United States Patent [19]

Strelakos

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[54] **NOISE MAKER TO BE WORN ON THE FOOT**

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[52] **U.S. Cl.** **46/175**

[51] **Int. Cl.** **A63h 5/00**

[58] **Field of Search** 46/175, 189

[56] **References Cited**

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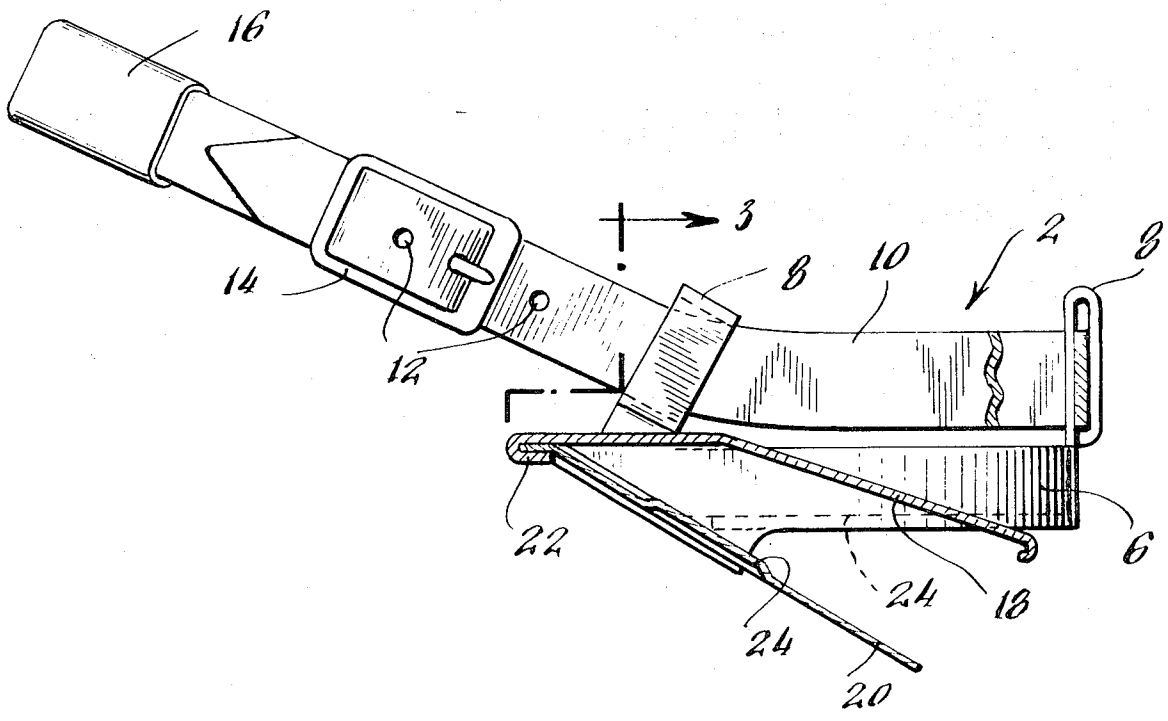
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[57] **ABSTRACT**

A noise maker having a heel well with a leaf spring containing housing attached to it. The spring is of the type producing a sound upon being bent and extends beyond the underside of the heel well. The noise maker is worn on the heel portion of the shoe of a child and held secure by an ankle strap. Upon walking a sound is produced as a result of the spring being compressed and released due to contact with the ground.

2 Claims, 6 Drawing Figures



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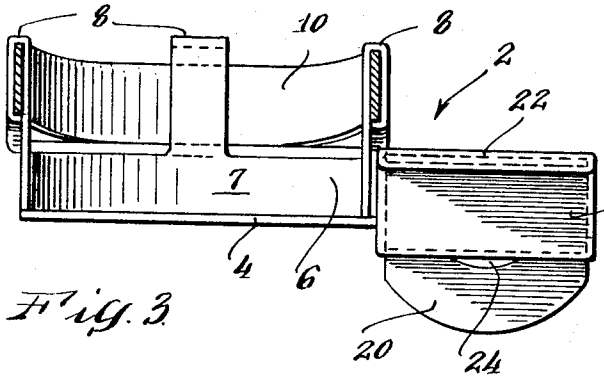


