

Dec. 3, 1935.

I. C. DICKOVER

2,023,124

AERIAL TOY

Filed Jan. 21, 1935

Fig. 1.

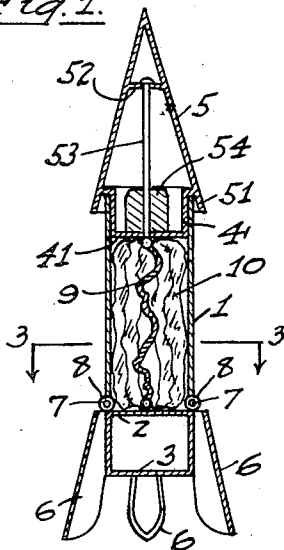


Fig. 2.

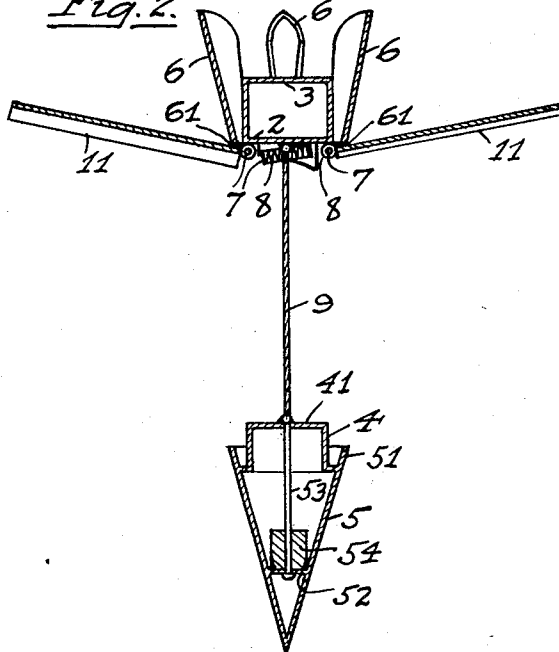


Fig. 3.

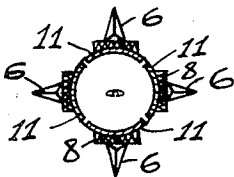


Fig. 4.

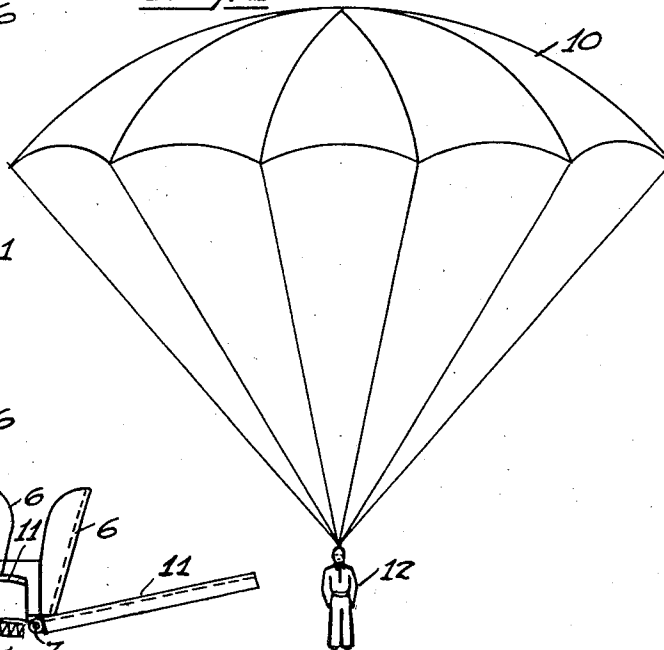


Fig. 5.

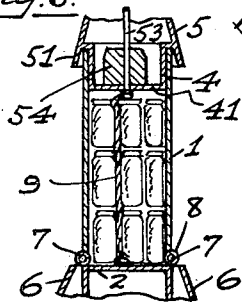
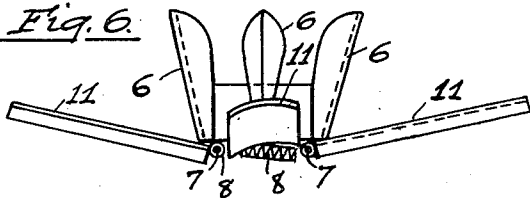


Fig. 6.



INVENTOR:—

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UNITED STATES PATENT OFFICE

2,023,124

AERIAL TOY

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Application January 21, 1935, Serial No. 2,725

3 Claims. (Cl. 46—86)

My invention relates to aerial toys, and its principal object is to provide a projectile, preferably in the form of an aerial bomb, which is adapted to be projected into the air by any suitable means such as a spring or rubber-band actuated gun or pistol, or by any form of explosive-operated device such as a rifle or mortar, and which, after reaching its maximum upward travel will automatically turn over and discharge one or more parachutes carrying various objects intended primarily for the amusement of the operator, but which may also be used for advertising purposes.

Another object of my said invention is to provide a device of this character in which the original container or projectile, after discharging its contents, will be caused to descend slowly in such a manner as to provide additional amusement as well as to preclude the possibility of accidents due to its striking a person during its descent, as is frequently the case with aerial toys such as rockets and similar devices.

A further object of my said invention is to provide a device of the character referred to which is devoid of mechanical complication and which can be manufactured at very low cost.

