L. HINZ.

TOY.

APPLICATION FILED SEPT. 2, 1920.

1,406,733. Patented Feb. 14, 1922.

Fig. 2.

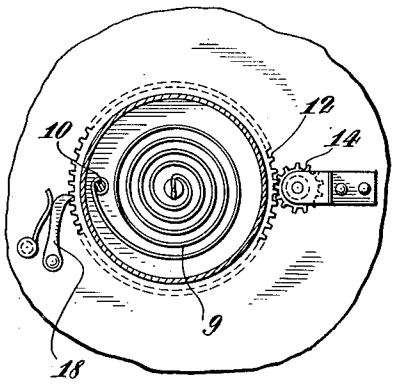


Fig. 1.

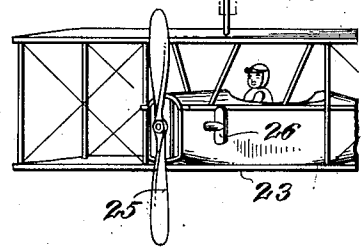


Fig. 3.

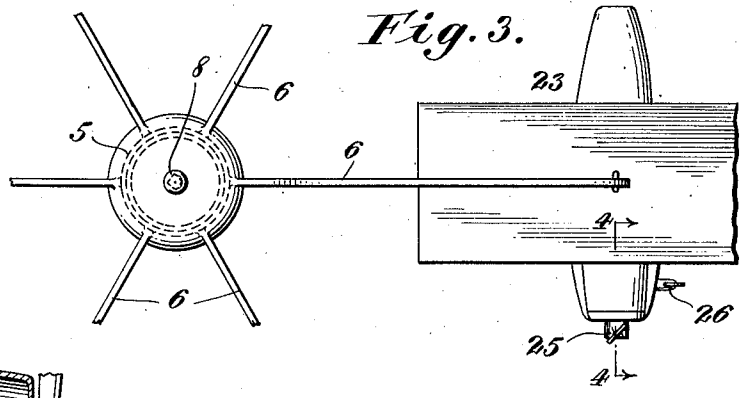
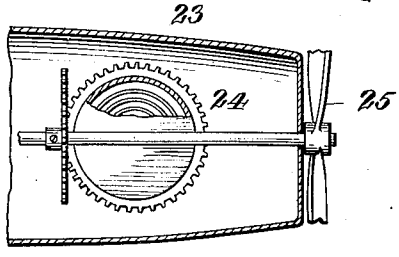


Fig. 4.



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TOY.

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To all whom it may concern:

Be it known that I, LEO HINZ, a German subject, and resident of Perth Amboy, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Toys, of which the following is a specification.

This invention relates to toys, the object thereof being to provide a device of novel and simple construction which is durable, inexpensive and readily operable by children, and which is adapted to furnish a high degree of amusement without liability of injuring the users.

In carrying out my invention I employ a miniature representation of a flying machine, of any well known type, or other moving objects, motor means for revolving the miniature on a plane around a vertical axis, and supporting means for the parts, as hereinafter fully described and specifically set forth in the annexed claims.

In the accompanying drawings forming part of this specification, Figure 1 is a side view of my improved toy, parts thereof being broken away and shown in sectional elevation. Fig. 2 is an inverted sectional plan view taken on the line 2—2 of Fig. 1. Fig. 3 is a plan view of part of the device; and Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 3.

In the example of my invention illustrated by the drawings, 1 indicates a hollow, preferably circular base embodying a flat horizontal part 2 and a downwardly curved rim or flange 3, having a tubular upright or standard 4, extended upwardly and centrally therefrom. I may, however, employ any adaptable form of base and upright, or I may use cast or wrought metal instead of sheet metal, or any other adaptable material.

Engaging over the upper end of the upright 4, is a revoluble cap 5, having an arm 6 extended radially therefrom, said arm having an eye 7 through its free end; or the cap 5 may have a plurality of radial arms 6, as shown by Figure 3 of the drawings.

