

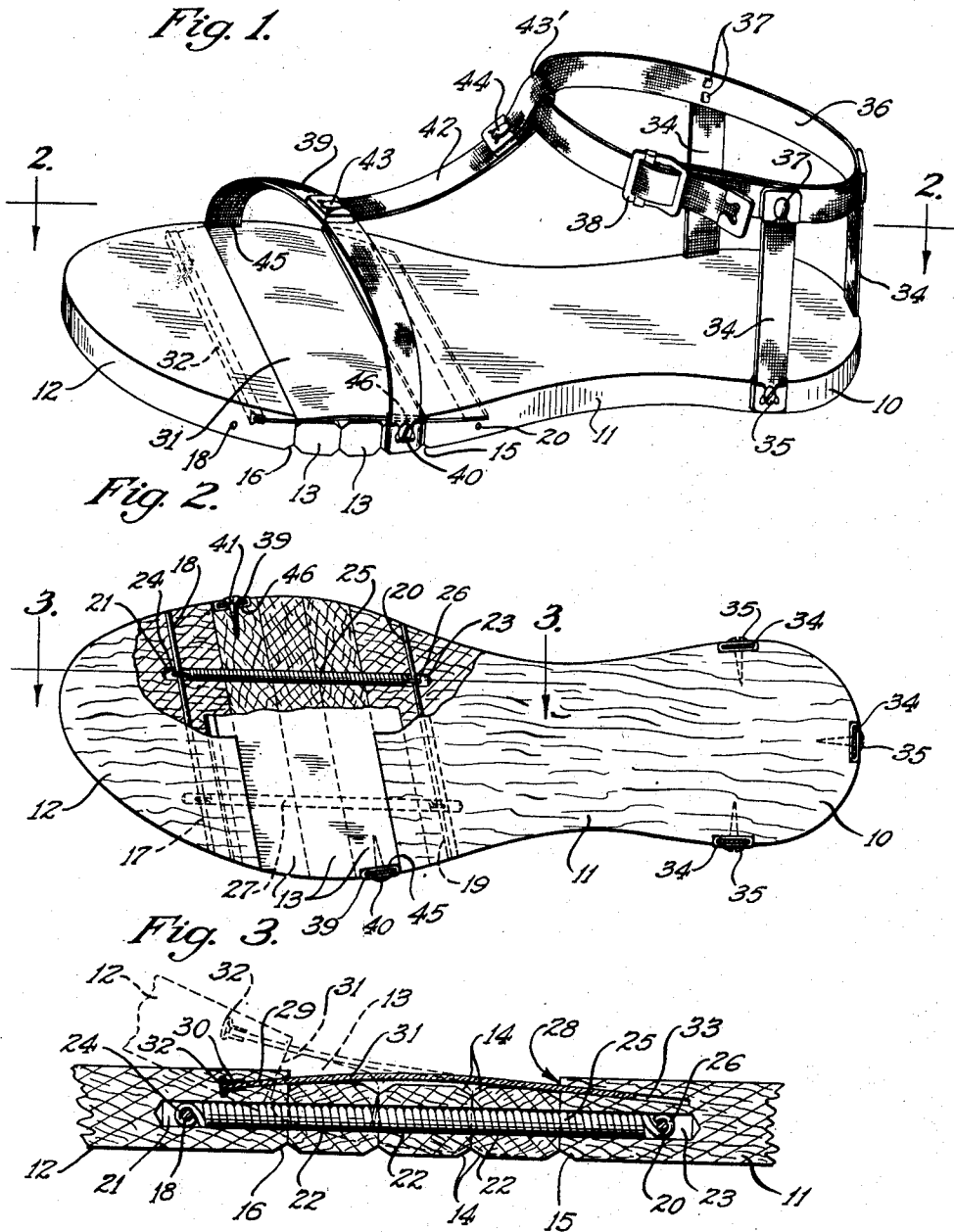
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J. PELLKOEFER

1,964,705

SANDAL

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HIS ATTORNEY

WITNESS:

## UNITED STATES PATENT OFFICE

1,964,705

SANDAL

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6 Claims. (Cl. 36—11.5)

This invention relates to certain novel improvements in sandals, and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

The salient object of this invention is the provision of an improved footwear construction of the character described herein embodying a sandal made of light material and provided with a harness, and particularly adapted for beach wear, and provided with flexible articulating sections in the portion thereof on which the ball of the foot is adapted to rest, and more particularly this invention relates to an improved construction for preventing these flexible sections from pinching or otherwise injuring the flesh of the wearer's foot.

