United States Patent

Dumont

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[54] TOY GUN WITH BUBBLE-FORMING SIGHT

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[52] **U.S. Cl.** **46/8**

[51] **Int. Cl.** **A63h 33/28**

[58] **Field of Search** 46/8, 6; 124/27, 22

[56] **References Cited**

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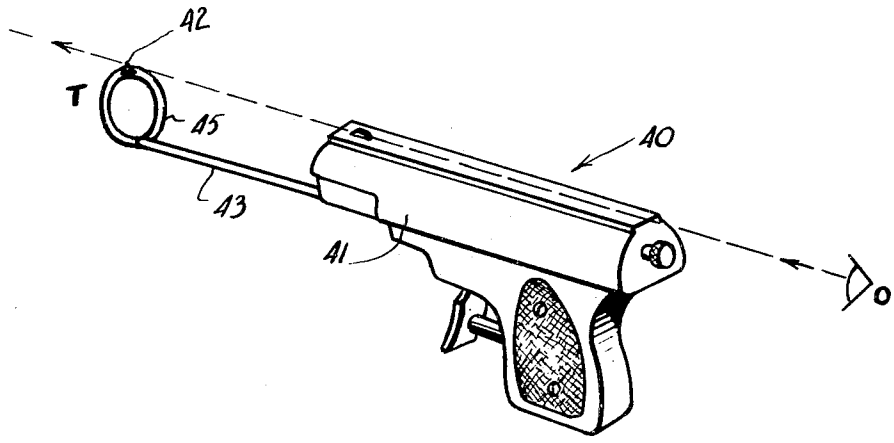
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[57] **ABSTRACT**

A toy gun that shoots a projectile, such as a stream of fluid, pellet or missile, has a bubble-making apertured frame element mounted far enough in front of the gun barrel to be dipped in a bubble-making solution without wetting the barrel. The apertured frame element is shaped and positioned to provide a sight for aiming the gun at a bubble.

