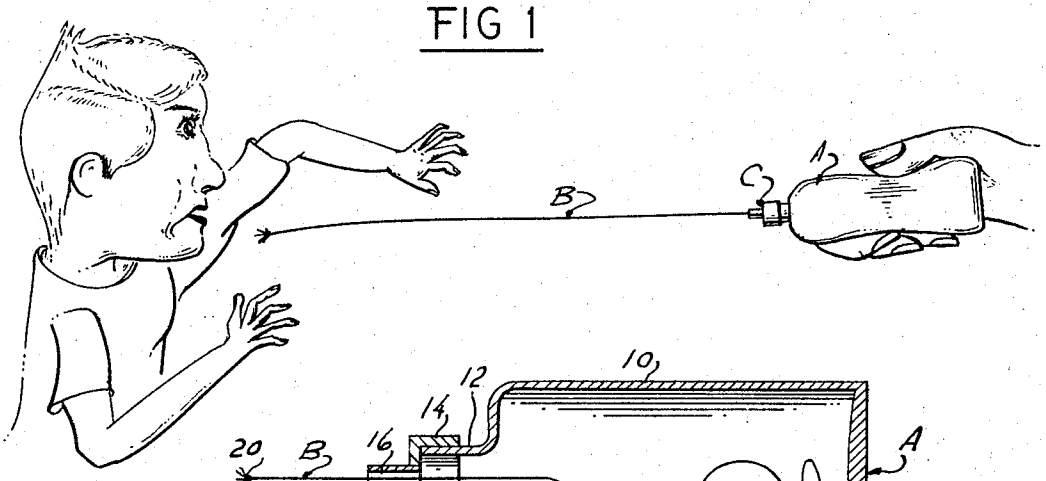
Nov. 21, 1967 D. SOBEL 3,353,823

PNEUMATIC SQUEEZE TOY

Filed April 1, 1965

FIG 1



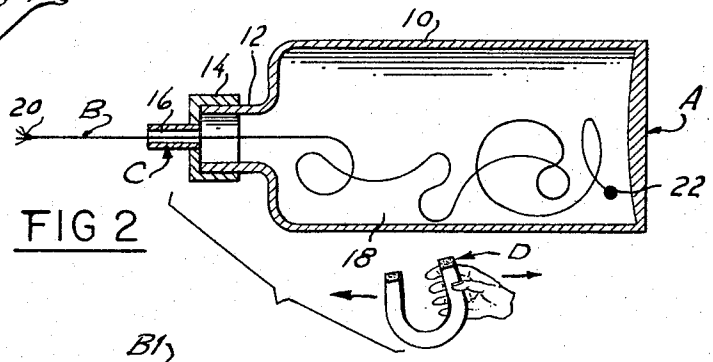


FIG 2

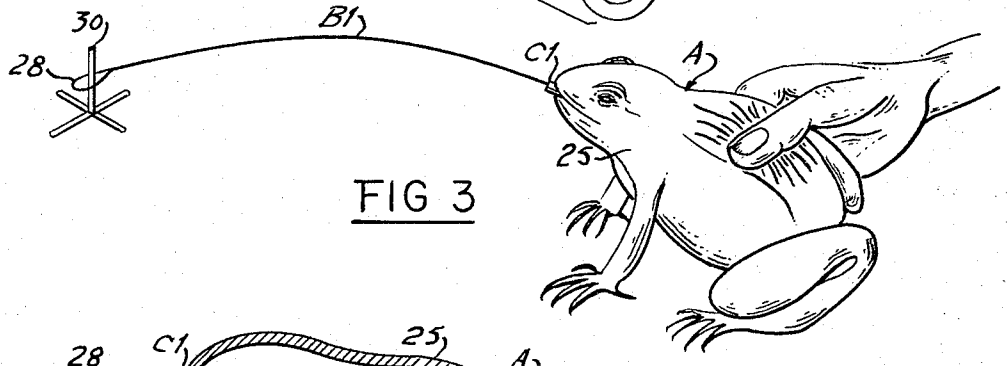


FIG 3

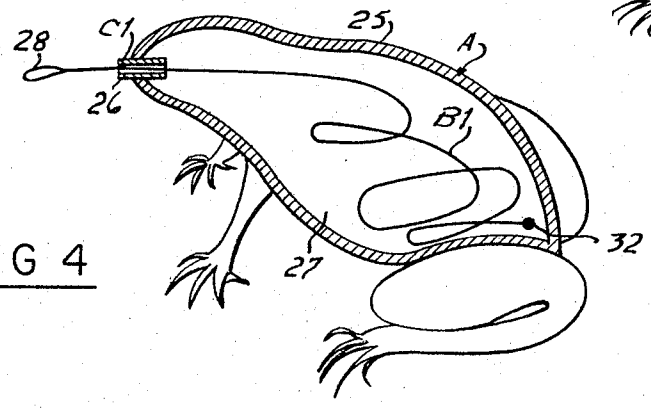


FIG 4

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PNEUMATIC SQUEEZE TOY

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This invention relates to toy amusement devices, and more particularly relates to a pneumatic squeeze toy. The instant invention is especially concerned with the ejection of a long flexible object, such as a string, wire, cord or thread, in order to simulate quick darting movements and offer illusional effects, including squirting liquid.

