

(No Model.)

R. TEICHMANN.  
TOY PROPELLER.

No. 354,269

Patented Dec. 14, 1886.

Fig. 1

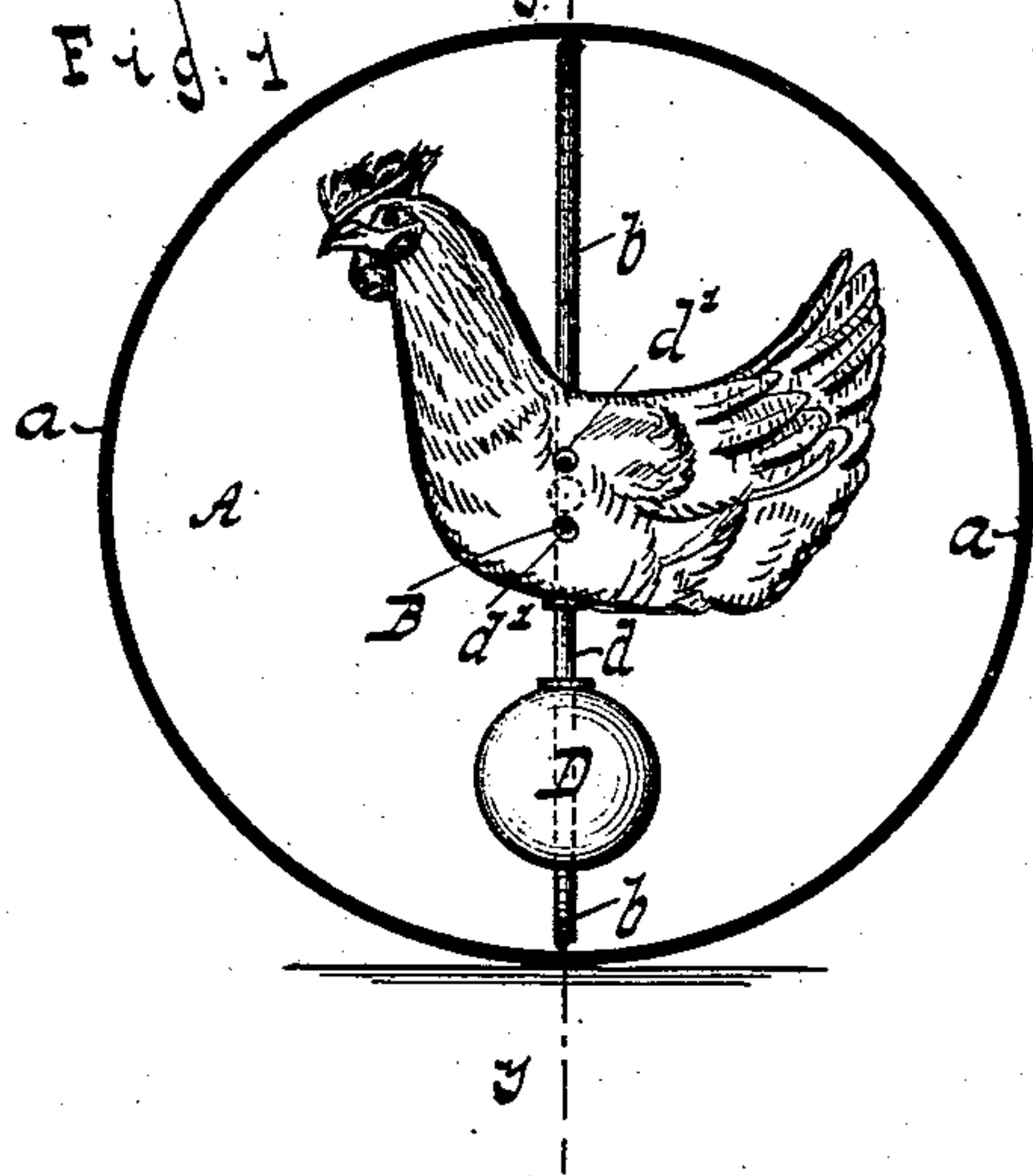


Fig. 2.