Another object of the invention is the provision of an improved construction for providing flexure in the articulating sections referred to in the foregoing object.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing, showing the preferred form of construction and in which:

Fig. 1 is a perspective view of one form of construction with which my invention is associated showing one feature of my invention in operative position;

Fig. 2 is a sectional view taken substantially on the line 2—2 in Fig. 1 with a portion of the sole broken away; and

Fig. 3 is a sectional view taken substantially on the line 3—3 in Fig. 2.

By referring to the drawing wherein a preferred embodiment of my invention is illustrated it may be seen that my invention is associated with a sandal embodying a sole which comprises a heel portion 10, an instep portion 11 and a toe portion 12. Included in the construction of the sole with which my invention is associated is a plurality of articulated ribs 13 which are disposed slightly at an angle to the longitudinal axis of the sole so that walking in a natural manner conforming to the joints of the foot may be facilitated. These ribs 13 are beveled at the corners thereof as indicated at 14 to facilitate flexure of the sole and to facilitate articulation between the ribs and the ends of the instep portion 11 and toe portion 12 are beveled at the bottom thereof to provide co-operation with the adjoining ribs 13 as indicated at 15 and 16.

As shown in Fig. 1, a hole 17 is drilled through the toe portion 12 in parallel alignment with the ribs 13 and a rod 18 is provided therein. A similar hole 19 is formed in the forward end portion of the instep portion 11 and a rod 20, similar to rod 18, is provided therein.

Formed in the toe portion 12 of the sole outwardly of the longitudinal axis thereof is a slot 21 and provided in the ribs 13 are slots 22 which are similar to and in alignment with the slot 21 in the toe portion 11. A slot 23 is provided in the instep portion 11 and this slot is aligned with the slots 22 and 21. Provided with a hook portion 24 through which the rod 18 is inserted is a spring 25 which is disposed in the slots 21, 22 and 23. The spring 25 includes a hook portion 26 through which the rod 20 is inserted. A similar arrangement of slots is provided at the other side of the longitudinal axis of the sole, as shown in Fig. 2, and disposed in these slots is a spring 27 which is similar in construction to spring 25 and similarly mounted on the rods 18 and 20. By referring to Figs. 2 and 3 it may be seen, therefore, that my improved construction described hereinbefore provides for free articulation of the ribs 13 with the instep portion 11 and the toe portion 12 and in this connection it is manifest that this construction may be readily dried out after the sandal is worn on the bathing beach and thereby the flexibility of the articulated sole construction retained whereas heretofore in the art materials such as raw hide have been used to effectuate flexibility and articulation in the sole construction of sandals of the character described herein and these materials as used heretofore in the art were susceptible to becoming "water logged" and to rot away and thereby destroying the flexibility of the articulated sole construction. By referring to Fig. 3 it may be seen that the upper sides of the ribs 13 are disposed slightly below the upper sides of the toe portion 12 and the instep portion 11 thereby providing a recess 28. It may be seen by referring to Figs. 1 and 3 that there is provided in the toe portion 12 adjacent the upper side thereof an arcuated slot 29 at the forward side of which there is provided an enlarged portion 30. My invention includes a resilient cap 31 which may be of any suitable and preferably non-rusting material, and the body portion of this cap is disposed over the upper surface of the ribs 13 and in the recess 28. The forward end portion of the cap 31 is disposed in the slot 29 and a clip 32 is secured to the cap 31 at the front edge thereof, this clip 32 being anchored in the recess 30.

A slot 33 is provided in the instep portion 11 and by referring to Fig. 3 it may be seen that this slot 33 opens forwardly into the recess 28 and slopes gradually backward therefrom. The rear end portion of the cap 31 is slidably disposed in the slot 33 and it is manifest therefore as a person walks with the sandal embodying my improved construction that the rear end portion of the cap 31 will move back and forth in the slot 33 so that the articulation of the ribs 13 and the instep and toe portions of the sole may conform to the natural movement of the foot. It may likewise be seen by referring to Fig. 3, that the forward portion of the cap 31, being anchored in the toe portion 12 as described hereinbefore, is movable with the toe portion 12 and the ribs 13 as shown in dotted outline in Fig. 3, and it is manifest that in wearing the sandal described hereinbefore the cap 31 will prevent the ribs 13 from binding or pinching the flesh of the wearer's foot which has been heretofore a difficulty experienced in the use of sandals embodying articulated sole sections.

As shown in Fig. 1, the sandal with which my invention is associated is provided with a harness a preferred form of construction of which will now be described although it is understood that other types of harness may be employed with the sole construction embodying my invention without departing from the purview thereof.

