Mar. 6, 1923. 1,447,848.

L. R. HOLYCROSS ET AL.

TOY BALLOON.

FILED JAN. 31, 1921.

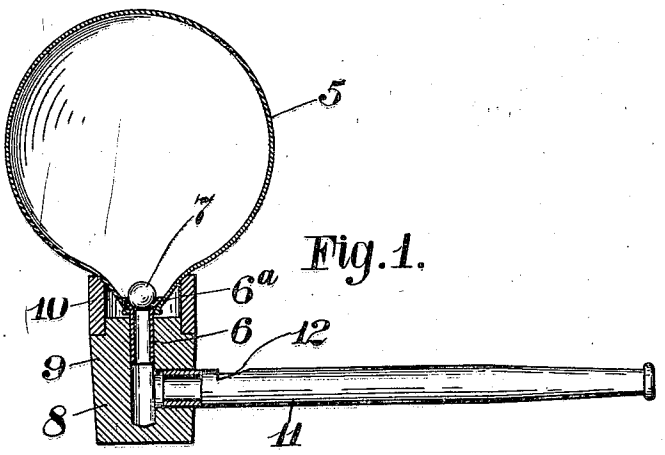


Fig. 1.

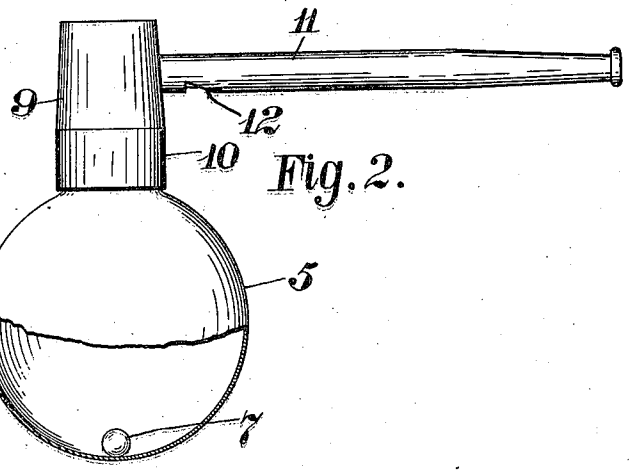


Fig. 2.

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Patented Mar. 6, 1923. 1,447,848

UNITED STATES PATENT OFFICE.

LEVVA R. HOLYCROSS AND RAYMOND W. MARTIN, OF COLUMBUS, OHIO; SAID MARTIN ASSIGNOR, BY MESNE ASSIGNMENTS, TO SAID HOLYCROSS.

TOY BALLOON.

Application filed January 31, 1921. Serial No. 441,111.

To all whom it may concern:

Be it known that we, LEVVA R. HOLYCROSS and RAYMOND W. MARTIN, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Toy Balloons, of which the following is a specification.

This invention relates to the type of toy balloons in which a valve is employed to prevent, if desired, the deflation of the balloon.

Heretofore, so far as we are aware, the deflation of such a balloon has been dependent upon some manipulation of the valve. The object of the present invention is to provide improved means whereby the position of the valve—that is whether to be seated or unseated may be determined without manipulation of the valve itself but chiefly by changing the position of the balloon and the valve seat. Other objects will appear from the disclosure herein.

The invention is embodied in the construction herein shown and described, the features of novelty being finally claimed.

In the accompanying drawing:—

Figure 1 is a sectional view showing the balloon in the upright position and partly inflated and the valve seated.

Fig. 2 is a side view with the balloon in section showing the device in the inverted position with the valve unseated and with the balloon in the act of deflating.

In the views 5 designates the balloon which is formed with a contracted flexible neck. The neck is stretched or otherwise secured around the flared end 6^a of a tube 6. The extension 6^a forms a wall around the valve seat to maintain at all times a free passage for the valve toward the inflatable member to a position beyond the range of inflating pressure to reseat it. The tube is made of hard inflexible material, as for example metal or gutta percha. The flared portion 6^a forms the valve seat, the valve 7 being a ball or sphere preferably of steel, adapted when in the seat to close the passage through the tube. In the instance shown the straight portion of the tube is pressed into a hole 8 in a block 9 of wood. The end of the block containing the tube is circularly rabbeted to receive a removable bushing or collar 10. This bushing or collar 10 forms a guard to protect the neck of the balloon and the valve seat from manipulation and injury.

