Aug. 22, 1967 A. J. SCHELLKOPF 3,336,683

STRAP CONSTRUCTION FOR FOOTWEAR

Filed Feb. 3, 1965

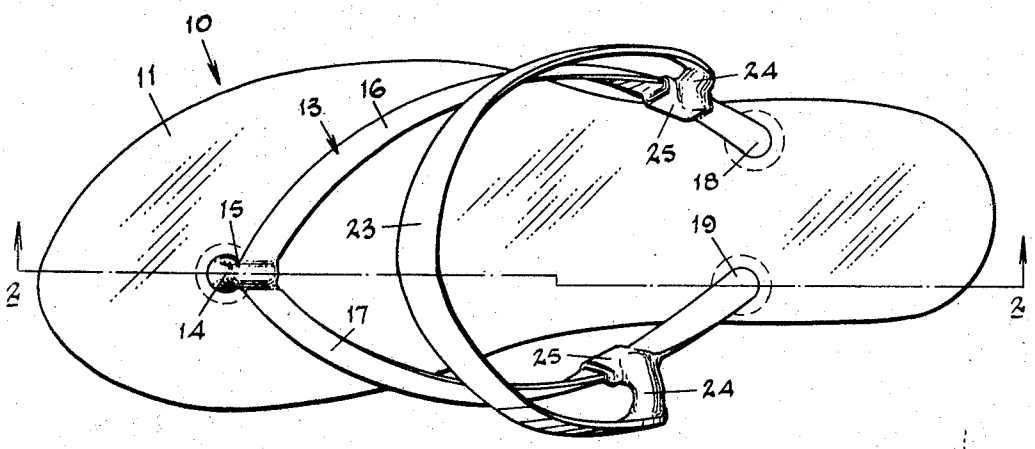


Fig. 1.

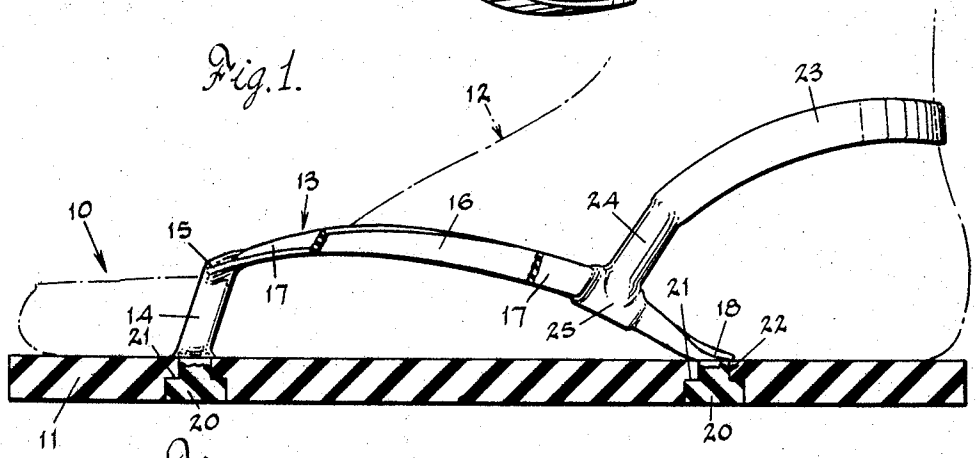


Fig. 2.

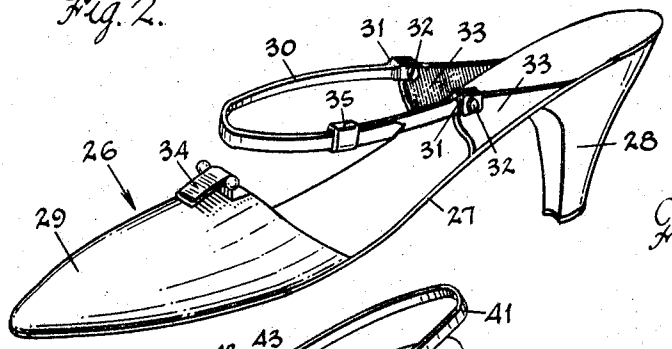


Fig. 3.

