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TOY PROJECTILE DEVICE

Filed June 6, 1958

FIG-1

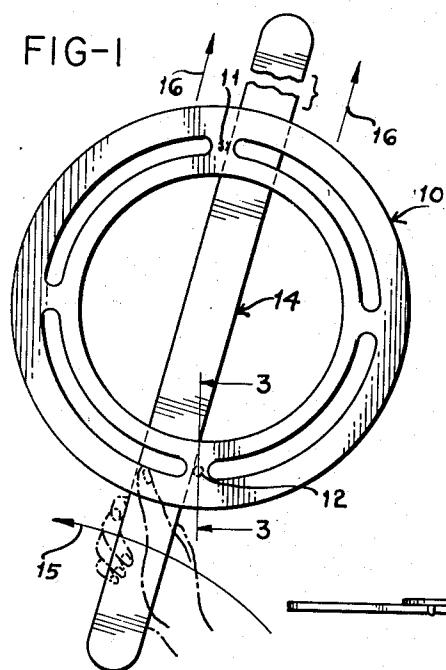


FIG-3

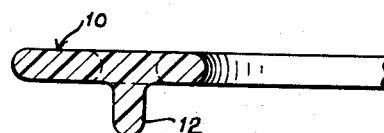
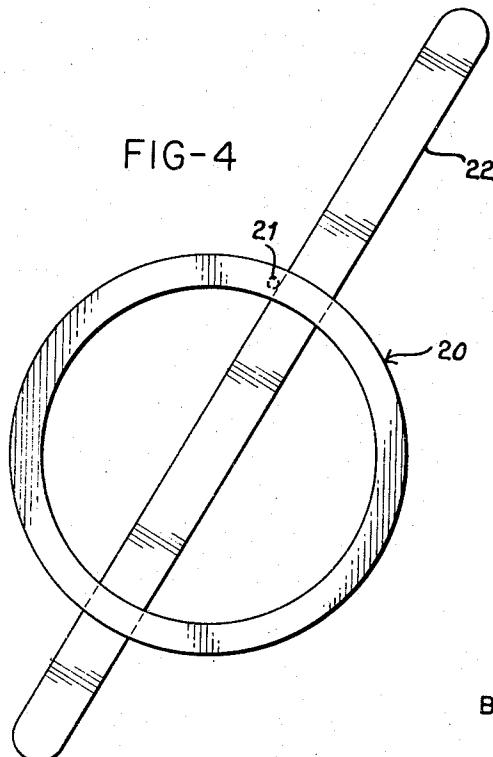


FIG-2



FIG-4



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## TOY PROJECTILE DEVICE

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2 Claims. (Cl. 273—106)

This invention relates to a toy device and, more particularly, to a toy projectile capable of spinning or rotating while moving along a controlled course.

A desirable feature of any toy is for it to have a habit forming effect so as not to lose its appeal to children. A toy which spins or rotates while moving along a controlled course is a toy of this type.

An object of this invention is to provide a toy device that will spin or rotate while moving along a controlled course for use in a game.

Another object of this invention is to provide a toy device that may be easily launched with a rotary or swinging motion along a controlled course from a stick, which does not have any auxiliary equipment attached thereto.

Other objects and advantages reside in the construction of parts, the combination thereof, the method of manufacture and the mode of operation, as will become more apparent from the following description.

This invention relates to a toy projectile for launching from a stick or the like. The projectile includes a body, which has means extending therefrom to engage the stick when the body is held in contact with the stick. When the body is released from contact with the stick after the stick has been moved, the body rotates about its own center, whereby the body is launched in a controlled course with a spinning motion.

The attached drawing illustrates preferred embodiments of the invention, in which

Figure 1 is a plan view of a projectile and a launching stick;

Figure 2 is a side elevational view of the projectile and the launching stick of Figure 1;

Figure 3 is a sectional view of a portion of Figure 1, taken substantially along section line 3—3 of Figure 1; and

Figure 4 is a plan view of a modification of the projectile.

Referring to the drawing and particularly to Figures 1 to 3, there is shown a toy projectile including a ring-shaped body 10. The body 10, which is substantially flat, has a pair of diametrically opposed projections or lugs 11 and 12 extending perpendicularly from one side thereof. The lugs or projections 11 and 12 are substantially short and of very small diameter, so that they do not interfere with the spinning motion of the projectile along the controlled course which may be a straight line, for example.

