Oct. 13, 1953 J. H. LEMELSON 2,654,973

TOY CAP

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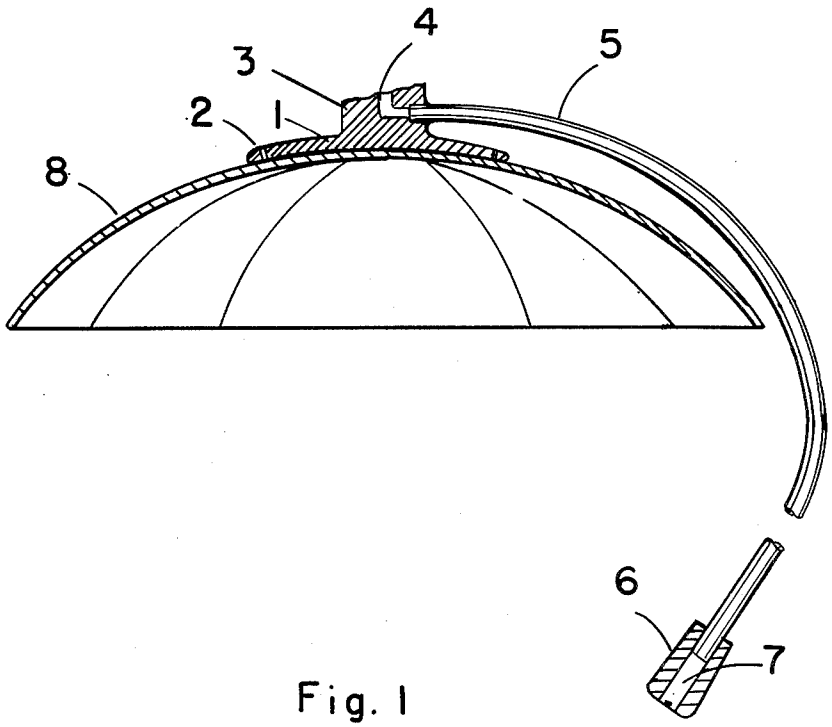

Fig. 1

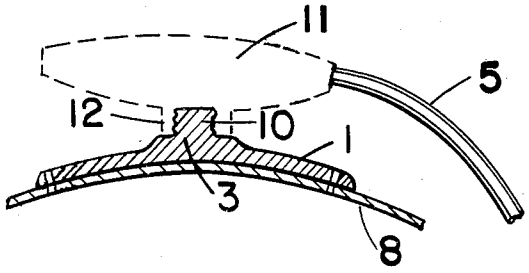

Fig. 2

INVENTOR.
JEROME H. LEMELSON

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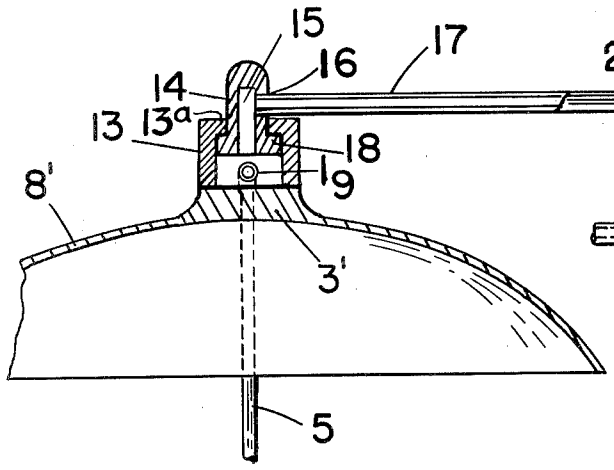

Fig. 3

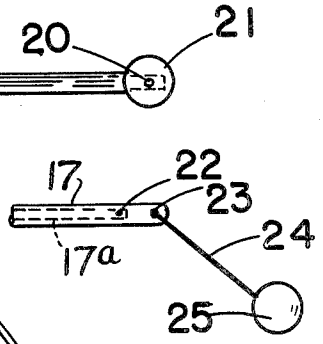

Fig. 4

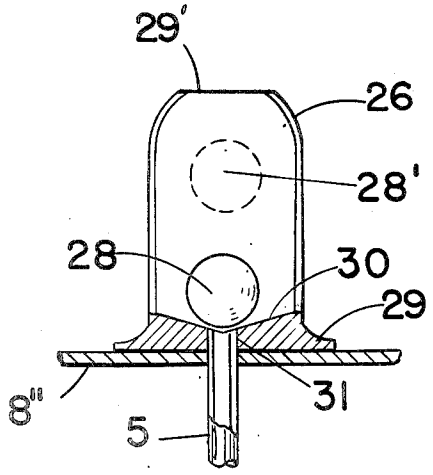

Fig. 5

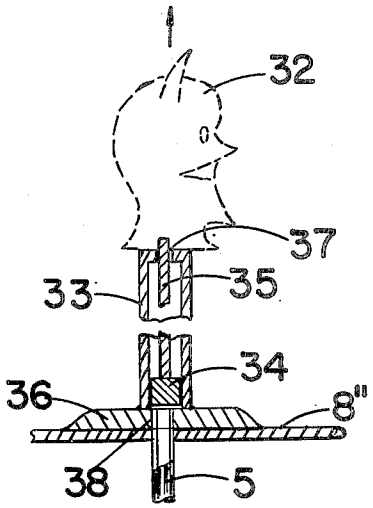

Fig. 6

INVENTOR.
JEROME H. LEMELSON

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TOY CAP

Jerome H. Lemelson, Staten Island, N. Y.