It is well known that young children love to play with action toys in which a projectile of some kind is thrown through the air. A child is especially delighted when there is attached to the flying object an air of mysticism and illusion that is likely to fool adults and other children. Thus, a great sense of pleasure is usually derived by youngsters from tricks which promote amazement and devices which are striking in their ability to produce spectacular effects. At the same time, it must be recognized that such toy devices and tricks must be inherently harmless and safe for use by persons of tender age without supervision and yet induce all the realism demanded in the action.

It is therefore an object of this invention to provide a pneumatic squeeze toy which is adapted to throw a perfectly harmless projectile.

Another object of this invention is to provide a squeeze toy device which will eject a string-like projectile fully simulating and offering the illusion of a squirting liquid.

Still another object of this invention is to provide a toy amusement device from which a relatively long slender article can be ejected as compared to the size of the device itself.

Yet another object of this invention is to provide a compressible toy having the form of an animal with a darting tongue in which the characteristic animal movements are duplicated with great realism.

A further object of this invention is to provide a novel amusement toy which will afford many hours of amusement and entertainment for children and adults alike.

A still further object of this invention is to provide a pneumatic squeeze toy which ejects a tethered projectile and is adapted to be played as a skill target game.

Yet a further object of this invention is to provide a toy amusement device which offers harmless but spectacular illusional effects.

Other objects of this invention are to provide an improved device of the character described that is easily and economically produced, which is sturdy in construction, and both highly efficient and effective in operation.

With the above and related objects in view, this invention consists of the details of construction and combination of parts as will be more fully understood from the following detailed description when read in conjunction with the following drawing in which:

FIGURE 1 is a perspective view of a squeeze toy embodying this invention wherein there is provided an illusion of liquid being squirted from a bottle.

FIGURE 2 is a longitudinal sectional view of the toy squeeze bottle shown in FIGURE 1.

FIGURE 3 is a perspective view of another embodiment of the squeeze toy in the form of a simulated frog casting its tongue.

FIGURE 4 is a longitudinal sectional view of the frog squeeze toy shown in FIGURE 3.

Referring now in greater detail to the drawings in which similar reference characters refer to similar parts, there

is shown a compressible hollow casing, generally designated as A, which is adapted, when rapidly squeezed, to expel a length of flexible string B through an orifice C.

The casing A may be any resiliently elastic material, such as rubber or polyethylene, which is capable of being squeezed so as to expel a stream of compressed air through the orifice C. It is also desirable that the casing has the capacity of rapidly resuming its original shape after the squeeze pressure is released. In FIGURES 1 and 2, the casing A is shown to have the form of a bottle **10** in which household liquids, such as detergents are customarily dispensed. The bottle **10** may be variously colored and have almost any shape for example, cylindrical, spherical or even hour-glass configuration, although it is preferable that the casing walls be generally opaque to conceal the string B contents, for best illusional effects. A necked portion **12** on the bottle **10** may be provided to accommodate a cap **14** so as to instill realism in imitation of a liquid detergent bottle. The cap **14** can be detachably mounted on the neck **12** in a conventional manner by complementary threads or by a snap seal, and/or, in addition, can be cemented thereon or even molded as a part thereof.

The orifice C comprises a small but rigid tubular member **16** which is affixed to or integrally formed upon the cap **14**. The tubular member **16** is essentially a capillary having a smooth internal bore which interconnects the interior chamber **18** of the casing A with the atmosphere. The diameter and length of the capillary bore **16** may vary within rather wide limits. However, the bore **16** must be of a diameter at least sufficient to slidably receive and pass the string B freely therethrough without clogging. That is, with the string B threaded through the orifice C and the casing A rapidly compressed, air is expelled through the capillary bore in the manner of a venturi. The string B is accordingly squirted through the orifice on a stream of air and is frictionally carried thereby. Therefore, the size of the capillary bore cannot be any larger in relation to the string B as that which will eliminate the effect of the venturi air carriage.

The string B may be any flexible cord, twine or yarn which has sufficient weight, body and surface asperity to enable it to be carried on the peripheral stream of expelled air. A knot **20** slightly larger than the capillary bore **16** may be formed on the distal end of the string B which may act as partial closure for the orifice. The knot **20** also acts as a thrust weight to enable the forward end of the string to be propelled without buckling. A knot **22** or button is also incorporated on the interior end of the string so as to retain the rear end of the string captive, if desired, when the forward portion is blown out. As much as a 30-inch length of string B may be threaded through the orifice C and loaded within the casing chamber **18** and easily cast out.