Fig. 3

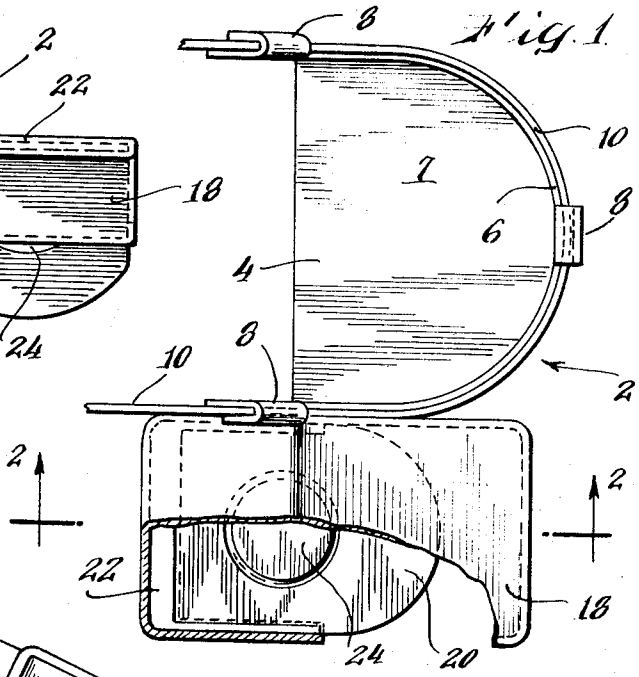
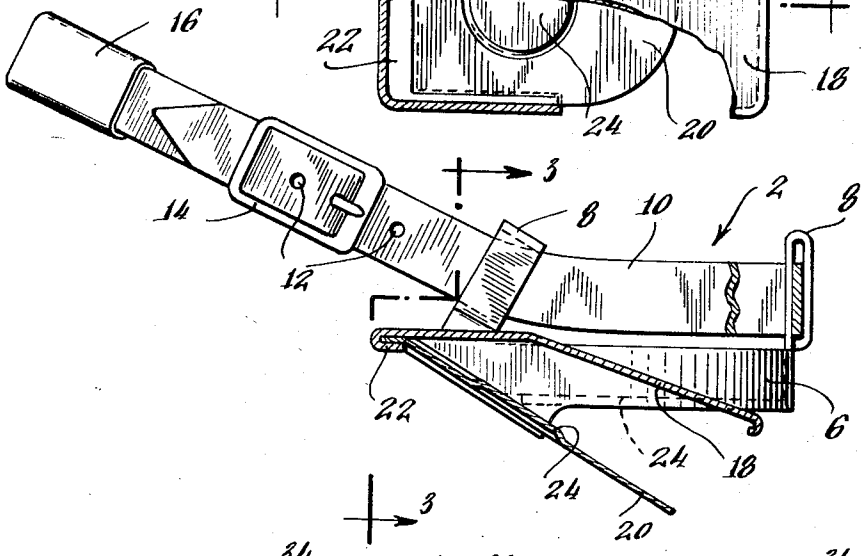


Fig. 1

Fig 2.



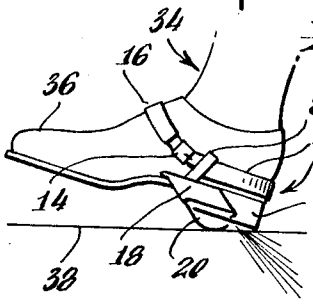


Fig. 4

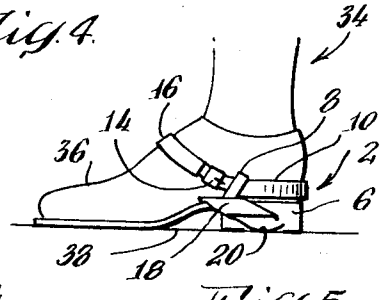


Fig. 5

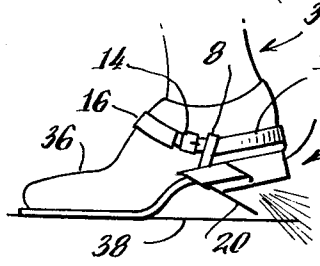


Fig. 6

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NOISE MAKER TO BE WORN ON THE FOOT

This invention relates to a sound producing device and more particularly to a noise maker that can be worn on a child's foot in a manner such that noise may be controllably produced by placement of the foot upon a surface.

Children are fond of producing a controlled sound with a device and noise makers of various kinds have been widely accepted. Usually these noise makers are of the type that produce sound through actuation by the hands of a child.

The present invention provides a noise maker that yields sound through actuation by the foot of a child thus enabling the child to keep his hands free for other playful pursuits. Thus, the noise maker of the invention may be used to make noise while a child is walking or running with the result that the child's hands are free, an important safety factor in the event of a fall.

It is an object of this invention, therefore, to provide a noise maker which can be secured to a child's shoe and actuated to produce a sound by contacting a surface such as a floor, pavement or the ground with the noise maker at about the same time that the shoe is brought into contact with the surface.

In a particular aspect the invention involves a heel well including a heel plate which may be secured to the heels of a child's shoe by a flexible strap passing about the child's ankle, the heel plate being secured to a housing containing a leaf spring "click-clacker" noise maker which strikes the ground as the heel is placed down in walking to yield the desired noise.

The various aspects, features and advantages of the noise maker of the present invention will be more fully understood from a consideration of the following detailed description in conjunction with the accompanying drawings, in which:

FIG. 1 is a top view of a rear portion of an embodiment of the noise maker according to the present invention;

FIG. 2 is a side sectional view taken through the sound producing portion of the device along line 2—2 of FIG. 1, showing also the securing strap;

FIG. 3 is a split front sectional view taken along line 3—3 of FIG. 2;

FIGS. 4, 5 and 6 illustrates the use of the noise maker on the foot of a child and shows the manner in which it is actuated by walking.

