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3,356,367

AMBULATORY EXERCISE DEVICE

Filed Aug. 7, 1964

FIG. 3

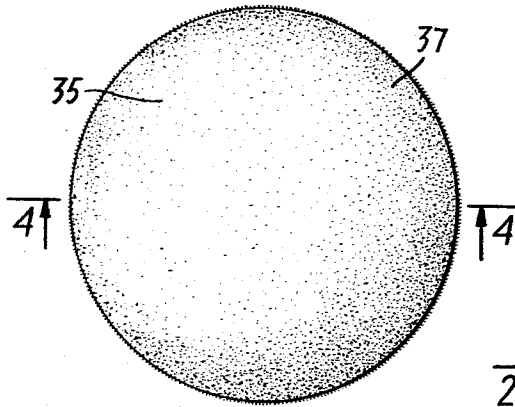


FIG. 1

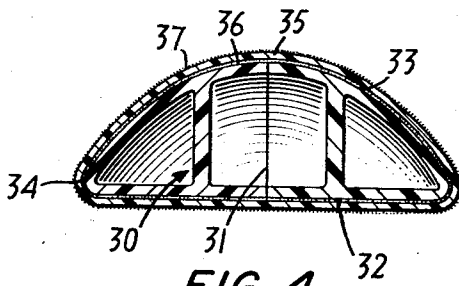
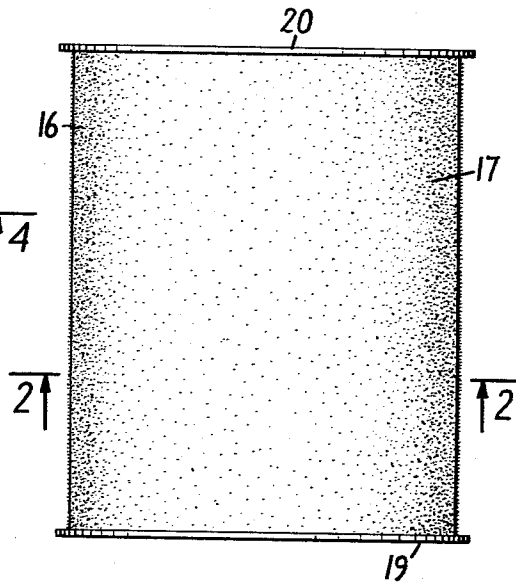


FIG. 2

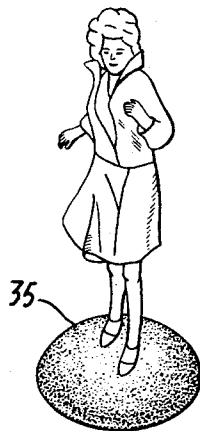
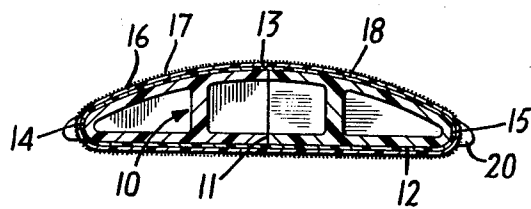


FIG. 5

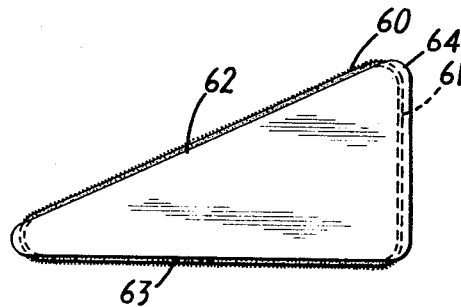


FIG. 6

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AMBULATORY EXERCISE DEVICE
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This invention relates to an ambulatory device suitable for healthful exercise.

Devices providing enjoyable exercise that can be used indoors or outdoors are limited in supply. For example, bicycles and like machines requiring coordination by the user, which provide healthful activity, are of no use indoors. On the other hand, most devices designed for indoor use, for example weights and spring devices, provide no enjoyment and for that reason are little used after a short period of time.

