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Nov. 2, 1926. 1,605,465

E. A. REEVES

TOY

Filed April 20, 1925

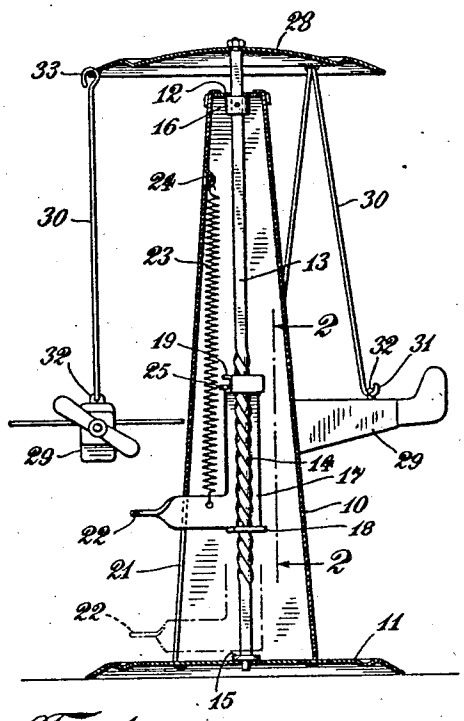
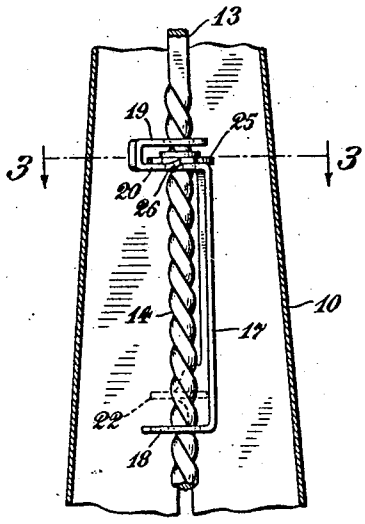


Fig. 1.

Fig. 2.



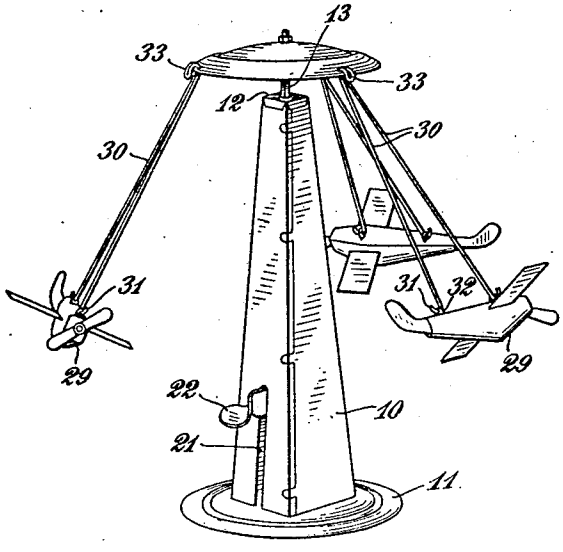


Fig. 4.

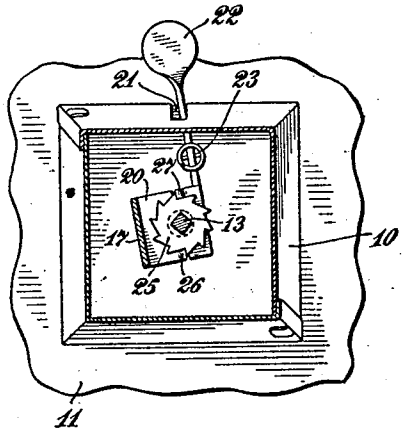


Fig. 3.

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UNITED STATES PATENT OFFICE.

EDWIN A. REEVES, OF MILFORD, CONNECTICUT.

TOY.

Application filed April 20, 1925. Serial No. 24,581.

