June 5, 1945. R. E. JACKE 2,377,498

GAME OR TOY

Filed Jan. 10, 1944

FIG. 1.

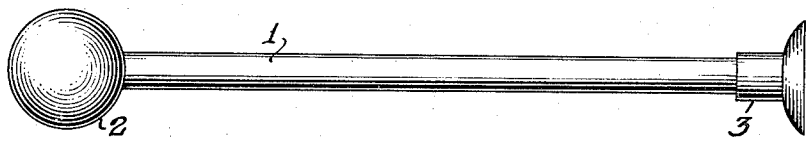


FIG. 1A.

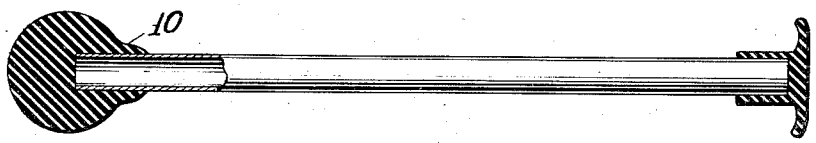


FIG. 2.



FIG. 2A.

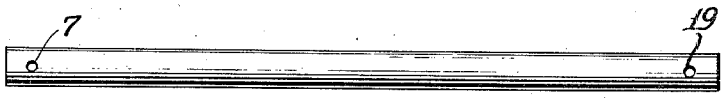


FIG. 2B.

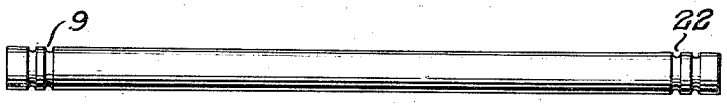


FIG. 2C.



FIG. 3.

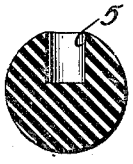


FIG. 3A.

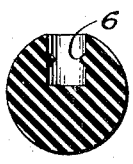


FIG. 3B.



FIG. 3C.

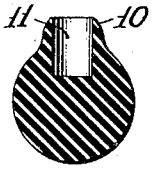


FIG. 4.

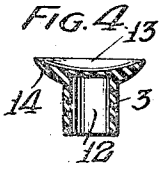


FIG. 4A.

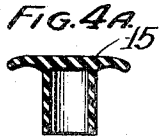


FIG. 4B.

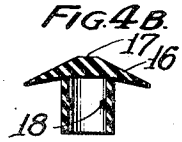
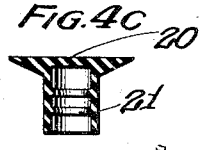


FIG. 4C.



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UNITED STATES PATENT OFFICE

2,377,498

GAME OR TOY

Raymond E. Jacke, Richmond, Va.

Application January 10, 1944, Serial No. 517,733

1 Claim. (Cl. 273—106)

The invention relates to an arrow principle directional bouncer toy.

The primary object of the present invention is to provide a simple, practical, and inexpensive arrow principle directional bouncer toy or game designed both for individual amusement and for use by two or more players in a game and comprising a stick or shaft equipped at both ends with resilient material and adapted, when thrown, tossed, or dropped against a hard surface such as the ground, floor, or wall, to rebound with long, graceful, surprisingly fascinating curves or rebound with a sharp turn or spin, according to the angle with which it contacts with said surface, and adapted also to rebound in a horizontal position into the hand when both ends of the toy strike the ground, floor, or like surface, simultaneously.

A further object of the invention is to provide a toy of this character comprising a rod or shaft equipped at one end with a ball of resilient material and at the other end with a resilient cap relatively light in weight compared with the weight of the ball and having a flanged crown of circular configuration, said toy containing the arrow principle in the respect that the fulcrum or center of balance is very close to the head or ball end, so that the toy may be thrown with accuracy, and, when thrown into the air or against a wall, the ball will reverse the toy on the rebound and always precede the cap.

It is also an object of the invention to provide an attractive arrow principle directional bouncer toy susceptible of ornamentation to a high degree and light in weight from the standpoint of safety in manipulation and with which there will be no more danger of injury or damage than can be attributed to an ordinary rubber ball or similar toy, as both ends of the light weight tubular shaft or rod are equipped with rubber or other resilient material to afford protection from eye or other injury.

It is also an object of the invention to provide a directional bouncer toy comprising a tubular rod or shaft, a resilient ball on one end of the rod or shaft, and a resilient cap on the other end thereof, said ball and cap being provided with sockets receiving the ends of the rod or shaft and when the parts are assembled, suction due to the hollow rod or tube and said sockets will be sufficient to retain the ball and the cap on the ends of the rod or tube or may be utilized in connection with other means, such as interlocking ribs or projections or an adhesive, for securing the ball and the cap on the rod or shaft.

