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2,525,308

SPIKED SANDAL

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Fig. 1.

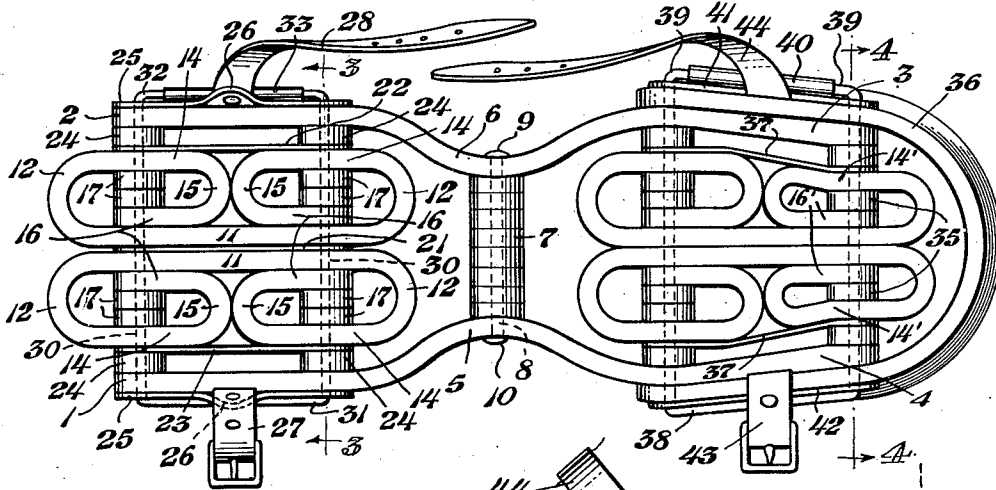


Fig. 2.

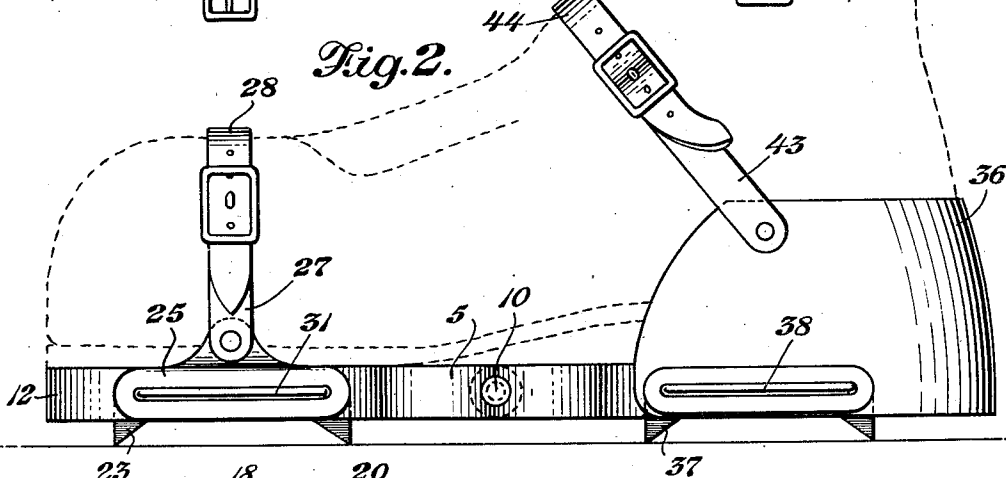


Fig. 5.

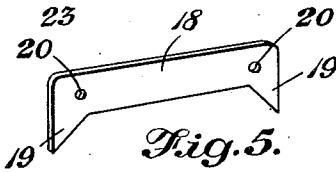


Fig. 3.

