Jan. 27, 1931. R. H. BROWN 1,790,405

TOY

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Fig. 1.

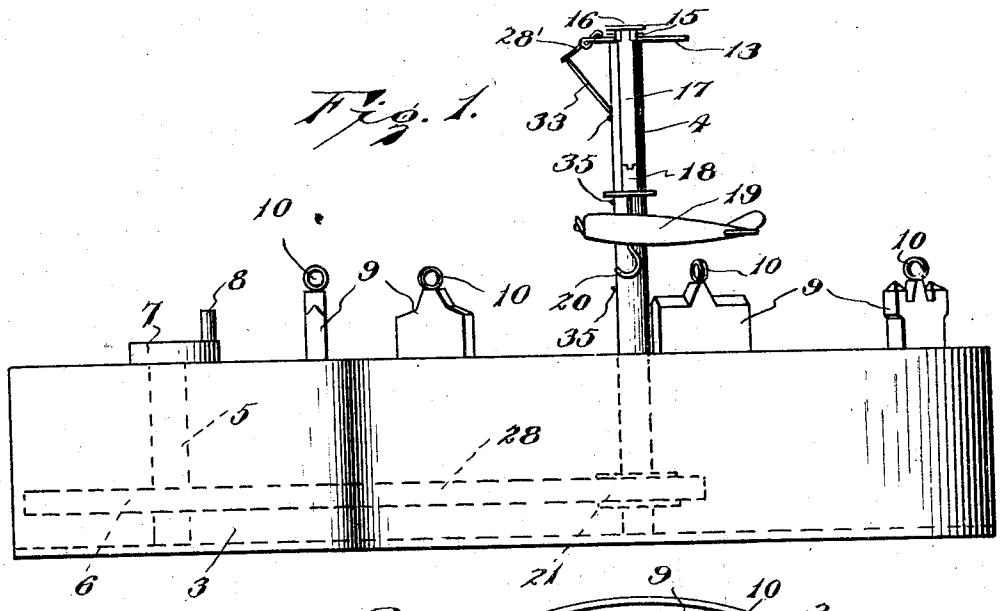
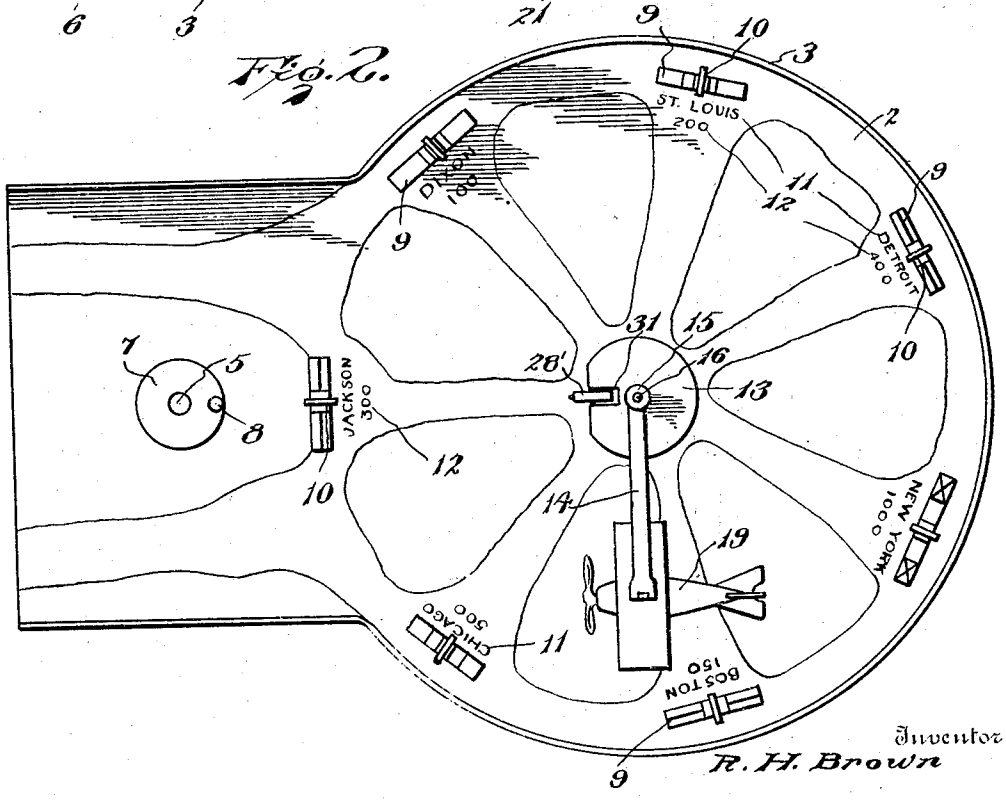