7 Claims, 5 Drawing Figures



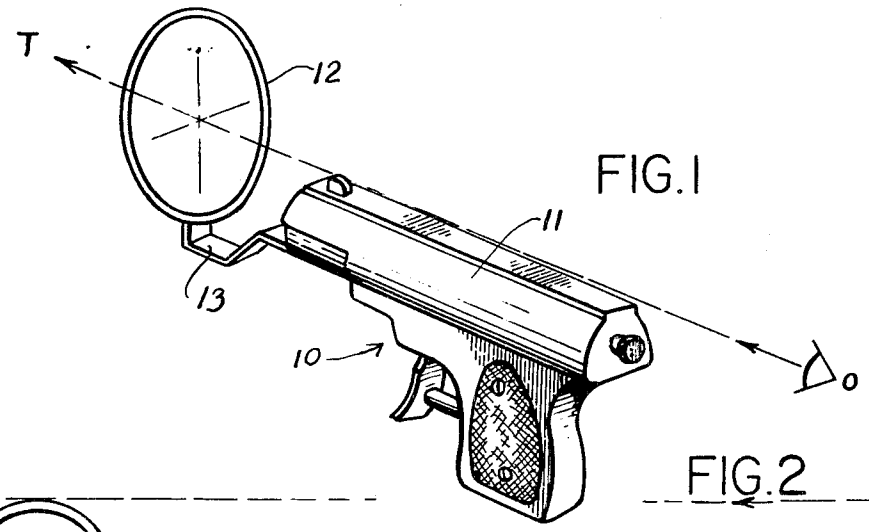


FIG. 1

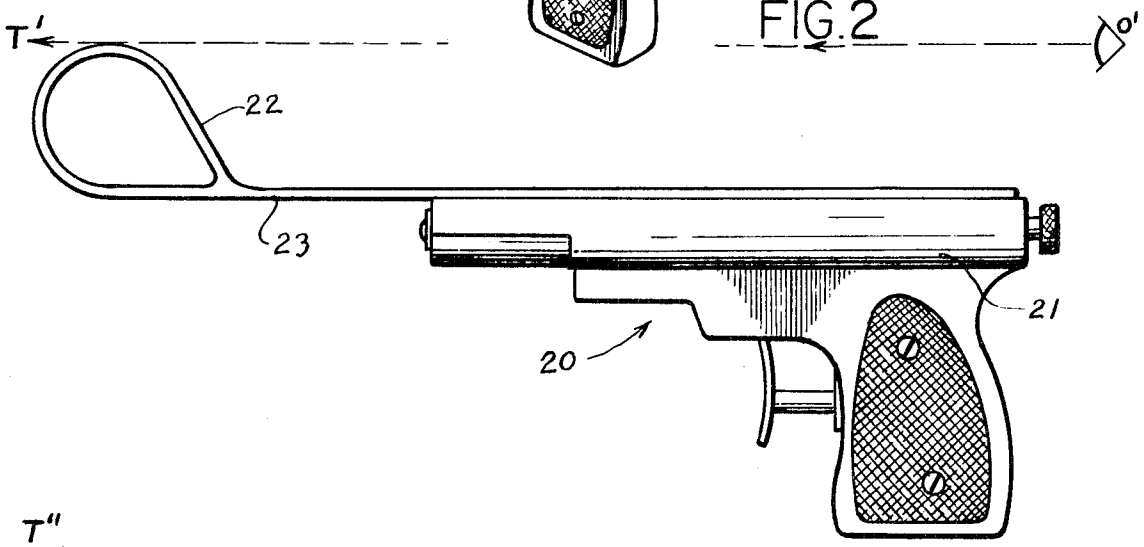


FIG. 2

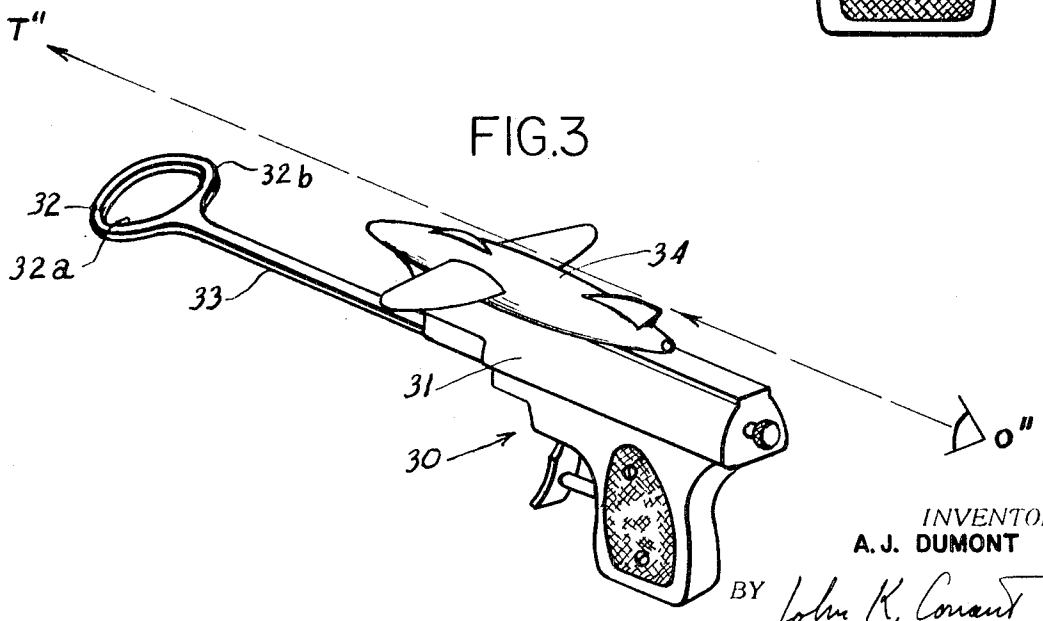


FIG. 3

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FIG.4

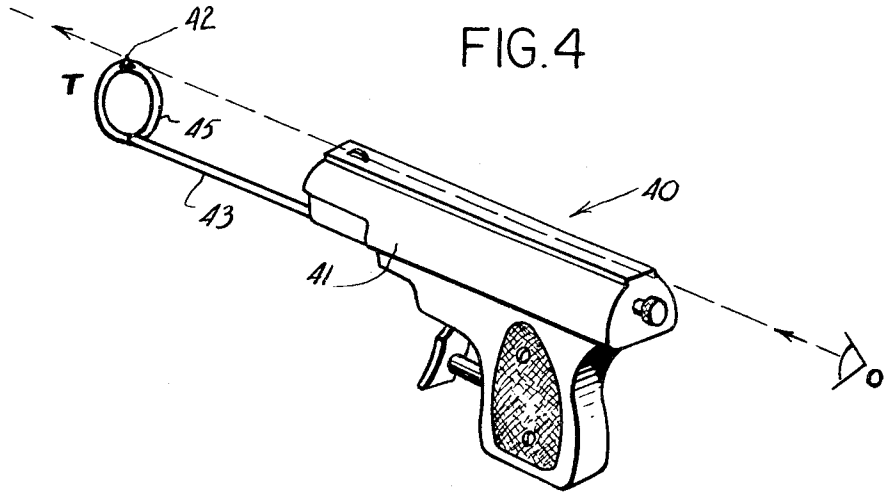
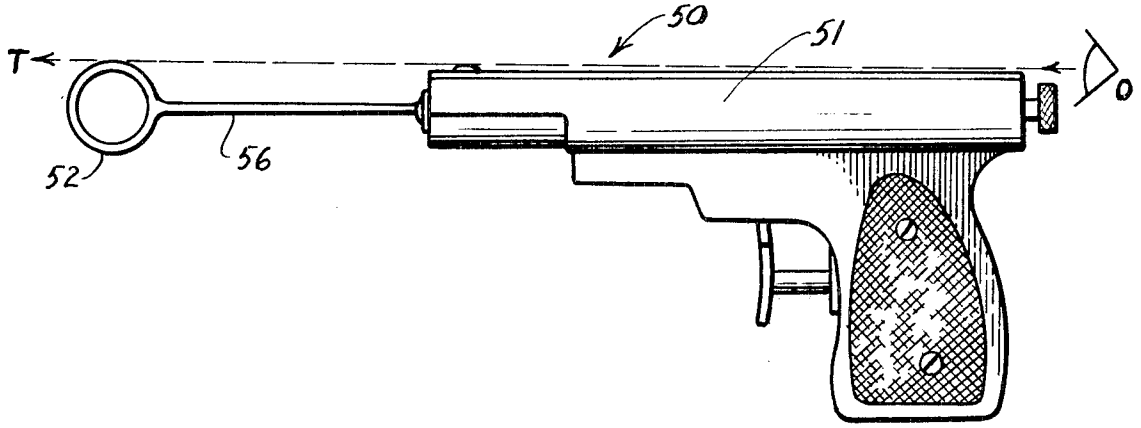


FIG.5



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TOY GUN WITH BUBBLE-FORMING SIGHT

The present invention is a toy gun, such as a hand-type gun, that is adapted to shoot a projectile—either a stream of water, a pellet, dart or missile. An apertured element is mounted in front of the gun barrel and provides integral means for forming bubble targets for the gun and also for sighting the gun.

An object of the invention is to provide a toy projectile shooting gun having integral bubble-forming means which is also a sight for the gun.

Another object is to provide such a toy gun in which the bubble-forming means, which is an apertured element such as a ring, is mounted in front of the barrel far enough out from the end of the barrel to be dipped into a container of bubble-forming solution for wetting the element without wetting the barrel.

