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F. LEFUSTEC

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FLYING TOP

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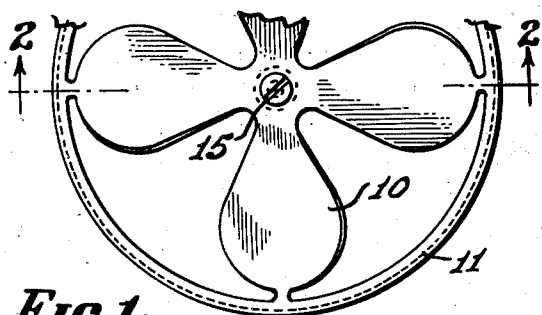


FIG. 1.

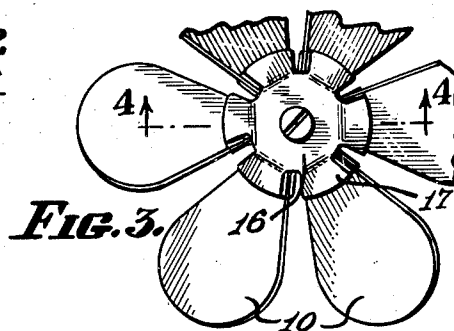


FIG. 3.

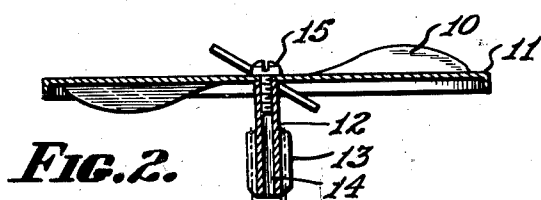


FIG. 2.

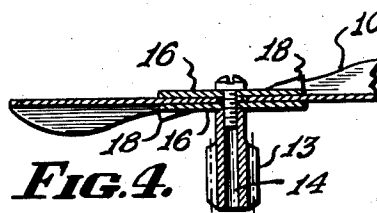


FIG. 4.

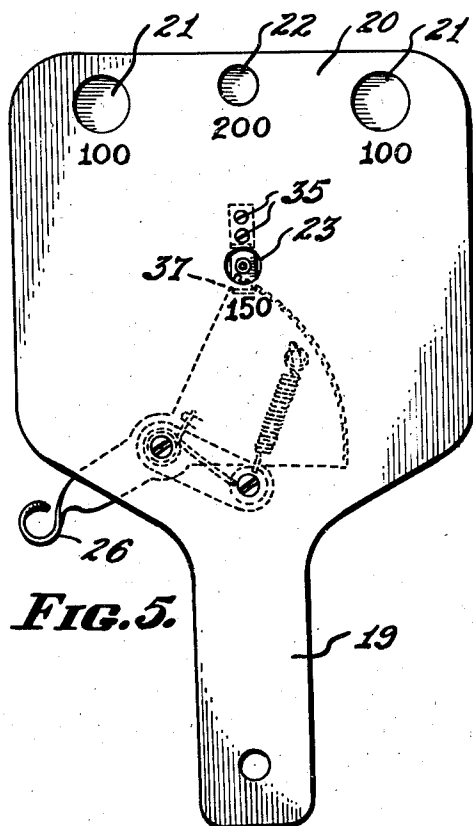


FIG. 5.

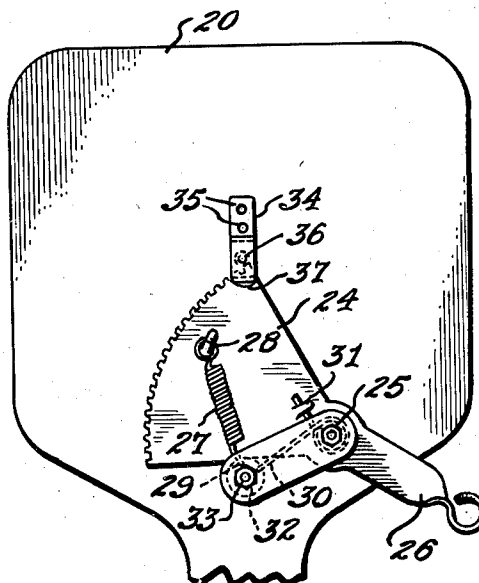


FIG. 6.

