

(No Model.)

E. DEL VALLE.
TOY.

No. 447,284.

Patented Feb. 24, 1891.

Fig. 1.

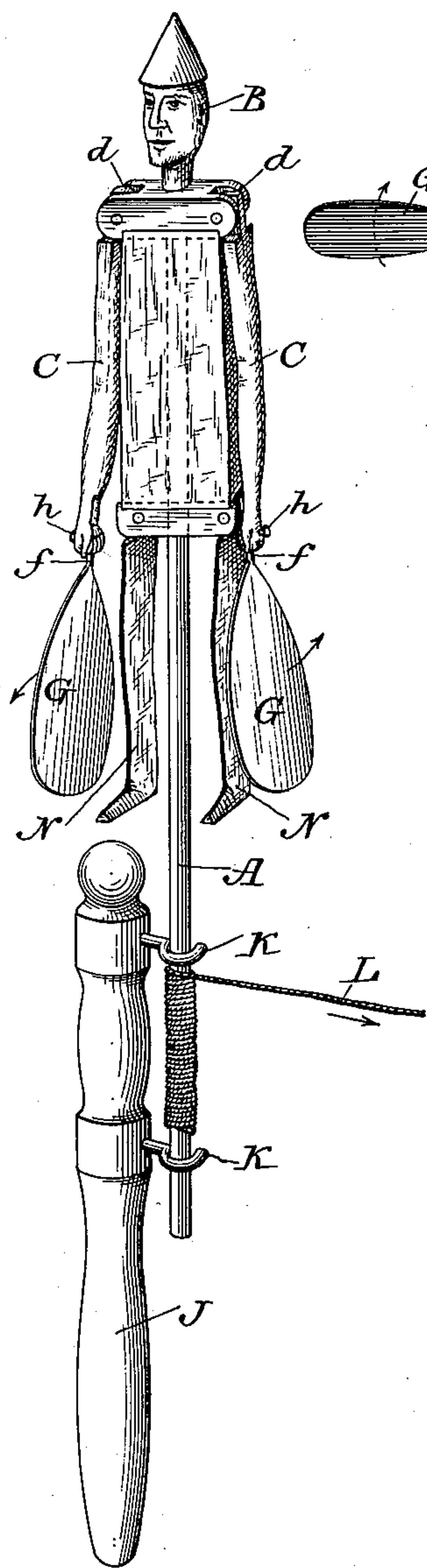
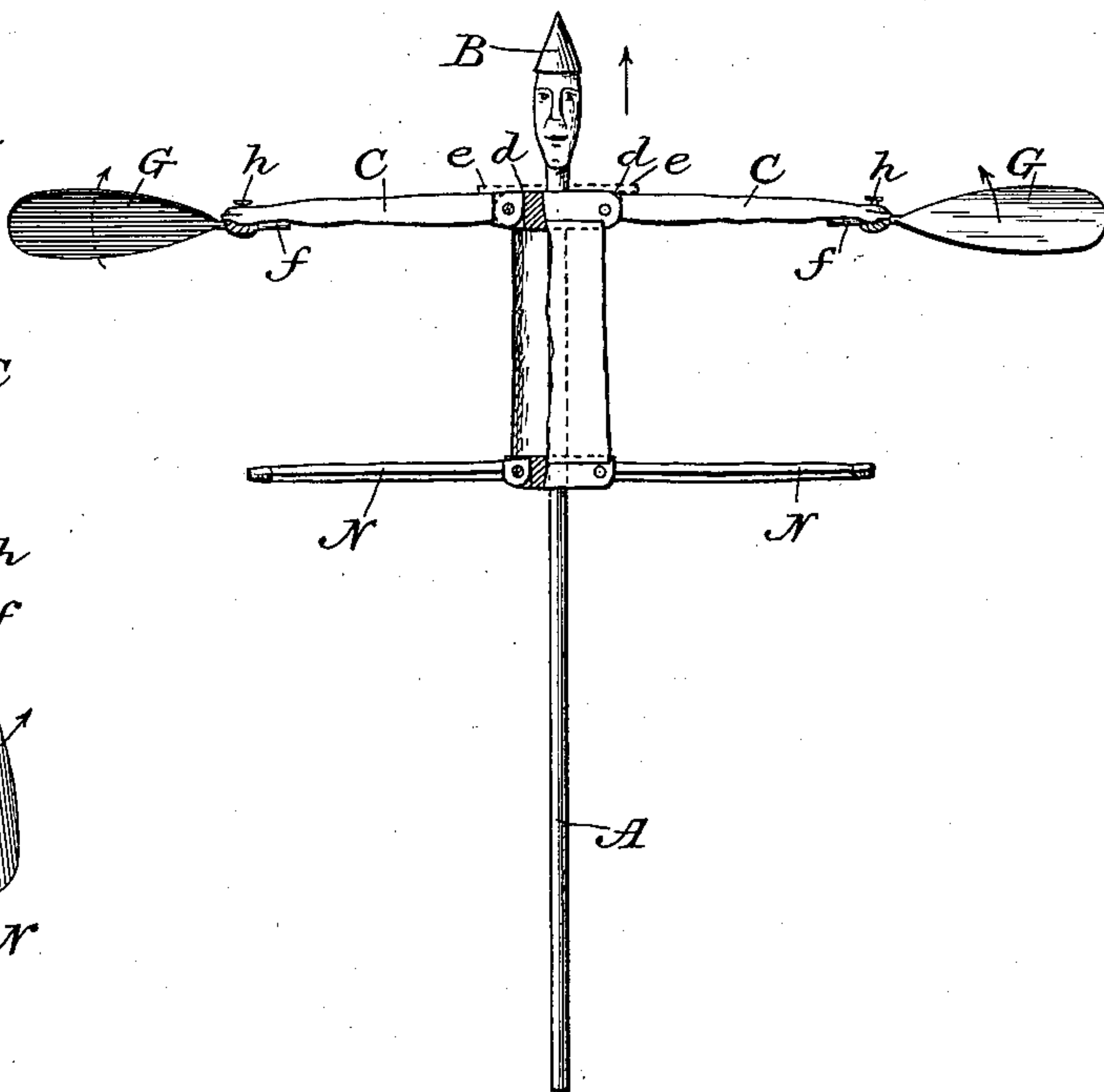


Fig. 2.



