Feb. 4, 1964 S. WEINSTEIN 3,120,387

BALL PROJECTING AND STRIKING DEVICE

Filed Jan. 10, 1962

Fig. 1

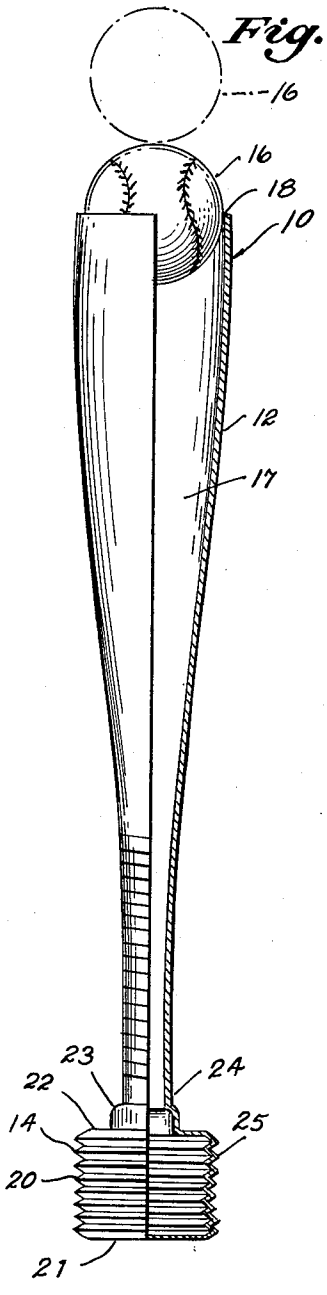
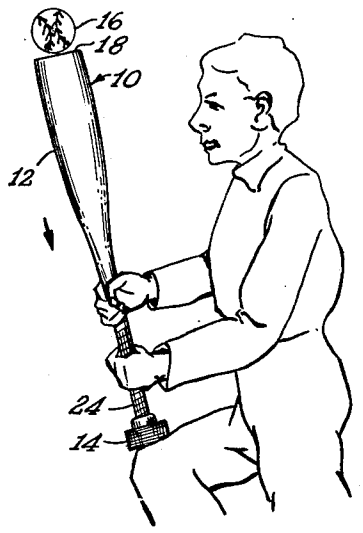


Fig. 3



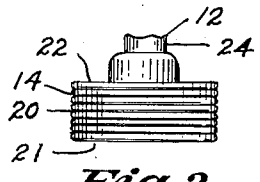


Fig. 2

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BALL PROJECTING AND STRIKING DEVICE

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4 Claims. (Cl. 273—95)

This invention relates generally to toys and more particularly to those adapted to project an object or material.

Toys in which parts are caused to move in an entertaining manner, but in which the movement is produced with very simple parts, are highly desirable because they do not easily get out of order, and they may be manufactured in large quantities at low cost, with a consequent wide distribution and use.

It is therefore among the objects of the present invention to provide structure of the class described having a minimum of parts.

Another object herein lies in the provision of projectile type toys in which the parts may be fabricated of low cost synthetic resins, or materials having similar physical characteristics, and which may be produced by efficient manufacturing processes such as "blow molding."

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawings, in which similar reference characters designate corresponding parts throughout the several views of each embodiment:

FIGURE 1 is an elevational view, partly in section, of an embodiment of the invention.

FIGURE 2 is a fragmentary elevational view of the lower portion of FIGURE 1 with the collapsible pressure producing element in a compressed position thereof.

FIGURE 3 is an elevational view of the invention in use.

In accordance with the invention, the toy construction, generally indicated by reference character 10, comprises broadly: a body 12; a pressure producing element 14; and a projectile 16.

The body 12 is hollow having an inner passage 17, and a discharge opening 18 of predetermined size. The body on the external surface thereof is of a size and shape to simulate a known baseball bat.

The pressure producing element 12 is also a hollow form, cylindrical in cross section, and having an accordian pleated outer wall. The element 12 is arranged and constructed so that it is adapted to be collapsed in an axial direction with respect to the device 10. The said outer wall 20 is joined to the bottom wall 21, and the top wall 22, the latter having a neck 23 which is connected to the lower end 24 of the body 12. The cubic size of the element 14 is sufficient in size to produce the requisite pneumatic pressure when the element 12 is compressed to expel the projectile 16 with the desired velocity.

The projectile 16 is a sphere, preferably hollow, and is a simulation of a baseball. The diameter of the projectile 16 is sufficient to have the same engageable in a frictional manner within the discharge opening 18, where it forms a substantially air-tight seal.

While the body and the pressure producing element may be separately fabricated and connected in a suitable manner at the neck 23, in accordance with the invention, the body 12, and the pressure producing element are "blow molded" of polyethylene in one piece. The wall thickness of the wall 20 is reduced to produce greater flexibility, so that the pleats or corrugations 25 offer little resistance to the collapse of the pressure producing element, while at the same time maintaining sufficient resiliency to assure their return to their normal extended position when outside physical pressure is released.

In use, the ball or batting projectile 16 is placed in the discharge opening 18 and pressed until a seal is obtained. Next the body 12 is grasped at the lower end 24, and the bottom wall 21 is brought forcibly against some relatively stationary surface or object such as the player's knee. The element 14 is rapidly compressed until it is collapsed. The air normally contained in the element 14 is forced into the inner passage 17, and the elevated pressure produced, pneumatically drives the ball in the desired direction. After the ball is in flight, the player may take the bat and use it to strike the ball. It is to be noted that since the material of which the body is composed is slightly elastic and flexible, it can conform to the shape of the ball to get a good seal. This promotes maximum movement of the ball.

It may thus be seen that I have disclosed novel toy construction in which a simple one piece bellows element which may be cast or blow molded of synthetic resin or the like forms an easily actuated pressure producing element, adapted to move fluid through a hollow toy body.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described for obvious modifications will occur to a person skilled in the art to which the present invention relates.

I claim:

1. Toy construction, comprising: a body in the form of a hollow base ball bat having a lower end, an inner passage, and an upper discharge opening of predetermined size; a collapsible pressure producing element of hollow form having a top wall with a neck connected to the said lower end of said body, an accordian pleated outer wall arranged and constructed to be collapsed in an axial direction with respect to said body, and a bottom wall; and a projectile in the form of a spherical base ball, of a diameter sufficient to be engaged in a frictional manner within said discharge opening, forming a substantially air-tight seal thereat; whereby when the bottom wall is brought forcibly against a relatively stationary surface, the pressure producing element is rapidly compressed, air in said element being forced into said inner passage at elevated pressure, driving the projectile pneumatically in the desired direction.

2. Structure as claimed in claim 1 in which the collapsible pressure producing element is cylindrical in cross section.

3. Toy construction as claimed in claim 1 in which the body and the pressure producing element are composed of a single molding of polyethylene.

4. Toy construction as claimed in claim 1 in which the body and the pressure producing element are composed of a single molding of polyethylene, and in which the thickness of the outer wall of the pressure producing element is reduced with respect to the body element, so that pleats offer little resistance to the collapse of the pressure producing element, while at the same time maintaining sufficient resiliency to assure their return to normal extended position when outside physical pressure is released.

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