Fixed to the head of the cap 5 is a spindle 8, which is journaled through the top of the base 1 and connected to the inner end of a coil spring 9, the outer end of said spring being connected to a pin 10, forming part of a main gear wheel which embodies a cylindrical part 11, an outwardly extended annular and peripherally toothed flange 12 and a head 13. The upper end of the spindle 8 is squared in cross section and fixed to the cap 5, whereby said spindle turns with said cap, and the lower end is flanged to bear beneath the head 13 of the main gear wheel, whereby the spindle and gear wheel may be independently rotated.

Meshing with the teeth of the flange 12 is a pinion 14, which is fixed to a shaft 15, said shaft is journaled through a hanger 16, and extends upwardly through the flat part 2 of the base and engages a key 17.

Engaging the toothed periphery of the flange 12 is a spring-pressed pawl 18, for retarding rotation of the main gear wheel against the tension of the spring 9 while the device is being wound.

The lower edge of the cap 5 is provided with an annular rack 19, which engages a sliding bolt 20, having a flanged stud 21, which extends through a slot 22 of the upright 4.

From the free end of the arm 6, or from each arm when a plurality are used, is suspended a swinging miniature representation of a biplane, as 23, having an encased spring-motor 24 and a revoluble propeller 25; said spring-motor is of the general character of the mechanism hereinabove described and it is adapted to be wound by means of a key 26.

As a means for suspending the biplane, I employ a wire rod 27, having a hook 28, which engages through the eye 7 of the arm 6, said hook having an elongated bill 29, which engages a sliding clip 30. This arrangement admits of holding the arm 6 and the rod 27 in secure connection with each other, and also admits of removal or detachment of the biplane when a child may desire to use it as an independent toy.

In the operation of the device the bolt 20 is forced into engagement with the rack 19 of the cap 5, which prevents rotation of the spindle 8, then the spring 9 is tightly wound or coiled by means of the key 17; then it is simply necessary to release the bolt 20 from the rack 19, to permit the spring to uncoil or expand, whereby the spindle 8 is given rotary movement and the biplane is revolved around the axis of the spindle 8 until the spring 9 resumes its uncoiled or expanded normal condition. The motor 24 of the biplane may also be wound before the

device is started, and the revolutions of its propeller gives the impression that the biplane is automatically operated.

I may also employ a biplane having a loosely journaled propeller which will be revolved by the air as the biplane moves. Further, I do not confine myself to the use of a miniature biplane, as I believe that under the spirit and scope of my invention I may rightly use miniature representations of other objects, as dirigible balloons, birds, animals, etc.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a toy, a hollow base, a tubular member projecting from the upper face of said base, an arm rotatably mounted upon the upper end of the tubular member, a rod extending longitudinally of the tubular member, a cap carried by the rod and serving to hold the arm in place upon the upper end of the tubular member, a housing carried by the lower end of the tubular member, a spring mounted within the housing and connected at one end to the housing and at the other end to the vertical rod, and means for rotating the housing to place said spring under tension, as and for the purpose set forth.

2. A toy comprising a hollow base, a tubular member projecting from the upper face thereof, an arm rotatably mounted on the tubular member, a rod passing through the tubular member and serving to maintain the arm in position thereon, a housing mounted within said hollow base and carried by the lower end of the rod, means for rotating the housing, and a spring connected to the housing and to the rod, said spring being placed under tension upon rotation of the housing by its rotating means.

3. A device of the character described comprising a base, a tubular member projecting vertically therefrom, a rotating member mounted upon the upper end of the tubular member, a rod carried by the rotating member and projecting longitudinally through the tubular member, a housing mounted within the base, a spring connected at one end to the housing and at its other end to the rod, means for rotating the housing to place the spring under compression, means for locking the rotating member on the tubular extension to permit of the spring being placed under tension, said means serving to release the rotating member and permit of its movement under the influence of said spring, as and for the purpose set forth.

Signed at the city of New York, State of N. Y., this 4th day of August, A. D. 1920.

LEO HINZ.