The present invention provides an ambulatory device affording enjoyable exercise that improves the coordination and balance of the user. To achieve these ends, a housing constructed to support the weight of a user is formed with a lower surface that is adapted to provide stability for an ambulatory device. An upper surface on the housing has at least a portion inclined at an angle to the lower surface. A flexible and elastic unitary cover extends over the lower and upper surfaces of the housing, and a lubricant provided between the covering and housing, for example a layer of Teflon and a suitable lubricant, or a thin lubricant film, facilitates sliding movement of the covering with respect to the housing surfaces.

In using the inventive device, a person stands on its inclined surface to propel the device in a desired direction. The device may be used singly, or a number of the ambulatory devices may be provided for use by groups engaging in races and other games.

These and further advantages of the invention will be more readily understood when the following description is read in conjunction with the accompanying drawings, in which:

FIGURE 1 is a plan view of an ambulatory device embodying the principles of the present invention;

FIGURE 2 is a cross section of the device of FIGURE 1 taken along the view line 2—2 looking in the direction of the arrows;

FIGURE 3 is a plan view of another ambulatory device embodying the principles of the present invention;

FIGURE 4 is a cross section of FIGURE 3 taken along the view line 4—4 looking in the direction of the arrows;

FIGURE 5 is a perspective view showing the use of the ambulatory device of FIGURE 3; and

FIGURE 6 is another ambulatory device constructed in accordance with the principles of the invention.

Examining the present invention in greater detail with particular reference to FIGURES 1 and 2, a housing 10 constructed, for example, of plastic, and molded in two pieces joined at a joint 11, is generally rectangular in shape when viewed from above. The housing may also be shaped from a piece or pieces of wood, if desired.

In cross section, as shown in FIGURE 2, the housing 10 is provided with a lower surface 12, substantially flat in this embodiment of the invention, to support the device stably. The housing 10 is shaped to have an arched upper surface 13 inclined progressively at a greater angle with respect to the lower surface 12 towards edges 14 and 15.

A continuous thin unitary covering 16 (its thickness has been exaggerated in the interests of clarity) of an elastic and flexible material such as natural rubber, or a suitably tough and elastic synthetic rubber, is stretched

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over the outside of the housing 10. The covering 16 may be formed in one piece, or several pieces, and if the latter, fused or adhered together in a suitable manner to cover the housing as shown. A roughened surface 17 is provided on the exterior surface of the covering 16 with its interior surface being smooth.

A layer of anti-friction material such as a lubricant 18 between the covering 16 and the outer housing surfaces 12 and 13 facilitates sliding movements of the covering with respect to the housing. The lubricant shown in FIGURE 2 is Teflon which may be supplemented by a suitable lubricant such as graphite, which affords a low coefficient of friction in operation of the device. Other low friction layers or films may also be employed.

End pieces 19 and 20 attached to the housing 10 prevent the covering 16 from slipping off the housing.

In a typical use of the ambulatory device of FIGURES 1 and 2, a person stands on the upper surface of the covering 16 and moves along the inclined surface 13 towards one of the edges 14 or 15. The forces exerted on the device by the weight of the person causes slippage of the covering 16 over the outside surface of the housing 10 resulting, if the person has moved towards the edge 14, in movement of the device towards that edge, in other words towards the left of FIGURE 2. By stepping upwardly towards the center of the surface 13, the device can be stopped and it may then be reversed by moving towards the edge 15.

Referring next to another embodiment of the invention illustrated in FIGURES 3, 4 and 5, a housing 30 may be formed in two parts, by molding or some other suitable process, and joined together at a joint 31. The housing 30 is generally circular when viewed from above and is provided with a lower surface 32 to support stably the device. An upper surface 33 having a dome-like shape provides surfaces inclined downwardly from the center of the device towards its edge 34.

Stretched over the housing 30 is a flexible and elastic unitary covering 35, exaggerated in thickness for clarity, which may be formed of a thin sheet of natural or synthetic rubber, for example. The covering 35 may be formed of several pieces and fused or adhered together in any desired manner.

A lubricating film 36 provided on the outside surfaces 32 and 33 of the housing 30 facilitates sliding movement of the covering 35 with respect to the housing. A roughened surface 37 is also preferably formed on the exterior of the covering 35.

