027] First Embodiment—FIGS. 1-6

[0028] In FIGS. 1-6 the shoe 25 is a backless sandal with a 
flat sole portion 26 on which the sole of the wearer’s foot 
rests, a generally flat, upwardly and rearwardly inclined 
instep portion 27 for supporting the arch of the wearer’s 
foot, and a short, more flexible segment 28 just behind the 
instep portion and in front of the heel base 29, which 
presents a flat top surface for engagement by the heel of the 
wearer’s foot.

[0029] As shown in FIG. 3, the heel base 29 of the shoe 
is formed with a recess 30 that is open only at the bottom of 
the base, presenting a cylindrical upwardly extending side 
wall 31 with rectangular slots 32 and 33 diametrically 
opposite each other toward the front and back of the shoe, 
respectively. Slots 32 and 33 are aligned with each other 
along the longitudinal axis of the shoe. Above the side wall
31 the recess opens into a slightly wider cylindrical region 30c, the top of which is closed by the material of the heel base 29 and the bottom of which is defined by flat, upwardly facing, arcuate shoulder surfaces 30b and 30c (FIG. 4) on opposite sides of the front and rear slots 32 and 33.

[0030] In accordance with this embodiment of the present invention, the heel 34 of this shoe has a construction as shown in FIG. 2. It presents a flat top surface 35 for snug engagement with a flat bottom surface 36 of the heel base 29 of the shoe around its bottom opening 30. Above its top surface 35 the heel presents an upwardly projecting attachment segment 37 of generally cylindrical configuration for snug but slideable reception in the bottom recess 30 in the shoe's heel base 29. At the top, attachment segment 37 presents outwardly projecting ears 38 and 39 positioned, shaped and dimensioned to pass through the slots 32 and 33 at the ends of the bottom recess 30 in the heel base 29 of the shoe. Ears 38 and 39 are spaced above the top surface 35 of the heel just slightly more than the height of the cylindrical wall 31 of recess 30.

[0031] The heel 34 is attached to the heel base 29 of the shoe by registering its ears 38 and 39 with the slots 32 and 33 at the front and back of the recess 30 on the heel base, and moving the heel up until its top surface 35 engages the bottom surface 36 of base 29 to position the ears 38 and 39 just slightly above the level of the arcuate shoulder surfaces 30b and 30c of the recess enlargement 30a in the base, after which the heel is turned 90 degrees to slide its ears 38 and 39 across surfaces 30c and 30b, respectively, and bring them to the position shown in FIG. 1. In this position, the heel 34 is snugly attached to the heel base 29 of the shoe.

[0032] To remove the heel from the shoe, the foregoing sequence is reversed. The heel is turned to slide its ears 38 and 39 across the surfaces 30c and 30b until they register with the end slots 32 and 33 in the base recess 30, at which time the attachment member 37 on top of the heel can be pulled out of recess to free the heel from the shoe. Thus, the ears 38 and 39 on the heel coact with the heel base to provide a lock acting between the heel and the heel base which is manually releasable by turning the heel and moving it away from the heel base, as described.

[0033] FIG. 5 shows a heel cover 134 for attachment to the shoe when heel 34 is removed, converting the shoe into a "flat," as shown in FIG. 6. Elements of heel cover 134 which correspond to elements of heel 34 are given the same reference numerals, plus 100, and the detailed description of these corresponding elements need not be repeated.

[0034] Heel cover 134 presents a flat top face 135 for engagement with the bottom face 36 of heel base 29 of the shoe, a generally cylindrical attachment segment 137 projecting up from its top face 135, and ears 138 and 139 for entry and removal through the end slots 32 and 33 of the bottom recess 30 in the heel base 29 and for engagement with the upwardly facing shoulder surfaces 30c and 30b at the recess enlargement 30a in the heel base, as described. The ears 138 and 139 on the heel cover coact with the heel base to provide a lock acting between the heel cover and the heel base which is manually releasable by turning the heel cover and moving it away from the heel base, as described for the detachment of the heel from the heel base of the shoe.