Toy guns, such as water guns, which have bubble-forming apertures incorporated therein are known, but in these known designs the apertured portion or element is arranged in such a manner that the end of the barrel itself must be dipped in the bubble-making solution, thereby wetting it. This tends to be sloppy, to waste solution and to detract from the realism of operating the gun. Moreover, in these known toy gun designs the bubble-forming structures are appendages or modifications, which, because they are merely bubble-blowing adjuncts, detract from the simulation of a real gun and thus reduce its appeal to many children.

The toy gun of the present invention overcomes these drawbacks by providing a bubble-blowing means which does not require wetting the gun barrel and which, by also providing a gun sight, increases the utility and realism of the toy.

Further objects, advantages and features of the toy gun of this invention will be apparent from the following description of illustrative embodiments of the invention shown in the accompanying drawings in which:

FIG. 1 is a perspective view of a toy water gun having a bubble-making ring and sight in accordance with the invention;

FIG. 2 is a side view of a toy gun having another form of bubble-making aperture element and sight;

FIG. 3 is a perspective view of a toy missile firing gun having still another form of bubble-making apertured element and sight in accordance with the invention;

FIG. 4 is a perspective view of another toy gun having a further modified form of the bubble-making apertured element and sight; and

FIG. 5 is a side view of yet another form in which the gun is a dart gun and in which the aperture element and sight are provided by a dart adapted to be fired by the gun.

Referring to FIG. 1, a water piston 10 embodying the invention has a barrel 11 with a ring 12 mounted in front of the barrel by a rod or bar 13 connected to the front end of the barrel and carrying the ring on its outward end. The ring 12 is used for making bubbles by dipping it into a container (not shown) of soapy water, or into a commercially available bubble-forming solution to form a film across the ring which may be blown into a free-floating bubble with the breath in the well-known manner.

In accordance with the invention, the ring, or other bubble-forming apertured element is supported by the rod 13 a sufficient distance from the front of the barrel 11 for the ring 12 to be dipped into a bubble-forming solution without wetting the barrel or any other parts of the body of the gun 10.

As already mentioned, in accordance with the invention, the bubble-making apertured element, which is the ring 12 in FIG. 1, also forms a sight for aiming the gun at a bubble target. In the embodiment of FIG. 1, the ring 12 is mounted at right angles across the longitudinal axis of the barrel 11 in line for the child operating the gun to sight along the top of the barrel 11 and through the center of the ring 12, as indicated by the dashed line of sight O–T, for aiming the gun at a bubble, or other target. In this embodiment the ring 12 thus provides a ring-type sight.

The gun 10 shown is a water pistol, but it could also be a pellet or dart-firing gun or a gun which fires any other type of

toy projectile. As used herein the term projectile is intended to include a stream of water or other fluid fired from a water gun as well as pellets, darts, missiles, rockets and the like.

In operation the child dips the ring 12 into a bubble-forming solution (not shown) to form a film across the ring. He then blows on the film to form a bubble and blow it free of the ring, aims the gun at the bubble along the line of sight O–T, and fires. The stream of water or other projectile from the barrel 11 passes through the ring 12 and strikes the bubble if the aim is correct.

FIG. 2 illustrates another form of bubble-making sight consisting of a ring 22 on a rod 23 supported in front of the barrel 21 of a toy gun 20. In this form the ring 22 is above the line of fire of the projectile from the gun barrel and is parallel to the longitudinal axis of the barrel, and in vertical alignment relative thereto, to provide a blade-type sight. As indicated, the operator aims the gun 20 by sighting across the top of the ring 22, along the line of sight indicated at O′–T′. The mode of operation is the same as described for the gun 10 in FIG. 1.