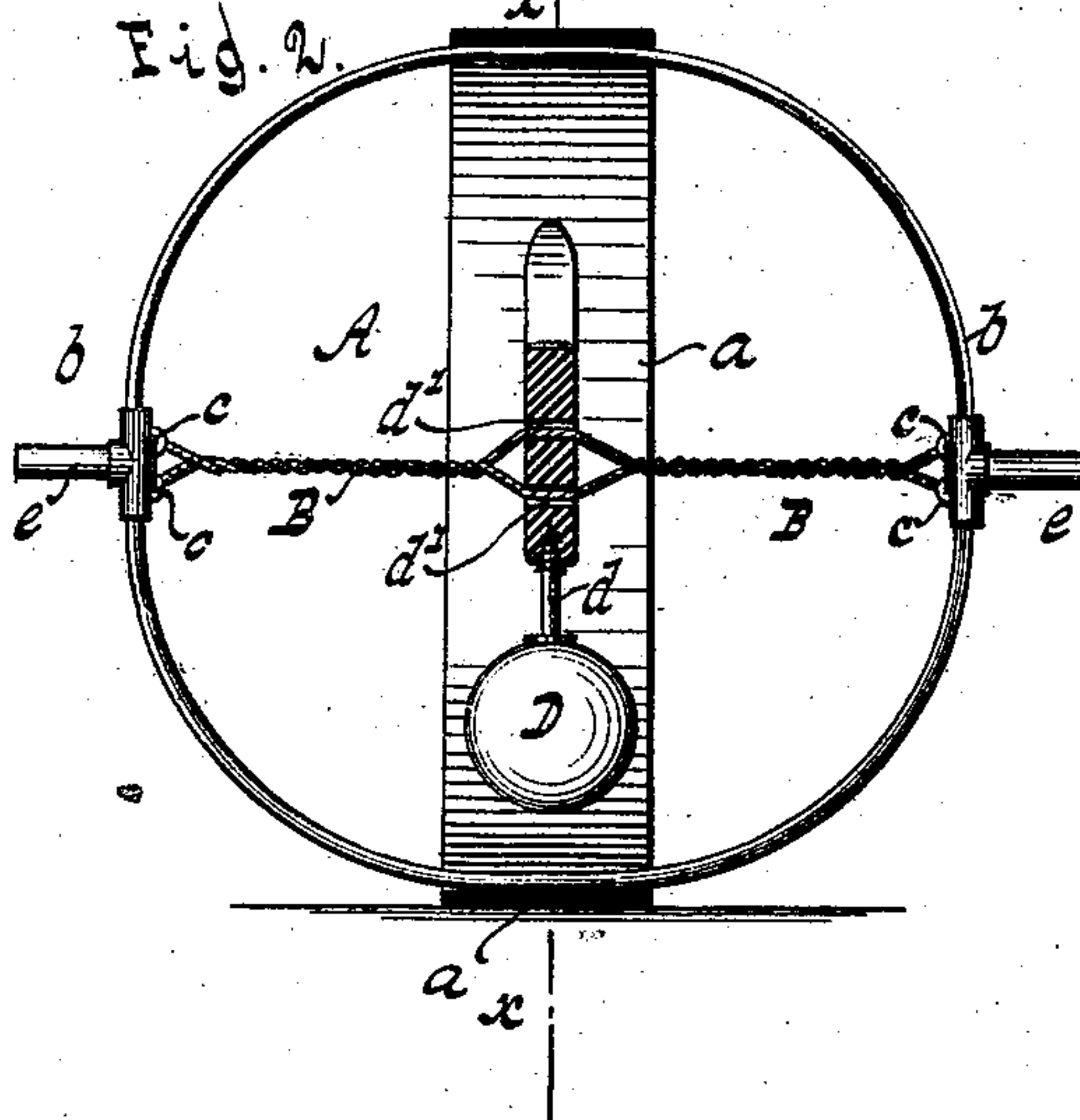


Fig. 3.