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FLYING TOP

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2 Claims. (Cl. 46—82)

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The present invention has for its subject matter a toy constituted by a flying top and the means for throwing it and possibly catching it up again.

The said top fundamentally comprises a disc or a multibladed propeller provided at least on one of its faces with a central shaft preferably weighted at its end.

The spinning of such a top may be effected either manually or by means of a mechanical multiplying device.

The propeller or disc is made of any material possessing a sufficient rigidity, for instance, thin metal sheet, but preferably of a comparatively light material such as a plastic material and one which can be coloured in order to obtain an artistic effect. If the top is made of cardboard or other similar material it is advantageous to maintain its centre and the root of its blades clamped between two metallic discs the periphery of which are provided with radial extension to cover the roots of the blades, said extensions being twisted according to the profile of said roots. The blades of the propeller can be ringed, which gives rise to a gyroscopic effect and, moreover, renders the toy harmless in case of a collision with persons or objects.

With the flying top proper and, possibly, with its mechanical throwing apparatus may be combined, if desired, a support intended to make it possible to receive the flying propeller in the air while keeping it in rotation.

Such a device may be further completed by providing the said support with hollows of comparatively small depth and, preferably, with flaring edges and in which the flying propeller can either be received directly when falling down or into which it can be brought after having been received on the surface of the support. The hollows provided in this manner in said support will have equal or different dimensions, the hollows with the smallest diameter being provided with larger scoring numbers than the hollows of larger dimensions.

The support, which may be made of metal, of veneered wood, of plastic material or any other material capable of playing the same part can also be embellished with any ornaments capable of giving it a more pleasant aspect than if it were uniformly of the same colour.

It will be possible, for example, to represent on it an airplane seen in a horizontal projection or in an elevational side view or front view or perspective view, the hollows intended for receiving the air propeller being preferably located

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in the place where the propellers of the apparatus would normally be represented.

It is also possible to use at the same time for throwing the top and receiving it again, a support not only provided with the hollows into which the top can be brought after having been received on the said support, but also combined with the device for putting the top in rotation.

The device for putting the top in rotation and throwing it in the air is preferably arranged beneath the support.

The execution of the top and of the throwing devices will now be explained more particularly in the examples given hereafter with reference to the appended drawings, in which:

Figure 1 is a partial plan view of one form of top.

Figure 2 is a cross-sectional view of the same taken on the line 2, 2 of Figure 1.

Figure 3 is a partial plan view of another form of top.

Figure 4 is a cross-sectional view taken on line 4, 4 of the same.

Figure 5 is a plan view from above of a support according to my invention, and

Figure 6 is a partial bottom view of the same.

Briefly in the practice of my invention I provide a top comprising a propeller having any desired number and shape of blades and which may or not have a ring surrounding the tips of the blades, said top having a shaft which is provided with an axial bore and is weighted at its lower end and the outside of which is provided with a series of longitudinal grooves. In combination with this top I provide a support which may, for example, resemble a ping pong paddle provided with means for imparting a spinning motion to the top and having a number of depressions or apertures in which the spinning top may be received for scoring purposes.

In Figure 1 I have shown a top having a number of blades 10 the tips of which are surrounded by a ring 11 for the purposes of avoiding injury to persons or objects by the spinning blades. The top is provided with a shaft 12, a portion of which is provided with external longitudinal grooves 13 forming teeth so that the portion 13 may be viewed as a pinion. The shaft 12 is provided with an axial bore 14 so that the top may be received on a spindle as will be described hereinafter. The lower portion of the shaft is preferably weighted, although adequate weight may be provided simply by the enlargement incident to the provision of the teeth 13. In the particular embodiment shown the propeller is

held to the shaft by means of a screw 15 entering the upper portion of the bore 14 which is threaded.

