March 31, 1942. A. T. QUADY 2,277,882

TOY

Filed May 27, 1941

Fig. 1.

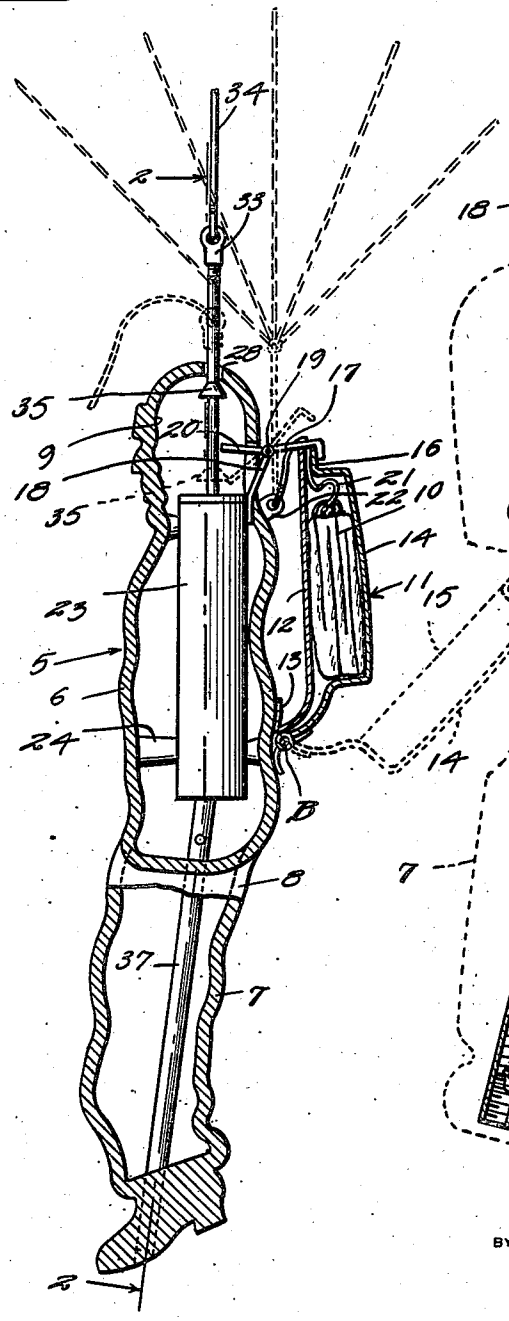

Fig. 2.

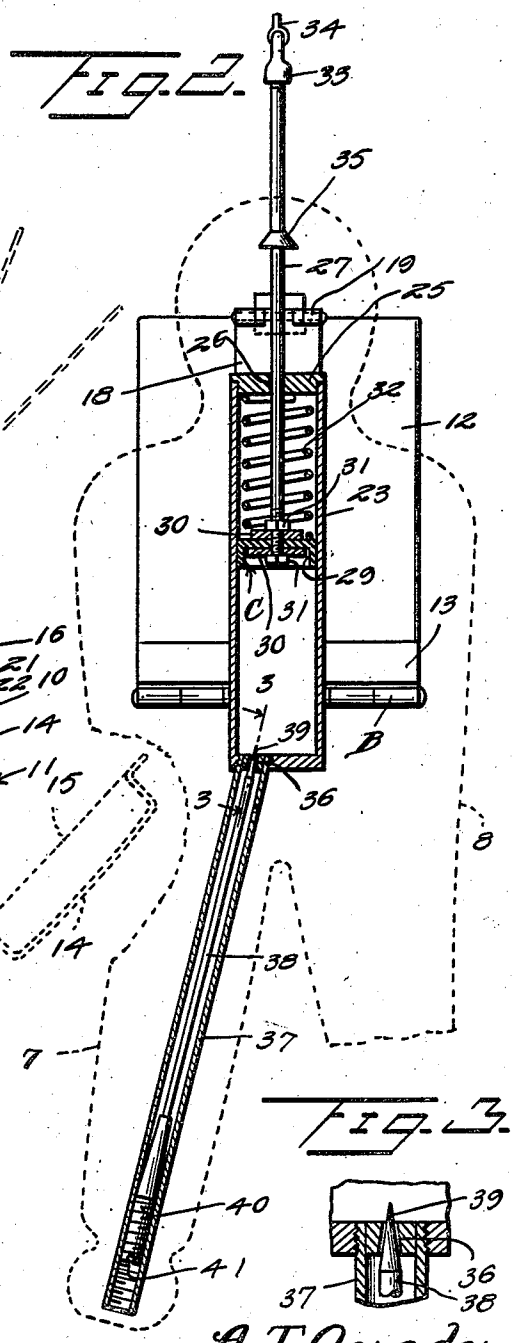

Fig. 3.

