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(54) **Sandal with upper attached to the sole with press-fitting means**

(57) This invention concerns a sandal having an upper whose sides are fitted with two strips provided with two or more legs at the bottom terminating with a wid-

ened head which press fits and wedges in corresponding and conforming holes, realised on the sides of the sole.

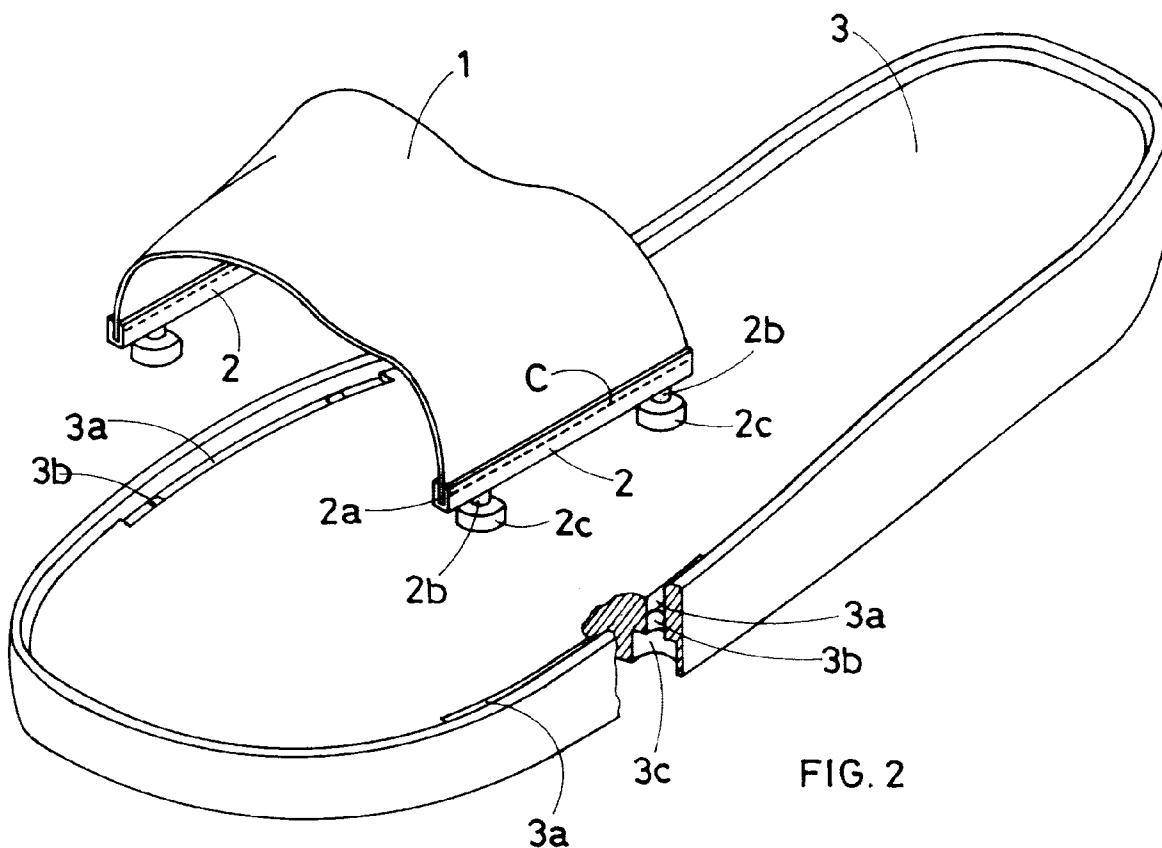


FIG. 2

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Description

This patent application concerns sandals moulded in appropriate material on which the upper is attached by press-fitting means.

The idea according to the invention is yet another attempt to reduce production costs of low-cost sandals generally consisting of a moulded bottom provided with an upper which is often moulded in the same material and moulding process; said upper consisting of a transverse strap which covers the back of the foot in an area between the toes and the neck of the foot.

Considering that the sole and upper of these sandals are both moulded at a low industrial cost, the item which mostly affects the overall cost of the product is undoubtedly its assembly which is often time consuming and requires the use even of specialised labourers.

Consequently, new technical solutions to reduce production costs and involving major simplification of the assembly process and fixing methods of the upper to sole have been continuously proposed by sector operators.

To attain this, traditional fixing methods whereby the upper was sewn or glued to the sole were on one hand discarded recurring to the use of means whereby the sole and upper were fastened together quickly by unskilled staff.

