

T. M. GREGORY,
TOY BALL.
APPLICATION FILED MAY 25, 1918.

1,356,817.

Patented Oct. 26, 1920.
2 SHEETS—SHEET 1.

FIG. 1

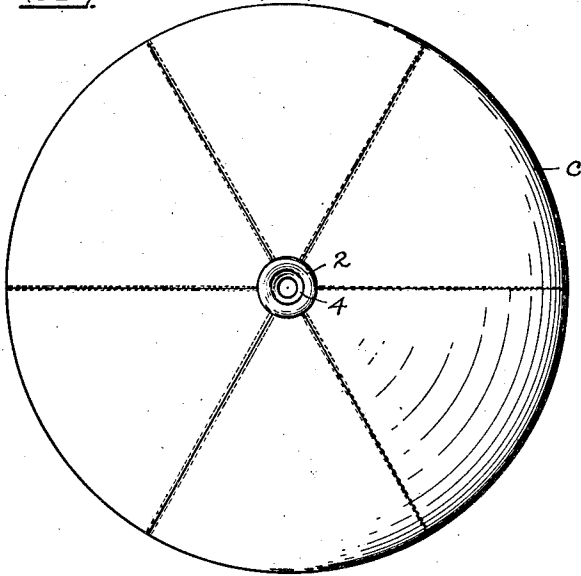


FIG. 2

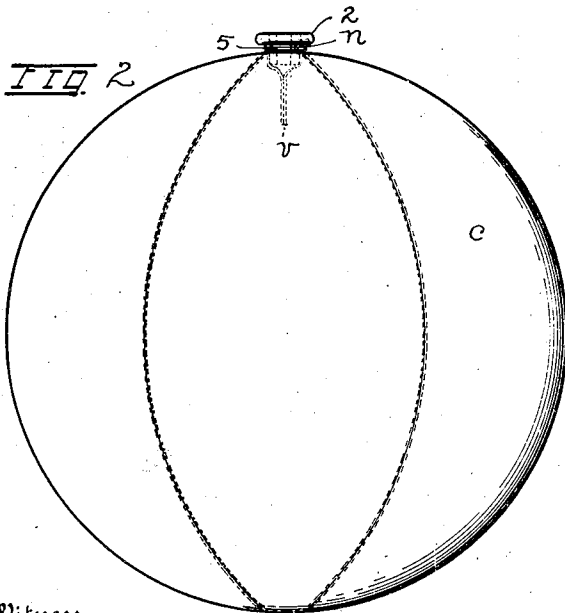
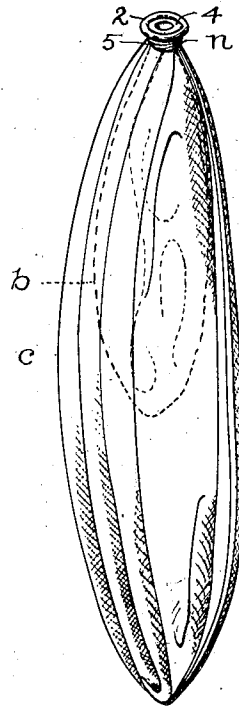


FIG. 3



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2 SHEETS—SHEET 2.

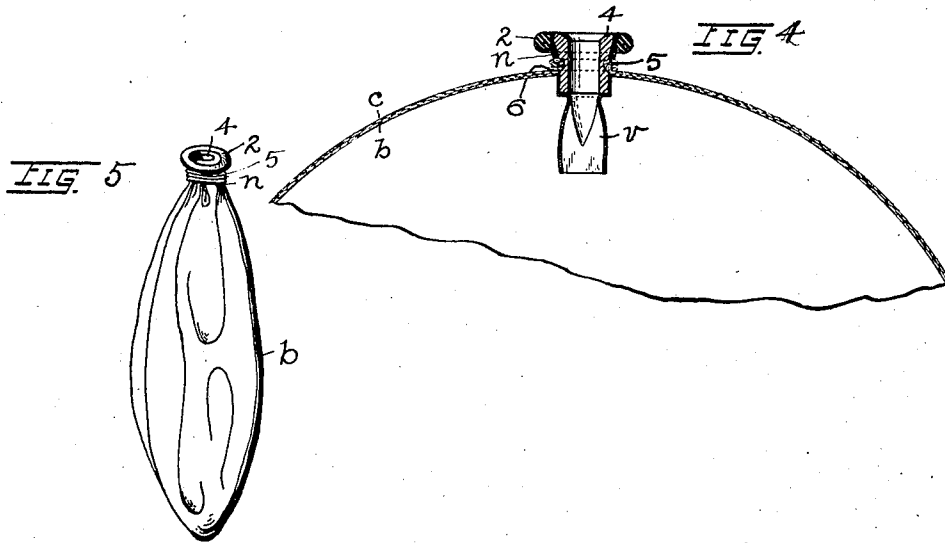


FIG. 8

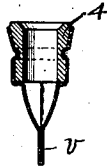


FIG. 9



FIG. 10



FIG. 11

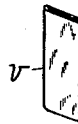
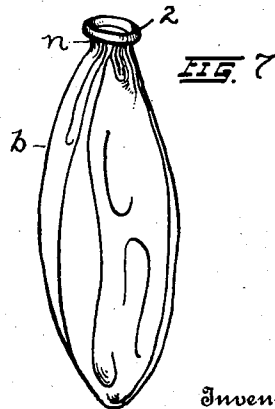
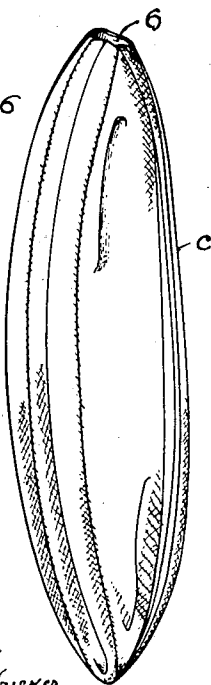


FIG. 6



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THOMAS M. GREGORY, OF AKRON, OHIO.