Fig. 2.



Inventor
R. H. Brown

By Lacey & Lacey, Attorneys

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Fig. 3.

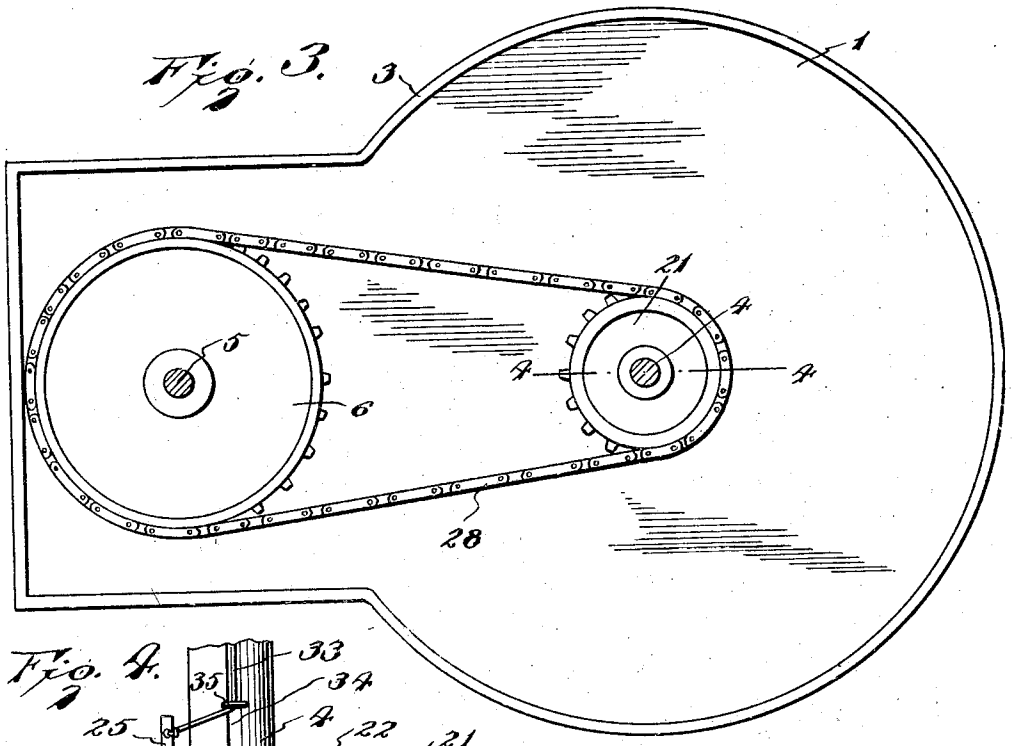


Fig. 4.

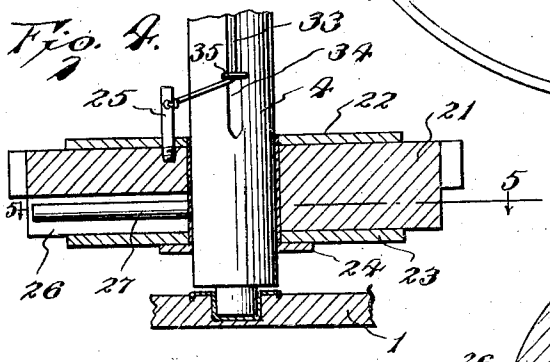


Fig. 5.

