April 21, 1959 A. G. JIANAS ET AL 2,882,643

BUBBLE TOY

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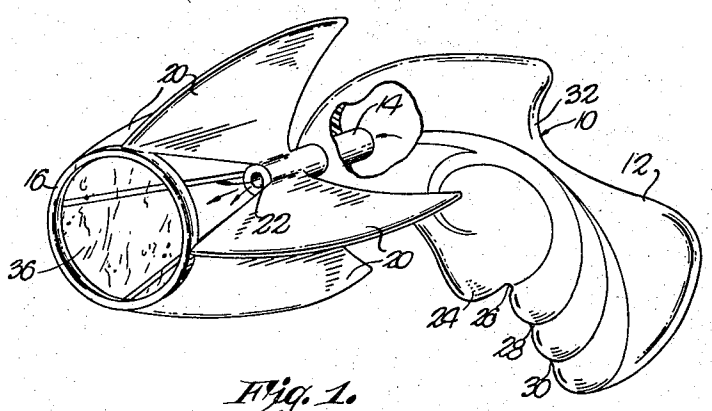


Fig. 1.

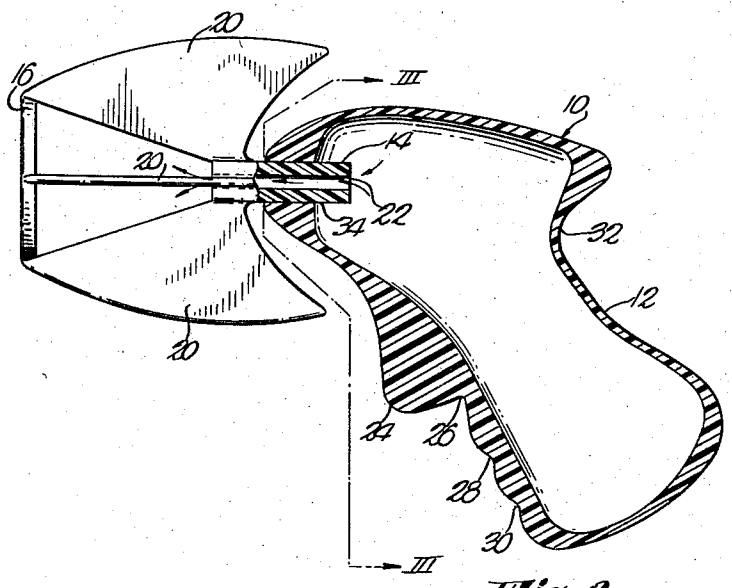


Fig. 2.

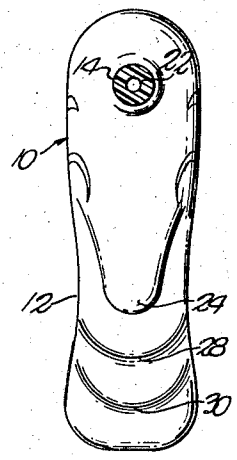


Fig. 3.

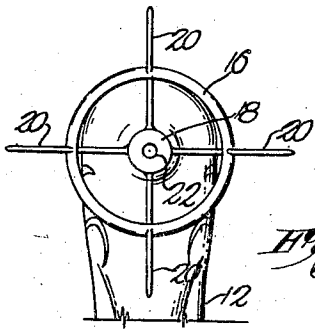


Fig. 4.

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BUBBLE TOY

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1 Claim. (Cl. 46—6)

This invention relates to bubble toys and more particularly to a toy bubble pistol designed for use with a suitable substance to produce bubbles for the pleasure and enjoyment of the operator of the device.

The primary object of this invention is to provide a bubble toy in the nature of a pistol wherein a flexible hollow hand grip has a barrel inserted therein and disposed in such relation to a ring that upon squeezing the hand grip air is forced out of the hand grip through the barrel and toward the ring, causing bubbles to be formed from a film held by the ring, and the bubbles projected forwardly as bullets from a gun.

A further object of the instant invention is to provide a bubble toy that is economical to manufacture and assemble and, being simple in operation, can be used and enjoyed by children.

Other objects of the invention will become apparent during the course of the following description of the form of the invention illustrated in the accompanying drawing wherein:

Figure 1 is a perspective view of a bubble toy made in accordance with the present invention, with a portion cut away for clarity.

Fig. 2 is a side elevational view thereof with the hand grip shown in cross-section.

Fig. 3 is a cross-sectional view taken along line III—III of Fig. 2.

Fig. 4 is a fragmentary front elevational view thereof.