The sandal according to the invention consists of a sole moulded in plastic having a top surface provided on its sides and on the section where the upper is fitted, with two symmetric and opposing longitudinal channels whose bottom is provided with two or more through holes opening into enlarged housings realised on the bottom surface of the sole.

The upper is secured to the sole by means of a moulded plastic strip shaped and dimensioned to be housed in said channels on the upper surface of the sole.

More specifically, said strip is provided on its upper edge with a longitudinal centre groove while at the bottom the same is provided with two or more legs terminating at the base with a widened head conforming to the housings realised on the treading surface of the sole.

The number and centre to centre distance of the legs projecting from said attachment strips correspond exactly to those of the holes realised on the bottom of the above channels in which said strips are housed while the widened head of the legs fits into the housings realised on the treading surface of the sole.

Said strips are fitted to the upper whose sides are inserted and fixed in the longitudinal groove along the centre of the upper edge of the strips. The sides of the upper may be fixed to the strips in any way; they may for example be sewn, glued, nailed or clamped.

The different components of the sandal can in fact be assembled in any of the following ways:

- by fixing the two strips to the sides of the upper;

- by press fitting the legs which project from the strips into the corresponding holes on the bottom of the channels realised on the upper surface of the sole so that the widened head of said legs does not escape but fits into the widened housings on the treading surface of the sole.

When the heads of the legs are fitted into the respective housings the above strips are also perfectly wedged into the conforming channels realised on the upper surface of the sole.

This method for assembly of the sole requires the strips to be moulded in semi-rigid material such as PVC while the sole is moulded in elastically deformable material such as polyurethane to ensure that the widened head of the strip legs can be press fitted into the holes of the upper which must obviously be widened in order to allow the heads to pass thereafter tightening around the leg of the head.

This operation may be performed by specially designed automatic machines in order to keep the use of labour to a minimum.

Once the sole and upper have been assembled as above, the above strips are no longer visible in that the same are concealed in the respective channels while only the profile of the widened heads can be seen on the treading surfaces.

For major clarity the description of the sole according to the invention continues with reference to the enclosed drawings which are intended for purposes of illustration and not in a limiting sense, whereby:

- fig. 1 is a view of the sandal according to the invention with a partial and blown up section on a transverse plane passing through one of the legs with widened head by means of which the upper is fixed to the sole;
- fig. 2 is a blow-up showing the different components of the sandal in question.

With reference to the above drawings, the sandal according to the invention consists of an upper (1) on whose sides two strips (2) moulded in semi-rigid material are fitted; said strips (2) being provided on their upper edge with a longitudinal centre groove (2a) in which the sides (1a) of the upper (1) are fitted and, and in this case, sewn.

Said strips (2) are provided at the bottom with two or more legs (2b) terminating with a widened head (2c).

The sole (2) which is moulded in elastically deformable material is provided on its sides and on the section where the upper (1) is fitted, with two symmetric and opposing channels (3a) conforming to the strips (2) which are in fact housed in said channel once the upper has been assembled to the sole.

The bottom of said channels (3a) are provided with two or more holes (3b) opening at the bottom into two widened housings (3c) realised on the treading surface

of the sole (3).

The number, diameter and centre to centre distance of said holes (3b) correspond exactly to those of the legs (2b) of the strips (2) while the widened housings (3c) conform exactly to the widened heads (2c).

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Claims

1. A sandal provided with upper attached to the sole by press-fitting means characterised in that the same consists of:

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- an upper (1) on whose sides two strips (2) moulded in semi-rigid material are fixed, and which are provided on their upper edge with a housing for receiving and centring the sides and provided at the bottom with two or more legs (2b) terminating with a head having widened base (2c);
- a sole (3) moulded in elastically deformable material provided on the sides and on the section where the upper (1) is fitted, with two symmetric and opposing channels (3a) designed to house the strips (2) and whose bottom is provided with two or more holes (3b) opening at the bottom into widened housings (3c) realised on the treading surface of the sole (3);

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it being provided that the number, diameter and centre to centre distance of said holes (3b) correspond exactly to those of the legs (2b) of the strips (2) while the widened housings (3c) conform exactly to the widened heads (2c).

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2. A sandal fitted with upper attached to the sole by press-fitting means according to the previous claim, characterised in that the housing realised on the upper edge of the strips (2) for the centring and housing of the sides of the upper (1) consists of a longitudinal centre groove (2a).