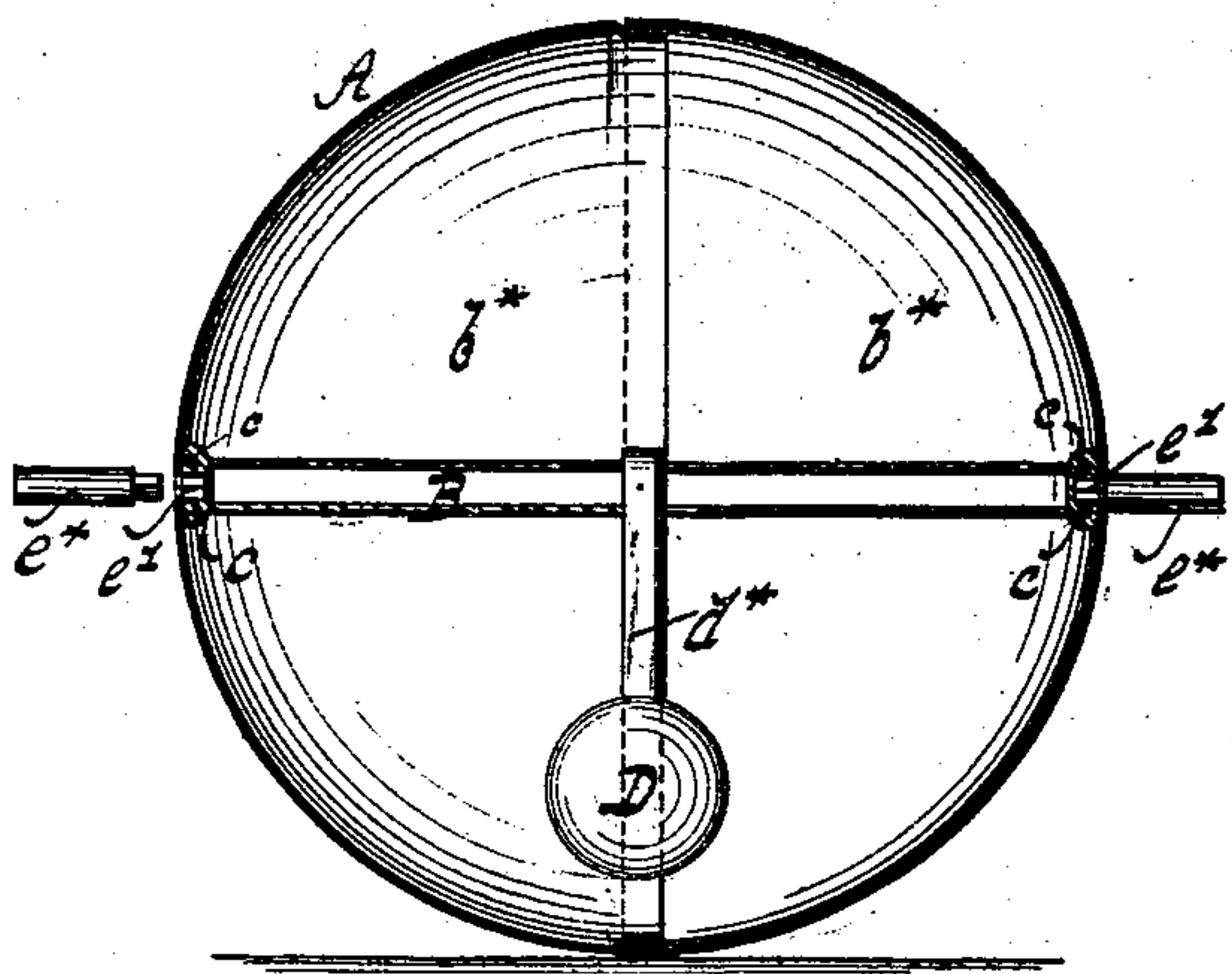
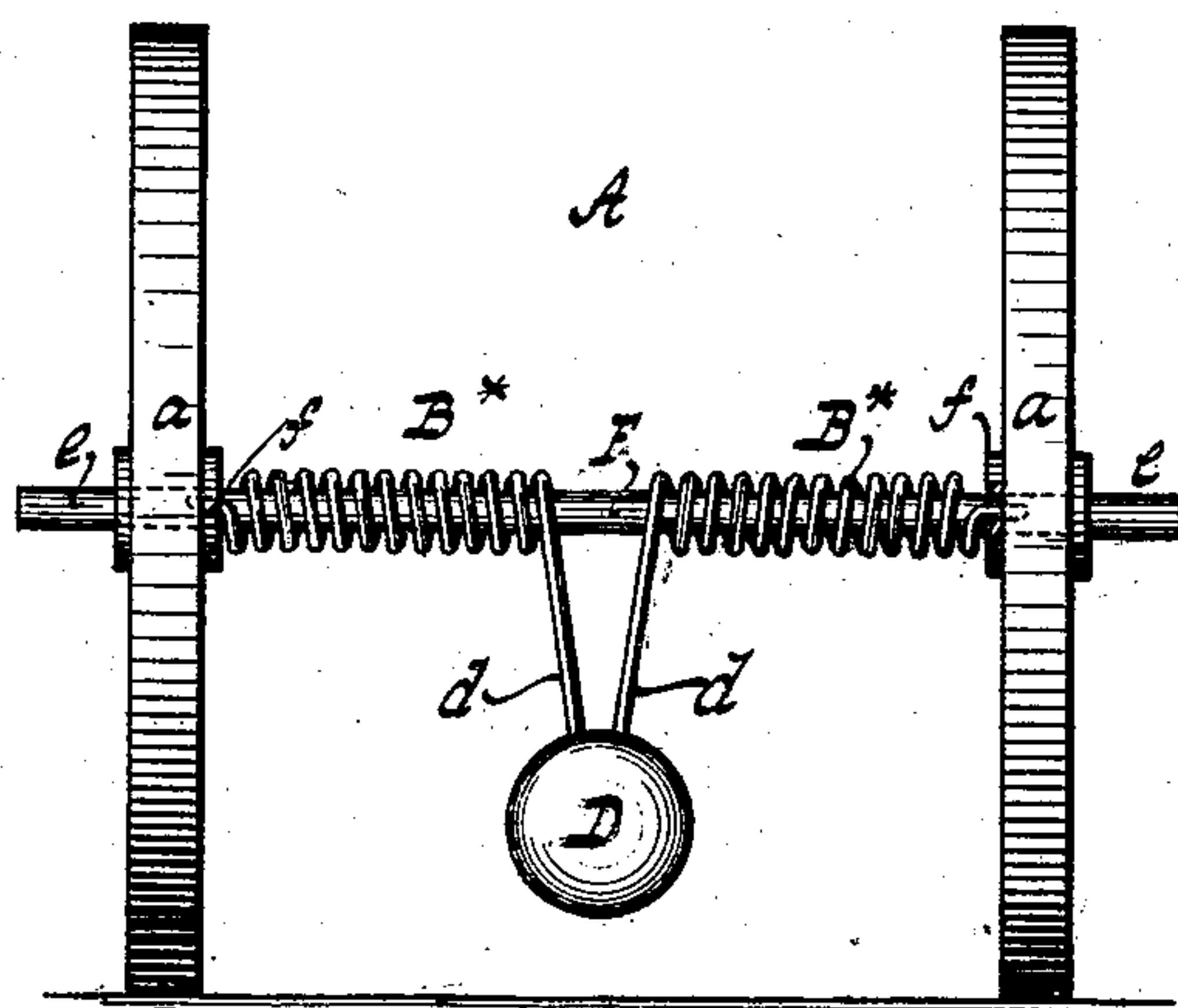