With these and other objects in view the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, reference being had to the accompanying drawing, which illustrates a preferred embodiment thereof, in which drawing—

Figure 1 is a vertical section of the device in closed position ready for projection into the air.

Figure 2 is a similar section showing the projectile after having turned over and discharged its contents.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is an elevation showing the parachute after being discharged and opened up, and carrying a miniature model of a man.

Figure 5 is a fragmentary vertical section corresponding to Figure 1 in which the projectile is loaded with a plurality of objects suitable for advertising purposes, and

Figure 6 is an elevation showing the upper portion of the projectile after having been opened up in the manner illustrated in Figure 2.

Like characters designate corresponding parts throughout the several views.

Referring more particularly to Figure 1, 1 is the tube or shell, preferably made from cardboard or other cheap material having at its lower end partitions 2, 3 and having its upper end open for the reception of the lower portion 4 of a cap or

cover which is provided at its upper end with a conical portion 5 forming the point of the projectile. Attached to the lower portion of the shell between the partitions 2 and 3 are the radially projecting wings 6 which guide the projectile in its movement through the air and which may in some cases be of helical form adapted to cause rotation of the projectile as a whole around its longitudinal axis during its passage through the air.

The shell or body 1 of the projectile is divided vertically into a number of segments 11, in the present case four, which are hinged at 7 to the lower portion and are provided with coil springs 8 which tend to force the several sections outwards, but which are prevented from so doing by the lower portion 51 of the cone 5, which overhangs the free ends of the segments and normally retains them in the positions shown in Figure 1. Within the cone 5 and proximate to the upper or pointed end thereof is a partition 52, and between this partition and the diaphragm 41 of the portion 4 extends a centrally disposed rectilinear guide member 53, of wire or other suitable material, around which is slidably mounted a weight 54 for a purpose to be hereinafter explained. Between the diaphragm 41 of the cap and the partition 2 in the lower portion of the shell extends a cord 9 which, when the device is in the closed condition, as shown in Figure 1, occupies a loose or undulatory position as therein shown. Within the shell 1 is the parachute 10 loosely folded and having attached thereto a miniature figure of a man, as shown at 12 in Figure 4, or any other desired object.

In operation, the projectile, in closed position as shown in Figure 1, is shot into the air, and after reaching its position of maximum upward travel, turns over due to the fact that the total weight of the pointed end is greater than the other end, and as the overturning movement is completed, the weight 54 falls by gravity against the partition 52 and by its impact thereupon forces the cap or cover 5 away from the body 1, stretching the cord 9 into a rectilinear position and releasing the segments 11, which are then moved outwards under the action of the springs 8 until they occupy the positions shown in Figure 2, in which they rest against shoulders 61 upon the wings 6, which prevent their further movement. The outward movement of the segments 11 leaves the parachute 10 entirely free to descend, opening up in a manner shown in Figure 4, and carrying with it the figure 12 which is sufficiently heavy to cause it to fall in advance of the open body of the projectile. The

fall of the latter is retarded by the extended segments 11, and in order to impart a spinning movement to it, the said segments are caused to occupy positions at an angle to the horizontal, as shown in Figure 6. This is effected by arranging the hinges 7 at an angle, as shown more clearly in Figure 2, to the plane of the partition 2 to which they are connected.

It will be observed from the foregoing and by reference to the drawing that I have provided a device of the character referred to which is simple in construction and certain in its operation. In its smaller or toy form, the device may be manufactured very cheaply, while for advertising purposes it may be so constructed as to carry a large number of small objects such as miniature milk bottles or packages adapted to advertise any related industry, or in some cases the device may be employed to distribute collapsible tubes or actual samples of products to be advertised, such samples being either allowed to descend freely under their own weight or retarded in their descent by means of miniature parachutes or other means.

As before stated, the device may be projected into the air by any of the methods well known in the art, which are not herein shown as they form no part of the present invention.

While I have herein described and shown a preferred embodiment of my invention, I do not limit my invention thereto, but may modify the same in various ways to suit any particular requirement.

Having described my invention, what I claim and desire to secure by Letters Patent of the United States is:

1. A device of the character described comprising a rear member, a plurality of segments hinged to said rear member and adapted to form, when in closed position, a container for an article to be discharged, spring means adapted to force

said segments into open position, a front closure member adapted to engage the free ends of said segments and to maintain them in closed position and to retain said article, and a weight slidably mounted upon said closure member and adapted to detach the same by impact thereupon and release said article when said front member is positioned below said rear member.

2. A device of the character described comprising a rear member, a plurality of segments hinged to said rear member and adapted to form, when in closed position, a container for an article to be discharged, spring means adapted to force said segments into open position, a front closure member adapted to engage the free ends of said segments and to maintain them in closed position and to retain said article, a weight slidably mounted upon said closure member and adapted to detach the same by impact thereupon and release said article when said front member is positioned below said rear member, and a flexible element permanently connecting said front member to said rear member.

3. A device of the character described comprising a rear member, a plurality of segments hinged to said rear member at an angle to the same and adapted to form, when in closed position, a container for an article to be discharged and to form, when in open position, a series of helical blades, spring means adapted to force said segments into open position, a front closure member adapted to engage the free ends of said segments and to maintain them in closed position and to retain said article, a weight slidably mounted upon said closure member and adapted to detach the same by impact thereupon and release said article when said front member is positioned below said rear member, and a flexible element permanently connecting said front member to said rear member.

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