Referring to FIGS. 1 through 3 of the drawing in greater detail, there is shown an embodiment of a noise maker according to this invention indicated generally at 2. The noise maker includes a heel embracer 7 comprising a heel plate 4 having an upstanding flange 6 about its periphery. The heel plate is shaped so that together with its flange it forms a heel well or embracer which can be worn on the foot by forming a complementary fit adjacent and about the heel of a shoe. The heel plate contacts the underside of the heel and acts as a heel rest. Extending from flange 6 are strap holders 8 having loop-like openings through which passes strap 10. The strap holds securely and maintains in position the heel embracer by passing over the ankle. As seen best in FIG. 2 the strap is adjustable by means of holes 12 and a buckle 14 and has a cushion portion 16 which prevents the strap from too tightly binding the ankle.

As shown best in FIGS. 1 and 3, part of the flange construction forms a housing extending laterally from

the heel embracer and protruding partially therebelow. This housing is referred to generally at 18 and forms the sound producing portion of the noise maker. The housing 18 contains a leaf spring 20 which is kept secured by a bent lip 22 at an angle to the horizontal. The spring 20 has a circular depression therein at 24.

In operation the leaf spring 20 is contacted at its end remote from lip 22 and bent upwardly toward the roof of the housing 18. As this is done, the circular depression 24 "pops" to a position flush with the surface of the rest of the spring and produces a click-like sound (FIG. 7). Upon release of the end of the spring 20 the depression 24 returns to its indented position while producing a clack-like sound (FIG. 6). The manner of use of the noise maker to produce the desired sound controllably is illustrated in FIGS. 4, 5 and 6. Referring thereto, there is shown a portion of the leg including the foot of a wearer of the noise maker such as a child, indicated generally as 34. Upon the foot is worn a shoe 36 having a heel or other suitable portion to which the noise maker may be secured. The noise maker 2 is seen as attached to the left foot of a wearer who is, proceeding from FIG. 4 to FIG. 6, walking forward in a direction from the right side of the drawing to the left. A surface such as the ground, a sidewalk, pavement, or a floor is referred to generally at 38.

As the wearer places the foot down as in a normal walking step (FIG. 4) the heel with the attached noise maker strikes the surface 38 first. Since spring 20 extends to a point beyond the undersurface of the heel of the shoe it comes into contact with the ground prior to the heel and noise maker housing and is bent upward thereby producing the sound (represented by the lines in FIG. 4). The remainder of the foot then comes into contact with the surface and the spring 20 is held in tension (FIG. 5).

FIG. 6 shows the foot being lifted from the surface, heel first, in the conventional manner. The tensioned spring 20 is lifted from contact with the surface and as it springs back to its normal position it produces another sound (represented by the lines in FIG. 6). Thus, as the wearer walks, the desired sound, musical or click-clack, is produced. The cadence is easily controlled by the speed of walking. Alternatively, the wearer may remain in one position and merely rock the foot back and forth on the surface to produce the sound.

Other variations of the noise maker according to this invention are possible. Thus, one may use clamps in place of the strap to attach the noise maker to the shoe. The noise maker may be readily constructed so that it conveniently may be worn on the toe rather than the heel. Two or more noise makers may be worn on the different feet at the same time. Preferably, however, the noise makers are worn such that the housings are always situated at the outside of the foot to prevent tripping.

This, it is seen, there has been provided a noise maker adapted to be worn on a child's foot to produce a desired sound due to striking of the ground during normal ambulation.

What is claimed is:

1. A sound producing device adapted to be worn on a shoe on a child's foot comprising:

a heel embracer including

a substantially flat heel plate shaped to be positioned beneath the underside of the heel of the child's shoe to act as a heel rest and

an upstanding flange about the periphery of said heel plate shaped to form a complementary fit adjacent and about the heel of the shoe.

strap holders secured to said heel embracer,

an adjustable strap secured by said strap holders, said strap extending forwardly and upwardly from said heel embracer adapted to pass over the child's ankle for maintaining the heel embracer securely mounted in position on the heel of the shoe,

a housing for the sound producing mechanism extending laterally from the heel embracer to a position offset to one side of the heel embracer in a lateral position such that when the heel embracer is mounted on the heel of the shoe, the housing is offset to one side of the child's foot,

a spring having one end mounted in said housing and having its other end projecting from the housing in a position offset laterally from the child's foot, said

free end of the spring adapted to be deflected upwardly when the heel embracer is brought down closely adjacent to the ground, and

a sound producing means associated with said spring for making sound upon the deflection of said spring,

whereby the child can actuate the sound producing mechanism by a normal walking or running motion and alternatively can actuate the sound producing mechanism by standing in one position on a surface and rocking the foot back and forth upon the surface either forwardly and backwardly or from side to side.

2. A sound producing device adapted to be worn on a shoe on a child's foot as claimed in claim 1, and

in which said housing extends laterally from the heel embracer and also includes a housing portion positioned over the spring with said housing portion protruding partially below the heel embracer for providing a top cover extending over the spring.

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