[0035] Preferably, the shoe 25, the heel 34 and the heel cover 134 are sold as a matching ensemble or kit to provide the convertibility between a formal or dressy appearance, in which the heel 34 is attached to the shoe (FIG. 1), and a more casual appearance in which the heel cover 134 is attached to the shoe (FIG. 6).

[0036] Second Embodiment—FIGS. 7-11

[0037] FIGS. 7-11 show a second embodiment of the invention in which the shoe 40 is a woman's sandal with a flat sole portion 41, a generally flat, upwardly and rearwardly inclined instep portion 42, and a short, more flexible segment 43 just behind the instep portion 42 and in front of a heel base 44.

[0038] As shown in FIG. 9, the heel base 44 of the shoe is formed with a three-sided recess 45 of rectangular configuration that is open at the bottom and at the back of the shoe. At the bottom surface 46 of base 44 this recess presents a rectangular opening which is open at the back of base 44 and is bounded by opposite flat side surfaces 47 and 48 and a front surface 45. Above the side surfaces 47 and 48, recess 45 is of larger rectangular configuration from side to side so that the heel base presents upwardly facing, flat, shoulder surfaces 49 and 50 which extend laterally out from the side surfaces 47 and 48, respectively. Below the shoulder surfaces 49 and 50 the base 44 presents laterally inwardly projecting flanges 47a and 48a having the side surfaces 47 and 48 at their inner ends. Thus, viewed from behind the shoe, recess 45 has a vertically short, wide, T-shaped cross-section.

[0039] At the front end of its bottom recess 45 the heel base is formed with a rectangular opening 51 on the left side, as shown in FIGS. 7, 8 and 9, and an identical opening (not shown) at the same location on the opposite side.

[0040] The heel 52 of this shoe ensemble has an attachment segment 53 at the top which is shaped complementary to recess 45 in the heel base so that it can be slidably inserted into this recess from the back of the shoe and slidably removed from it. On the left side, the heel presents a longitudinal groove 54 of rectangular cross-section for slidably receiving the inwardly projecting flange 47a on the heel base 44, and on the opposite side it presents a similar groove 55 (FIG. 11) for slidably receiving the inwardly projecting flange 48a on the heel base when the heel is slid forward from behind the shoe to attach it to the heel base.

[0041] At the front end of its left side, above the groove 54, the attachment segment 53 of the heel carries an outwardly bent leaf spring 56 on one side that snaps into the opening 51 in heel base 44 at the front end of its bottom recess 45 to lock the heel to the base in the fully inserted position of the heel's attachment segment 53 in the base recess 45. A similar spring 57 on the opposite side of the heel's attachment segment 53 snaps into the side opening in base at the front end of recess 45 on that side. These springs act as detents for releasably locking the heel on the shoe when the heel's attachment segment 53 is fully inserted into the heel base recess 45.

[0042] Heel 52 is attached to the shoe by sliding its attachment segment 53 forward into the bottom recess 45 in the shoe's heel base 44 until the springs 56 and 57 snap into the side openings in the base at the front end of this recess. To remove the heel from the shoe, the free ends of springs 56 and 57 are pushed in to release them from the side.
openings in the base, after which the heel can be slid rearward and detached from the shoe.

[0043] The heel cover 152 (FIG. 11) in this shoe ensemble has an attachment segment 153 at the top which is identical to the attachment segment 53 of heel 52 (FIG. 10) and is slidably insertable into and removable from the bottom recess 45 in the heel base 44 in the same manner as the heel, as described. Below its side grooves 154 and 155 the heel cover is relatively thin vertically. Leaf springs 156 and 157 on the front end of attachment segment 153 coact with the side openings in the heel base at the front end of its bottom recess 45 in the manner already described for the springs 56 and 57 on heel 52. Springs 156 and 157 act as detents for releasably locking the heel cover 152 on the shoe when the attachment segment of the heel cover is fully inserted into recess 45 in the heel base of the shoe.