In the modification of Figures 3 and 4 the propeller does not have a surrounding ring 11 and may be made of cardboard or similar light material. In this case I prefer to clamp the propeller between two discs 16 of metal or similar material, said discs having radial extensions 17 which are twisted slightly as indicated at 18 in Figure 4 to give the desired pitch to the blades 10. In other respects the top of Figures 3 and 4 is the same as that of Figures 1 and 2.

The support is indicated in Figures 5 and 6 as having a handle 19 and a flat top receiving surface 20. The upper surface is preferably provided with a number of depressions or apertures indicated generally at 21 and 22 for receiving the spinning top and provided with scoring indicia as shown in Figure 5. Substantially centrally of the surface 20 I provide an aperture 23 which may also be provided with a scoring numeral as shown in Figure 5.

Referring now to Figure 6, which is an underneath view of the support, I provide a toothed sector 24 which is pivoted to the support 20 at 25 and is provided with a handle portion 26. Spring means are provided for urging the sector 24 in a counterclockwise direction as seen in Figure 6. In the particular embodiment illustrated there are two spring means working together. A coil spring 27 is attached to the sector 24 as at 28 and is attached to a washer 32 as at 29. The washer 32 loosely surrounds a bolt 33 fastened to the vane 20. In addition I have shown a piece of spring wire 30 having several turns about the point 25 and having one end engaged behind an upwardly struck lip 31 of the sector and having its other end hooked into the washer 32. It will be clear that the two springs 27 and 30 work together to swing the sector 24 in a counter-clockwise direction as seen in Figure 6.

To receive the aperture of the top I provide a bracket 34 fastened to the bottom of the support 20 as at 35 and carrying a spindle 36 extending centrally of the aperture 23. The end of the bracket 34 may be bent back toward the surface of the vane as at 37 to provide a retainer for the toothed sector 24.

When it is desired to spin the top, the top is placed in the aperture 23 with the bore 14 engaging over the spindle 36. If now the handle 26 is moved in a counter-clockwise direction as seen in Figure 5 the teeth of the sector 24 engage the grooves or teeth 13 and spin the top. The top will not rise, however, on account of the pitch of the blades. If now the handle 26 be released, the sector 24 under the influence of the spring 27 and 30 will swing rapidly in a clock-wise direction imparting a spinning motion to the top. Depending upon the weight of the top and the strength of the springs the top will rise out of the aperture 23 to a greater or less height as soon as the sector 24 is disengaged from the teeth 13.

While the top may be spun by itself, by giving it a rapid twisting motion between the thumb and fingers and while the top may be spun by the support device and then permitted to continue spinning upon the floor, a preferable game is to endeavor to catch the flying top on the flat surface 20 of the support. The top will continue to spin on the support and by tilting the support in one direction or another it is possible to cause the top to spin into one of the depressions or apertures 21, 22 and 23. As an example of a game which may be played with the hereinabove described combination, each player may be given three chances and the scores achieved in the three chances added up. If desired a penalty may be established for failure to catch the top on the support 20 by causing the player to lose all points made by him up to that time.

It will be clear that numerous modifications may be made without departing from the spirit of my invention and I, therefore, do not intend to limit myself except as pointed out in the claims which follow. Having now fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A toy comprising in combination, (1) a flying top comprising a propeller having a plurality of balanced blades, and a short central shaft therefor, said shaft being externally longitudinally grooved, and the end thereof being weighted and having an axial bore, and (2) a support comprising a plate and a handle therefore, said plate having an aperture substantially centrally thereof, a spindle, means supporting said spindle centrally of said aperture, a toothed sector having an actuating handle pivotally mounted on the underside of said plate for effective engagement of said teeth with the longitudinal grooves of said top when the latter is positioned on said spindle, and spring means urging said sector in a direction opposite to normal handle movement.
2. A toy according to claim 1 in which said plate is provided on its upper surface with a number of shallow depressions.

F. LEFUSTEC.

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