No. 736,759. PATENTED AUG. 18, 1903.

P. W. MEANS.

DART PARACHUTE.

APPLICATION FILED OCT. 2, 1902.

NO MODEL.

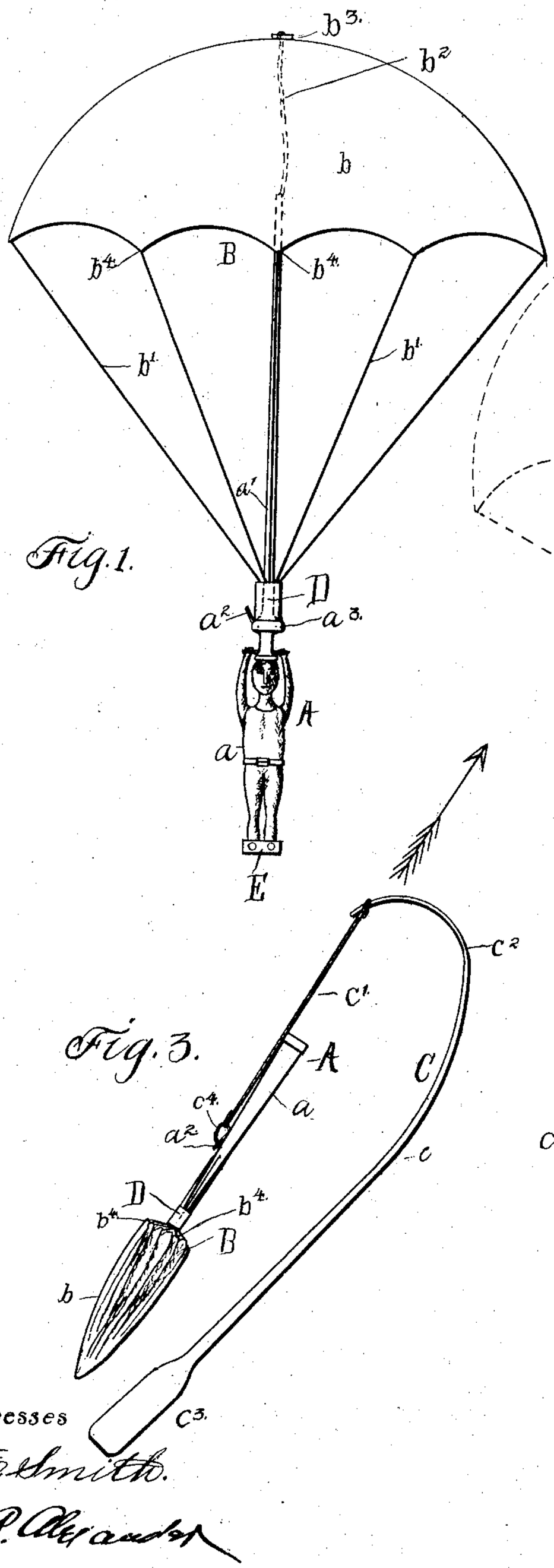

Fig. 1.

Fig. 3.