[0044] With heel 52 removed from the shoe and the heel cover 152 attached to it, the shoe becomes a "flat" for casual wear, with the more flexible segment 43 of the shoe enabling the bottom of the shoe to assume a substantially flat shape under the weight of the wearer.

[0045] Third Embodiment—FIGS. 12-15

[0046] FIGS. 12-15 show a third embodiment of the present shoe ensemble in which the shoe 60 is identical to the FIG. 1 shoe except for the heel base 61, which has a bottom recess 62 (FIG. 14) of trapezoidal shape with a flat top surface 63 and opposite side surfaces 64 and 65 which incline laterally inward toward each other down from the top surface 63. The bottom recess 62 is open at the back of the shoe and it extends from back to front along the heel base 61 and is closed at its front end.

[0047] The heel 66 of this shoe ensemble has an attachment segment 67 at the top with a trapezoidal cross-section complementary to that of the heel base recess 62. The attachment segment 67 of the heel can be slidably inserted into recess 62 at the latter’s back end and slid from back to front when the heel is to be attached to the shoe.

[0048] Near its front end the heel base 61 presents a flat, vertical end face 68 (FIG. 13) extending up from its bottom surface. The heel carries a curved cantilevered spring 69 which snaps up into engagement with the end face 68 when the heel is fully inserted and engaged into the shoe, as shown in FIG. 12, to lock the heel in place. When the heel is to be removed from the shoe, the user flexes the free end of spring 69 down to disengage it from the front end face 68 of the heel base 61 and permit the slideable removal of the heel from the shoe in a front to back direction. Thus, the spring 68 acts as a detent for releasably locking the heel on the shoe when the attachment segment 67 of the heel is fully inserted into the recess 62 of the heel base on the shoe.

[0049] The heel cover 166 (FIG. 15) in this shoe ensemble has an attachment segment 167 at the top which is identical to the attachment segment 67 of heel 66 (FIG. 14) and is slidably insertable into and removable from the bottom recess 62 in the shoe’s heel base 61 in the same manner as the heel, as described. Below its attachment segment 167 the heel cover is relatively thin vertically. The heel cover carries a leaf spring on its front end (not shown in FIG. 15) which is identical to the spring 69 on the front end of heel 66 and coacts with the front end face 68 of the heel base 61 in the manner described for spring 69, acting as a detent for releasably locking the heel cover on the shoe when the attachment segment 167 of the heel is fully inserted into the heel base recess 62 in the shoe.

[0050] With heel 66 removed from the shoe and the heel cover 166 attached to it, the shoe becomes a “flat” for casual wear in the same manner as the earlier described embodiments of the present shoe ensemble.

[0051] Fourth Embodiment—FIGS. 16 and 17

[0052] FIGS. 16 and 17 show the shoe and heel components of a fourth embodiment of the shoe ensemble of the present invention. The heel cover in this embodiment is identical to the one shown in FIG. 5 and already described in detail.

[0053] The shoe 70 in FIGS. 16 and 17 is of substantially different design from the shoes in the preceding embodiments, indicating the versatility of this invention. The heel base 72 on this shoe has a bottom recess identical to the one in the embodiment of FIGS. 1-6, and the heel 71 for this shoe has an attachment segment 73 at the top that is identical to the attachment segment 37 on the heel shown in FIG. 2.

[0054] The heel in FIGS. 16 and 17 and the heel cover for this shoe are individually attachable and removable from this shoe in the same manner as the corresponding components in the shoe ensemble of FIGS. 1-6.

[0055] Fifth Embodiment—FIGS. 18-21

[0056] In FIG. 18 the shoe ensemble has a platform heel 80 releasably attached to a heel base 81 on the shoe just behind a flexible segment of the shoe bottom. As shown in FIG. 20, the base 81 is formed with a very shallow, open-bottomed, cylindrical recess 83 and carries female snap fastener elements 84 at intervals around the periphery of this recess.