This invention relates to a new and improved toy, its object being to produce a mechanical toy that will simulate an amusement device in general use, and in itself be both entertaining and amusing. Other aims and objects being to so design and construct the same that it may be produced and sold at a minimum cost and composed of few parts capable of easy assembly. These objects I accomplish by a toy having a structure and relative arrangement of parts as will more fully appear from the following specification and claims.

In the drawings like characters of reference designate corresponding parts in the several views, and wherein—

Figure 1 is an elevation of my improved toy partly in section;

Figure 2 is an enlarged fragmentary view of a portion thereof, the part in section being taken generally upon line 2—2 of Figure 1;

Figure 3 is an enlarged transverse sectional plan view, the parts thereof in section being taken generally upon line 3—3 of Figure 2; and

Figure 4 is a perspective view of the device with the flying members in their partially extended position.

The embodiment of my invention in the toy as herein shown is applied particularly to the simulation of a circular swing commonly used in amusement resorts, wherein a plurality of bodies by means of centrifugal motion are thrown outwardly from a common center while in motion and returned to a substantially vertical position when the parts come to rest.

Referring now to the drawings, 10 designates the hollow column which is secured to the base 11, the sides of which are shown as tapering upwardly toward each other and having a cap 12 forming a closure at its upper end.

Rotatably mounted in the base 11 and cap 12 is a shaft 13, which is preferably square in cross section and having a twisted portion 14 between its ends.

The collar 15 at the lower end of the shaft prevents endwise movement of the shaft in one direction and a collar 16 at the other end prevents similar movement in the opposite direction.

Within the column 10 is the carrier 17 having a laterally projecting arm 18 at one end and similar parallel arms 19 and 20 near the opposite end, all of which have apertures that permit the shaft 13 to pass therethrough.

Projecting from one side of the carrier 17 through a slot 21 in one of the sides of the column 10 is a finger plate 22; a spring 23 between the carrier 17 and lug 24 on the column 10 exerts its tension so as to pull the carrier 17 toward the cap 12. Between the arms 19 and 20 is a ratchet wheel 25 through which is an opening of the same shape and size as a cross section of the shaft 13. The width of this ratchet wheel 25, with the collar connected therewith, if any, is less than the open space between the arms 19 and 20, so that it may have a limited movement therebetween parallel with the axis of the shaft 13. Preferably integral with the arm 20, and upon opposite sides of the center of the opening therethrough, are the common pawls 26 and 27 which project upwardly in the path of the teeth on the ratchet wheel 25, when the latter is against the face of the arm 20, substantially as shown in Figure 2.

When the carrier 17 moves to its extreme down position as outlined by dotted lines in Figure 1 through pressure applied to the finger plate 22, there is no rotation of the shaft 13, because the ratchet wheel 25 will rotate without engagement with the pawls 26 and 27. However, as soon as the pressure upon the finger plate 22 is released the spring 23 pulls the carrier 17 upward and the ratchet wheel 25 drops onto the arm 20, is engaged by the teeth on the pawls 26 and 27 and held against rotation. Thus and by reason thereof as the twisted portion 14 of the shaft 13 passes through the ratchet wheel the shaft is rotated.

Fixed to the upper end of this shaft is the head plate 28 with which a plurality of flying bodies illustrated as toy aeroplanes 29, are connected by the rods 30. These rods as shown are shaped with hooks 31 at their outer ends that engage eyes 32 on the aeroplanes 29, and a hook 33 between the ends which passes through apertures adjacent to the outer edge of the head plate 28.

In Figure 1 all of the parts are shown in

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their rest positions. The toy is manipulated by pressure of the finger upon the plate 22, moving the same to its down position, when the pressure is released and the spring 23 moves the carrier upwardly, rotating the shaft 13. As the head plate 28 rotates, the aeroplanes 29 swing outwardly and upwardly by centrifugal force.

The foregoing description is directed solely toward the construction illustrated and I desire it to be understood that I reserve the privilege of resorting to all mechanical changes to which the device is suitable, the invention being defined and limited only by the terms of the appended claims.