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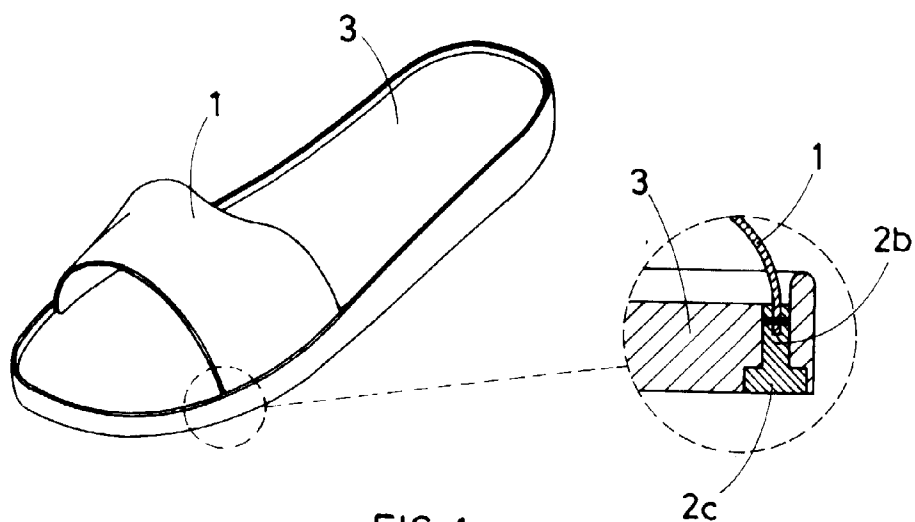


FIG. 1

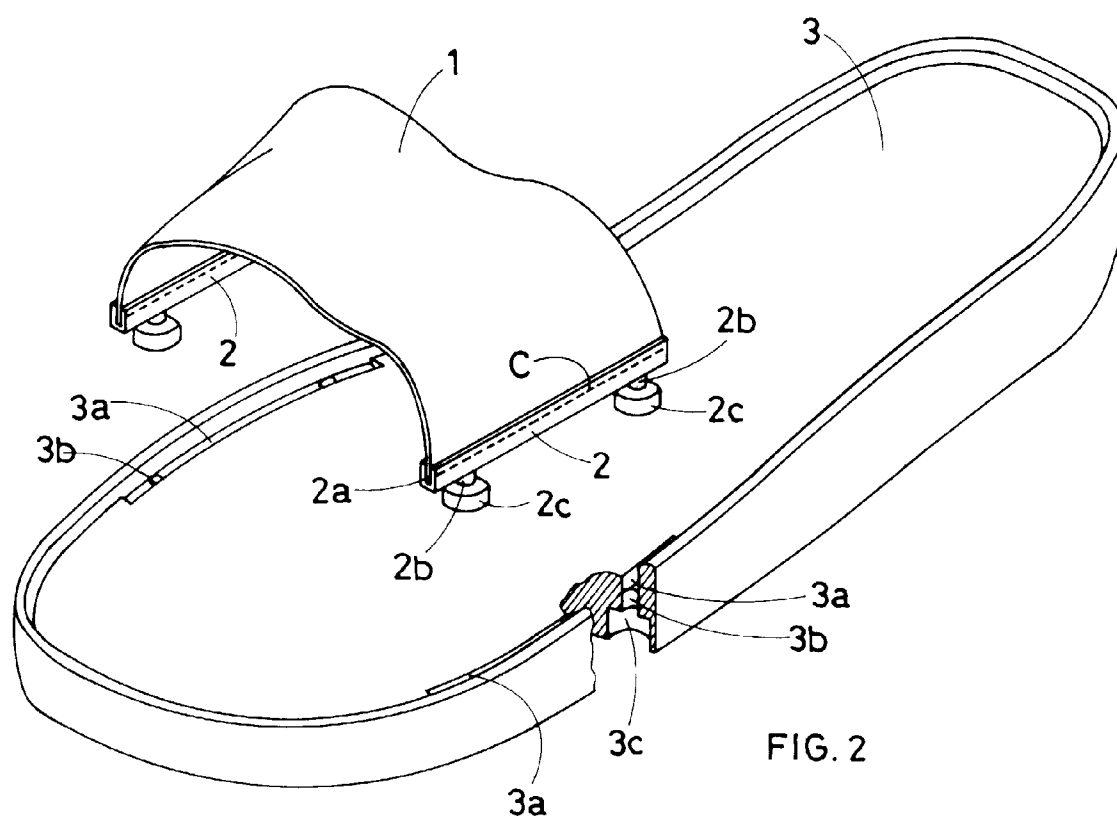


FIG. 2