

P. W. R. H. JOHNSTON 2
RUBBER SOLE ATTACHING MEANS FOR SHOES HAVING
A FLEXIBLE ATTACHING FLANGE
Filed April 22, 1957

P. W. R. H. JOHNSTON
RUBBER SOLE ATTACHING MEANS FOR SHOES HAVING
A FLEXIBLE ATTACHING FLANGE
Filed April 22, 1957



PERCY WILLIAM ROLAND HILL JOHNSTON

BY *Otto John Murray*
ATTORNEY

1

2

2,918,735

RUBBER SOLE ATTACHING MEANS FOR SHOES HAVING A FLEXIBLE ATTACHING FLANGE

Percy William Roland Hill Johnston, Collingwood,
Victoria, Australia

Application April 22, 1957, Serial No. 654,356

Claims priority, application Australia May 3, 1956

1 Claim. (Cl. 36—14)

This invention relates to shoes and other articles of footwear, and in particular to outer soles composed of rubber or such like material which is resilient so as to provide a cushioned and durable tread.

The primary object of the invention is to provide an improved outer sole of that general kind but which possesses several advantages in the manufacture of shoes in that it simplifies and reduces the cost of production and also results in superior finished articles of footwear.

An outsole according to the invention consists of a one-piece moulding of rubber or other material possessing desirable properties of resilience and wear resistance (hereinafter referred to as rubber) which is adapted to be applied to an otherwise completed shoe by a simple operation that can be readily and quickly performed by hand or if so desired by some appropriate appliance or mechanical device.

In the accompanying drawings which illustrate a preferred form of the invention

Figure 1 is a perspective view,

Figure 2 is a section on line II—II of Figure 1, and,

Figure 3 is a cross section on a greatly enlarged scale showing how the outer sole is applied to a shoe.

The improved outsole 1 includes an integral heel portion 2 of any suitable form and shape and is provided along its marginal edge with an upstanding rim 3 terminating at its upper edge in an inturned lip or flange 4. The rim and lip thus form an endless channel or recess 5 for snugly accommodating the marginal edges 6a, 7a of an upper 6 and an insole or sock 7 which may be suitably secured together as by a binding strip 8 and stitching 9, cement or other appropriate means before the outer sole is applied. The recess 5 of the flange 4 is shown in Figure 3, having a cross-sectional shape of an acute angle of divergence of about 45° with the vertex curved. The marginal outer edges 6a and 7a of the upper and insole are secured together to form a wedge, having a similar acute angle of divergence of about 45° with the vertex curved, and the binding strip 8, interposed between the recess 5 and the wedge 6a and 7a also has the same cross-sectional shape. The marginal edges 6a and 7a of the upper and insole are aligned by the securing means 9, so that their inner lines of abutment form a substantially axial bisector of the angle formed by their outer lines. This calculated formation of the angle of cross-section of the recess, mating with the precise cross-sectional angle of the wedge 6a/7a in cooperation with the binding strip 8, integrally surrounding the wedge at points of alignment with the recess 5, cooperates in imparting a desirable degree of strength, durability and stability to the shoe, simultaneously simplifying the production, reducing its costs, and resulting in a superior finished article of footwear. If desired, the insole or sock can be inserted into the shoe and secured to the upper surface of the outsole by adhesive after the outsole has been secured to the upper as aforesaid.

Application of the outer sole can be quickly and easily

performed as the rim 3 and flange 4, being resilient, can be readily flexed outwardly and then released so that it will lie closely upon the outturned edge of the upper. A suitable adhesive or cement may be applied to the inner surfaces of the outsole channel 5 and/or to the marginal edges of the upper and insole whereupon pressure is applied to the flange 4 in order to securely fasten the outsole in position. The insole may also be adhered or cemented to the upper surface of the outsole and in order to increase the security of attachment the upper surface of the outsole may be chequered or otherwise indented.

The invention greatly reduces manufacturing costs, while the finished articles will afford the utmost comfort and have a very attractive appearance.

In most cases it will be preferable for the outsole to be moulded of good quality rubber similar to that customarily employed for bowlers' shoes, but other forms of rubber or equivalent plastic material can be used. In order to impart a desirable degree of strength, durability and stability without detracting from the cushioning effect of the outsole, a relatively thin filler (not shown) of leatherboard or similar relatively stiff material may be associated with the insole.

For appearance sake, the outer surface of the upstanding rim 3, which is preferably bevelled, and the upper surface of the inturned lip or flange 4 may be provided with some appropriate pattern or ornamentation.

The heel portion 2 may be provided with a series of vertical holes 10 extending from its upper face in order to reduce weight and to facilitate uniform curing of the moulded article.

The under surface or tread of the outsole may be moulded with any approved ribbed or other formation that will impart anti-slip properties.

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

An article of footwear comprising in combination: an outer sole and heel-unit having weight reducing means in the heel end thereof, said unit provided along its marginal edge with a resilient integral upstanding rim terminating at its upper edge in an inturned flange, forming a resilient channel, having a cross-sectional shape of an acute angle with the vertex thereof curved, a shoe upper having out-turned marginal edges; an insole having marginal edges secured to the marginal edges of said upper; a binding strip having a cross-sectional shape of an acute angle with the vertex thereof curved and mating with and secured to the inner wall of the channel of said sole and heel unit; the marginal edges of said upper and said insole mating with the hollow of said binding strip and secured to said binding strip forming a solid wedge mating with said channel of said outer sole and heel unit; said resilient channel forming a suction cup over said wedge permitting a snap-on tight fitting assembly to secure attachment of said outer sole and heel unit with said shoe upper and insole.

References Cited in the file of this patent

UNITED STATES PATENTS

2,178,025 Richter ----- Oct. 31, 1939

FOREIGN PATENTS

65	75,964	Switzerland -----	Mar. 16, 1918
	828,073	Germany -----	Jan. 14, 1952
	866,013	Germany -----	Feb. 5, 1953
	4,895	Great Britain -----	Mar. 31, 1888
	682,977	Great Britain -----	Nov. 19, 1952
70	333,242	Italy -----	Dec. 24, 1925

(Other references on following page)

2,918,735

3

FOREIGN PATENTS

357,442	Italy -----	Mar. 15, 1938
366,881	Italy -----	Jan. 11, 1939
481,664	Italy -----	June 6, 1943
488,491	Italy -----	Dec. 19, 1953
789,312	France -----	Aug. 12, 1935
959,409	France -----	Sept. 26, 1949

1,010,135
1,010,663
1,056,745
1,083,518
1,104,145
1,109,855
1,116,969

4

France -----	Mar. 19, 1952
France -----	Mar. 26, 1952
France -----	Oct. 21, 1953
France -----	June 30, 1954
France -----	June 8, 1955
France -----	Oct. 5, 1955
France -----	Feb. 13, 1956