Aug. 14, 1956 A. C. WHITLOCK 2,758,394

RUNNING SHOE

Filed July 25, 1955

Fig. 2



Fig. 1

Fig. 3

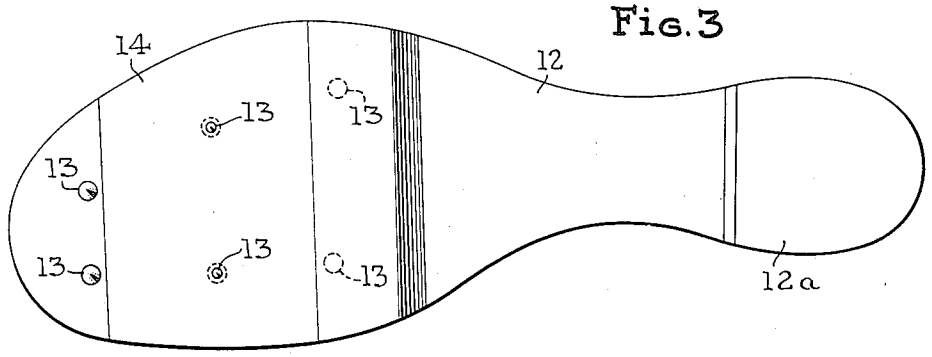
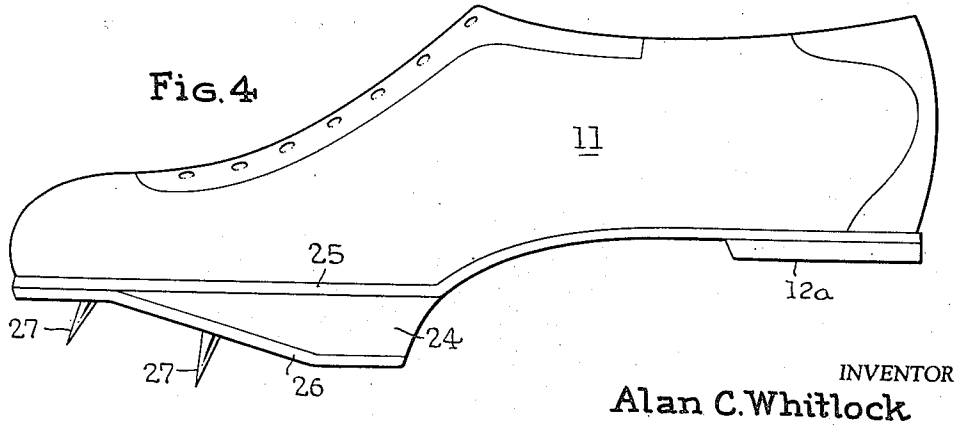


Fig. 4



INVENTOR

Alan C. Whitlock

BY Dodge and Sons

ATTORNEYS

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RUNNING SHOE

Alan C. Whitlock, Bronxville, N. Y.

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6 Claims. (Cl. 36—2.5)

This invention relates to track shoes, particularly it is concerned with a lift or insert adapted to be attached to or built into a conventional track shoe.

The lift is designed to underlie the ball of the foot and extends rearward from approximately the first joint of the big toe to the rear of the ball of the foot. The wedge tapers from a height of approximately ⅞ inch at its rear edge to an apex at its forward edge. Preferably the upper and lower faces of the lift are not parallel. The lifts on each foot should be designed so that the surfaces converge slightly toward the lefthand side of the lift. It will be seen that the effect of this convergence is to cause the runner to lean very slightly to the left, which wil assist him in running on a track in which the runners move counterclockwise around the track. This slight lean to the left will be of assistance particularly at the curves as it will tend to offset to an extent the centrifugal force tending to cause the runner to lose his balance.

As has been stated, the forward edge of the lift lies just behind the first joint of the big toe. The reason for this is that the wedge is desirably fairly stiff, and in order for the runner to properly shift his weight from one foot to the other, it is desirable that the action of the big toe, which is effective to facilitate this transfer, be available. A smooth transfer cannot be easily effected if the fairly stiff lift extends forward under the big toe.