A. T. Quady

INVENTOR

BY Victor J. Evans & Co.

ATTORNEYS

Patented Mar. 31, 1942

2,277,882

UNITED STATES PATENT OFFICE

2,277,882

TOY

Albert T. Quady, Great Falls, Mont.

Application May 27, 1941, Serial No. 395,462

3 Claims. (Cl. 46—86)

The present invention relates to improvements in toys and more particularly to an aerial toy of the parachute type.

An important object of the invention is to provide a toy of this character, wherein the same is manually thrown in flight and the descent thereof is controlled by a parachute which is normally supported in a folded position on the body of the toy, the parachute adapted to automatically open when the toy has reached a predetermined height in flight.

Another object of the invention is to provide an aerial toy embodying novel air pressure operated means for releasing the parachute after the toy has been manually thrown into the air.

A further object of the invention resides in the provision of a toy having the above features which is simple in construction, thoroughly reliable thereafter in operation, attractive in appearance, being imitative of a parachute operator, and relatively inexpensive to manufacture.

The invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawing and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawing wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a vertical sectional view with parts in side elevation, of an aerial toy embodying the features of the present invention.

Figure 2 is a detail sectional view taken substantially on line 2—2 of Figure 1.

Figure 3 is a fragmentary detail sectional view taken substantially on line 3—3 of Figure 2.

Referring to the drawing for a more detailed description thereof, the reference numeral 5 generally designates a toy constructed in accordance with the present invention and comprises a sectional, hollow body 6 imitative of a parachute jumper in reality and in attire. The body 6 is to be formed of any desired material and is of the general appearance in outline of a human being including right and left leg portions 7 and 8 respectively, and a head 9. As is readily seen in Figure 1 of the drawing, the entire figure is of hollow formation and supports the mechanism for releasing the parachute 10 which is normally confined within a compartment 11 attached to the back of the figure.

The parachute case 11 includes a back wall 12 secured at one end as indicated at 13 to the body 5. The cover 14 for the case is mounted on a hinge B likewise attached to the body 5, and said cover includes side portions 15 which fit over the parachute 10 for entirely concealing the same. The free end of the cover 14 is formed with a lip 16 which is locked by means of the down turned end of the lever 17. An arm 18 projects from the body 6 for supporting the lever 17, the latter being pivoted intermediate its ends thereto as indicated at 19. As more particularly shown in Figure 1 of the drawing, one end of the lever 17 extends through an aperture 20 formed in the head of the figure for a purpose to be hereinafter described. A flexible cord 21 forms the means of anchoring the parachute to the body, said cord being attached to a lip 22 secured to the back of the body adjacent the head thereof. As is to be understood, when projecting the toy in flight, the parachute is entirely concealed within the case 11 and the cover thereof is secured by means of the lever 17.

In accordance with the present invention, a timing mechanism is employed for effecting release of the parachute after the toy has been manually projected into the air. This mechanism comprises a cylinder 23 held by means of supports 24 within the hollow body 6. The upper end of the cylinder 23 is closed by means of a cap 25 formed with a central aperture 26 through which projects a piston rod 27, said rod extending through the top of the head of the figure through an aperture 28. The lower end of the rod 27 carries a piston C which is formed of a leather washer 29 held between a pair of metal washers 30 and locked on the rod by means of nuts 31. The leather washer 29 closely engages the walls of the cylinder 23, the piston acting as a pump for drawing air into the cylinder as the rod 27 is raised. A coil spring 32 is held in the cylinder 23 between the cap 25 and the washers 29, said spring adapted to slowly urge the piston downwardly after the toy has been thrown into the air.