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2 Claims. (Cl. 46—56)

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This invention relates to toy caps and the like and particularly to caps with dynamic toy devices secured to them.

An object of this invention is to provide a simple and inexpensive means whereby the wearer of a toy cap may operate a toy secured to the top of the cap by utilizing the pressure of his breath. Simple means are provided to accomplish this end while the cap is on the head of the wearer.

A further object of this invention is to provide a mount to be positioned on the crown of the head or secured to a toy cap and to which the wearer may affix various toy devices which operate by the pressure of the breath.

A third object is to describe several of the toy devices which may be affixed to or combined with the aforementioned mounting device.

Figure 1 is a vertical cross section of the toy device mounted on a typical cap.

Fig. 2 is a vertical cross section of a modified form of the device to which may be affixed various pressure or wind operated toys.

Fig. 3 is a vertical cross section of the device forming the crown of a cap with the toy consisting of a whirling jet propelled arm and toy which is operated by the pressure of the breath.

Fig. 4 is a variation of the whirling jet propelled arm in Fig. 3.

Fig. 5 is a cross section of a toy mounted on the visor of a cap, in which a light ball is animated by the pressure of the breath of the wearer.

Fig. 6 is a cross section of a toy mounted on a cap which is animated by the pressure of the breath of the wearer which moves a piston.

Referring to the drawings wherein like numerals designate like parts, in Fig. 1 the base or body 3 of a pressure or wind operated toy extends to a flange 1 which is preferably shaped to the contour of the crown of the cap 8 and secured to it. Said flange may also be secured to the visor of a cap. Securing said flange to the cap may be accomplished in one of several manners. One of which is to provide holes 2 around the perimeter of the flange and sew the structure to the cap. Grommets or rivets may also be utilized for its attachment. Other techniques could involve cementing or heat sealing depending on the materials utilized. The flange may also be extended and curved to fit the hat to form a cap itself.

A hole 4 extends through structure 3 to the point of pressure application in the toy. Base 3, for example, may extend to form the body of a whistle, horn, siren or other noise making toy. It may also extend to a flange for mounting a balloon, to a hollow toy figure or to any variety of air operated toys.

A flexible tube 5 extends from hole 4 and is of sufficient length to reach the mouth of the wearer. A mouthpiece 6 may be secured to the free end of the tubing by cementing or heat

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sealing. Tube 5 is secured to both 3 and 6 by cementing, heat sealing or force fitting.

Fig. 2 is a modification of the toy mounting device described above with a means provided for removing and replacing a wind operated toy 11. This may be accomplished by providing a threaded section 10 as part of base 3 and screwing the toy on to this section. In this particular embodiment, flexible tube 5 extends directly to toy 11 and is secured to it near the usual point of pressure application. The same end may be accomplished for mounting the toy by tapering the end of 3 and force fitting or cementing it to a hole in the toy by fitting the toy into a hole in mount 3.

Fig. 3 shows a cap or the like having a central upstanding mount portion 3' which may be rigid or semi-rigid. A hollow, cylindrical casing 13 is mounted by any suitable means on the upper face of mount 3'. The axis of said casing 13 extends vertically. The lower face of the peripheral wall of said casing 13 abuts the upper face of mount 3' in sealing relationship thereto. Casing 13 has an inturned, annular peripheral flange 13a at its upper end.

I provide a substantially cylindrical slide member 14 whose axis extends vertically and which extends turnably and slidably through the central opening of flange 13a. Said slide member 14 has a base portion 18 of increased diameter, said base portion 18 being turnably and slidably located within the interior space of casing 13.

Casing 13 has a through-and-through opening 19 in its peripheral wall, near the lower end thereof. The hollow, flexible tube 5, which has been previously described, extends frictionally through opening 19 so that the inner space of said tube 5 communicates with the inner space of casing 13 at a point below base portion 18.

Slide member 14 has a vertical bore 15 which extends upwardly from the lower face of base portion 18 to a point slightly below the top of said slide member 14. Said slide member 14 has a radial opening 16 which communicates with bore 15 near the top thereof and which extends to the outer peripheral face of said slide member 14.

A hollow, radially extending rigid tube 17 has its inner end portion frictionally fitted within said opening 16, with the bore of said tube 17 communicating with said bore 15. A toy 21 is connected to the outer end of tube 17, said toy 21 having an interior space which communicates with the bore of tube 17. Said toy 21 has an opening 20 which is transverse to the plane defined by the axis of tube 17 and the axis of bore 15, said opening 20 extending from said interior space of said toy 21 to the outer face of toy 21.