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

1. In a toy; a column, a shaft having a twisted portion thereon; a carrier movable lengthwise on the shaft but held against rotation relative thereto by the column; yielding means for moving the carrier in one direction; a ratchet wheel on the shaft having an opening therethrough of substantially the same shape and area as the cross section of the shaft, so arranged relatively to the carrier that it has a limited movement therein parallel to its axis and will engage one or more pawls on the carrier and thereby be prevented from rotation about its axis in one direction, all of said parts co-operating so that as the ratchet wheel is moved in a path parallel to its axis through said carrier it will be held against rotation and thereby impart movement to the shaft and when moving in the opposite direction will be free to move about its own axis and therefore will move about said shaft in a helical path without imparting movement thereto.

2. In a toy; a column; a shaft held against lengthwise movement and rotatable within the column; a non-rotatable reciprocating member movable on and along the shaft; an element associated with the reciprocating member and shaft, having an opening therethrough of substantially the same cross sectional area as the shaft and deriving motion parallel to its axis from either the reciprocating member or shaft; means connected with the reciprocating member for holding the element against rotation about its axis in one direction; and means for moving the reciprocating member in said direction, whereby when said element is held against rotation rotary movement is imparted thereby to the shaft through said element.

3. In a toy; a column having an opening through one wall thereof; a shaft rotatably mounted in the column having a twisted portion; a reciprocating member held against rotation about the shaft but movable lengthwise thereon and having a part projecting through the opening; and a ratchet wheel having an opening therethrough of substantially the same shape and area in cross section as the shaft and associated with the reciprocating member in such manner that it may have independent rotation about its axis relative to the reciprocating member in one direction but held against such movement in the opposite direction by an intermeshing engagement with the reciprocating member.

4. In a toy; a column having an opening through one wall thereof; a shaft rotatably mounted in the column having a twisted portion; a reciprocating member movable lengthwise on the shaft but held against rotation thereon and having a part projecting through the opening; a ratchet wheel having an opening therethrough of substantially the same shape and area in cross section as the shaft, said reciprocating member having a part thereon that holds the ratchet wheel against rotation about its axis in one direction but will permit such rotation in the opposite direction; and yielding means for moving the reciprocating member in one direction, during which time the ratchet wheel is held against rotation and a rotary movement is imparted to the shaft.

5. In a toy; a column; a rotatable shaft held against endwise movement therein; a reciprocating member movable lengthwise on the shaft, but held against rotation relatively thereto and having a plurality of parallel arms, one of which is formed with an integral lug; and a ratchet wheel slidable on the shaft between such arms while moving in one direction and rotating with the shaft while moving in the opposite direction, said ratchet wheel in one of its positions being engaged and held against relative movement by said lug.

6. In a toy; the combination with a column; of a rotatable shaft held against endwise movement therein; a reciprocating member movable lengthwise on the shaft but held against rotation relatively thereto; a ratchet wheel on the shaft for imparting rotation thereto while moving with the reciprocating member in one direction and parallel to its axis, said reciprocating member being formed with a pair of parallel arms between which the ratchet wheel is positioned, one of the arms having a pawl thereon which projects into the open space between the arms and engages the teeth of the ratchet wheel and thereby holds the same against rotation about its axis while the reciprocating member is moving in one direction.

7. In a toy, the combination with a column; of a rotatable shaft held against endwise movement; a reciprocating member movable lengthwise on the shaft but held against rotation relatively thereto and formed with a pair of parallel arms, one of said arms having companion pawls upon op-

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posite sides of the center of the shaft which project into the open space between the parallel arms; a ratchet wheel movably mounted on and with the shaft, between the said arms and when at rest the teeth thereon will engage the said pawls and prevent rotation thereof in one direction about its axis and by reason thereof will impart rotation to the shaft during the endwise movement of the reciprocating member.

In testimony whereof, I have hereunto affixed my signature.

EDWIN A. REEVES.