In a typical use of the ambulatory device of FIGURES 3, 4 and 5, a user stands off center of the device (FIGURE 5) to cause it to move in any desired direction in accordance with the principles discussed in connection with FIGURES 1 and 2. With the device of FIGURES 3, 4 and 5, the user may cause the unit to travel in any desired direction rather than merely in two directions.

Examining another embodiment of the invention shown in FIGURE 6, a covering 60 formed of a flexible and elastic material is provided on an elongated housing, appearing rectangular in plan view, similar to FIGURE 1. The housing over which the covering 60 is provided may be formed of plastic or wood similarly to the housings shown in FIGURES 2 and 4. A roughened surface on the covering 60 enables a person to stand on an inclined surface 62 to cause the device of FIGURE 6 to move from right to left supported on its stable surface 63. As in FIGURES 1 to 5, a suitable lubricant for facilitating slippage between the covering 60 and the exterior surfaces of the housing is provided between the covering and housing, and end pieces 64 prevent slippage of the covering off the housing.

It will be evident from the foregoing that healthful

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and enjoyable exercise may be obtained through use of the ambulatory device of the present invention. In its various forms it may be used as an exerciser for confined persons, as a means for improving coordination of any person, and for games for groups of children or adults.

It will be understood that the above described embodiments of the invention are illustrative only and modifications thereof will occur to those skilled in the art. Therefore, the invention is not to be limited to the specific apparatus disclosed herein but is to be defined by the appended claims.

I claim:

1. An ambulatory exercise device comprising a housing adapted to support the weight of a user, a lower surface on the housing to support the device stably on a supporting surface, an upper surface on the housing having at least a portion thereof inclined at an angle to the lower surface, a flexible and elastic unitary covering on the housing extending over its lower and upper surfaces and engaging the supporting surface beneath the lower surface of said housing, and a layer of anti-friction material between the covering and housing and coextensive therewith to facilitate sliding movement of the covering with respect to the housing surfaces to enable the user to stand on the covering over the inclined surface of the housing and cause ambulation of the device.

2. A device as defined in claim 1, wherein the covering has a roughened outer surface.

3. A device as defined in claim 1, wherein the layer of anti-friction material to facilitate sliding movement comprises a layer of Teflon.

4. A device as defined in claim 1, wherein the layer of anti-friction material to facilitate sliding movement comprises a lubricant film.

5. An ambulatory exercise device comprising a housing adapted to support the weight of a user, a circular lower surface on the housing to support the device stably on a supporting surface, a domed upper surface on the housing having portions inclined at an angle to the lower surface, a flexible and elastic unitary covering on the housing extending over its lower and upper surfaces and engaging the supporting surface beneath the lower surface of said housing, and a layer of anti-friction material between the covering and housing and coextensive therewith to facilitate sliding movement of the covering with respect to the housing surfaces to enable the user to stand on the covering over the inclined surface of the housing and cause ambulation of the device in a desired direction.

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6. An ambulatory exercise device comprising a housing adapted to support the weight of a user, a lower rectangular surface on the housing to support the device stably on a supporting surface, an arched upper surface on the housing having portions inclined at an angle to the lower surface, a flexible and elastic unitary covering on the housing extending over its lower and upper surfaces and engaging the supporting surface beneath the lower surface of said housing, and a layer of anti-friction material between the covering and housing and coextensive therewith to facilitate sliding movement of the covering with respect to the housing surfaces to enable the user to stand on the covering over the inclined surface of the housing and cause ambulation of the device.

7. An ambulatory exercise device comprising a housing adapted to support the weight of a user, a lower surface on the housing to support the device stably on a supporting surface, an inclined upper surface on the housing at an angle to the lower surface, a vertical surface on the housing joining one end of the upper surface to the lower surface, a flexible and elastic unitary covering on the housing extending over its lower, vertical and upper surfaces and engaging the supporting surface beneath the lower surface of said housing, and a layer of anti-friction material between the covering and housing and coextensive therewith to facilitate sliding movement of the covering with respect to the housing surfaces to enable the user to stand on the covering over the inclined surface of the housing and cause ambulation of the ambulatory device.

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