The bubble toy forming the subject matter of the instant invention, being broadly designated by the numeral **10**, is in the form of a pistol and is comprised of a hollow hand grip **12** having a tubular barrel **14** mounted in communication therewith, and a ring **16** disposed outwardly from air outlet end **18** of the barrel **14**, ring **16** being maintained in its outwardly fixed position by a plurality of fins **20** which connect barrel **14** therewith.

Hand grip **12** is preferably formed of a flexible material such as plastic, rubber or any other suitable material which will allow it to be squeezed in order to force air outwardly through a passage **22** of the barrel **14**, and yet return to its original shape upon the release of said pressure. Formed as a part of the hand grip **12** and located beneath outwardly extending barrel **14** is a boss **24** which simulates a trigger and is adapted to received the finger of the operator of the device. Immediately below boss **24**, and extending rearwardly and downwardly therefrom along the front edge of the hand grip **12**, are indentations **26**, **28** and **30**, designed to receive the fingers of the operator of the device and to facilitate the squeezing action necessary for the operation of bubble toy **10**.

On the normally rear edge of hand grip **12**, and in opposed relationship to boss **24**, is formed a recess **32** which is so located as to conform to the hand of the person holding hand grip **12**, and which serves as a further aid to the operator in exerting the necessary pressure to propel air out of the hollow hand grip **12** and through the passage **22** of barrel **14**.

Hand grip **12** is also provided with an opening **34** for the purpose of receiving barrel **14** which is forcibly inserted into opening **34** and frictionally held in place therein. Opening **34** is of initially smaller circumference than the outer circumference of barrel **14** and accordingly, after its insertion into opening **34** barrel **14** is held firmly in place therein as a result of the flexible nature of the material from which hand grip **12** is formed, the need for any adhesive agent being thereby eliminated.

Barrel **14**, as shown in the drawing, is cylindrical in shape and has the passage **22** extending along the longitudinal axis thereof. As a result of passage **22** opening at its inner end into the interior of hollow hand grip **12**, the air pressure created by squeezing hand grip **12**, is directed through passage **22** and against a film **36** created across ring **16** by dipping the latter into a suitable bubble-forming substance.

As the air leaves the air outlet end **18** of barrel **14**, the greater portion thereof, by reason of being under pressure, is directed against film **36** formed across ring **16**. Furthermore, since the diameter of ring **16** is substantially larger than that of passage **22**, the natural diffusion of the air as it passes beyond outlet end **18** is compensated for by said difference in diameters and a major portion of the air leaving passage **22** is thus directed against film **36**.

However, since a portion of the air leaving the air outlet end **18** of barrel **14** has a tendency to move laterally from said end **18**, it is desirable to properly guide the laterally moving air in order that the bubbles formed by the major portion of the air striking film **36** may be projected in a linear path from ring **16** and thus simulate the flight of bullets from a pistol.

To provide such control over the laterally moving air, fins **20** are disposed radially to barrel **14** and ring **16** and have a generally triangular surface area whereby to effectively guide the flow of laterally moving air in a direction that is truly radial to the path of the air being directed against film **36**, and thus prevent any swirling action as the bubbles are projected from the pistol **10**.

In operation, pistol **10** is held by means of hand grip **12**, the index finger of the operator's hand being received by boss **24**, the remaining three fingers received by indentations **26**, **28** and **30** respectively and the contour of the hand between the thumb and index finger being received by recess **32**. Thus holding the pistol **10**, ring **16** is dipped into a suitable fluid, such as soap suds, or preferably a commercial soap bubble solution provided for such purposes, and film **36** is formed across ring **16** when the toy bubble pistol **10** is withdrawn from the solution. Hollow, flexible hand grip **12** is then squeezed, forcing the air therefrom, along passage **22** of barrel **14**, and against film **36**, inflating the film **36** and projecting a series of bubbles outwardly in a linear path from ring **16**, as bullets from a pistol.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

A toy bubble pistol comprising a hollow hand grip; a

tubular barrel mounted on the hand grip in communication therewith and extending laterally therefrom; a ring spaced outwardly beyond the outermost end of the barrel and disposed in coaxial alignment therewith, the hand grip being flexible in its entirety for pumping air through the barrel to produce bubbles from a bubble forming film created across the ring, said hand grip being provided with a finger receiving boss therebeneath simulating a trigger, a recess in opposed relationship to the boss conforming to the contour of the hand and a plurality of finger receiving indentations adjacent the boss; and a

plurality of circumferentially spaced fins interconnecting the barrel and the ring, and fins having a substantially triangular surface area and being radial to the barrel and the ring whereby to control the flow of laterally moving air emanating form the barrel and force the bubbles to project in a linear path from the ring.

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