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SPECIFICATION forming part of Letters Patent No. 447,284, dated February 24, 1891.

Application filed June 25, 1890. Serial No. 356,668. (No model.)

To all whom it may concern:

Be it known that I, ELISEO DEL VALLE, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Toys Known as Flying-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of toys in which a propelling-wheel is impelled by imparting thereto a rapid rotary movement and is left free to fly through the air by reason of said movement.

It has for its object to render the toy more attractive and interesting without materially increasing the cost thereof; and it consists in the combination, with a central spindle, of propelling blades or vanes, adjustably attached to arms hinged to the stem to open out radially therefrom, and in an improved handle for use in setting the toy in motion, substantially as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved flying toy in the form of a man, showing the same in readiness to be set in motion, and Fig. 2 represents the toy as flying through the air.

The toy proper consists of a light stem or spindle A, terminating in a suitable head-piece B, preferably pointed to facilitate its movement through the air, and having two arms C C, loosely pivoted thereto, preferably just below the head B and at diametrically opposite points. These pivoted arms C C are free to drop into parallelism with the spindle, as shown in Fig. 1, and to swing out therefrom radially into a position at a right angle thereto, as shown in Fig. 2. When in the latter position, the further movement of each arm upon its pivot is arrested by a suitable device—as, for example, by means of a square shoulder *d* in the pivoted joint, against which the square inner end of the swinging arm is made to abut, as shown in Fig. 2—and an additional stop-piece may be fitted to extend out from the top of the pivotal bearing over the arm, as shown by dotted lines at *e e*

in said Fig. 2. The outer end of each swinging arm C is perforated to receive the shank or stem *f* of a comparatively wide flat blade or vane G. The blade G thus attached to the arm admits of rotation in its bearing for adjustment, and the perforation in which it is secured is made to extend in such a direction relatively to the length of the arm, as that the axis of the blade shall be very nearly parallel with said length, so that the angle of inclination of the blade with reference to the arm may be changed and adjusted by simply turning the blade upon its axis. When thus adjusted to a proper angle, the blade G may be fixed in any suitable manner, as, for example, by means of a set-screw *h*. A rotation of the spindle A will operate by centrifugal force to cause the arms C C to fly out therefrom at a right angle therewith and the revolving blades will then operate as propellers to carry the toy forward through the air.

A rotary movement may be imparted to the spindle by any of the well-known methods; but for convenience a handle J is furnished with the toy, said handle being formed or fitted with two hooks K K to project therefrom one above the other, so as to serve as open bearings or supporting-recesses in which the lower end of the spindle may rest while it is being set in motion by pulling upon a string I, wound around the portion thereof which is placed between the two hooks, as shown in Fig. 1. The handle J, being held firmly in one hand while the string is pulled by the other, the spindle A will be supported vertically by the hooks K K against the stress brought to bear upon the string, while it will be free to rotate as the string is unwound therefrom and to spring upward clear of the handle so soon as the string is pulled entirely off. The toy, propelled through the air by the action of the inclined blades, will fly with a rapidity and to a distance proportionate to the force and rapidity of the initial rotary movement imparted by the string to the spindle. The movements through the air may be varied and modified by changing the pitch or inclination of the blades. By setting the blades so that they shall revolve with their faces in a plane at a right angle with the length of the spindle instead of at an inclina-

tion therewith, the toy may be made to remain suspended in the air without progressive movement during its rotation.

5 The toy, consisting of the spindle A, pivoted arms C C, and propelling-blades G G, carried by said arms, may be fashioned in various forms as taste and fancy may suggest.

10 In the accompanying drawings, two legs N N are pivoted to the spindle at a distance below the arms C C to swing out parallel with said arms in the rotation of the toy, and the intermediate portion is filled out with light material to represent the body of a man. The ends of the arms are fashioned to represent hands holding fans, which constitute the vanes, and the head-piece is made to represent a human head covered by a pointed cap. The toy is thus made to represent an acrobat who will when the toy is in motion be made to appear as whirling through the air by the aid of the fans held in his extended hands. The legs may be made to move automatically as the toy is flying, and various other modifications in the arrangement and construction of the toy will suggest themselves to an ingenious mechanic.

25 What I claim as my invention, and desire to secure by Letters Patent, is—

1. A flying toy constructed of a central spindle, arms pivoted loosely to said spindle to swing out at a right angle therewith, and propelling-blades attached to said arms, substantially in the manner and for the purpose herein set forth. 30

2. A flying toy constructed of a central spindle, a double set of arms pivoted loosely to said spindle at different points in its length to swing out at a right angle therewith, and propelling-blades attached to one set of the pivoted arms, substantially in the manner and for the purpose herein set forth. 33 40

3. In a flying toy, the combination, with a central spindle and arms pivoted to said spindle to swing out therefrom, of blades rotatably adjustable in the outer end of said arms, substantially in the manner and for the purpose herein set forth. 45

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELISEO DEL VALLE.

Witnesses:

A. N. JESBERA,
E. M. WATSON.