When it is desired to launch the body 10, it is placed in contact with a launching member such as a stick 14 which is preferably thin and flat with straight edges and rounded ends, so that the lugs 11 and 12 bear against opposite edges of the stick 14. As shown in Figure 2, the stick 14 is preferably about two and one-half times as long as the diameter of the body 10, although the ratio may be varied as desired.

Considering the operation of the present invention, the launcher places the stick 14 between and against the pro-

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jections 11 and 12 and holds the body 10 in position with his thumb (see Figure 1). The stick 14 and the body 10 are then swung in a direction indicated by the arrow 15. The projection 11 is located on the leading edge of the stick 14 as it is swung to throw the disc 10. While swinging the stick 14 and the body 10, the individual releases his thumb from the body 10, but continues to swing the stick 14. This causes the body 10 to rotate about the projection or lug 11 while this lug is in contact with the stick 14 to impart a spinning motion thereto, the centrifugal force causing the disc to travel outwardly, the projection 11 clearing the stick 14. Thus, the projection 11 forms a pivot about which the projectile rotates as long as the projection or pivot 11 remains in sliding contact with the edge of the stick 14. Thereafter, the body 10 moves along a controlled course, such as a straight line, for example, in the direction indicated by the arrows 16, the body 10 rotating about its own axis. Thus, the body 10 moves not only along a controlled course, but also with a spinning or rotary motion. The length of the stick provides leverage for easy operation and added distance.

One type of game in which the projectile may be employed is for one person to launch the projectile from his stick and the other to catch the projectile by thrusting his stick through the open center. It will be understood that the body 10 may be solid rather than ring-shaped, if desired. It would then be necessary to catch the body 10 with one's hands rather than with a stick.

If the body 10 and the stick 14 are slightly tilted at the time of launching, the projectile will move in a wide curve. If the projectile is spun into the wind at an upward angle of 45 degrees, the projectile will return like a boomerang.

Another embodiment of the invention is shown in Figure 4 in which the projectile includes a ring-shaped body 20 having a single projection or lug 21 extending perpendicularly from one side thereof. The projection 21 bears against a stick 22 when the body 20 is held in contact with the stick 22. While this device is slightly more difficult to launch, it will be readily observed that it is only necessary that the projection 21 bears against the stick 22 for successful launching. The operation of this form of the invention is exactly the same as that described with respect to Figures 1 to 3, in that the body 20 rotates about the projection 21 after the stick 22 has been swung and the thumb released from contact with the body 20 by the launcher.

It will be understood that the dimensions and weight of the body are proportioned so as to provide the body with a reasonably stable and effective gliding ability, whereby the body will follow the desired controlled course or path. As illustrated in Figure 1, arcuate slots 24 are placed in the ring-shaped body 20 to reduce its weight. The body is preferably made of a material, such as plastic, for example, that is light and strong and is resistant to moisture and warping. The edges, both inside and outside, of the body, are preferably rounded.

An advantage of this invention is that it is safe and easy to catch because of its ring shape. A further advantage of this invention is that it is economical to manufacture. Another advantage is that the device is simple to operate. A still further advantage is that the projectile will move in a controlled flight path such as a straight line. Still another advantage is that the device eliminates the need for any auxiliary equipment on the launching member for giving the projectile spinning motion while moving in a controlled path or course. Yet another advantage of this invention is that the launching member may be used to catch the projectile if it is ring-shaped.

Although the preferred embodiment of the device has

been described, it will be understood that within the purview of this invention various changes may be made in the form, details, proportion and arrangement of parts, the combination thereof and mode of operation, which generally stated consist in a device capable of carrying out the objects set forth, as disclosed and defined in the appended claims.

Having thus described my invention, I claim:

1. In combination, a ring-shaped projectile body having flat sides, one of which is provided with a pivot projection extending perpendicularly from near the periphery thereof, an elongate launching stick, an elongate side of said stick manually held in contact with said flat side, another side of said stick being held in contact with said pivot projection, whereby said stick may be swung simultaneously with release of said body therefrom to launch said body, said body sliding along said elongate stick side and rotating about said pivot projection upon initial swinging movement, said body passing along a course determined by the direction of swinging movement during

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launching and with a spinning motion about the axis of said body after final swinging movement of said launching stick.

2. The combination of claim 1 wherein a second pivot projection extends perpendicularly from said projectile side diametrically opposed to said first-mentioned pivot projection, said second projection serving as a stop when the body is being moved with the stick prior to its release from contact with the stick.

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