

No. 608,500.

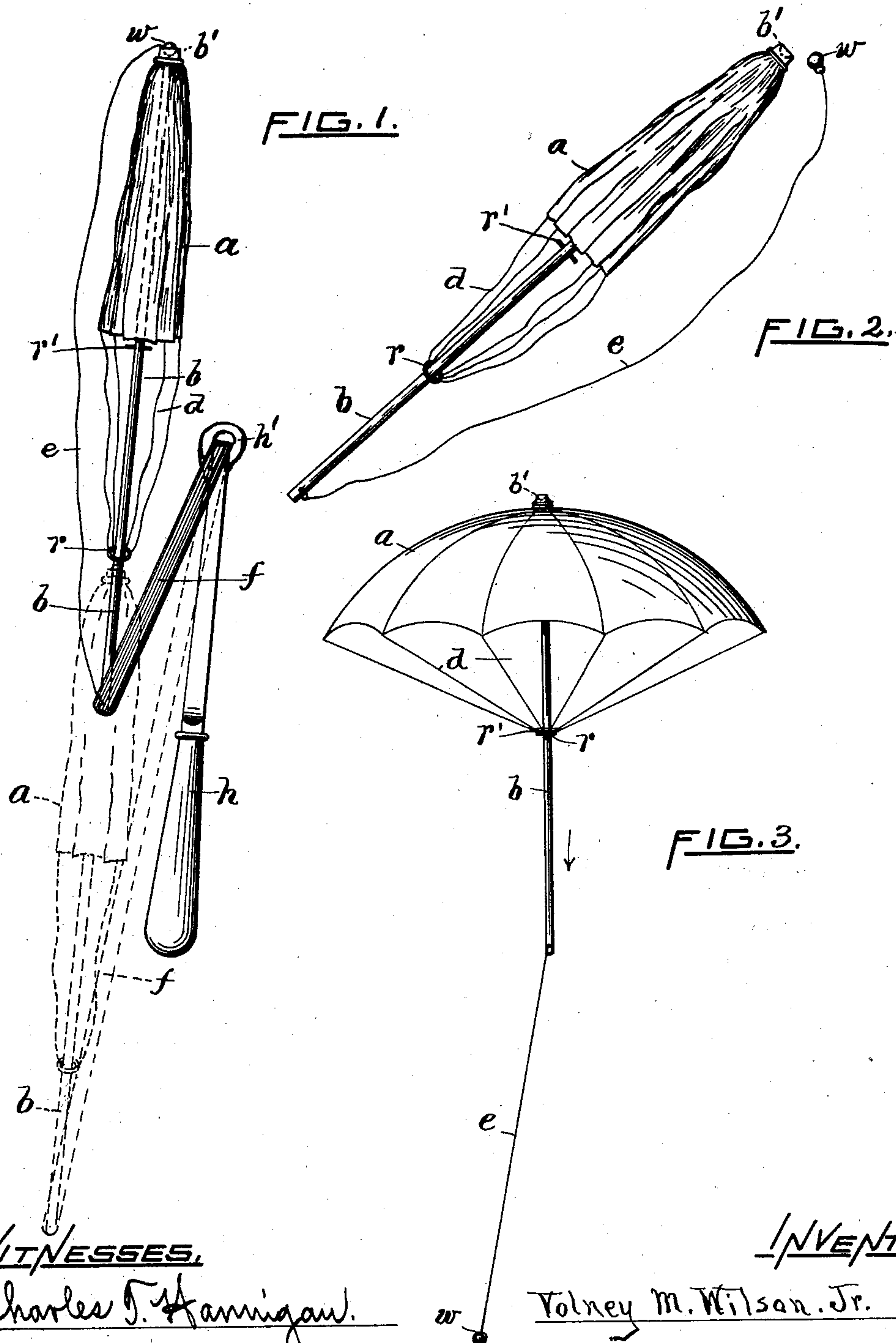
Patented Aug. 2, 1898.

V. M. WILSON, JR.

AERIAL TOY.

(Application filed Aug. 17, 1897.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

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ONE-HALF TO CHARLES H. KITTEDGE, OF SAME PLACE.

AERIAL TOY.

SPECIFICATION forming part of Letters Patent No. 608,500, dated August 2, 1898.

Application filed August 17, 1897. Serial No. 648,555. (No model.)

To all whom it may concern:

Be it known that I, VOLNEY M. WILSON, Jr., a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Aerial Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in aerial toys; and it consists, essentially, of a toy parachute having a movable equalizing-weight attached thereto and arranged whereby after the closed parachute has been projected into the air the said weight will cause the device to tip or deviate in its flight sufficiently to allow the weight to drop out of the seat formed in the top of the parachute, and since the weight is permanently attached or connected to the lower end of the parachute the former in falling will be arrested by it, thereby not only maintaining the parachute in a substantially vertical position during its descent, but at the same time the initial action of the suddenly-released weight insures the filling or inflation of the parachute with atmospheric air, so that the device will fall slowly and gracefully to the ground.