Fig. 4.



WITNESSES:

Abraham duFaurp.  
William Miller

INVENTOR

Richard Teichmann

BY

Van Santvoord & Hauff  
his ATTORNEYS.



# UNITED STATES PATENT OFFICE.

RICHARD TEICHMANN, OF BROOKLYN, NEW YORK.

## TOY-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 354,269, dated December 14, 1886.

Application filed July 29, 1886. Serial No. 209,431. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD TEICHMANN, a citizen of the German Empire, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Toy-Propellers, of which the following is a specification.

My invention relates to improvements in toy-propellers; and it consists, essentially, in the combination, with a rolling frame, of a torsional spring secured in the rolling frame in line with its axis of rotation, and a weight secured to and suspended from the spring for storing up the propelling energy in the spring, and also in the combination, with a rolling frame, of a torsional spring secured in the rolling frame in line with its axis of rotation, a weight secured to and suspended from the spring for storing up the propelling energy in the spring, and finger pieces secured to the rolling frame in line with the torsional spring, all of which is more fully pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section in the plane  $x x$ , Fig. 2. Fig. 2 is a similar section in the plane  $y y$ , Fig. 1. Fig. 3 is a central vertical section of a modification. Fig. 4 is an elevation of a second modification.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a rolling frame, which, as shown in Figs. 1 and 2, consists of a ring,  $a$ , and spokes  $b b$ , located in a plane at right angles to the plane of the ring. These spokes  $b b$  may consist of one piece of stout wire or other suitable material, that is secured to the ring  $a$  at its top and bottom. B is a spring, which is secured to the spokes  $b b$ , and is in line with the axis of rotation of the frame A. In this example the spring consists of an endless elastic band of suitable material—such as cord or rubber—which is secured at two points to the spokes, which can be provided with suitable eyes,  $c c$ , for this purpose.