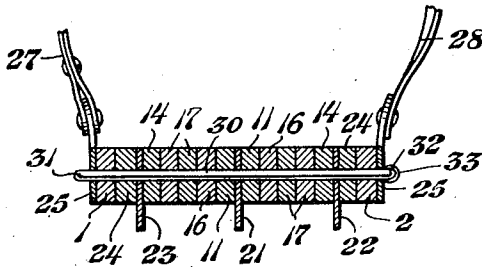
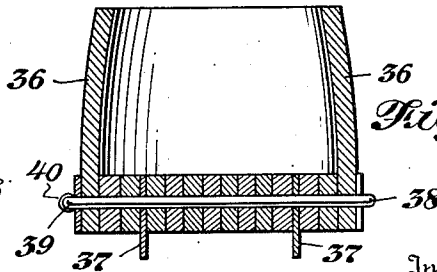


Fig. 4.



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SPIKED SANDAL

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1 Claim. (Cl. 36—7.6)

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This invention relates to foot-wear of the sandal type, being designed particularly for use with shoes as an anti-slipping structure, although suitable in modified form for general use on beaches and other places when directly applied to the foot.

In prior structures of the present type no provision was made to prevent slipping in all directions, or for the addition of cleats, nor were the prior art structures capable of medial or arch flexibility.

It is one object of this invention to provide a strip sandal having incorporated therein cleats suitable for engaging ice and other slippery surfaces, which cleats are firmly but detachably associated with the sandal assembly to best serve their function.

Another object of this invention is to so shape the strip elements forming the sole of the sandal that resistance against slippage in all directions is provided.

A further object of this invention is to so arrange the sole structure that maximum flexibility is provided particularly at the shank portion which will materially enhance the use of the device.

Other objects of this invention will more clearly hereinafter appear by reference to the accompanying drawings and specification wherein like characters of reference designate corresponding parts throughout the several views, in which:

Fig. 1 is a top plan view;

Fig. 2 is a side elevation;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a sectional view on line 4—4 of Fig. 1; and

Fig. 5 is a perspective view of one of the cleat elements.

The sandal is formed of any suitable pliable material such as reinforced rubber or composition, the material being in strip form and preferably arranged with one of the cut edges of the material in horizontal or ground engaging position, as this arrangement causes any reinforcement incorporated in the structure to absorb the greater wear. The structure includes a pair of side or marginal strips suitably spaced and shaped to define and form the side walls of the sole structure as at 1 and 2, the heel at 3 and 4, and the intermediate narrowed shank structure at 5 and 6. The sole portions 1 and 2 of the side strips are substantially parallel while the heel portions 3 and 4 extend inwardly towards the restricted outer end of the heel. The intermediate portions of the strips 5 and 6 which form the shank of

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the sandal are curved inwardly a substantial distance less than the width of either the sole or heel assembly, and these intermediate or shank portions 5 and 6 of the side strips are held in their respective positions by a suitable number of spacers or washers 7 arranged on the pin 8, the latter extending through the walls 5 and 6 and being formed with enlarged end portions 9 and 10 to prevent displacement. It will be obvious that the spacing of the shank strip portions 5 and 6 can be modified as to width by adding or reducing the number and thickness of the washers 7 which form the space elements for the structure.

The parallel sole portions 1 and 2 of the side strips which define the lateral faces of the sole have arranged therebetween a plurality of non-skid loop elements and a multiplicity of spacing washers which position and retain the sole structure. This sole structure is formed primarily of two endless strips each of which includes an intermediate elongated straight portion 11, which straight portions are arranged medially of the sole structure and in parallel relation. The end portions of each of these strips are curved or bent outwardly as at 12 and then inwardly as at 14 to provide inwardly extending strip portions which lie in parallel relation to the intermediate portions 11 of the strip and in spaced relationship thereto. The portions 14 of these strips are bent inwardly as at 15 so that the end portions 16 of these strips lie parallel to and abut the intermediate portions 11. Thus each strip forms a pair of longitudinally aligned elongated anti-skid loop members, the faces of which provide against skidding or slipping in substantially all directions. Washers are provided for positioning and retaining the elongated anti-skid members in their predetermined form, in the present illustration these washers 17 being in pairs and arranged between the central portion of the strips 14 and the terminals or end portions of the strips 16. The number and thickness of these washers will be selected and arranged to provide the necessary width of the sole assembly.

