# United States Patent [19]

**Dymond**

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[54] **FOOTWEAR**


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**Related U.S. Application Data**

[62] Division of Ser. No. 95,519, Dec. 7, 1970, Pat. No. 3,680,231.

[30] **Foreign Application Priority Data**

| | | |
|---|---|---|
| Dec. 10, 1969 | Great Britain | 60,234/69 |
| Mar. 14, 1970 | Great Britain | 12,395/70 |
| July 25, 1970 | Great Britain | 36,157/70 |

[52] **U.S. Cl.** ..... **36/2.5 AE**

[51] **Int. Cl.** ..... **A43b**

[58] **Field of Search** ..... 36/2.5 R, 2.5 AE, 36/59 R



[56] **References Cited**

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|---|---|---|---|
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| 3,204,348 | 9/1965 | Latson | 36/2.5 AE |
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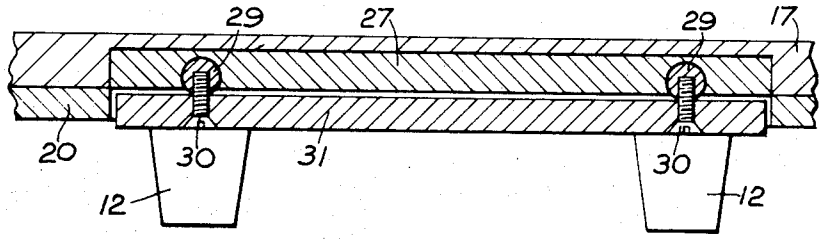
*Attorney*—Marshall & Yeasting



[57] **ABSTRACT**

An article of footwear has a portion on its underside that is rotatable with respect to the remainder of the article about an axis generally perpendicular to the underside thereof. A circular groove is provided on the underside of the article, extending concentrically of said axis, a rotatable component being engaged in the groove, and the rotatable portion being secured to said component.


**2 Claims, 2 Drawing Figures**



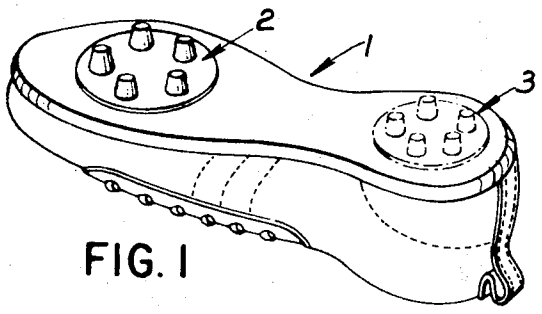



FIG. 1

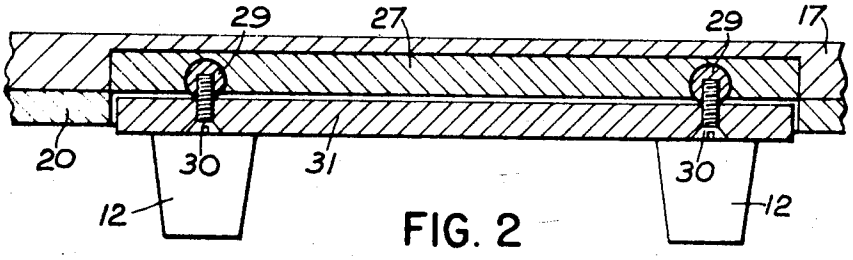



FIG. 2

# FOOTWEAR

## CROSS-REFERENCE TO RELATED APPLICATION

This application is a division of application Ser. No. 95,519, filed Dec. 7, 1970, now patent No. **3,680,231.**

## BACKGROUND OF THE INVENTION

This invention relates to footwear, and particularly but not exclusively, to sporting footwear such as football, hockey and like boots, and golf and tennis shoes for example. The invention may also have application to ballroom dancing shoes and other kinds of footwear.

An object of the invention is to provide an article of footwear which enables the wearer to pivot readily on one foot, even on non-slippery surfaces, or when the footwear is anchored as by studs or spikes for example, on a surface on which the wearer stands.

According to the invention, an article of footwear has a sole and/or heel portion rotatable with respect to the remainder of the article about an axis generally perpendicular to the sole or heel respectively thereof.

The rotatable portion may be pivoted directly on the sole or heel as the case may be, or on a base member secured to said sole or heel. The base may be fixed to the outer surface of the sole or heel or disposed within a recess formed in the sole or heel.

The invention also includes a device for use on the sole or heel of an article of footwear and comprising a ground engaging element and means for rotatably supporting said element on a sole or heel of said article.

The supporting means may conveniently be a base member for securing to the article and adapted rotatably to support said element, and the element itself may conveniently be adapted to resist sliding movement along the ground. The element may conveniently be provided with ground-engaging studs or spikes, or other non-skid devices such as ribs.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of an article of footwear embodying the invention;

FIG. **2** is an enlarged cross-sectional elevation of part of the sole of an article of footwear showing one embodiment of the rotatable device.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, FIG. **1** shows an article of footwear in the form of a football or hockey boot **1** for example, having a rotatable portion **2** on the sole thereof. The possiblility of a further or alternative rotatable portion at the heel of the boot is shown in broken lines at **3.**



FIG. **2** shows a construction using the inner and outer soles **17** and **20** respectively of a boot, and having a retainer **27** secured within a recess of the inner sole **17** by bonding or means such as screws. A ring **29** of metal or moulded plastics material is captively but rotatably embedded in a circular groove in the retainer **27** and has a number of threaded holes around its periphery to receive screws **30** whereby a studded plate **31** is secured to the ring for rotation therewith. The ring may have a cross-section different from that shown, such as rectangular or triangular.

In one modification for example, the ring may be generally T shaped in cross-section with the cross bar of the T set into a groove of the sole and the stem of the T extending proud of the groove; a keeper plate which may be annular and carrying ground-engaging studs is arranged concentrically of the ring and secured to the latter at a number of spaced points by means of screws or the like for rotation therewith. The plate is arranged to seal against the sole.

The rotatable portion of the footwear may be provided with any convenient form of skid resistant device or formation depending on the type of footwear concerned; for example, studs, spikes, ribs or brushes or various combinations thereof may be used.

In those embodiments in which the rear surface of the rotatable portion lies in contact with a similar area of sole or base, said portion or the sole or base may be ribbed, grooved or otherwise shaped to minimize the area of contact and thus reduce drag.

I claim:

**1.** An article of footwear which has a portion on its underside that is rotatable with respect to the remainder of the article about an axis generally perpendicular to the underside thereof, wherein a circular groove is provided on the underside of the article, extending concentrically of said axis, a rotatable component in the form of a complete ring being trapped in the groove, and the rotatable portion being secured to said component.

**2.** An article according to claim **1** wherein the ring is fixed to the rotatable portion by screws.

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