

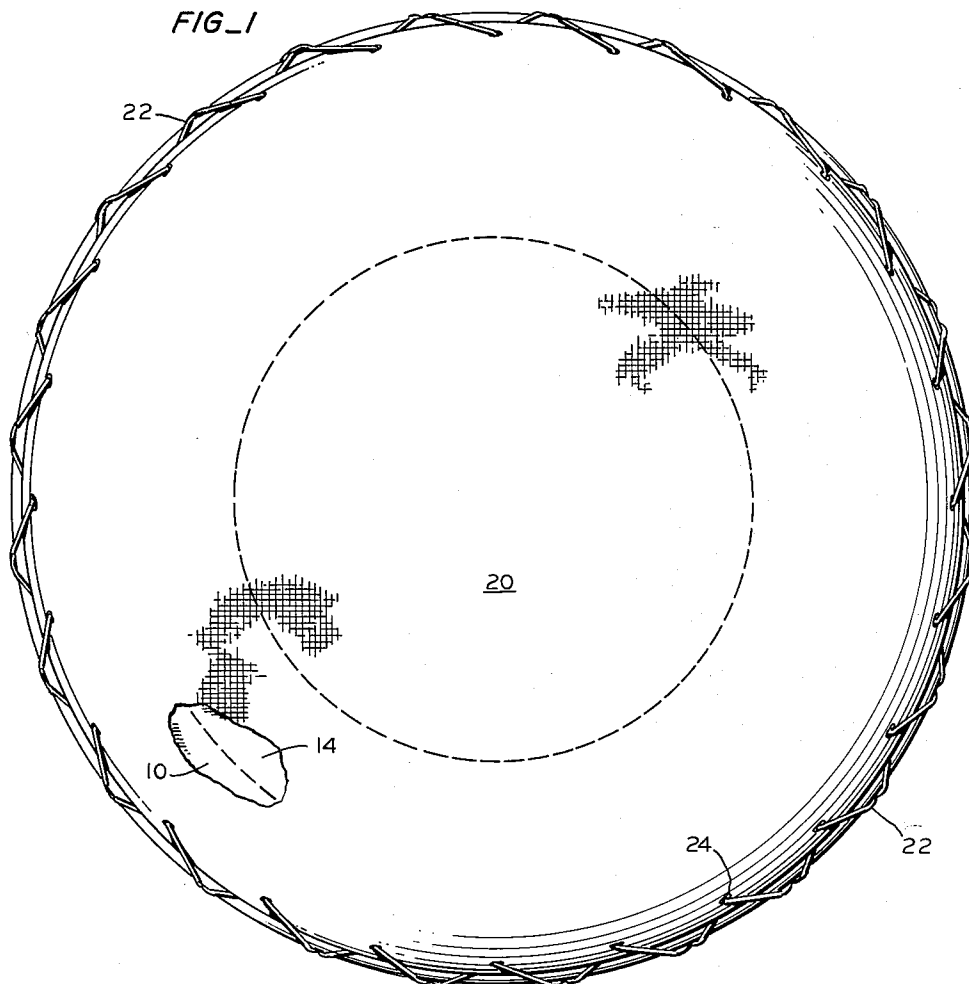
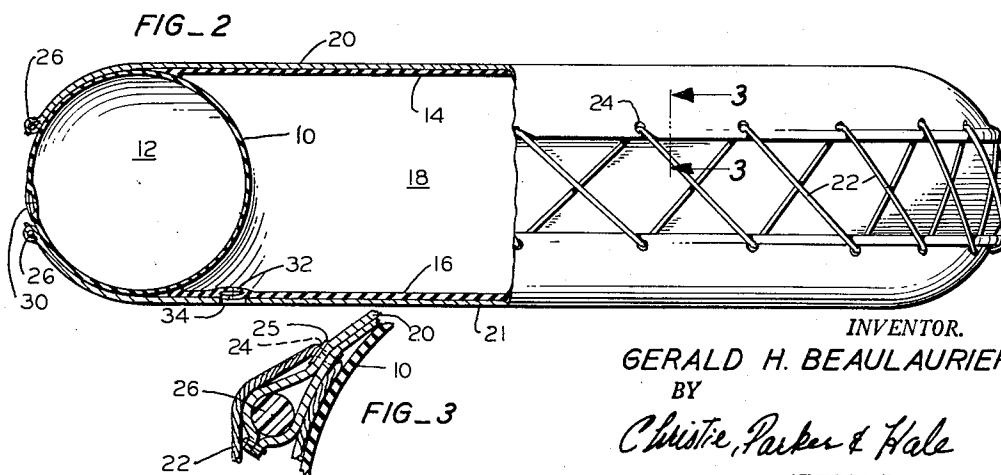
July 2, 1963

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3,095,947

EXERCISE DEVICE

Filed May 12, 1960



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3,095,947

EXERCISE DEVICE

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Filed May 12, 1960, Ser. No. 28,774
1 Claim. (Cl. 182-139)

This invention relates to exercise devices of the trampoline type.

At the present time, trampolines are becoming widely used as exercising and recreational devices. The conventional trampoline is a horizontal metal frame supported above ground level by legs. A mat or net is supported by springs within the frame. The user of the trampoline bounces on the net to perform various acrobatic stunts.

The conventional trampolines are satisfactory as far as bouncing the user is concerned, but they are expensive, and sometimes dangerous because inexperienced people can be injured by falling onto the metal frame.

This invention provides an inexpensive and safe exercise device to serve the same purpose as conventional trampolines.

