Sept. 25, 1962 E. E. FOSTER 3,055,352

TOY GUN

Filed June 22, 1959

Fig. 3

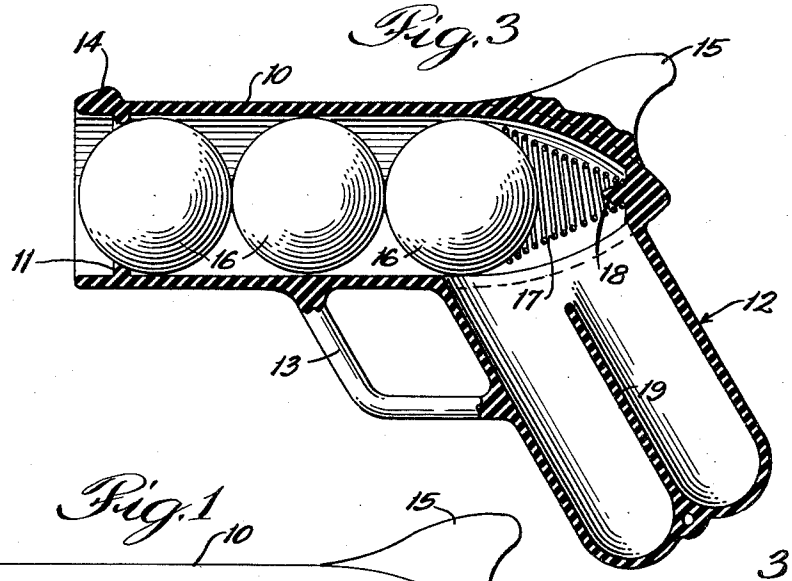


Fig. 1

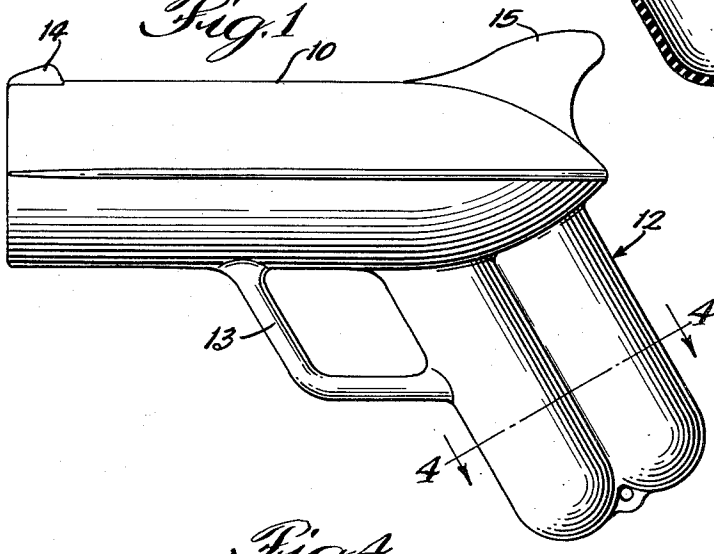


Fig. 2

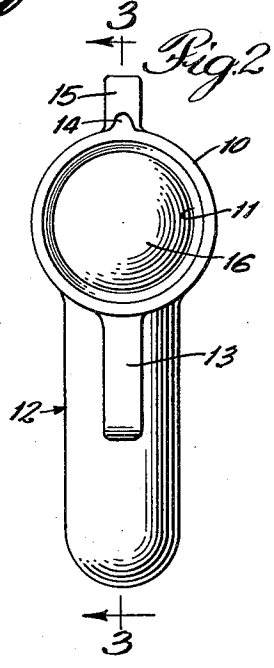


Fig. 4

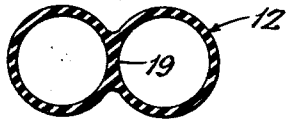
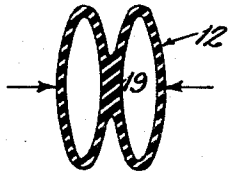


Fig. 5



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3,055,352

TOY GUN

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3 Claims. (Cl. 124—11)

This invention relates to toy guns and more particularly to a toy hand gun or pistol integrally molded of resilient material.

A number of different types of toy hand guns have been proposed having hollow handle portions of resilient material which are squeezed to compress the air therein. One difficulty encountered with such guns is that when the handle portion is squeezed in the hand in a normal manner, the sides of the handle portion tend to bow outwardly so that it must be almost completely collapsed to compress the air therein sufficiently to accomplish the desired firing operation. This makes such guns difficult to use, especially for small children.

It is therefore one object of the present invention to provide a toy gun of the type having a compressible handle portion in which the handle portion is relatively easy to compress and will function to compress the air therein efficiently when it is squeezed in a normal manner and without requiring complete collapsing.