With these and other objects in view, the invention consists in the novel construction, arrangement, and combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claim hereto appended, it being understood that various changes in the form, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 is a side elevation of an arrow principle directional bouncer toy constructed in accordance with this invention.

Fig. 1A is a similar view, partly in section, illustrating a modification of the invention.

Fig. 2 is a detail view of a plain tubular rod or shaft.

Fig. 2A is a similar view of a rod or shaft having transverse apertures for interlocking engagement with nodules or protuberances of a socket and cap.

Fig. 2B is a detail view of a tubular rod or shaft having annular grooves for interlocking engagement with transverse annular ribs of a ball and cap.

Fig. 2C is a detail view of a solid rod or shaft.

Fig. 3 is a sectional view of the resilient ball shown in Fig. 1.

Fig. 3A is a similar view of a ball provided in its socket with nodules or protuberances.

Fig. 3B is a sectional view of a ball provided in its socket with transverse annular ribs.

Fig. 3C is a sectional view of a ball provided with a nipple forming an extension of the socket of the ball.

Fig. 4 is a detail sectional view of the cap shown in Fig. 1.

Fig. 4A is a detail sectional view of the cap illustrated in Fig. 1A of the drawing.

Fig. 4B is a detail sectional view of a cap showing another form of flange.

Fig. 4C is a detail sectional view of a cap illustrating still another form of flange and showing transverse annular ribs on the walls of the socket.

Referring particularly to Figs. 1, 3, and 4 of the accompanying drawing, the arrow principle directional bouncer toy or game comprises in its construction a tubular rod or shaft 1, a ball 2 arranged on one end of the rod or shaft 1, and a flanged cap 3 mounted on the other end of the rod or shaft.

The rod or shaft 1 consists of a hollow tube preferably approximately sixteen inches in length and one-half inch in diameter but the shaft or

rod may be of any desired length and of any diameter and of a thickness sufficient to prevent breakage in use but with weight reduced to a minimum.

The hollow tubular rod or shaft may be constructed of paper fiber, plastic material, light metal such as aluminum, or wood, or a combination of materials, and as illustrated in Fig. 2C of the drawing, a solid rod or shaft 4 may be employed. When a solid rod or shaft is employed, it may be made of wood or any other light material and will be smaller in diameter than the tubular rod or shaft.

The tubular rod or shaft is susceptible of high ornamentation and when constructed of paper fiber, it may be coated with bright colored pliofilm, but, if desired, the entire rod may be made of film or plastic material. The toy may be made highly attractive by ornamenting the tube or shaft or by making the tube or shaft of a material which will present an ornamental and attractive appearance.

The resilient ball 2, which is designed to be made of sponge rubber having a smooth wearing surface or cover of regular playball variety, may be constructed of any other kind of rubber or resilient material and it is preferably approximately two and one-quarter inches in diameter when used on a sixteen inch rod or shaft but the ball may be of any desired size and it is provided with a smooth socket 5 receiving one end of the rod or shaft and adapted, when the light weight hollow tube is capped at the other end, to form of the ball a suction cup whereby the ball will be retained in place on the hollow tube by suction. As a retaining means, the suction is supplemented by a friction between the walls of the socket and the contacting surface of the tube but glue, cement, or any other adhesive, may of course be employed for securing the ball to the end of the tube. Also, as illustrated in Fig. 3A of the drawing, the socket may be provided on its walls with projections or protuberances 6 which may conveniently be in the form of nodules for engaging perforations 7 of the tube shown in Fig. 2A of the drawing, to provide an interlocking action between the ball and the tube.

Also, as illustrated in Fig. 3B of the drawing, the socket may be provided with a plurality of annular ribs 8 projecting inwardly laterally from the walls of the socket and adapted to fit in annular grooves 9 formed in the exterior surface of the hollow tube, as illustrated in Fig. 2B of the drawing.

The ball may, as illustrated in Figs. 1A and 3C, be provided with an integral nipple 10 forming an extension of the socket 11 and adapted to increase the suction effect for retaining the ball on the end of the tube. An adhesive may also be employed with any of the form of balls illustrated in the drawing, to assist in securely retaining the ball on the end of the tube.