Briefly, the exercise device of this invention includes an endless flexible tube disposed in the shape of a ring or doughnut to define an annular chamber within the tube. A first diaphragm is sealed over one face of the ring, and a second diaphragm is sealed over the opposite face of the ring to form a sealed central chamber between the diaphragms and within the ring.

In the preferred form of the invention, top and bottom nets are disposed over each of the diaphragms and secured together around their edges by a lacing. The preferred form of the invention also includes a filling valve for the annular chamber and a filling valve for the central chamber so that the air pressure within these chambers can be separately adjusted to give the device the desired resiliency.

These and other aspects of the invention will be more fully understood from the following detailed description taken in conjunction with the accompanying drawing, in which:

FIG. 1 is a plan view of the presently preferred embodiment;

FIG. 2 is an elevation, partly broken away, of the device shown in FIG. 1; and

FIG. 3 is an enlarged sectional view of a portion of the edge of the top net.

Referring to the drawing, the exercise device includes an endless tube 10 in the shape of a torus or a doughnut to define an annular chamber 12 within the tube. The endless tube may be made of any suitable material which is semi-elastic and airtight. In general, the material should be light and thin in body, yet tough. Nylon fabric impregnated with butyl rubber is a good material because it is tough and airtight. Preferably, the outer surface of the tube is coated with neoprene (not shown) to resist chafing.

A top diaphragm 14 in the form of a circular sheet is sealed around its periphery to the top or one face of the ring. A bottom diaphragm 16, also in the shape of a circular sheet, is sealed around its periphery across the bottom face of the ring so that a central chamber 18 is defined between the two diaphragms and the interior of the ring. The two diaphragms may be of any suitable material which is semi-elastic and airtight. Conveniently, the diaphragm material is the same as that used for the ring.

Top and bottom nets 20 and 21, which are generally circular in shape, are cupped slightly at their peripheries to fit over the ring as shown in FIG. 2. The nets are

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held in place by laces 22 threaded as shown in FIG. 2 through openings 24 in the respective peripheries of the nets. The material used in the nets may be any suitable flexible material or fabric such as nylon, rayon, etc. Preferably, each net is made up of two sheets of fabric laid together with their respective weaves at a 45° bias to one another. The two sheets are stitched together in a suitable pattern and hemmed at their peripheries. Preferably, each hem envelops a separate nylon cord 26, which forms a lacing bead around the outer edge of each net. The holes 24 are just inside the bead and each hole is provided with a lacing eyelet or grommet 25.

A first filler valve 30 is mounted in the outside and lower portion of the endless tube just above the periphery of the bottom net. A second filler valve 32 is mounted in the bottom diaphragm, and the bottom net is cut away to provide an access opening 34 for the second valve. The filler valves, which can be of any conventional type used to inflate flexible containers, permit the annular and central chambers to be inflated to any desired pressure independent of each other.

If desired, the nets can be shaped so that their edges terminate against one another, or even overlap slightly, to provide additional protection for the outer wall of the ring. It will be obvious that the nets can also be joined together by stitching, clipping, etc., as well as by the lacing shown in the drawing.

To use the exercise device just described, the bottom net is placed on the floor or ground, and the ring-diaphragm assembly is set in place on the bottom net. The ring and central chambers are then partially inflated. Thereafter the top net is set in the position shown in FIG. 2 and secured to the lower net by the laces. The annular and central chambers are then inflated to give the entire unit the desired resiliency. Thereafter the top net can be bounced on in much the same manner as a conventional trampoline. As a user bounces on the top net, the air in the chambers is compressed and aids the resilient diaphragms and ring in tossing the user back into the air. However, this invention has the advantage that there are no hard metal frames to cause injury, and the unit is located close to the floor or ground to reduce further the possibility of injury.

I claim:

In a trampoline exercise device:

- (a) an endless flexible tube of substantially uniform cross-section disposed in the shape of a ring to define an annular chamber within the tube;
- (b) the tube being portable and adapted to be placed in a horizontal position relative to a floor or ground;
- (c) a resilient top diaphragm in the form of a circular sheet sealed around its periphery to the top face of the tube to bridge across the tube;
- (d) a resilient bottom diaphragm, also in the shape of a circular sheet, sealed around its periphery to the bottom face of the tube to bridge across the tube;
- (e) the diaphragms being spaced apart and coacting with the tube to define a sealed central chamber;
- (f) a filling valve for the annular chamber of the tube, and a separate filling valve for the central chamber, whereby these chambers may be inflated and the pressures within the chambers can be separately adjusted to give the trampoline exercise device the desired resiliency;
- (g) the top diaphragm normally being substantially flat and disposed tangentially to the transverse curvature of the top face of the tube in all radial cross-sections of the latter, whereby a substantially flat resilient support is provided;

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- (h) a flexible bottom net secured over the underneath surface of the bottom diaphragm to protect the latter from being damaged by the floor or ground;
- (i) a flexible top net secured over the exposed upper surface of the top diaphragm to protect the latter 5 from being scuffed by the user; and
- (j) the top net being entirely unobstructed from above, whereby the user may bounce thereon with freedom of movement to perform various acrobatic stunts.

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References Cited in the file of this patent

UNITED STATES PATENTS

1,985,432	Tucker	Dec. 25, 1934
2,216,818	Kuhlman	Oct. 8, 1940
2,496,460	Evans	Feb. 7, 1950
2,764,766	Boyle et al.	Oct. 2, 1956

FOREIGN PATENTS

740,232	Great Britain	Apr. 30, 1954
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