D is a weight, which is suspended from the spring B in such a manner that it is held to both strands of such string. This is accomplished by perforating the arm  $d$ , by which the weight is suspended, with two holes,  $d' d'$ , and passing the strands through these holes.

The arm  $d$  may consist simply of a straight bar of suitable material, or it may embody a figure of some kind, such as a fowl, a horse, or a dog. To the spokes  $b b$  of the rolling frame are attached finger-pieces  $e e$ , which lie in one and the same straight line with the axis of the spring B.

If the rolling frame A is moved about its axis of rotation, the strands constituting the spring B are caused to entwine with each other; but the weight, due to its inherent gravity and its leverage, is prevented from turning, and consequently a quantity of energy is stored up in the spring, which is spent in propelling the rolling frame when the same is set down. The curved spokes  $b b$  are used in order to obtain as long a spring as possible, so that a comparatively large amount of energy can be stored up. If desired, a similar set of spokes,  $b b$ , can be secured to the ring  $a$  at a right angle to the said spokes  $b b$ , such adding to the strength of the frame as a whole.

In the modification shown in Fig. 3 the rolling frame A consists of a hollow sphere, which is formed in two sections,  $b^* b^*$ , in order to insert the propelling mechanism. The sphere is best made of sheet metal, and is provided with eyes or hooks  $c c$ , to which the spring B is secured. In this example the weight is attached to the spring by an arm,  $d^*$ , the upper portion of which is bent over and clinched upon both strands of the endless-band spring. In the sphere, and in line with the spring B, are formed sockets  $e' e'$ , which receive the ends of the finger-pieces  $e^* e^*$ , so as to facilitate the winding up of the spring. These finger-pieces can be removed when the toy is to roll.

In Fig. 4 I have shown a rolling frame consisting of two parallel wheels,  $a a$ , that are rigidly mounted upon a common shaft or axle, F, and such axle is encompassed by two spiral springs,  $B^* B^*$ , one end of each of which is secured, at  $f$ , to the hub of the respective wheel. The free ends of the spring are lengthened and straightened out to form arms  $d d$ , to which the weight is secured. The ends of the shaft or axle are formed into finger-pieces.

Various other forms of rolling frames will suggest themselves, such as two narrow rings



or wheels, *a a*, joined by suitable spokes, such as the spokes *b b*; or the ring *a* can be made very wide in the rim and the spokes made to extend straight between the rim. If desired, the two weights can be used, such weights being arranged on either side of the frame.

Toys have heretofore been proposed in which a frame or case containing a clock-movement is hung from a wheeled axle, the clock-movement being geared to the axle to rotate the same and thereby propel the toy. My invention differs therefrom, in that I secure a torsional spring in a rolling frame in line with the axis of rotation of such frame, and suspend a weight directly from the spring in such manner that when the rolling frame is moved about its axis of rotation the spring is placed under tension and propelling energy stored therein by reason of the weight being prevented from rotating by its inherent gravity, so that when the frame is placed on the surface to be traversed the stored-up energy in the spring serves to propel the frame. By this means I avoid the use of gear-wheels.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the rotating frame *A*, of a torsional spring secured in the rolling frame in line with the axis of its rotation, and a weight secured directly to and suspended from the spring for storing up the propelling energy in said spring, substantially as shown and described.

2. The combination, with a rotating frame, of a torsional spring secured in the rolling frame in line with the axis of its rotation, a weight secured directly to and suspended from the spring for storing up the propelling energy in said spring, and the finger-pieces secured to the rolling frame in line with the spring, substantially as shown and described.

3. The combination, with the ring *a*, of two spokes, *b b*, the torsional spring *B*, secured to the spokes in line with the axis of rotation of the ring, and the weight *D*, secured directly to and suspended from the spring, for storing up the propelling energy in said spring, substantially as shown and described.

4. The combination, with the rotating frame *A*, of a torsional spring consisting of an elastic band secured in the rolling frame in line with the axis of its rotation, a weight secured directly to and suspended from the strands of said spring for storing up the propelling energy in the spring, and finger-pieces secured to the rolling frame in line with the spring, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

RICHARD TEICHMANN. [L. S.]

Witnesses:

E. F. KASTENHUBER,  
A. FABER DU FAUR, Jr.