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C. S. RAIZEN
BUBBLE-PRODUCING TOY
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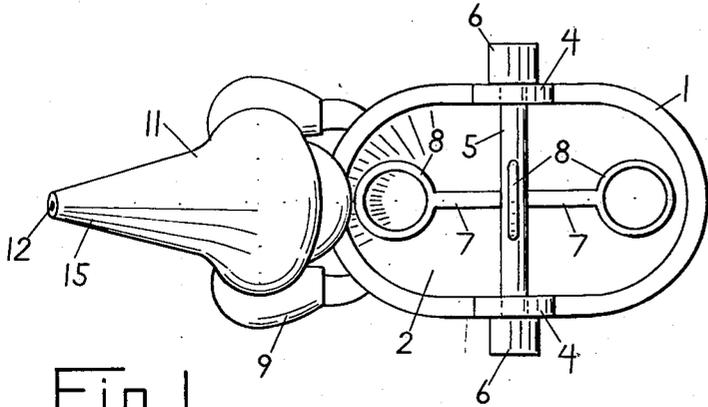


Fig. 1

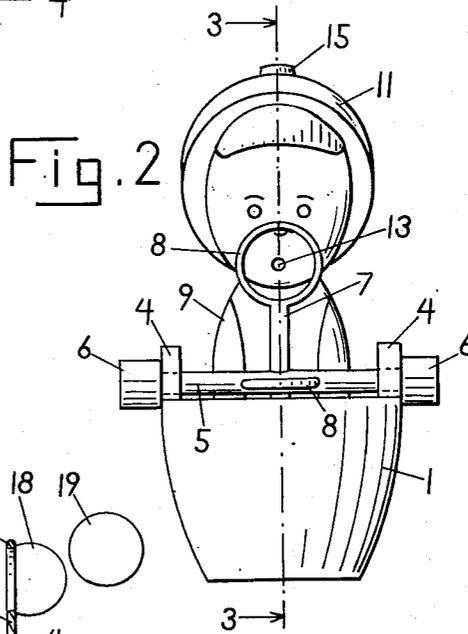


Fig. 2

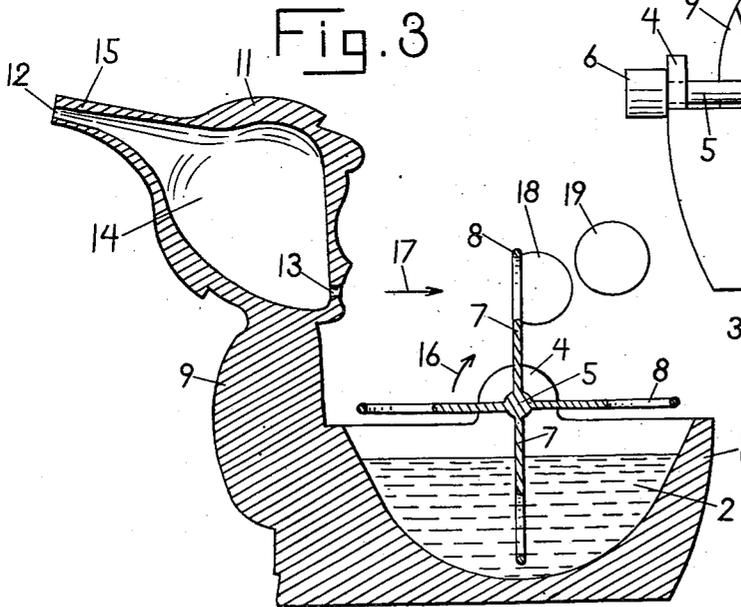


Fig. 3

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BUBBLE-PRODUCING TOY

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4 Claims. (Cl. 46-7)

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My invention relates to toys that produce bubbles by blowing a thin film of soapy liquid into globular shape. The soapy liquid may be a solution of soap in water or a solution or mixture of similar consistency and viscosity adapted for the formation of bubbles, and any such solution or mixture is called a soapy liquid in the following specification and claims.

Objects of my invention are to facilitate the production of accurately shaped globular bubbles, to produce bubbles continuously in continuous series and thereby to increase the entertaining effect of the toy.

Other objects are to use a frame for picking up, carrying and releasing a film of soapy liquid, and a blowing tube positioned out of contact with the soapy liquid, thereby to avoid the possibility that soapy liquid obstructs the blowing tube or is sucked back into the mouth of the blowing person, and further thereby utilizing the strong and straight air flow produced by a blowing tube which air flow is much more efficient than the air flow produced when a frame is swung by hand.

Further objects are to make the air flow more steady and lasting by providing the blowing tube with a wide air space interposed between the inlet and the outlet of the tube, thereby to accumulate compressed air in the tube when the operator blows whereby the outlet of the tube will discharge air for a short time after the operator has ceased blowing, and thereby to facilitate the continuous production of bubbles.

Still other objects are to incorporate the blowing tube in the head of a figure simulating a living body, for example a person or an animal, to use the mouth of this figure head as outlet for the blowing tube, thereby to simulate a blowing living body, and thereby to increase the amusing effect of the toy.

Still further objects are to provide a toy of the mentioned nature that can be easily and inexpensively made and assembled, and that can be easily operated by a child.

Still other objects and advantages will appear from the following description of an exemplifying embodiment of my invention, from the appended claims and from the accompanying drawing in which:

Fig. 1 shows a top view of an illustrative embodiment of my invention.