The block 9 is bored at right angles to the axis of the hole 8 to receive a tubular stem 11 communicating with the hole 8. Said stem 11 can be equipped with a reed at 12 or otherwise constructed to provide a whistle operable when the balloon is deflated. The block, collar and stem combine to simulate a tobacco pipe. The balloon simulates a soap bubble. This form is not essential. The balloon is conveniently inflated by turning the device to upright position, that is with the valve seat uppermost and filling it with the breath—the finger meanwhile being held over the whistle opening. In the upright position referred to the valve drops by gravity into the seat but is lifted a little during the inflating operation. When the blowing is stopped the valve is held on the seat by the internal pressure upon the valve and with more or less force according to the degree of inflation. If the device is inverted as in Fig. 2 the valve may or may not fall out of the seat, that result depending upon several conditions, as for example the weight of the valve, the degree of inflation and the accuracy or closeness of the fit of the valve in the seat. If there be a slight leak the valve will eventually drop away owing to the reduction of pressure. In most cases the valve may be shaken out of its seat by a vigorous movement or jerk of the device. But the valve can be readily unseated at will by inverting the device as shown in Fig. 2 and a little further inflation of the balloon. When the valve is thus unseated it falls by gravity into the balloon beyond the range of the internal pressure of reinflation and cannot be reseated until the device is turned to upright position. Obviously the valve can be held on its seat by twisting the balloon so as to close the passage from the valve seat but this is not herein treated as a normal operation. By normal inflating pressure it is meant such pressure as would be ordinarily used in the practical operation of the toy. In deflating as described, the whistle is operated.

As before suggested the forms of the parts can be changed without departing from the gist of the invention as claimed.

What we claim is:

1. In a toy balloon the combination of an inflatable member of elastic material pro-

vided with an inflating opening having a valve seat, a freely movable valve for said seat, means whereby said inflating opening is normally at all times provided with a free passage for the valve extending from the valve seat toward the inflatable member and into which passage the valve is adapted to fall from the valve seat, while the inflatable member is inverted and deflated, to a position beyond the range of internal inflating pressure to reseat the same, substantially as described.

2. In a toy balloon the combination of an inflatable member of elastic material provided with an inflating opening having a valve seat of relatively hard material, a freely movable spherical valve of relatively hard material for said seat, means whereby said opening is normally at all times provided with a free passage for the valve extending toward the inflatable member and into which passage the valve is adapted to fall from the valve seat to a position beyond the range of internal inflating pressure to reseat the same when said member is deflated and in inverted position, substantially as described.

3. In a toy balloon, the combination of an inflatable member having a neck with a valve seat of inflexible material therein adapted to receive a spherical valve to close the neck, and a valve of spherical form within said neck adapted to seat upon said seat to close said neck, said valve adapted upon the application of equalizing external breath pressure to be projected into the inflatable member by gravity beyond the reseating influence of internal pressure when the inflatable member is turned to inverted position, substantially as described.

4. In a toy balloon, the combination of an inflatable member having an inflating opening provided with a valve seat, means normally providing at all times a free passage for a valve between said seat and points beyond the range of normal inflating pressures to reseat such valve, and a valve for said seat freely movable between said seat and points, substantially as described.

5. In a toy balloon, the combination of an inflatable member having an inflating opening provided with a valve seat, means normally providing at all times a free passage for a valve between said seat and points beyond the range of normal inflating pressures to reseat said valve, and a ball valve for said seat freely movable between said seat and points, substantially as described.

6. In a toy balloon, the combination of an inflatable member having an inflating opening provided with a valve seat, and a rigid wall around and beyond the valve seat normally providing at all times a free passage for a valve between said seat and points beyond the range of normal inflating pressures to reseat such valve, and a valve for said seat freely movable between said seat and points, substantially as described.

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