Sept. 13, 1960 R. ELLIS 2,952,460

RUBBER BALL

Filed June 4, 1959

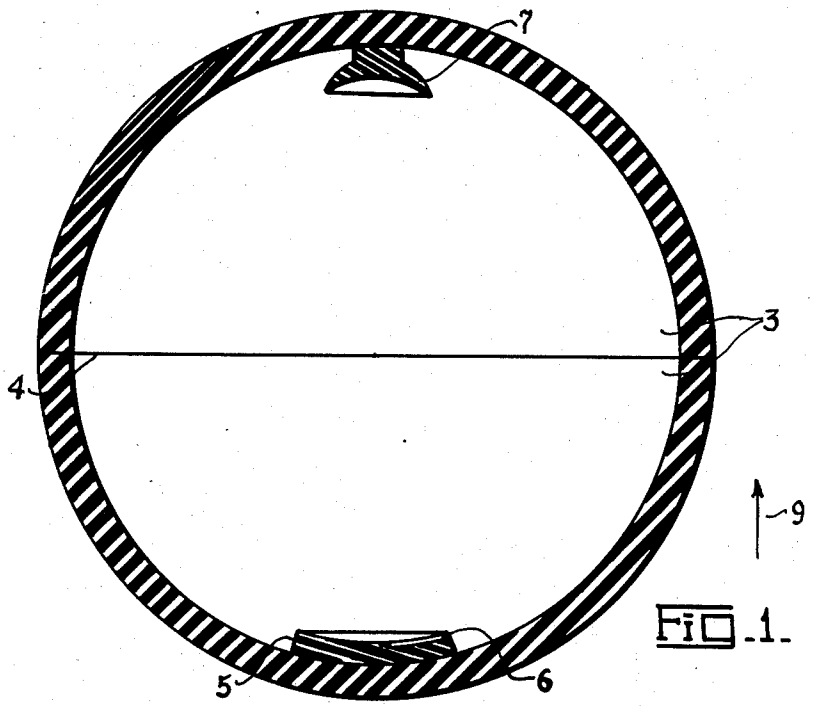


Fig. 1.

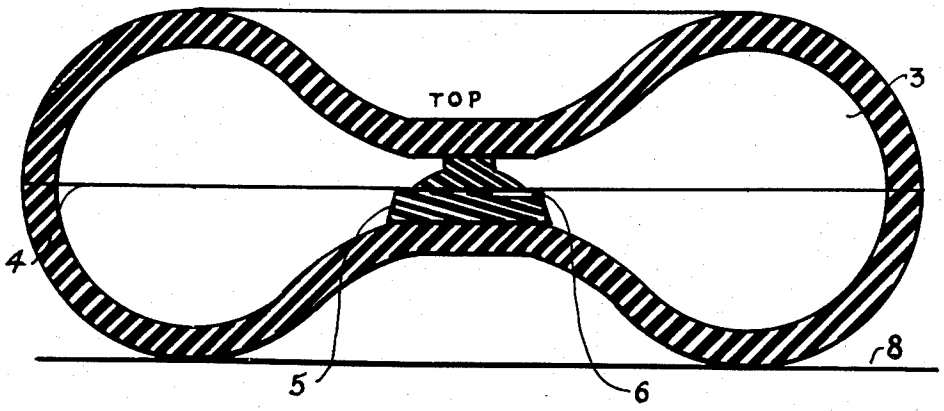


Fig. 2.

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RUBBER BALL

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1 Claim. (Cl. 273—58)

This invention relates to rubber balls and the principal object of the invention is the provision of a toy ball of the hollow type which, when the upper part of the ball is forcibly squeezed downward while the lower part is resting on a rigid surface, will remain in such semi-flattened condition for a perceptible length of time, and then suddenly and unpredictably, will "jump" upwards, giving the child an opportunity to catch the ball.

Other and further objects will appear in the specifications and be specifically pointed out in the appended claim, reference being had to the accompanying drawings exemplifying the invention, and in which:

Fig. 1 is a sectional view of the ball in normal condition.

Fig. 2 is a sectional view of the ball while in temporary depressed condition.

Referring to the drawings in which like numerals and characters of reference refer to similar parts throughout the several views, the numeral 3 denotes the two equal halves of the customary hollow type rubber ball which are vulcanized or glued together at the line 4. To the lower inside of the ball is either glued or vulcanized the circular rubber plate 5 which has a scratch or nick 6 therein as illustrated. The plate 5 is shown in depressed condition in the center thereof as shown in Fig. 1 but it will attain a comparatively flat surface when the ball is depressed as illustrated in Fig. 2. To the upper inner surface of the ball, exactly opposite the plate 5, is glued or vulcanized the rubber vacuum cup 7 in the manner illustrated.

The operation of this toy rubber ball is now as follows; the child notices the word "Top" on the ball and places the opposite end of the ball on any rigid surface, in the hand or on the ground 8, then presses downward on the ball at the word Top until the vacuum cup 7 is depressed against the upper flat smooth surface of the plate 5, thus expelling the air or gas from the interior of cup 7 which then adheres to the plate 5 as is well understood. The action of depressing the ball compresses the air or gas

within the ball 3 and distorts the shape thereof to that illustrated in Fig. 2 against its natural round resiliency. The child then releases his hand from the ball and the air pressure within the ball will gradually seep through the scratch 6 to the inside of cup 7 until the instant arises when the pressure of the air within the ball against its sides plus the restoration force of the inherent resiliency of the rubber sides of the ball tending to resume its natural round shape, overcomes the decreasing suction of the vacuum cup, when the ball will suddenly "jump" upwards in the direction of arrow 9 through re-action against the surface 8. As the exact moment when the ball will jump is unpredictable, this feature creates additional interest to the child as will be readily understood. The child tries to catch the ball before it reaches the ground to resume his play, a missed catch will give the other child his opportunity, etc. The ball may be used as hereinbefore described and/or in the usual manner. The ball is composed of rubber of the usual quality but any other substance having the resiliency of rubber is herein construed by the word "rubber." The weight of the plate 5 exactly equals the weight of the vacuum cup 7, thus balancing the ball. In some cases the plate 5 may be dispensed with and only the vacuum cup 7 used to obtain the desired results.

From the foregoing description it will be apparent that I have evolved a duplicate use for the ordinary hollow rubber ball, a ball which will delight children by creating additional amusement and where the use of one of the two features will not at any time interfere with the other.

Various changes may be made in the embodiment of the invention hereinabove specifically described without departing from or sacrificing the advantages of the invention as defined in the appended claim.

I claim:

A hollow rubber ball having a vacuum cup depending inwardly from the inside surface thereof, and a smooth plane surface on the inner side of said hollow rubber ball directly opposite the said vacuum cup, and a scratch on said plane surface for the restricted passage of air from the inside of said ball to the inside of said vacuum cup when the vacuum cup is in sealing engagement with said plane surface.

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