Another object is to provide a toy gun in which the handle portion is wider than its thickness to be squeezed easily along its width and in which the sides thereof are flexibly secured together to prevent bowing out or ballooning thereof during squeezing.

The above and other objects and features of the invention will be more readily apparent from the following description when read in connection with the accompanying drawing, in which:

FIGURE 1 is a side elevation of a toy gun embodying the invention;

FIGURE 2 is a front elevation;

FIGURE 3 is a section on the line 3—3 of FIGURE 2;

FIGURE 4 is a section on the line 4—4 of FIGURE 1; and

FIGURE 5 is a view similar to FIGURE 4 showing the handle in squeezed condition.

The gun, as illustrated, is molded in one piece from a resilient material, such as rubber or a plasticized plastic which has a substantially rubber-like consistency. As shown, the gun is formed with a tubular barrel portion **10** having an annular sealing restriction **11** adjacent to its muzzle and with a hollow handle portion, indicated generally at **12**, integrally joined to the barrel portion. A trigger member **13** may be molded to join the handle and barrel portions at the lower parts thereof and sighting elements **14** and **15**, as well as any other desired type of external decoration may similarly be molded on the gun.

The barrel portion is adapted to receive a plurality of cylindrical projectiles **16** which are preferably hollow plastic balls, similar to Ping-pong balls. As shown, the barrel is of a length to receive three balls in series and carries a conical compression spring **17** which is seated on an integrally molded internal button **18** at the rear end of the barrel to urge the balls against the sealing ring **11** with a relatively light pressure. Instead of this arrangement a single shot pistol constructed as more particularly

described and claimed in my co-pending application, Serial No. 815,342, filed May 25, 1959, may be employed.

To fire the gun, as so far described, if the balls **16** are placed in the barrel, the handle portion **12** may be squeezed in the hand to compress the air therein. When the pressure becomes great enough to force the outermost ball past the sealing ring **11** the ball will be discharged from the barrel with a sharp popping sound. The spring will advance the remaining balls until the outermost one again seals against the sealing ring so each time the handle is compressed a ball will be discharged until the barrel is empty.

It has been found with guns of this type that when the handle portion is squeezed, its sides tend to balloon outward so that the handle portion would be almost completely compressed in order to develop sufficient pressure to discharge a ball. This makes it particularly difficult for small children to operate guns of this type. To eliminate this difficulty, according to the present invention, the handle portion **12**, as best seen in section in FIGURE 4, is made relatively wide lengthwise of the barrel and relatively thin transverse to the length of the barrel so that it can easily be gripped in the hand and squeezed widthwise. The sides of the handle portion are flexibly tied together intermediate the width thereof by a central integral fin or strip **19** which may be integrally molded with the handle portion and the remainder of the gun. The strip need not be continuous, as shown, although this is perhaps the easiest way to mold it, but could be discontinuous and there could, of course be more than one strip provided where desired.

The handle portion could alternatively be described as formed of a plurality of tubular sections connected in side-by-side relationship to each other across the width of the handle portion. As is apparent in FIGURE 4, the illustrated handle portion comprises in effect two cylindrical tubes molded together in side-by-side relationship, closed at one end and opening into the barrel portion at the opposite end.

With this construction, when the handle portion is squeezed in the hand it will assume a shape, as shown in FIGURE 5, being compressed lengthwise but without allowing the sides thereof to balloon out intermediate the width of the handle portion, as occurs with continuously open structures. It is therefore relatively easy even for a small child to operate a gun constructed according to the present invention.

While one embodiment of the invention has been shown and described in detail, it will be understood that it is for the purpose of illustration only and is not intended as a definition of the scope of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. A toy gun comprising interconnected barrel and handle portions, the handle portion being formed of resilient material of greater width than thickness to be grasped in the hand of a user and squeezed widthwise to compress the air therein, and a flexible web extending across the thickness of the handle portion intermediate its width and connecting the walls of the handle portion to limit separation thereof as the handle portion is squeezed, the handle opening into the barrel at one end and being closed at the other end.

2. A toy gun comprising interconnected barrel and handle portions, the handle portion being formed by a plurality of resilient tubular sections joined together in side by side relationship in a single row and closed at the end remote from the barrel portion and in open communication with the barrel portion at the end adjacent thereto, said tubular sections being collapsed together when the handle portion is squeezed to compress the air therein.

3. A toy gun comprising integrally molded hollow barrel and handle portions of resilient material, the barrel portion being formed to receive at least one ball to be fired and defining an annular seal adjacent to its muzzle to seal against a ball, the handle portion being formed by a

plurality of tubular chambers separated by a flexible web extending across the thickness of the handle and limiting lateral expansion of the handle when it is squeezed to compress the air therein, said chambers being closed at one end and being in open communication with the barrel portion at the other end.

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