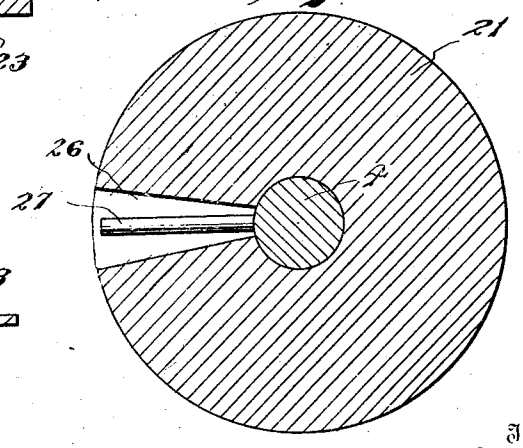
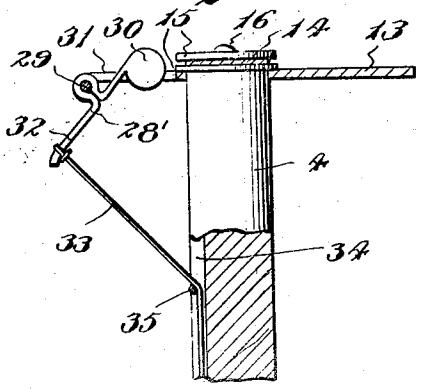


Fig. 6.



Inventor:
R. H. Brown

By Lacey & Lacey, Attorneys

Patented Jan. 27, 1931 1,790,405

UNITED STATES PATENT OFFICE

ROY H. BROWN, OF WELGE, ILLINOIS

TOY

Application filed June 28, 1929. Serial No. 374,583.

This invention relates to games and toys and more particularly to a toy in which an object, such as a small aeroplane, is adapted to be moved in a circular path until stopped by engagement with one of several other objects representing flying fields and serving as counters.

One object of the invention is to provide a toy which will afford amusement to both old and young and in which a certain amount of skill may be exercised in order to cause the moving object or plane to be engaged with counters having high values.

Another object of the invention is to allow the moving object or plane to be caused to swing rapidly about a mast or standard and while moving about the mast be swung outwardly by centrifugal force until it is in position for engagement with one of the stationary objects representing flying fields and serving as counters.

Another object of the invention is to provide improved means for rotating the mast and also provide improved means for causing an arm from which the plane is suspended to move with the mast but at the same time allow the arm to be held stationary when the mast is rotating and thereby prevent breakage when the plane engages with one of the counters.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a view showing the improved toy in side elevation,

Fig. 2 is a top plan view of the same,

Fig. 3 is a horizontal sectional view through the base of the toy and illustrating a portion of the actuating mechanism by means of which the mast is rotated.

Fig. 4 is a fragmentary view taken on the line 4—4 of Fig. 3 and showing the lower portion of the mast in elevation and drive mechanism carried thereby in section.

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 4. and

Fig. 6 is a fragmentary view showing the upper portion of the mast and associated elements partially in elevation and partially in section.

This improved toy is formed with a base having a bottom 1, a top 2 and walls 3 which extend between the top and bottom and are secured thereto in any desired manner. A mast 4 is disposed vertically with its lower portion extending through the base and rotatably mounted therein and in spaced relation to the mast longitudinally of the base is rotatably mounted a drive shaft 5 having a large gear or sprocket 6 mounted thereon within the base and at its upper end carrying a hand wheel 7 equipped with a handle 8 which the operator grasps in order to rotate the drive shaft. Stationary objects 9 are fixed upon the upper wall of the base in spaced relation to the mast radially thereof and each of these objects carries an upstanding eye 10. These stationary objects represent flying fields and the base is marked in front of each object with the name of a city, as shown at 11, and also with a number, as shown at 12. Since numbers are provided upon the base adjacent the objects, they have different values and, therefore, the stationary objects may serve as counters when the toy is in use and a game played.