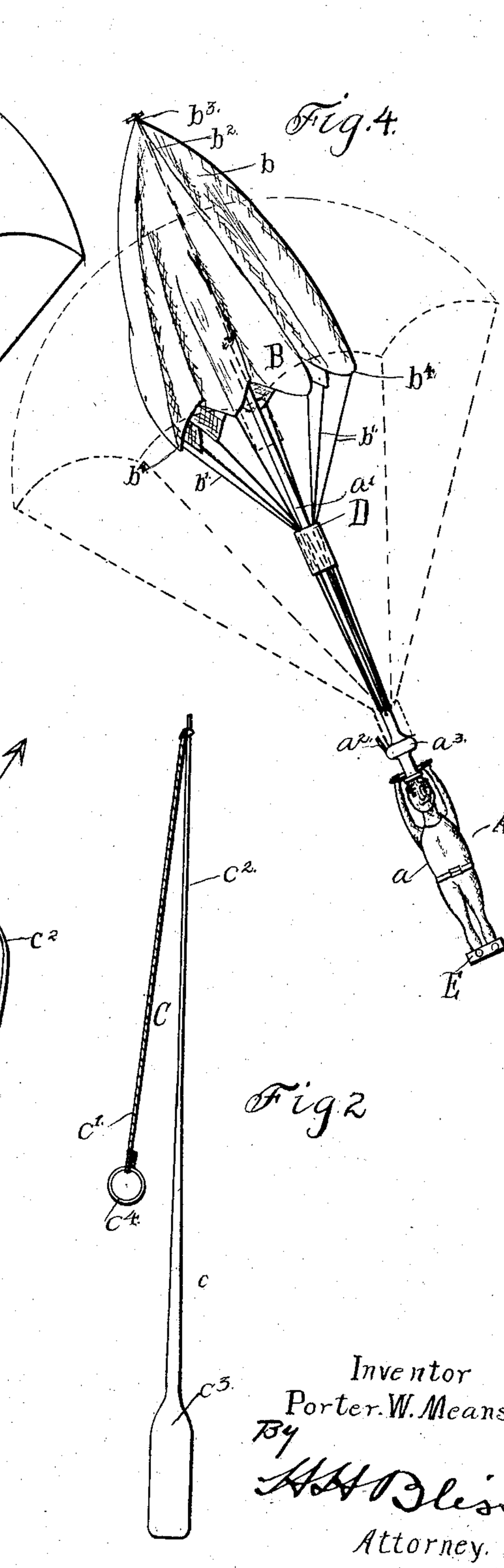

Fig. 4.

Fig 2

Witnesses

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No. 736,759. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

PORTER W. MEANS, OF WILLIAMSTON, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO HARRY A. RHOADES, OF JACKSON, MICHIGAN.

DART-PARACHUTE.

SPECIFICATION forming part of Letters Patent No. 736,759, dated August 18, 1903.

Application filed October 2, 1902. Serial No. 125,674. (No model.)

To all whom it may concern:

Be it known that I, PORTER W. MEANS, a citizen of the United States, residing at Williamston, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Dart-Parachutes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in toys, the object being to provide a combined dart and parachute with parts so constructed and arranged that the device can be first projected a longer or shorter distance upward as a dart and then descend with slow motion as an air-sustaining parachute.

Figure 1 is a side view of a device embodying my improvements. Fig. 2 is a side view of the propelling or driving parts. Fig. 3 shows the parts in the position occupied at the instant of hurling or projecting the dart. Fig. 4 illustrates it just as it is beginning to turn downward and the instant after the parachute-compressing part has fallen and released the fabric part.

In the drawings parts of the toy are indicated as entireties by the letters A B C, A indicating the part which is mainly dart-like in character, B indicating the parts which constitute the parachute, and C the driving or propelling parts.

The dart-like or stem part A is composed of a heavier and preferably thicker end portion a and a smaller and lighter portion a'.

At a^2 there is formed or provided means for temporarily connecting the elastic device which imparts the projectile force to the dart. As shown, this consists of a short pin or projection at a^2.

The projecting device C is composed of the parts c and c', the former having the elastic handle portion formed with the relatively thinner part c^2 and the thicker part c^3, adapted to be grasped by the hand. To its upper end is secured a cord c', which at its free end carries a ring c^4 or equivalent. When the dart is to be hurled, the springy driving device C is grasped in one hand and the dart held in the other with the ring c^4 engaging with the projection at a^2, the dart being held so that the end portion a extends forward from the hand. The elastic part C is then pressed forward, and after an instant the dart is released by the other hand and is carried upward, the ring c^4 slipping backward from the projection a^2.