[0057] The heel 80 has a thin, flat attachment piece 85 on top that is shaped and dimensioned substantially complementary to recess 83 so as to have a snug fit therein. The attachment piece 85 on the heel carries male snap fastener elements 86 on its periphery for snap-in, manually releasable, locking engagement with the fastener elements 84 on the base when the attachment piece is inserted into the base recess 83.

[0058] The heel cover (FIG. 21) in this embodiment of the present shoe ensemble has a thin, flat attachment piece 185 on the top which is identical in size, shape and function to the attachment piece 85 of heel 80. Male snap fastener elements 1186 on the periphery of attachment piece 185 have manually releasable locking engagements with the corresponding female snap fastener elements 84 on the heel base of the shoe. The remainder of the heel cover consists of a thin layer 90 of rubber or other suitable material covering the bottom of attachment piece 185, so that the vertical dimension of the cover plate is small, enabling the shoe to assume a much more flattened shape (FIG. 19) on the wearer’s foot than its shape when the platform heel is attached (FIG. 18).

I claim:

1. A shoe ensemble comprising: a shoe having a bottom with a flexible segment; a heel of predetermined height manually attachable to and detachable from said shoe bottom behind said flexible segment; and a heel cover manually
attachable to and removable from said shoe bottom behind said flexible segment when said heel is detached, said heel cover having a substantially smaller height than said heel to enable the shoe bottom to extend substantially flat by flexing of said flexible segment under the weight of a person wearing the shoe.

2. A shoe ensemble according to claim 1 and further comprising: manually releasable locking means acting between said shoe and said heel to releasably lock the heel to the shoe; and manually releasable locking means acting between said shoe and said heel cover to releasably lock the heel cover to the shoe.

3. A shoe ensemble according to claim 2 wherein: said locking means acting between said shoe and said heel enables snap-in attachment of the heel to the shoe from below; and said locking means acting between said shoe and said heel cover enables snap-in attachment of the heel cover to the shoe from below.

4. A shoe ensemble according to claim 2 wherein: said heel is slidably attachable to said shoe from behind the shoe; and said heel cover is slidably attachable to the shoe from behind the shoe.

5. A shoe ensemble according to claim 4 wherein: said locking means acting between said shoe and said heel includes spring means on the heel having locking engagement with the shoe when the heel is fully inserted onto the shoe; and said locking means acting between said shoe and said heel cover includes spring means on the heel cover having locking engagement with the shoe when the heel cover is fully inserted onto the shoe.

6. A shoe ensemble comprising: a shoe having a bottom with a heel base at the back formed with a recess therein and a flexible segment in front of said heel base; a heel of predetermined height manually insertable into and removable from said recess in said heel base; locking means acting between said base and said heel to releasably lock the heel to the base when the heel is fully inserted into said recess in the base; a heel cover manually manually insertable into and removable from said recess in said heel base when said heel is detached; and locking means acting between said base and said heel cover to releasably lock the heel cover to the base when the heel cover is fully inserted into said recess in the base; said heel cover having a substantially smaller height than said heel to enable the shoe bottom to extend substantially flat by flexing of said flexible segment under the weight of a person wearing the shoe with the heel removed and the heel cover attached to said heel base of the shoe.

7. A shoe ensemble according to claim 6 wherein: said locking means acting between said heel base and said heel enables snap-in attachment of the heel to the heel base from below; and said locking means acting between said heel base and said heel cover enables snap-in attachment of the heel cover to the heel base from below.

8. A shoe ensemble according to claim 6 wherein: said heel is slidably insertable into and removable from said recess in the shoe base from behind the shoe; and said heel cover is slidably insertable into and removable from said recess in the heel base from behind the shoe.

9. A shoe ensemble according to claim 8 wherein: said locking means acting between said heel base and said heel includes spring means on the heel having locking engagement with the heel base when the heel is fully inserted into said recess in the base; and said locking means acting between said heel base and said heel cover includes spring means on the heel cover having locking engagement with the heel base when the heel cover is fully inserted into said recess in the base.