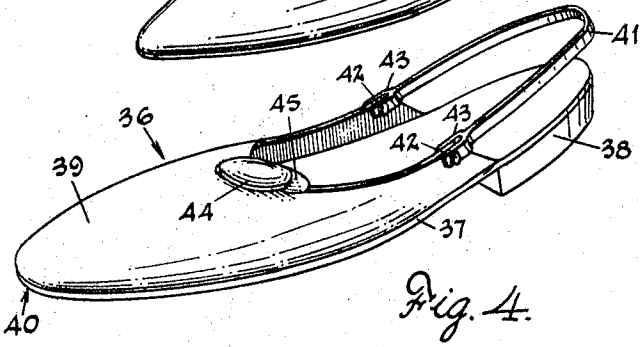


Fig. 4.

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United States Patent Office 3,336,683
Patented Aug. 22, 1967

3,336,683

STRAP CONSTRUCTION FOR FOOTWEAR

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Filed Feb. 3, 1965, Ser. No. 430,080
4 Claims. (Cl. 36—11.5)

The present invention relates generally to footwear and more particularly to a novel convertible strap construction applied to footwear such as sandals, slippers and the like, wherein the footwear may be worn either with an open back or with the support of a heel strap or sling.

Sandals and thongs having various forms of straps for securing the device, to the foot of the wearer are well known in the prior art. Some of these prior art devices have straps extending over only the forward part of the foot and with no heel support so that the foot can be readily slipped into and out thereof, while others have, in addition to such forward straps, a strap or sling extending behind the rear portion of the foot and engaging the heel of the wearer. The former type, while it has the feature of being easily slipped on and off the foot of the wearer, which is desirable in many instances, has a distinct disadvantage in that it fits somewhat loosely on the foot and permits slippage and heel slapping during normal walking. As a result, the foot of the wearer may be irritated and the device may even be accidentally lost from the foot. The latter type, generally having a loose-fitting sling or strap surrounding the heel of the wearer, reduces but does not eliminate the slippage and heel slapping, and is not readily slipped on and off the foot should it be desirable to have the step-in step-out convenience for use such as in shower or beach wear.

The novel footwear according to the invention combines the desirable features of both types by including a convertible strap device adapted to function as a heel sling which minimizes slippage and heel slapping in its rearward position, and to become a part of the uppers in its alternate, forward position. Thus, the footwear may, at the discretion of the user, be slipped into and worn with an open back as a so-called thong, or may be placed upon the foot with the sling engaging the heel in the manner of a sandal.

It is therefore an object of the present invention to provide footwear having a dual function wherein the footwear can be worn either with an open back or with a heel engaging strap to suit a particular occasion at the discretion of the wearer.

Another object of the invention is to provide footwear having a convertible strap device which in one position allows the foot to be readily slipped into and out of the footwear and in another position minimizes slippage and heel slapping of the footwear during normal walking.

Another object of the invention is to provide, in an article of footwear, a convertible strap device which in one position creates an open back in the footwear and in another position causes the foot of the wearer to be engaged in a gentle clamping action so as to maintain the footwear in position.

Other objects and advantages of the invention will become more apparent during the course of the following description when taken in connection with the accompanying drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

FIG. 1 is a plan view of a sandal constructed in accordance with the present invention, showing the convertible heel sling in the storage position and the strap members spread slightly at the rear to better illustrate the construction;

FIG. 2 is a side elevational view, partially in section along line 2—2 of FIG. 1, and with parts broken away showing the sandal on the foot of a wearer with the sling in the heel engaging position;

FIG. 3 is a perspective view of an alternate embodiment of the invention; and

FIG. 4 is a perspective view of still another embodiment of the invention.