Three vertically extending straps 34 are spaced about the heel portion of the sole and are secured thereto by means of suitable connecting elements such as screws 35. The upper ends of the straps 34 are secured to an ankle strap 36 by means of suitable connecting elements such as rivets 37. The ankle strap 36 is provided with an adjustable buckle 38 for reasons self-apparent. A toe strap 39 extends diagonally across the ribs 13 and one end of this strap is secured to the rib 13 which is disposed adjacent the instep portion 11, by means of a suitable connecting element such as screw 40, while the opposite end of this toe strap is similarly secured by means of a screw 41 or the like to the rib 13 which is disposed adjacent the toe portion 12. An instep strap 42 is provided between the toe strap 39 and the ankle strap 36. One end portion of this strap 42 is secured to the toe strap 39 by means of a suitable connecting element such as rivet 43 while the opposite end portion of the strap 42 is looped around the ankle strap 36 and bent back upon itself as indicated at 43, and this end portion of the strap 42 is secured to the body portion of the strap by means of a suitable connecting element such as rivet 44.

To prevent abrasion of the toe straps 39 I provide notches 45 and 46 in the cap 31.

From the foregoing description of my invention it is manifest, therefore, that I have provided an improved construction for providing flexure in foot wear soles embodying articulated sections and it will likewise be apparent from the foregoing description of my invention that I have provided a device which, while effectively accomplishing its other objects and being simple and economical in manufacture, will effectively prevent the articulated sections of a footwear sole from pinching the skin or flesh of the wearer thereby enabling the wearer to walk in comfort with footwear of the character described herein.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the

spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. The combination with a sandal including a toe portion and an instep portion, of a plurality of articulated sections disposed between said portions, said portions having slots provided therein in parallel alignment with said sections having the mouths thereof opening toward said sections, a flexible member mounted for yielding movement on the upper surface of said sections, said member having the forward end portion thereof mounted in the slot in said toe portion and having the rear end portion thereof slidably disposed in the slot in said instep portion, and means for anchoring said member in said toe portion.

2. The combination with a sandal including a toe portion and an instep portion, of a plurality of articulated sections disposed between said portions and of lesser vertical height than said toe and instep portions thereby providing a recess between said portions, said toe portion having an arcuated slot provided therein opening toward said recess and including an enlarged slot portion at the front side thereof, said instep portion having a recess provided therein opening into said recess and sloping gradually downward therefrom toward the heel portion of said sandal, a flexible member mounted in said recess for yielding movement with said sections and said toe portion, said member having the forward end portion thereof anchored in the slot in said toe portion and having the rear end portion thereof slidably disposed in the slot in said instep portion, means for anchoring said member, said last-named means including a clip member attached to said member and disposed in said enlarged slot portion, and means providing connection between said clip member and said flexible member.

3. The combination with a sandal including a toe portion and an instep portion, of a plurality of articulated sections having aligned openings extending therethrough parallel to the longitudinal center line of said sandal, said openings being arranged in pairs at opposite sides of said center line, said toe portion and said instep portion having recesses formed therein aligned with said openings, said toe portion and said instep portion having holes extending therethrough in parallel alignment with the sides of said sections, rod members disposed in said holes, spring members extending through the openings in said sections and into said recesses, said spring members including hook portions mounted on said rod members, a flexible member mounted for yielding movement on the upper surface of said sections, and means for mounting said flexible member.

4. The combination with a sandal including a toe portion and an instep portion, of a plurality of articulated sections having aligned openings extending therethrough parallel to the longitudinal center line of said sandal, said openings being arranged in pairs at opposite sides of said center line, said toe portion and said instep portion having recesses formed therein aligned with said openings, said toe portion and said instep portion having holes extending therethrough

in parallel alignment with the sides of said sections, rod members disposed in said holes, spring members extending through the openings in said sections and into said recesses, said spring members including hook portions mounted on said rod members, said instep and toe portions having slots provided therein in parallel alignment with said sections having the mouths thereof disposed toward said sections, a flexible member mounted for yielding movement on the upper surface of said sections, said flexible member having the forward end portion thereof mounted in the slot in said toe portion and having the rear end portion thereof slidably disposed in the slot in said instep portion, and means for anchoring said member in said toe portion.

5. In a sandal, toe and instep portions provided with transversely extending slots opening toward each other and having other slots opening toward each other, a plurality of articulated sections between said portions, means providing ar-

ticulation between said sections and between said sections and said portions including flexible members extending through said sections and having the ends thereof anchored in the second-named slots in said portions, and a flexible member disposed over said sections and having its ends anchored in said first-named slots.

6. In a sandal, toe and instep portions provided with transversely extending slots opening toward each other and having other slots opening toward each other, a plurality of articulated sections disposed between said portions, means providing articulation between said sections and between said sections and said portions including spring members extending through said sections and having the ends thereof anchored in said second-named slots, and a flexible member disposed over said sections and portions anchored in said first-named slots.

JOSEPH PELLKOFER.

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