

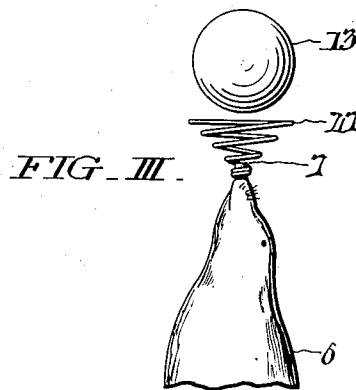
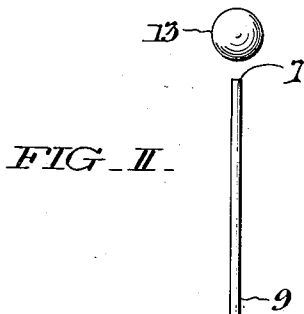
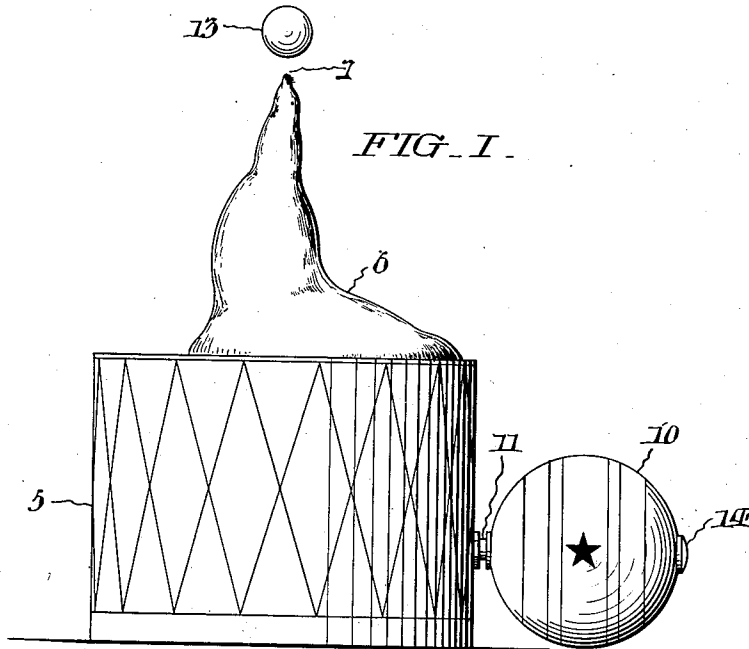
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TOY

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TOY

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3 Claims. (Cl. 46-44)

This invention relates to a toy characterized by an upward directed fluid stream or jet, in which a ball or other object may float,—either just balancing, or playing up and down, etc. An object of the invention is to provide a simple device of this character that can be given a pleasing and interesting external appearance, and can be produced at small expense. I also aim to provide for using a pumping device having an irregular, pulsatory, or intermittent delivery (such as an elastic bulb) to supply fluid to the jet, without extreme fluctuations of fluid pressure and flow. Various other features and advantages of the invention will appear from the following description of a species or form of embodiment, and from the drawings.

In the drawing, Fig. I is a side view of one form of toy conveniently embodying the invention, with a ball in play.

Fig. II shows a vertical mid-section through the essential structure and operative mechanism of the device, with a ball in play, one of the external parts shown in Fig. I having been removed.

Fig. III is a fragmentary side view of a nozzle such as shown in Figs. I and III, with the ball and a receiver therefor.

As here illustrated, the device includes a frame or casing 5 which may have any attractive or otherwise appropriate form and appearance, and is shown as shaped and decorated like a drum. The image of a living creature 6 may be included in or associated with the structure 5: in the present instances, this consists of a seal, sitting, as it were, on the top of the drum, with his nose turned upward. Besides purposes of decoration, the structure 5 may serve to support and/or to house the operative parts. These are shown in Fig. II as comprising an upward directed nozzle 7 for elastic fluid, protruding or delivering from the mouth or nose of the seal 6, and having a (metal) supply tube connection 9 extending into the casing 5; a pump device 10 for supplying elastic fluid under suitable pressure to the nozzle 7, here arranged outside the casing 5, with a (metal) delivery tube connection 11 extending into this casing; and a pressure and flow equalizing reservoir 12 within the casing 5, interposed and connected between the nozzle-supply and pump delivery tubes 9 and 11. There is also shown a (spherical) object 13 intended to balance, float, or play on the (air) jet from the nozzle 7,—as if being balanced or juggled by the seal 6 on the tip of his nose. This object 13 may preferably consist of a very light hollow (celluloid) ball. The nozzle 7 may in practice consist

of the unmodified open circular end of a round supply tube 9.