Turning now to the drawings and in particular to FIGS. 1 and 2 thereof, one form of footwear constructed according to the invention is shown generally at **10**. The footwear includes a sole **11** adapted to support the foot **12** of a wearer in the manner indicated in broken lines in FIG. 2, and a strap assembly **13** affixed to the sole for maintaining the device upon the foot. It will be readily appreciated that the sole **11** may be formed of any of a number of suitable materials commonly employed for a similar purpose in the construction of footwear. As will be hereinafter more fully described, the strap assembly is generally, although not necessarily, formed of a resilient material.

The strap assembly **13** comprises a thin vertical web **14** secured to the sole in the forward medial portion thereof, the web being oriented with its narrow dimension extending longitudinally of the sole so as to be comfortably received between adjacent toes of the wearer. At its upper end **15**, the vertical web branches into a pair of flat, oppositely disposed side straps **16** and **17** adapted to diverge over the top of the foot **12** and down along the sides thereof. The rear extremities **18** and **19** of the side straps **16** and **17**, respectively, are secured to the sole along the rear edge portions thereof. At their junction with the upper end **15** of the vertical web **14**, the side straps **16** and **17** lie substantially horizontal along the upper surface of the foot. As they extend outwardly and rearwardly, the straps twist along their longitudinal axis to follow the surface of the foot so that in their intermediate portion they are substantially vertical. The straps continue to twist about their longitudinal axis until at the rear extremities **18** and **19**, respectively, they have twisted approximately 180° to lie in an inverted position beneath the foot **12** at their juncture with the sole. By thus twisting through approximately 180°, the broad interior surfaces of the straps will continually lie against the surface of the wearer's foot to assure a comfortable fit.

It will be appreciated that the strap assembly **13** may be secured to the sole in any suitable manner, such as by bonding with adhesives, vulcanizing, stitching, or even by being formed integrally with the sole. One preferred means for securing the straps is shown in FIGS. 1 and 2, wherein the straps are formed at their ends with enlarged circular shoulders **20** which bear against bosses **21** of apertures **22** in the sole.

Attached to the side straps **16** and **17** a short distance forwardly from their respective extremities **18** and **19** is a convertible or cross strap **23**. The convertible strap has flexible bendable portions **24** at its ends which merge into reinforced segments **25** of the side straps **16** and **17**. The entire strap assembly, including the convertible strap **23**, is preferably formed of a resilient but somewhat stiff material such as rubber, for example, so that the convertible strap will normally assume the so-called storage position shown in FIG. 1, wherein it projects forwardly in an arc across the central portion of the device, and the side straps bulge outwardly. The wearer will thus be enabled to slip his foot between and beneath the side straps **16** and **17** and cross strap **23** with ease. The flexible bendable portions **24**, and reinforced segments **25** are molded or otherwise formed so as to normally cause the cross strap to assume this position, in which it may rest against the intermediate portions of the opposite side straps. The

flexible bendable portions **24** permit the convertible strap to be swung from the storage position of FIG. 1 to the alternate or heel engaging position of FIG. 2. The cross strap is mounted on the side straps so that in the storage position, it lies flat across the instep of the wearer, while in the alternate position its interior surface lies flat against his heel.

The flexible bendable portions **24** are generally molded and affixed to the side straps **16** and **17** by the reinforced segments **25** so that the convertible or cross strap **23** assumes the storage position shown in FIG. 1. It is, of course, within the contemplation of the invention that the convertible strap may be affixed so as to normally assume the heel engaging position shown in FIG. 2 or any intermediate position.