The object I have in view is to produce a comparatively inexpensive toy parachute which may be easily shot or projected into the air, the construction being such that the parachute will automatically open upon arriving at the end of its upward flight and upon returning to the earth may be again projected into the air, all as will be more fully hereinafter set forth and claimed.

In the accompanying sheet of drawings, illustrating my invention, Figure 1 is a side elevation of the device, showing it in its normal or closed position preparatory to being projected into the air. Fig. 2 shows the parachute in the air at the end of its flight at the instant the weight is automatically released from its seat; and Fig. 3 is a side elevation, in reduced scale, showing the parachute in-

flated or distended by the atmospheric air impinging against its under side, the fallen weight at the same time keeping the device practically upright during its gradual descent to the earth.

I would state that the construction and arrangement of the parts as represented in the drawings relate more particularly to a small or toy parachute wherein the diameter of the upper or expanding head portion *a* is, say, some twelve to fifteen inches. The said upper or umbrella-like head *a* may be made of suitable thin light foldable material, as paper, cloth, &c. Its shape may be varied or changed as desired, although in any case it should be such that it is readily inflatable and collapsible. A light wooden stick *b* extends through the center of and is secured to the said head portion *a* and is provided at the extreme top end with a seat or recess *b'*. As drawn, a ring or "runner" *r* is mounted to slide freely on the member *b*. To the said ring are secured a number of short flexible connections *d*, attached in turn to the periphery of the parachute-head. The latter may be reinforced or stayed at said attaching-points and also further provided with radial ribs, if desired.

To the lower end of the stick or rod *b* is securely attached a flexible connection *e*, the latter carrying at its free end a small weight or ball *w*, adapted to be removably seated in the said recess *b'*. (See Fig. 1.)

While the device may be dropped from any suitable height or elevation, I prefer to employ a spring-holder arranged to propel or project the parachute into the air with considerable force. I have represented in Fig. 1 one form of such projecting means. In this case the handle *h* carries at its upper end *h'* an elastic band *f*. In lieu of this holder an air-gun or bow-gun or other analogous device may be used.

In using the parachute forming the subject of my present application for patent the operator holds the handle member *h* in one hand, while with the other he places the lower end of the rod *b* in the loop of the rubber band *f*, as shown in Fig. 1, the parachute at the same time being closed and having the ball *w* resting in the seat *b'*. The operator

next stretches the band f by pulling it downward, say, to the dotted-line position, Fig. 1, thereby placing the band under considerable tension. Now upon suddenly releasing the
 5 fingers from the stick and band the latter instantly contracts and returns to its normal position, its reaction or resiliency at the same time projecting the closed parachute upwardly to a height corresponding to the force
 10 of the spring or band used. When the parachute in its flight has attained its full height, the force of gravity will cause its upper end, then being the heaviest by reason of the equalizing-weight w , to tip until the weight
 15 drops from its seat b' . (See Fig. 2.) The weight then instantly falls to its limit as determined by the length of cord attached to the stick b , thereby swinging the parachute back to a vertical or nearly vertical position,
 20 the action of the weight also at the same time for an instant quickly drawing the parachute downwardly through the air until the latter inflates or expands the head portion a , as shown in Fig. 3, after which the whole gently
 25 sinks to the earth unless the force of the wind meanwhile deviates it from its course. In order to arrest the upward movement of the ring r when the parachute is inflated, I may employ a stop r' , as shown.
 30 In experiments made with my improved parachute I have discovered that the weight of the ball or member w should bear a certain relation to that of the parts a and b . I find, too, that the weight upon falling from the seat
 35 b' swings back and forth in a pendulum-like manner from the end of the stick, and this movement is imparted to the parachute in a less degree until all soon become nearly stationary with respect to any sidewise or oscillatory
 40 movement.

I am aware that projectile toys have been devised prior to my present invention wherein in one case a folded parachute or even a series of them is provided with an object or load arranged to keep the parachute in position after it has become inflated; but in such
 45 former devices the weight or object was not adapted, as in my improvement, to change the center of gravity of the toy, the weight at the same time automatically dropping freely
 50 a fixed distance, thus insuring that the parachute will open suddenly by reason of the acceleration of the speed of the falling weight.

I claim as my invention and desire to secure by United States Letters Patent—

1. The combination, in a toy parachute, of
 55 a stick or rod member b extending through the top of the flexible umbrella-like portion, a seat formed in the upper end of said stick, and a weight member connected by a cord to
 60 the lower part of the stick adapted to be loosely mounted in said seat, substantially as hereinbefore described and for the purpose set forth.

2. In a foldable toy parachute substantially
 65 as described having a downwardly-extending central stick or rod member secured to its upper part, a flexible connection e attached to the lower end of said stick, a weight member
 70 w secured to the free end of said connection, and a seat located in the top end of the parachute adapted to contain said weight while the device is being shot upwardly into the air.

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

VOLNEY M. WILSON, JR.

Witnesses:

GEO. H. REMINGTON,
 REMINGTON SHERMAN.