As here shown, the pump 10 is of a pulsating or intermittent-delivery type, consisting of a spherical elastic-walled (rubber) bulb, with an intake check-valve 14 mounted in one side, and with an outlet check valve 15 in its delivery tube 11. The tube 11 may be mounted on or attached to the side wall of the casing 5 by means of a shoulder mounted on the tube and a flange 16 screwed on the same, and it has a somewhat pear-like enlargement 17 (secured) on its end within the casing. The nozzle supply tube 9 is similarly mounted on or attached to the top wall of the casing 5 by means of a shoulder on the tube and a flange 18 screwed thereon, and has a similar end enlargement 19 within the casing. The equalizing reservoir 12 is preferably volumetrically elastic, and is shown as an elastic-walled spherical (rubber) cell or balloon, with inlet and outlet necks 21, 22 that fit tight on the enlarged ends of the tubes 11 and 9. As shown, the ends of the balloon necks 21, 22 are thickened into stout flanges or elastic bands 23, 24 that fit tightly on the tubes 11 and 9 beyond their enlarged ends 17 and 19, so as to fasten these necks securely on the tubes. The casing 5 is shown with its bottom wall 25 raised somewhat above the lower edge of its cylindrical side-wall; and this bottom wall 25 has an air-vent hole 26 for the escape and entrance of air when the reservoir 12 inflates or enlarges and deflates or contracts. As shown in Fig. II, the balloon 12 is supported and kept in position in the interior of the casing 5 by the connections 9 and 11, being suspended from the former so as to be out of contact with the casing walls when not greatly distended.

Fig. III shows a modification in which the delivery tube 9 projects appreciably above the nose of the seal 6 and is equipped with a receiver 27 for the object 13, consisting of a wire coiled in a conical spiral, and formed into a ring at the small end of the spiral to fit on the small end of the tube. This receptacle 27 serves to hold the object 13 in proper position at the end of the nozzle 7 when the air is not flowing, and to catch it when the air flow ceases. When the air is continuously flowing, however, the receptacle 27 may (if desired) be taken off the tube 7 and laid aside.

In the operation of the device, the bulb 10 is continually squeezed more or less flat and allowed to expand. The elastic cell 12 compensates for irregular or intermittent air flow from the bulb 10,—alternately expanding and contracting to

give a continuous jet of air from the nozzle 7, of sufficiently uniform pressure and velocity. Mere fluctuations of pressure and velocity are unobjectionable, since they merely agitate the object 13 up and down,—as if the seal 6 were tossing it up and catching it. By very light squeezes of the bulb 10, an air jet of very small flow and velocity can be produced, so that the object 13 will merely seem to balance on the tip of the seal's nose, without rising and falling. With experienced and imaginative operation of the device, sufficient variety and realism of juggling by the seal 6 can be produced to entertain and please for a considerable time.

15 Having thus described my invention, I claim:

1. In a toy, the combination of a casing and support structure; an upward directed fluid nozzle with a supply connection attached to and extending into said casing; an elastic bulb outside said casing, for pumping fluid to said nozzle, having an air delivery connection into the casing; and an elastic pressure equalizing reservoir in said casing connected to said bulb delivery and nozzle supply connections.

2. In a toy, the combination of a casing and support structure; an upward directed fluid nozzle having a supply connection attached to and extending into said casing; an irregularly delivering pump outside said casing for pumping fluid to said nozzle, with an air delivery connection attached to and extending into the casing; and an elastic pressure equalizing reservoir in said casing interposed between and supported by said pump delivery and nozzle supply connections. 10

3. In a toy, the combination of a casing and support structure; an upward directed fluid nozzle having a supply connection extending down through the top of said casing and attached thereto; an elastic bulb outside said casing, for pumping fluid to said nozzle, with an air delivery connection extending into the casing through its side; and an elastic pressure equalizing reservoir in said casing suspended from said nozzle supply connection, and also connected to said bulb delivery connection. 15 20

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