FIG. 3 shows modified arrangement of a bubble-forming sight adapted for a missile- or rocket-firing toy gun 30 which fires a missile or rocket 34, shown supported in firing position on top of the gun barrel 31. In this embodiment the bubble-making ring 32, being supported on a rod 33 out in front of the barrel 31, is parallel to the longitudinal axis of the barrel 31, and is horizontal relative thereto to enable the missile or rocket 34 to pass over it when fired. In this instance the laterally opposite side edges 32*a* and 32*b* of the ring 32 form the opposite side edges of a sight and the gun 30 is aimed by sighting over the top of the missile or rocket 34 on the barrel 31 and midway between the side edges 32*a* and 32*b* along a line of sight indicated by the dash line O″–T″. This gun is operated in the same manner as the guns 10 and 20 shown in FIGS. 1 and 2.

FIG. 4 shows another modified form wherein the bubble-forming ring 42 is mounted at right angles across the outward end of a rod 43 which projects from the front end of the barrel 41 of the gun 40. In this form an upwardly projecting sight vane 45 is on the upper end of the bubble-forming ring 42 in the line of sight O–T along the top of the barrel 41. As in the FIG. 1 embodiment the bubble-making ring is in a position in which the projectile from the gun barrel passes through the ring.

FIG. 5 shows still another embodiment in which the gun 50 is a dart gun in which an elongated dart 56 in firing position in the barrel 51 of the gun projects out from the front end of the barrel. In this embodiment the shaft of the dart 56 is equivalent to the rods 13, 23, 33, and 43 of the previously described embodiments and the bubble-making ring 52 is at the outward end of the dart. The ring 52 illustrated is parallel to the longitudinal axis of the barrel 51 with its upper edge forming the front gun sight in the line of sight O–T along the top of the barrel. The ring 52 could, however, be arranged across or horizontal with respect to the longitudinal axis of the gun barrel in the manner illustrated by the other embodiments.

In the FIG. 5 embodiment, after the dart 56 is loaded into the gun 50, the ring 52 is dipped in bubble-making solution and the bubble is blown. Then the shooter aims the gun at the bubble with the aid of the sight formed by the ring 52, and fires.

The shapes of the apertures of the bubble-making elements (rings 12, 22, 32, 42 and 52) in the respective FIGS. 1 to 5 are not critical. They may be various geometric shapes as indicated in the different Figures.

What is claimed is:

1. A toy gun having a body portion discharging a liquid or solid projectile therefrom when the gun is fired and an element having a bubble-forming aperture therethrough mounted on the body portion with the apertured part of said element projecting into a line of sight from along the body portion and forming a front sight to assist in aiming the gun, said element being mounted with its aperture spaced from said

body portion sufficiently for the apertured part of the element to be dipped in a bubble-making solution without wetting the body portion and for a person using the gun to blow a bubble by blowing on a film of bubble-making solution formed across the aperture by dipping the apertured part in said solution.

2. The toy gun of claim 1 in which the bubble-forming aperture of said element is at right angles across the longitudinal axis of said body portion, thereby to provide a sight aperture for the gun.

3. The toy gun of claim 1 in which the portion of said element having the bubble-forming aperture therethrough is parallel to the longitudinal axis of said body portion in a vertical plane whereby said portion of said element provides a blade-type sight for the gun.

4. The toy gun of claim 1 in which the portion of said element having the bubble-forming aperture therethrough is parallel to the longitudinal axis of said body portion in a horizontal plane whereby said portion of said element provides a sight for the gun, the lateral edges of the latter portion opposite each other in a line at right angles across the axis of

the body portion defining the opposite lateral edges of the sight.

5. The toy gun of claim 1 in which said apertured element is a ring.

6. The toy gun of claim 1 in which said apertured part has a projection thereon extending into a line of sight which is over the body portion of the gun in the direction in which a projectile is discharged therefrom, said projection thereby forming a front sight to assist in aiming the gun.

7. A toy gun discharging a dart therefrom when the gun is fired, said dart being received in firing position in the gun with an elongated shaft portion extending out from the body of the gun, an apertured part having a bubble-forming aperture therethrough on the shaft with the apertured part projecting into a line of sight from along the body and forming a front sight to assist in aiming the gun, said apertured part being spaced from said body sufficiently to be dipped in a bubble-making solution without wetting the body.

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