The upper end of the rod 27 carries a cap 33 to which is attached a flexible cord 34 adapted to be grasped in the hand of a person for projecting the toy into the air, this being accomplished by whirling the toy as it is suspended by the flexible cord 34. The whirling action will raise the rod 27 and the piston C to substantially the position shown in Figures 1 and 2 of the drawing. The lever 17 is actuated to release the cover 14 and parachute 10 by the conical shaped member 35 carried by the rod 27. The action of the spring 32 will force the rod 27 and its pis-

ton downwardly, bringing the member **35** into contact with the inner end of the lever **17**, forcing said lever to the dotted line position shown in Figure 1 of the drawing. The spring hinge **15** will cause the cover **14** to move to the dotted line position, thus freeing the parachute **10** to be suspended by its cord **21** in substantially the position shown in dotted lines in Figure 1.

Air from within the cylinder **23** escapes through a vent **36** formed in the bottom wall of said cylinder. In one leg of the figure, preferably the right leg **7**, there is disposed a tube **37** which carries an elongated needle **38**, the tapered end **39** of which is disposed within the vent **36**. The lower end of the needle **38** carries a screw **40** provided with a slot **41** for the reception of a screw driver or similar tool by means of which said needle can be adjusted for regulating the escapement of air through the vent **36**. As is to be understood, rotating the needle **38** to the right will move the end **39** upwardly into the vent **36** thereby restricting the flow of air and, rotating the needle **38** to the left, will move the same downwardly to free the vent **36** permitting free flow of air therethrough. By properly adjusting the needle **38**, it is possible to regulate the release of the parachute **10** when the toy has reached its maximum height.

It is thought that the operation of the toy is readily apparent from the above. The needle **38** acts as a valve when disposed in the vent **36** for regulating and controlling the flow of air from the cylinder **23** during the downward movement of the piston C by its spring **32**. The timing mechanism is automatically set during the whirling of the toy preparatory to launching it into the air as at that time the rod **27** carrying its piston is drawn upwardly into the cylinder. The descending toy with the parachute released, is most attractive and entertaining to children as it is imitative of a parachute jumper in reality.

Also it will be understood, of course, by those skilled in the art that variations in the hereinabove described device involving the substitution of substantial equivalents for the devices described are intended to be comprehended within the spirit of the present invention and that the invention is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claims.

What is claimed is:

1. A toy of the character described comprising, a body of hollow formation, a compartment mounted on the back of said body having a pivoted cover, a collapsible parachute anchored to the body and normally collapsed within said compartment, latching means for said cover, a cylinder mounted within said body, a rod operable within said cylinder and having one end projecting through said body, piston means mounted on the other end of said rod, and means mounted intermediate the ends of said rod for actuating said latching means to release said toy upon the downward movement of said rod within said cylinder.

2. A toy of the character described comprising, a body of hollow formation, a compartment mounted on the back of said body having a pivoted cover, a collapsible parachute anchored to the body and normally collapsed within said compartment, latching means for said cover, a cylinder mounted within said body, a rod operable within said cylinder and having one end projecting through said body, piston means mounted on the other end of said rod, means mounted intermediate the ends of said rod for actuating said latching means to release said toy upon the downward movement of said rod within said cylinder, and means disposed in the lower end of said cylinder for controlling the flow of air from the cylinder during the downward movement of said rod, whereby the timing of the release of said parachute can be adjusted.

3. A toy of the character described comprising a body, a compartment mounted on the back of the body, the said compartment having a cover hinged to open backward and downward, a parachute tied to the body and normally housed in collapsed arrangement within the compartment, a pivoted latch for releasably holding the cover in closed position, a cylinder mounted within the body, a piston slidably fitted in the cylinder, a rod attached to the said piston and projecting through one end of the cylinder, the said cylinder having an outlet in the opposite end, an abutment on the projecting portion of the rod operable to actuate the latch to release the parachute upon downward movement of the rod, a spring mounted in the cylinder operative to yieldingly urge the piston and rod to downward latch tripping position, and adjustable valve means connected with the outlet of the cylinder for controlling the flow of air from the cylinder and the movement of the piston under the action of the spring.

ALBERT T. QUADY.