Upon the upper end of the mast is rigidly secured a disk 13 and above this disk is disposed an arm 14 which is pivoted to the mast between bearing plates or small disks 15 by means of a pin 16 and the arm is of such length that it projects well beyond the disk or collar 13, as shown in Fig. 2. A depending link or hanger 17 is pivoted to the outer end of the arm and the lower end of this hanger is pivotally connected with a shank or short arm 18 extending upwardly from a toy aeroplane 19 which may be referred to as a moving object. Since the hanger is pivoted to the outer end of the arm, the moving object or aeroplane 19 may have swinging movement toward and away from the mast and, therefore, when the arm is turning with the mast centrifugal force may cause the moving object to swing outwardly until it reaches a position in which the hook 20 extending downwardly from the body of the aeroplane may engage in the eye of one of the stationary objects. When this occurs, the aeroplane will be presumed to have landed at the flying field of the city marked upon the

base and the score of the player will be credited according to the number marked on the base. In order to cause the mast to rotate and also in order to cause the arm to turn with the mast until the hook engages in the eye or ring of one of the stationary objects, there has been provided mechanism including a gear or sprocket wheel 21 which fits loosely about the lower portion of the mast within the base between disks 22 and 23. The disk 23 rests upon a pin 24 passed through the mast or it may be fixed to the mast in any desired manner so that it will support the gear 21 but the disk 22 is free to turn about the mast with the gear and is formed with an opening through which a pin 25 is passed and screwed into the gear. A radially extending pocket 26 is formed in the gear 21 and into this pocket extends a pin 27 carried by the mast. It will thus be seen that the gear or sprocket will be permitted to have a certain amount of movement independent of the mast but when the gear or sprocket 21 is rotated through the medium of the belt or sprocket chain 28 which connects it with the gear or sprocket 6, the mast will be caused to rotate as soon as a side wall of the pocket contacts with the pin. An abutment 28′ preferably formed of a strip of sheet metal is pivotally connected with the disk 13 by means of a pin 29 and has one end portion formed with a head 30 adapted to move upwardly through a slot 31 in the disk when the outer end portion or handle 32 of the abutment is drawn downwardly and it will be readily seen that when the head is moved upwardly through the slot it will be disposed in position to engage the arm 14 and cause the arm to turn with the mast. A pull cord 33 extends longitudinally of the mast 4 through a groove 34 formed therein and this cord is held in the groove by eyes or guides 35 spaced from each other longitudinally of the groove. The upper end of the cord is secured to the handle of the abutment and its lower end extends from the mast and is secured to the pin 25. Therefore, when the gear or sprocket 21 is turned, it exerts pull upon the cord and this will cause the abutment to be swung to an operative position in which its head extends above the disk for engagement with the arm 14 from which the moving object or aeroplane is suspended and the abutment will be retained in the operative position until pull upon the cord ceases due to the pin 27 returning to the position midway the width of the pocket 26, as shown in Fig. 5.

When the toy is in use, it is set upon a table or other support and is to be successively operated by the players. Any number may play the game. Each player takes his regular turn and operates the device by grasping the handle 8 and rotating the drive shaft so that rotary motion is imparted to the mast and pull exerted upon the cord 33 to swing the head of the abutment upwardly to an operative position. Rotation of the mast causes the arm 14 to turn with it due to engagement of the abutment with the arm and as the arm moves the aeroplane or moving object 19 will travel about the mast in a circular path. Centrifugal force will cause the aeroplane to gradually swing away from the mast until it is in such a position that the hook 20 may engage the eye of one of the stationary objects. By properly controlling the speed, the player may succeed in causing the aeroplane to pass a stationary object having a small counting value but this cannot always be accomplished and, therefore, there is no certainty regarding which stationary object will have its eye engaged by the hook of the moving object. As soon as the hook has engaged in the eye of a stationary object, the number adjacent this object or flying field will be credited to the player's score and it is the next player's turn to operate the toy. The player who first obtains a determined score wins the game. This toy will, therefore, form an interesting game and in addition may serve as means to teach small children to add. It will also afford amusement to a very small child who would merely be interested in seeing the moving object swing about the mast until stopped by engagement of its hook with the eye of one of the stationary objects.