The parachute part B consists of the suitably-shaped fabric b, the edge of which at a proper number of points is connected by the cords b' to the dart part A. I prefer to extend the lighter rod-like part a' of the dart well up into the interior or the parachute fabric and connect its upper end by a cord b^2 to the central top part of the fabric at b^3, this having a steadying effect and holding the parachute and dart in proper relation to each other during the descent of the toy.

It will be noted that the connection as a whole between the stem and the parachute is a flexible one, so that the toy in its downward flight is not subject to the same sudden jerks and darts due to flurries and gusts of wind that it would be if the connection between the stem and the parachute were partly inflexible. In other words, this flexible connection serves to cause any variation in the course of the flight of either the parachute or the dart to be less quickly communicated from the one to the other and to have less deviating effect on the path of the toy than would result if the upper end of the stem a' were rigidly connected to the body of the parachute.

D is a retaining device or holder for the parachute. Preferably it is in the form of a ring or short tube-section which is placed around the cords b' and the center rod a'. When the device is shot into the air, this ring is placed at the outer end and close to the points b^4 of the parachute fabric, as shown in Fig. 3. As the dart moves upward the retainer D tends to remain in its outermost position and prevent the fabric from expanding or opening out; but as soon as the toy has lost its forward projectile force and begins to return the heavier end a instantly drops downward and the retainer D falls, sliding along the cords b' until it comes to a suitable stop—as, for instance, projection a^2 or an enlargement of the dart a^3—and immediately the air causes the parachute fabric to open out and the device moves slowly downward.

The dart portion is generally preferably

made of light material, as wood, and in order to have sufficient weight at its free end I attach a metallic piece E of sufficient size to effect the desired purpose.

What I claim is—

1. A toy having a dart-like stem with a relatively heavy end piece rigidly secured to one end of the stem adapted to be propelled upward while moving longitudinally in the path of travel of its heavier end and a parachute connected thereto to sustain the dart while it is moving longitudinally in the same path, but downward.

2. A toy having a dart with a relatively heavy end piece rigidly secured to one end of the dart, and means for attaching a detachable driving device, and a parachute connected to said dart and adapted to be situated opposite to the said heavier end, and a retaining device for the parachute adapted to release it when the dart commences to return, substantially as set forth.

3. A toy having a dart-like stem adapted to be projected upward in the direction of one of its ends and having a parachute fabric at or near the opposite end, cords connecting the parachute with the fabric at points between the ends, and a retaining device for the parachute inclosing said cords adapted to be moved longitudinally of the dart-stem which supports it, substantially as set forth.

4. A toy having a dart-like stem with a weighted or relatively heavier forward end rigidly secured to the stem, means for detachably connecting it to a projecting device, a parachute at the opposite end, and a gravity-actuated retainer for holding the parachute closed, substantially as set forth.

5. A toy having a dart-like portion A, a parachute B, a series of cords connecting the parachute to the dart, a parachute-retainer D encircling said cords, and means for imparting projectile force to the dart in the direction of the end opposite to the parachute, substantially as set forth.

6. A toy having the dart-like part A, the parachute B, a weight or enlargement E rigidly secured to said part A, and a driving projection a^2.

7. A toy having a dart-like portion A with relatively heavy end integral therewith arranged to be forward when moving upward and also forward when moving downward, a parachute at the opposite end adapted to have the parts expand outwardly which extend toward the forward end, and means for holding the expansible parts of the parachute closed when it is moving upward, substantially as set forth.

8. A toy having a dart-like portion A, a parachute B, a series of cords connecting the parachute to the dart, the parachute being otherwise disconnected from the dart, and a parachute-retainer encircling said cord for holding the expansible part of the parachute closed and adapted to move away from the parachute when the dart is descending, substantially as set forth.

9. A toy having a parachute, a dart-like stem having one end extending into the body of said parachute, a cord connecting said end with the center of said parachute and a series of cords connecting the edges of the parachute with said stem, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PORTER W. MEANS.

Witnesses:
CHAS. H. SMITH,
MAUD R. ROGERS.