TOY BALL.

1,356,817.

Specification of Letters Patent.

Patented Oct. 26, 1920.

Application filed May 25, 1918. Serial No. 236,613.

To all whom it may concern:

Be it known that I, THOMAS M. GREGORY, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Toy Balls, of which the following is a specification.

My invention pertains to a toy ball and the invention consists in a combined inflatable elastic rubber ball member and a substantially inelastic flexible cover therefor having an opening through which a short valved nipple on the ball projects and is permanently exposed to permit the ball to be inflated and deflated at the pleasure and will of the individual handling the article.

In the accompanying drawings Figure 1 is a top or plan view of the complete toy inflated. Fig. 2 is a side elevation thereof, also inflated. Fig. 3 is a perspective view of the toy deflated and showing the internal rubber member or ball in dotted lines. Fig. 4 is a sectional view, enlarged, of the nipple portion of the rubber ball and its cover. Fig. 5 is a perspective view of the rubber pouch or ball member deflated and with the nipple and valve therein. Fig. 6 is a side view of the cover or jacket folded, and Fig. 7 is a perspective view of the rubber ball without the nipple and valve. Fig. 8 is a sectional elevation of the nipple or mouth-piece with the collapsible valve sleeved thereon. Fig. 9 is a detail of the rubber band or strap to fasten the parts together. Fig. 10 is a detail view of the wood nipple, and Fig. 11 a detail of the flat rubber tube which forms the valve.

In general, the toy comprises a thin rubber inflatable member *b* inclosed within and protected by a textile cover *c*. Separately considered, the part referred to herein as the ball member *b* is characterized by a short neck *n* of relatively small diameter having an annular enlargement or bead 2 of rubber about the top thereof and which bead serves a special purpose in connection with the cover as hereinafter described. This neck contains a valve *v* made of a piece of flat rubber tubing expanded and sleeved at one end upon the wooden nipple or mouth piece 4 and with its opposite end extending into the ball in its flat or collapsed state to provide an air-tight valve, especially when the ball is stretched and inflated. The said nipple 4, so called, is a small mouth piece made of wood or other solid material oc-

cupping the neck of the ball within the outer portion of the valve and adapted to be blown through to inflate the ball, and this piece is tapered externally and provided with an annular groove or channel about its middle to receive the rubber band 5 in binding relation about the neck *n*, and thus secure the valve tube on the nipple and both together in said neck. This completes the equipment of the rubber ball member proper for my present use.

The other and coöperating member or part is the stitched cover or jacket *c* of greater size than the rubber member *b*. This is made say of cotton, silk, or other light textile fabric cut into equal sections shaped to produce a spherical outline with the axis or poles thereof at the points where the extremities of the said sections intersect. One of these axial or polar points is left permanently open to engage about the base of the neck of the ball member *b*, and in manufacturing the article usually one of the seam lines of the cover is left unstitched part way from said opening 6 to insert the ball member *b*, or the stitching at said intersecting points may be left open more or less all around for this purpose. After ball member *b* is inserted in the cover the stitching is completed to close the opening to approximately the same diameter as the neck and nipple.

In practice the ball member *b* is made of the best rubber stock to provide reserve strength and capacity to be inflated considerably in excess of the confines of the cover, so that when the limit of inflation within the cover is reached and the cover fully distended the rubber will have reserve elasticity and danger of disruption by play or handling will be reduced to the minimum.

The bead 2 on the neck of the ball member *b* has the important function of confining said ball member and the cover in coöperating relations and especially serves to prevent the thrusting of the member *b* into the cover *c* when the parts are deflated. The same purpose might in part be served by beading or enlarging the top of the nipple *n*, but a flexible lip about the mouth piece is preferred and it is large enough in any case to prevent the ball with its nipple and bead equipment from being forced inward through the opening 6. Furthermore, by having the opening 6 in the pole of the cover where the sections thereof come together it

brings the opening 6 where the strain under inflation is equally divided on all the seams and not on one alone, and the ball will also become a symmetrical sphere under maximum inflation.

The bead 2 is always exposed, whether the article is inflated or deflated, with a portion of the nipple therein, although the opening 6 is closed tightly about the nipple. This provides a cover which is left intact and symmetrical as originally made, and the article when inflated may be bounced and handled without objectionable results, notwithstanding, the slight protuberance at the nipple. This protuberance is made short purposely, and the rubber bead protects the wood nipple from splitting in bouncing the ball on hard surfaces. The nipple *n* is described as rigid, and practical rigidity is required as a base upon which to engage the ball and the cover in working relations.

The ball is easily deflated by inserting a small stick or instrument through the nipple and the valve, and it may be inflated

as easily by blowing through the nipple. To make the toy attractive the cover sections are usually designed in various color schemes or combinations, say the national colors of red, white and blue, or the red, black and yellow of Belgium, and the like.

What I claim is:

As a new article of manufacture, an inflatable toy ball made of thin rubber having a short neck with an annular bead of rubber, a short tubular rigid mouth piece occupying said neck and projecting within the ball and terminating at said bead, a flat-sided self-closing valve sleeved partially over said mouth piece, binding means surrounding said neck and valve and mouth piece contiguous to said bead, and a light textile cover made of sections stitched together and having a small permanent opening engaged about the ball neck upon said mouth piece.

Signed at Akron, in the county of Summit, and State of Ohio, this 21st day of May, 1918.

THOMAS M. GREGORY.