Having thus described the invention, I claim:

1. A device of the character described comprising a rotatable mast, an arm loose upon said mast and extending radially from the mast, means to rotate said mast including an element movable into position to engage said arm and impart swinging movement to the arm during rotation of the mast, an object suspended from said arm and adapted to swing about the mast and outwardly therefrom as the mast rotates, and other objects spaced radially from said mast and engageable by the first object as it swings about the mast.

2. A device of the character described comprising a rotatable mast, an arm loose upon said mast and extending radially therefrom, an abutment movable into and out of position for engagement with said arm, means to impart rotary motion to said mast connected with said abutment to move the same into position to engage said arm when the mast is rotated, an object suspended from said arm and adapted to swing about the mast and outwardly therefrom as the mast rotates, and other objects spaced radially from said mast and engageable by the first object as it swings about the mast.

3. A device of the character described comprising a rotatable mast, an arm loose upon said mast and extending radially therefrom, a disk fixed upon said mast with the

arm extending across and beyond the disk and resting thereon, an abutment pivoted to said disk and having its inner end formed with a head and its outer end extending from the disk, a flexible element extending longitudinally of the mast and having its upper end secured to the outer end of said abutment, means to rotate said mast engaged by the lower end of said flexible element and adapted to draw the flexible element downwardly to move the abutment and swing its head upwardly into position to engage said arm when the mast is rotated, an object suspended from said arm and adapted to swing about the mast and outwardly therefrom as the mast rotates, and other objects spaced radially from said mast and engageable by the first object as it swings about the mast.

4. A device of the character described comprising a rotatable mast, an arm loose upon said mast and extending radially therefrom, a disk fixed upon said mast with the arm extending across and beyond the disk and resting thereon, an abutment pivoted to said disk and having its inner end formed with a head and its outer end extending from the disk, a flexible element extending longitudinally of the mast and having its upper end secured to the outer end of said abutment, a gear loose upon the lower portion of said mast, a pin extending from said mast and engaged with said gear to limit movement of the gear about the mast and cause the mast to turn with the gear, means to rotate said gear, the lower end of said flexible element being connected to said gear whereby the gear when rotated is adapted to draw the flexible element downwardly to move the abutment and swing its head upwardly into position to engage said arm when the mast is rotated, an object suspended from said arm and adapted to swing about the mast and outwardly therefrom as the mast rotates, and other objects spaced radially from said mast and engageable by the first object as it swings about the mast.

5. A device of the character described comprising a rotatable mast, an arm loose upon said mast and extending radially therefrom, a disk fixed upon said mast with the arm extending across and beyond the disk and resting thereon, an abutment pivoted to said disk and having its inner end formed with a head and its outer end extending from the disk, a flexible element extending longitudinally of the mast and having its upper end secured to the outer end of said abutment, a gear lose upon the lower portion of said mast and formed with a radially extending pocket, a drive shaft, a gear fixed upon said drive shaft, means to rotate said drive shaft, a belt trained about the gears of said shaft and mast, a pin extending from said mast into said pocket to limit movement of the gear about the mast and cause the mast to turn with the gear, means to rotate said gear, the lower end of said flexible element being connected to said gear whereby the gear when rotated is adapted to draw the flexible element downwardly to move the abutment and swing its head upwardly into position to engage said arm when the mast is rotated, an object suspended from said arm and adapted to swing about the mast and outwardly therefrom as the mast rotates, and other objects spaced radially from said mast and engageable by the first object as it swings about the mast.

In testimony whereof I affix my signature.

ROY H. BROWN. [L. S.]