Fig. 2 shows a front view of the same embodiment.

Fig. 3 shows a sectional side view of the same embodiment, this section being taken along the line 3-3 in Fig. 2.

Referring to the drawing, numeral 1 indicates a bowl or a similar receptacle containing a soapy liquid 2. Bearings 4 form upper projections of this bowl's rim.

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A shaft 5 passes rotatably through the bearings 4 and has outer ends provided with buttons 6 which may have cylindrical surfaces roughened for better grip. One or several arms 7, for example, four arms are affixed to the shaft 5 and extend from the shaft radially. Each arm 7 terminates in a ring-shaped frame 8. The area surrounded by a frame 8 lies in a plane that is radial with respect to the shaft axis. All arms 7 have preferably the same length. This length is so measured that the frame carried by an arm immerses completely into the liquid 2 when the arm is in downward extending position and that the frame is positioned over the level of the liquid when the arm is in upward extending position. Each of these positions corresponds to one of the rotary positions of the shaft.

A figure 9 simulating a living body, for example, a boy is affixed to the bowl 1 and may form an integral extension thereof. The figure 9 has a hollow head 11 provided with an inlet opening 12 and an outlet opening 13. The inner space 14 of the head 11 is considerably wider than these openings whereby the head constitutes a blowing tube with a channel having a bulge-like widened median part. The outlet opening 13 simulates the mouth of the boy and is directed toward that frame 8 which is in the most raised position. This direction is perpendicular to the area surrounded by the frame. The inlet opening 12 is positioned in the rear of the head 11. The rear head end containing the inlet opening may simulate a hat tip 15 and may have an elongated shape suitable for insertion into the mouth of the operating person.

The described toy operates as follows:

The operating person blows through the tip 15 and, at the same time, turns one of the buttons 6 in the direction of the arrow 16 in Fig. 3. Thereby the shaft 5 and the arms 7 with the frames 8 are rotated in the same direction. This rotation guides the frames 8 in a path that has a stretch immersed in the liquid 2 and has another stretch positioned over the level of the liquid. While passing through the liquid, each frame picks up a film of soapy solution which, then, is raised by the frame out of the liquid and which spans over the area surrounded by the frame.

When the frame reaches the position in front of the opening 13, the air blown from this opening in the direction of the arrow 17 hits the film whereby the latter is inflated. An initial stage of the inflated film is shown in Fig. 3 at 18. Immediately thereafter, the film forms a globular bubble and separates from the frame as shown at 19. Each frame may release one or several bubbles.

Continuation of the rotation continuously brings further film-carrying frames into position before the outlet 13 whereby a continuous pro-

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duction of bubbles results. This continuous production is facilitated by the space 14 in the blowing tube which results in a more steady and longer lasting air flow.

The blowing tube is permanently separated from the soapy liquid and is permanently held in proper position. Hence the air hits the film always efficiently and uniformly, and the soapy liquid can neither obstruct the blowing tube nor reach the mouth of the operator.

I desire it understood that my invention is not confined to the particular embodiment shown and described, the same being merely illustrative, and that my invention may be carried out in other ways within the scope of the appended claims without departing from the spirit of my invention as it is obvious that the particular embodiment shown and described is only one of the many that may be employed to attain the objects of my invention.

Having described the nature of my invention, what I claim and desire to protect by Letters Patent is:

1. A bubble-producing toy comprising a bowl for a soapy liquid, a frame movably connected to said bowl and guided in a path having a stretch positioned in said bowl under the level of said liquid, passing in upward direction through a part of the surface of said liquid which forms a full area, and having another stretch positioned over said level whereby said frame when moved carries a soapy film out of said liquid, said frame surrounding an opening passing through said frame substantially in the direction of said path and having a broad side positioned across said path direction, and a blowing tube affixed to said bowl and having an outlet narrower than said frame and directed toward said frame when the latter is positioned over the liquid level.

2. In a bubble-producing toy, a film-positioning device comprising a bowl for a soapy liquid, and a frame movably connected to said bowl and guided in a path having a stretch positioned in said bowl under the level of said liquid, passing in upward direction through a part of the surface of said liquid which forms a full area, and having another stretch positioned over said level where-

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by said frame when moved carries a soapy film out of said liquid, said frame surrounding an opening passing through said frame substantially in the direction of said path and having a broad side positioned across said path direction.

3. In a bubble-producing toy, a film-positioning device comprising a bowl for a soapy liquid, a horizontal shaft rotatably supported by said bowl, a frame for carrying a film of said liquid, and an arm connecting said frame to said shaft whereby said frame is guided in a circular path, said arm having such a length that said frame is immersed in said liquid in one rotary position of said shaft and that said frame is raised over the level of said liquid in another rotary position, said frame surrounding an opening passing through said frame substantially in the direction of said path and having a broad side positioned across said path direction.

4. A bubble-producing toy comprising a bowl for a soapy liquid, a frame rotatably connected to said bowl and guided in a circular endless path having a stretch positioned in said bowl under the level of said liquid, passing in upward direction through a part of the surface of said liquid which forms a full area, and having another stretch positioned over said level whereby said frame when moved carries a soapy film out of said liquid, and a blowing tube affixed to said bowl having a median part forming a bulge-like, considerably widened inner space and having an outlet narrower than said frame and directed toward said frame when the latter is positioned over the liquid level.

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