The bottle **10** is loaded by threading the string B through the capillary bore **16** until just the knot **20** projects out of the orifice. This may be accomplished by pushing the string through the tube **16** with the cap **14** closed. It may also be done by pulling the string therethrough with the cap removed, dropping the bulk of the string B into the neck **12** and chamber **18**, and then remounting the cap.

Then, in order to simulate the illusion of squirting liquid, point the bottle **10** at someone or over a new carpet while squeezing the bottle rapidly. The string B will be propelled out of the orifice C on a stream of air with all the appearance of an ejected liquid. A small blue-colored bottle with a dark blue string offers an inky effect.

If the ratio of capillary bore to string diameter length and weight is properly chosen, releasing the squeeze pressure upon the casing A will in some instance suck the

entire string back into the chamber 18 as the casing elastically returns to its initial shape. Such an action promotes great mysticism as a disappearing liquid trick.

Referring now to FIGURES 3 and 4, I show a modification of my invention in which the casing A takes the form of an animal 25 having a long tongue, in this particular instance a frog or toad. Again, the casing is of elastically compressible plastic or rubber so as to be capable of being squeezed and thereafter returning to its original shape. An orifice C1, which is a capilltary-like tubular member 26, is molded or cemented within an opening at the position of the mouth of the animal, and defines a reduced nozzle through which air may be expelled.

The long flexible string-like member B1 is now the simulated tongue of the frog and the means by which that amphibian creature catches insects on the fly. The string B1 may again be a cord, wire, thread or twine which is slidably received within the orifice C1 and contained within hollow chamber 27.

In order to create game aspects in the instant invention, I have formed a loop 28 at one end of the string B1 which is adapted to be engaged upon a dowel 30. In this manner, I have imparted to the invention an opportunity to develop skill in a trapping or target game. A child's competitive instincts can be fully developed by the harmless squirting action imposed by squeezing the body 25 and expel the string B1 on a peripheral stream of air. Note that the degree or distance which the string may be expelled depends upon the degree and rapidity of the squeezing of the body. The string may also be tethered to the body 25 by attaching a button 32 at the interior end of the string.

In order to return the element B1 into the chamber it may be threaded by pushing through the orifice C1. Still another mode for retrieving the element is by making the button 32 of a magnetizable material such as steel and pull upon the button by a magnet D external to the body. Yet another method could employ the use of a steel wire which might be pulled interiorly by working the magnet in gentle tugging strokes.

As is apparent, the throwing outward of a rather long string-like object through the orifices is a rather startling sight. The effect can be incorporated in innumerable ways and embodied in many amusement and game situations only limited by the ingenuity of the user.

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

What is claimed is:

1. A squeeze toy comprising a hollow compressible casing having a collapsible chamber therein, a rigid capillary tube having a bore interconnecting the chamber with the atmosphere, and a filamentous member loosely contained in said chamber and having one end slidably received in said bore so that said filamentous member will be expelled through said capillary when said casing is compressed, said filamentous member including a magnetically attractable wire, and magnetic means external to said casing for retrieving the wire back through the capillary after it has been expelled.

2. A squeeze toy comprising a hollow compressible casing having a collapsible chamber therein, a rigid capillary tube having a bore interconnecting the chamber with the atmosphere, and a filamentous member loosely contained in said chamber and having one end slidably received in said bore so that said filamentous member will be expelled through said capillary when said casing is compressed, the distal end of said filamentous member having a loop thereon so that the loop is adapted to engage an object.

3. A squeeze toy comprising a hollow compressible and generally opaque casing having a chamber which is adapted to be collapsed when said casing is squeezed, a capillary supported in said casing and having a bore interconnecting the chamber thereof with the atmosphere, a flexible filament of magnetic material loosely contained within the chamber and having its distal end threaded through the capillary bore while substantially the entire length of said filament is slidably receivable and smoothly reciprocable therethrough, means on the proximal end of said filament constituting a stop, and a magnet external to said casing whereby compressing said casing will propel said filament through said capillary on a stream of air until said stop is engaged to prevent further propulsion and manipulating said magnet with respect to said magnetic filament will enable retrieval of the filament back through said capillary.

4. A squeeze toy comprising a hollow compressible casing having a chamber which is adapted to be collapsed when said casing is squeezed, a capillary supported in said casing and having a bore interconnecting the chamber thereof with the atmosphere, a flexible filament loosely contained within the chamber and having its distal end threaded through the capillary bore while substantially the entire length of said filament is slidably received and smoothly reciprocable therethrough, means on the proximal end of said filament constituting a stop, and means on the distal end of said filament constituting a combined stop and weight, said means on the distal end of said filament comprising a loop whereby compressing said casing will propel said filament through said capillary on a stream of air so that the loop is adapted to engage an object.

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