In the operation of the toy shown in Fig. 3, air or the like may be blown under pressure through tube 5 and into the interior space of

casing 13. The increased air pressure within the interior space of casing 13 has two effects. The first effect is that slide member 14 is forced upwardly to its operating position shown in Fig. 3, in which base portion 18 abuts flange 13a and thereby provides a seal against the escape of air through the opening of flange 13a. This simple construction eliminates the need for costly sealing devices. The second effect of blowing air into tube 5 is that said air travels through bore 15, the bore of tube 17, and out of hole 20 under pressure. The result is that tube 17 is turned rapidly about the axis of slide member 14, so that toy 21 is whirled around in a circle.

It is noted that in the operating position of slide member 14, as shown in Fig. 3, tube 17 clears the upper face of flange 13a to permit the turning of said tube 17. When air is no longer blown through tube 5, and slide member 14 drops, tube 17 strikes flange 13a, and thereby stops the descent of slide member 14.

In Fig. 4, the bore 17a of tube 17 terminates inwardly of the outer end of tube 17. Tube 17 has a hole 22 which corresponds to the hole of tube 20 and which extends between bore 17 and the outer face of tube 17. A toy 25 is secured by a short length of flexible line 24 to the outer end of tube 17, at point 23.

In the embodiment of Fig. 5 a light ball 28 is suspended in space by blowing a stream of air through a hole 31 in the base 29 of the toy. The base is mounted in this arrangement on the visor 8'' of a cap, another possible mounting place for the devices described in this invention. A transparent shell 26 is secured to base 29 for visualization of the motion of ball 28. The upper surface of base 29 is beveled as shown to return the ball to a position over the hole after the pressure is released. Hole 29' in the top of shell 26 permits air to circulate through the unit and is of a smaller diameter than ball 28. An extended position of the ball is shown as 28'.

Fig. 6 illustrates a toy which may be applied to the combinations described in Figs. 1 and 2 in which a reciprocating mechanical motion, actuated by the pressure of the breath, is attained. Toy figure 32 is lifted by the pressure applied through tube 5 to piston 34 riding in cylinder 33. Piston 33 may ride in a bearing 37 in the end of 33 which also acts as a stop for the top of the stroke of 34. Cylinder 33 is secured to base 36 which, in turn, is mounted on a cap visor 8'' or on the crown of a cap as illustrated in Figs. 1 and 2.

Various changes in the details of construction may be made without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. An action toy comprising a casing which has a through-and-through longitudinally extending cylindrical bore which is sealed at its bottom end, the top end of said casing having an inturned peripheral annular flange partially closing off the top of said bore, a longitudinally extending cylindrical piston slidably and turnably mounted in said bore and having an upper integral hub extension of reduced diameter extending slidably and turnably through the opening of said flange, said piston having a longitudinal bore extending from the bottom surface thereof an appreciable distance into said hub, said hub having an elongated hollow tube projecting radially from the outer surface thereof and extending within said hub into communication with said piston bore, said tube being located intermediate the top and bottom of said hub and being positioned to contact the top of said casing to limit the downward sliding movement of said hub within said flange opening, said casing having an air hole below said piston so that air may be blown into said casing, said tube being closed at its free outer end portion except for a reduced opening whose axis is substantially transverse to the common plane of the axis of said tube and the axis of said hub, said piston being adapted to be raised against said flange by air blown through said air hole into said casing, whereby to seal the opening of said flange and permit said air to pass through said bore and said tube and to escape through said reduced opening, said reduced opening being sufficiently small to enable said escaping air to produce a jet action on said tube, causing said tube, hub and piston to spin.

2. An action toy comprising a fixed mount, a casing mounted upright on said mount and having a cylindrical, through-and-through, longitudinally extending, vertical bore the bottom end of which is sealed by said mount, the top end of said casing having an inturned peripheral annular flange partially closing off the top of said bore, a longitudinally-extending cylindrical piston slidably mounted in said bore and having an upper integral hub extension or reduced diameter extending slidably and turnably through the opening of said flange, said piston having a longitudinal bore extending from the bottom surface thereof an appreciable distance into said hub, said hub having an elongated hollow tube projecting radially from the outer surface thereof and extending within said hub into communication with said piston bore, said tube being located intermediate the top and bottom of said hub and being positioned to contact the top of said casing to limit the downward sliding movement of said hub within said flange opening, a flexible hollow pipe extending into said casing and communicating with the hollow interior thereof below said piston, said pipe being sufficiently long to permit manual blowing of air in the free end thereof, said tube being closed at its free outer end except for a reduced opening whose longitudinal axis is substantially perpendicular to the plane of the axis of said hub and the axis of said tube, said piston being raised against said flange by the air pressure within said casing resulting from blowing air within said pipe, whereby to seal the opening of said flange and permit said air to pass through said bore and said tube and to escape through the opening in said tube, said opening being sufficiently small to enable said escaping air to produce a jet action on said tube, causing said tube, hub, and piston to spin.

JEROME H. LEMELSON.

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