Three cleats are provided at the sole, these cleats being formed as shown in Fig. 5 to provide an elongated relatively thin flat body 18 with downwardly extending integral spikes 19 formed at each end and projecting below the body. The cleats are formed with openings 20 at each end through which the clamping rods extend. One of these cleats indicated by reference character 21 is arranged between and snugly engages the adjacent walls of the intermediate portions 11 of

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the sole strips forming the sole structure of the assembly. Outer cleats 22 and 23 are provided adjacent the inner faces of each of the marginal strips 1 and 2 of the sole and lie against and abut the outer vertical walls 14 of the loops of the inner strip structures. Washers 24 are positioned outwardly of the cleats 22 and 23 and between these cleats and the parallel sole portions 1 and 2 of the side strips. Metallic elongated plates 25 are provided at the outer faces of the strip extensions 1 and 2, these plates each having upper extensions 26 to which are secured the fastening means shown in the present instance to be in the form of buckle and strap elements 27 and 28, respectively. The parts heretofore described are each formed with openings, these openings being aligned to provide for the passage of the parallel spaced arms 30 of the U-shaped staple or fastener 31, the free ends 32 of which are bent against one of the plates 25 and are coupled by the sliding sleeve 33 as is conventional in such structures to permit the removal of the parts for adjustment and replacement of parts. It will be noted that the cleats and the strap plates substantially reinforce the assembly.

The heel structure is formed in substantially the same manner as the sole structure with the parts slightly modified to permit the formation of the gradually narrowed rear end portion of the heel. The rear end portion of the heel assembly is somewhat restricted in width by providing a single washer 35 between the portions 14' and 16' of the rear coil of the two strip formations of the heel assembly, this single washer 35 causing the spacing of the rear loop to be substantially modified to the extent of the washer thickness and permitting the proper shaping of the heel counter 36 in the usual manner. The omission of one of the washers and the restriction of the rear of the heel assembly necessitates the provision of an angular shape for the cleats 37 which are arranged outwardly of the two strip assemblies of the heel. In the present illustration there is no central cleat as in the sole assembly at 21. However, it will be apparent to one skilled in the art that an additional cleat may be provided if found necessary due to conditions for which the structure may be used. As in the sole formation the two coil strips forming the heel are spaced from the side strip portions 3 and 4 by washers of suitable thickness and all of the parts, including the counter 36, are provided with aligned openings to receive the staple or U-shaped fastener 38, the ends 39 of which are bent and coupled by the sliding sleeve 40. Strap anchors

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or plates 41 and 42 are included in the assembly for connecting with the buckle 43 and the strap 44.

It will be noted that as a result of the above described construction the sole and heel portions of the sandal which are formed of strips shaped as described to form elongated loops provide a wiping action in all directions on a wet or slippery surface. This wiping action, of course, is primarily present when the cleats are omitted. When the cleats are used they afford the primarily anti-slip characteristics to the structure inasmuch as they project substantially below the assembly as illustrated in Fig. 2. It will also be apparent that by the use of only the two side members or strips to comprehend the main frame the structure is extremely flexible, particularly in the arch portion where it is extremely desirable that maximum strength and flexibility be available so that the function of the assembly will not be retarded under any conditions.

It is important to note that the use of the spacing washers permit modification of the shape or width of the assembly at either the sole or the heel thus insuring close fitting when applied to a shoe and insuring comfort and maximum operation of the structure when in use.

What I claim is:

A sandal comprising a sole portion, a heel portion, and an intermediate shank portion, said sandal including outer strips defining the sole, heel and shank, means for spacing said strips at the shank portion, tread portions formed at the heel and toe of said sandal structure; said tread portions each including strips formed with their intermediate portions abutting and their end portions bent outwardly and spaced from the intermediate portion to define elongated loops, longitudinally extending cleat members arranged against the longitudinal faces of the tread members, aligned openings formed at spaced points in the structure, a metallic member including arms extending through the aligned openings, means for securing the fastening member in fixed position, and attaching straps for said sandal.

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The following references are of record in the file of this patent:

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