With the convertible strap assuming the storage position shown in FIG. 1, when a prospective wearer desires to use the device as an open-backed sandal he merely slips his toes forwardly beneath the side straps **16** and **17** and convertible strap **23** until the vertical web **14** is in position between the large toe and second toe as in conventional footwear of this type. The convertible strap then lies across the instep of the wearer. When it is desired to wear the footwear with the convertible strap in the heel engaging position of FIG. 2, the strap is pulled backwardly and downwardly and the toes are slipped forwardly under the side straps **16** and **17** until the vertical web **14** is in position between the toes. The convertible strap **23** is then moved up behind the heel as shown in FIG. 2. The strap is of such length that when in heel engaging position it tugs gently on the side straps **16** and **17** to create a slight clamping effect on the foot of the wearer. Thus, even should the device be slightly large for the wearer, it will nevertheless be securely maintained on his foot. Due to the resiliency of the material employed in forming the strap assembly, the clamping effect maintains the device securely on the foot of the wearer without creating discomfort on his part.

In FIG. 3 there is shown an alternate embodiment wherein the inventive concept is applied to a lady's pump indicated generally at **26**. As shown therein, the pump **26** includes a sole **27** having affixed thereto in the conventional manner a heel **28** and a toe portion **29**. A convertible or cross strap **30** is attached at its ends **31** through clevis devices **32** or other suitable pivotal means to projections **33** along the sides of the sole. The convertible strap may, when desired, engage the heel of the wearer or, in the alternative, be placed in the storage position wherein it is hooked over or attached to a suitable restrainer indicated generally at **34** on the toe portion **29**. When in the heel engaging position, the strap will create a clamping effect upon the foot while in the storage position it produces lateral stability of the foot in the shoe. The strap **30** may be formed of a resilient material or may be adjustable in length, as by a buckle arrangement **35**, so as to accommodate feet of different sizes. It will be understood that the restrainer **34** may take a wide variety of decorative forms.

Still another embodiment is shown in FIG. 4 wherein the inventive concept is applied to footwear of the slipper type. The slipper, illustrated generally at **36**, is comprised of a sole **37** having a heel **38** affixed to the rear thereof and uppers **39** extending from the forward tip **40** rearwardly approximately to the heel **38**. A convertible strap **41**, shown in FIG. 4 in the rearward, heel engaging position, is pivotally attached at **42** to the uppers **39** through reinforced webs **43** thereon. In this position, the strap tugs gently on the uppers to create a clamping effect on the foot of the wearer. When swung forwardly into the storage position, the strap **41** is hooked beneath the catch **44** of a restrainer **45** on the uppers **39**, in which position it becomes part of, and provides a decorative effect for, the uppers. The foot can thus be readily slipped into the slipper in conventional fashion.

It is to be understood that the forms of the invention herewith shown and described are to be taken as illustrative embodiments only of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention.

I claim:

1. An article of footwear comprising a sole adapted to support the foot of a wearer, and an upper secured to said sole for receiving said foot, said upper including a strap assembly having a pair of side straps secured to said sole at their forward end and adapted to extend over the top of the forward portion of said foot and rearwardly along the opposite sides thereof, with the rear of said side straps being secured to said sole, a cross strap extending transversely of said sole, and a flexible bendable portion at each end of said cross strap merging into a reinforced segment of the adjacent one of said side straps, said flexible bendable portions being affixed to said reinforced segments and said side straps so as to in their normal attitude cause said cross strap to assume a forward storage position over the instep of said foot while permitting it to be swung rearwardly into a heel engaging position around the rear thereof.

2. An article of footwear as claimed in claim **1**, including a web member secured to and extending upwardly from the forward medial portion of said sole for insertion between adjacent toes of the wearer, said side straps being secured at their forward end to the upper extremity of said web member and diverging over the top of the forward portion of said foot from said web member.

3. An article of footwear as claimed in claim **1**, wherein said side straps and cross strap are resilient, said cross strap in the heel engaging position exerting a pulling force on said side straps to secure said footwear on said foot.

4. An article of footwear as claimed in claim **3**, said side straps and cross straps being relatively broad and thin in cross section, said side straps lying flat along the top of said foot and twisting rearwardly about their longitudinal axis through an angle of substantially 180° so as to lie flat along the side and bottom of said foot.

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