The effect of a lift of this type in a running shoe is to cause the runner to lean forward slightly. This means that the center of gravity of the body is forward of the runner's feet and the leg drive is more effectively used to move him forward, and at the same time the tendency of the leg drive to raise the runner's body is reduced.

Experiments with a number of runners indicate that an improvement in running time can be expected to result from use of this device. It is believed that this improvement results primarily from the fact that the leg drive is more effectively used and because a smaller portion of it is used in lifting the runner's body. A runner using these lifts usually will find that he runs with a shorter stride but with higher cadence.

The device may be applied as an attachment, and if used in this fashion it is preferably applied beneath the sole of a conventional track shoe and is impaled on the spikes characteristic of that type of shoe. When used as an attachment, it is necessary that the device be fastened to the shoe either by some type of flexible adhesive or simply by tape running around the insert and the vamp of the shoe.

The lift may be made as an integral part of the sole of a track shoe. If so constructed, it is believed that it would be desirable to shorten slightly the front spikes and the rear spikes, or to omit the rear spikes.

The material from which the lift is made is selected having a regard basically for two properties. It must be light, otherwise the added weight will hinder efficient use of the invention. Also, the material must not be overly hard, otherwise its use will be uncomfortable. Successful experiments have been made using a good grade of cork or balsa wood. It is believed that molded blocks of adhesively united granules of plastic material may be used.

Other materials can be used and the invention is not limited to the use of any particular material.

The invention will be described having reference to the accompanying drawings:

Figure 1 is a side elevation of a track shoe embodying the invention.

Figure 2 is a transverse section of the lift substantially on the line 2—2 of Figure 1.

Figure 3 is a bottom plan view of the shoe of Figure 1.

Figure 4 is a side elevation of a shoe embodying the invention in a modified form.

Referring first to Figure 1, a conventional track shoe appears at **11**. The shoe includes a sole **12** and has a heel tap **12***a*. The sole **12** is provided with six spikes **13** as is customary, although the number of spikes is not material to the present invention and in practice a different number of spikes may be used. The spikes **13** are located beneath the ball of the runner's foot and a lift **14** is impaled on the four rear spikes, leaving the front pair fully exposed, whereas the middle pair is only partially exposed and the rear pair is completely embedded in the lift **14**.

Lift **14** tapers forward from a point of maximum height at its rear edge to a front edge which is located approximately beneath or slightly behind the first joint of the runner's big toe. As will be seen in Figure 2, the lift **14** tapers slightly toward the left-hand side of the shoe. This taper may be omitted, but desirably is included as an assistance to the runner in making turns to the left as he will in running counterclockwise around a track. This direction of lateral taper would be reversed if the course were clockwise. The lift may be secured to the shoe by a suitable adhesive, or nails, or it may be held in place by adhesive tape.

As shown in Figure 4, the lift may be incorporated in or made a part of the sole of the shoe. In this event the lift **24** is placed against the bottom of an inner sole **25** and an outer sole **26** is placed over its lower face. The sole **26** sustains spikes **27**. It will be noticed in this embodiment that rear spikes have been omitted and the front spikes have been shortened slightly.

The insert may be made of a variety of materials, both cork and balsa wood have been successfully used though the latter sometimes splits and is therefore less desirable. The material should be tough, resilient and of quite light weight. Suitable materials will occur to prospective users of the invention and use of a particular material for the lift is not essential, although cork is presently preferred.

What is claimed is:

1. In a track shoe including an outsole; a tapered lift extending substantially the full width of the shoe and comprising a wedge which tapers toward a front edge which lies immediately behind the first joint of the big toe of the wearer.

2. The combination defined in claim 1 in which the lift is tapered laterally of the shoe.

3. The combination defined in claim 1 in which the lift is made of cork.

4. The combination defined in claim 1 in which the lift is above the outside.

5. The combination defined in claim 1 and a layer of flexible adhesive between the mating surfaces of the lift and the sole.

6. The combination defined in claim 1 in which the lift is beneath the outsole.

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