The resilient cap 3, which may be constructed like the ball of any suitable material, consists of a cylindrical body portion forming a socket 12 to receive one end of the hollow tube and closed at the outer end by a flanged crown 13 having an annular projecting flange 14. The flange is designed to be approximately one inch to one and a quarter inches in diameter when the rod is approximately sixteen inches in length and the ball approximately two and one-quarter inches in diameter and it has sufficient resiliency, when the toy is dropped and the ball and the cap simultaneously strike the ground, floor, or other surface, to cause the toy to rebound into the hand in a horizontal position. The flanged crown of the cap may, as illustrated in Figs. 1 and 4, be substantially concavo-convex with its concave face facing outwardly, but, as illustrated in Figs. 1A and 4A of the drawing, the flanged cap may be provided with a flanged crown 15 of approximately concavo-convex configuration having the convex face facing outwardly exteriorly of the cap. The crown of the cap may, as illustrated in the drawing, have a relatively sharp peripheral edge or the edge may be blunt as shown in Figs. 1A and 4A.

In Fig. 4B of the drawing is illustrated a further modification of the cap in which the flanged crown 16, while of substantially concavo-convex configuration, presents its convex face at the exterior and is provided with a substantially flat, central area 17 from which the exterior surface of the flange extends radially in a straight line to its periphery. The cap shown in Fig. 4B of the drawing is provided on the interior of its socket with projections or protuberances 18 in the form of nodules for engaging perforations 19 of the hollow tube shown in Fig. 2A of the drawing to provide an interlocking connection between the cap and the hollow tube for supplementing the suction action of the cap which, when the ball is arranged on the tube, is retained in place by suction.

In Fig. 4C of the drawing is illustrated another modification of the flanged cap which is provided with a flanged crown 20 having a flat outer face and tapered from the body portion of the cap to the periphery of the flange, forming a sharp peripheral edge. The flanged cap illustrated in Fig. 4 is provided on the interior of its cylindrical body portion with annular ribs 21 to engage annular grooves 22 formed in the end of the hollow tube, as illustrated in Fig. 2B of the drawing, to provide an interlocking action between the walls of the socket of the flanged cap and the contacting surface of the hollow tube for supplementing the suction action of the cap in retaining the latter on the end of the tube. It will of course be understood that adhesive material such as glue, cement, or the like, may be employed for supplementing friction when the ball and the cap are arranged on the solid rod or shaft 4 illustrated in Fig. 2C of the drawing and that the means for interlocking the ball and the flanged cap with the rod or shaft may be employed with either a hollow tube or a solid rod.

The center of balance of the toy is located very close to the front or ball end of the toy, so that the toy will involve the arrow principle and may be accurately thrown like an arrow, javelin, lance, or similar weapon, and it may be thrown or tossed against the ground, floor, or similar surface, or against a wall. and may be made in its rebound to turn end for end and in its rebound the ball will always precede the cap. It may be used for individual amusement or for playing games and it may be thrown against a surface with the rod or shaft at various angles to the surface for causing the rebound to partake the nature of a long graceful curve or a sharp turn or spin, and it may be used as a means for training the eye and the hand, as the individual player, when the toy is thrown, may run forward and catch the toy on the rebound. Also, the toy may be used as a game apparatus and be thrown or tossed from one side to the other between players, and, when caught, be thrown or tossed again into action or

play towards the player or players at the opposite side from the player throwing the toy.

The toy is light in weight and will not, should it strike a person, cause any more injury than can be attributed to an ordinary rubber ball and the rod or shaft, when made of paper fiber, or cellulose plastic will be strong enough to resist breakage in play, and, at the same time, will adapt the toy particularly for the use of children and substantially avoid any liability to injury, especially as both ends of the rod or shaft are protected by resilient material.

One end of a cord may be attached to the rod or shaft at any portion thereof and in any suitable manner and the other end may be provided with suitable means for attaching it to the finger or wrist of a person. A cord of this character is adapted to retrieve the bouncer or alter its natural rebound, causing interesting variations due to skill in manipulation.

What is claimed is:

A toy of the class described adapted to be employed as a game apparatus and comprising a rod or shaft, a relatively heavy resilient ball secured to one end of the shaft and causing the center of balance of the toy to be located close to the ball at a point beyond the center of the shaft, and a resilient member relatively light in weight compared to that of the ball secured to the other end of the rod or shaft and provided with a thin laterally projecting resilient annular peripheral flange presenting a surface contacting side edge and operating to cause a rebound of said other end of the rod or shaft upon contact with a surface, the relatively heavy ball and the thin laterally extending flange causing the two ends of the rod or shaft to behave differently.

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