Oct. 26, 1937. E. J. STEWART 2,097,106

BALL ROCKETING AND CATCHING DEVICE

Filed Aug. 12, 1937

Fig. 1.

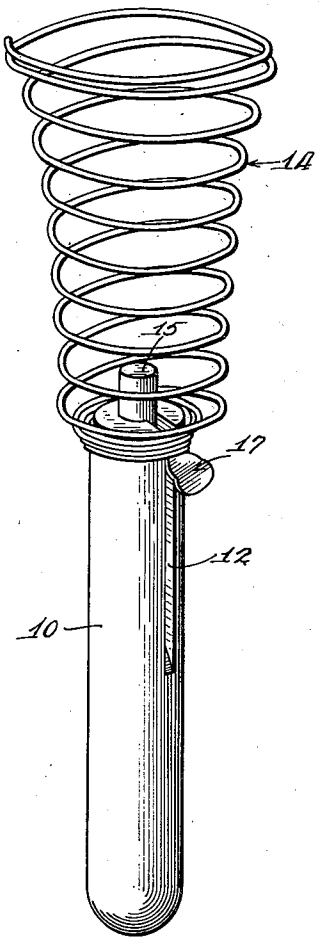
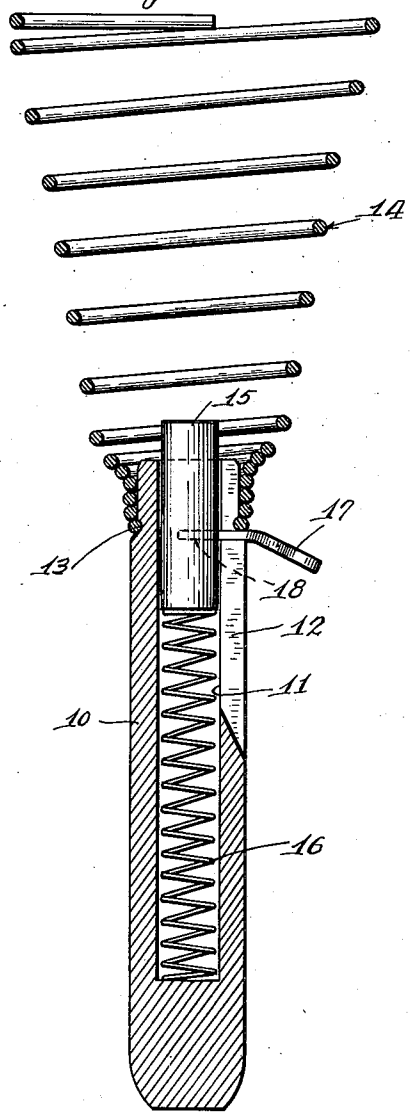


Fig. 2.



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Patented Oct. 26, 1937 2,097,106

UNITED STATES PATENT OFFICE

2,097,106

BALL ROCKETING AND CATCHING DEVICE

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Application August 12, 1937, Serial No. 158,671

4 Claims. (Cl. 273—96)

This invention relates to a ball rocketing and catching device and has special reference to a toy in which a ball propelled into the air by a spring plunger is caught in an open top cage surrounding the plunger.

More particularly, this invention relates to a construction comprising a handle portion having a longitudinally extending bore opening into an outer end thereof and a longitudinal slot communicating with the bore, a plunger being slidable longitudinally in the bore and normally forced in a direction toward the outer open end by resilient or compression means. An open top cage is carried on the handle and is formed of spirally wound wire, at least one end convolution of the wire being contracted to frictionally engage the handle at the open outer end thereof for preventing displacement of the cage from the handle. A finger piece is preferably secured to the plunger and extends therefrom through the slot for manipulation outside of the handle, the end convolution of the wire of the open top cage covering the slot and engaging the finger piece to thus limit the outward movement of the plunger.

The construction contemplated by the present invention is used with a ball, the ball being rocketed into the air and caught on its return by the player, or the ball is bounced against any wall, inside or outside, and caught in the cage of the device. An ordinary table tennis ball is preferably employed so as to not endanger furniture, pictures, walls and the like, and may be played as a competitive game by two or more players in which one side will rocket the ball to be caught in the cage of the players on the opposite side.

The toy is designed to develop mental alertness, physical dexterity, and coordination of mind, eye and muscle, and requires the skillful use of thought, sight, and action all at once, providing ample and beneficial activity of mind and body. The present invention provides the above features at a very minimum of expense in equipment.

One of the objects of this invention, therefore, is to provide a toy of the character above described which is extremely simple in construction, comparatively inexpensive to manufacture, and efficient in operation.

Other objects and advantages of this invention will hereinafter be more particularly pointed out and for a more complete understanding of the characteristic features of this invention, reference may now be had to the following description when taken together with the accompanying drawing, in which latter:

Figure 1 is a perspective view of the construction embodying the features of this invention; and

Fig. 2 is a central vertical sectional view thereof.

Referring now more particularly to the drawing, the device of the present invention comprises a handle portion 10 preferably formed of a single block of wood of a size and shape to comfortably fit the hand of a user. The handle is shown as being of elongated cylindrical shape with a closed lower end rounded so as not to be objectionable to the feel of the hand. It is, of course, to be understood that irregular gripping surfaces may be provided as is usual in such types of equipment for playing similar games without departing from the spirit of this invention. The handle is preferably turned from a single block of wood to minimize expense in manufacture.

The handle 10 is provided with a longitudinally extending bore 11 opening into an outer end thereof opposite to that of the closed rounded end. The bore is preferably formed by boring a hole with an ordinary drill into the single block of wood comprising the handle. A longitudinally extending slot 12 is cut into the side of the handle and communicates with the bore 11, the slot extending preferably from a lower portion of the handle clear through to the open outer end for convenience in manufacture. An annular groove 13 is provided on the external peripheral surface of the handle 10 near the open outer end thereof for receiving the end convolution of an open top cage 14.

The open top cage 14 is formed preferably of a single spirally wound wire of which several end convolutions are contracted to frictionally engage the handle 10, the end convolution frictionally engaging the groove 13. The groove 13 may be annular, as shown, or may be of spiral formation simulating threads on which the contracted end convolutions may be screwed. Of course, the use of a groove or grooves may be dispensed with entirely, the end convolutions gripping the flat surface of the handle tightly and creating sufficient friction by reason of the tension of the wire, although in such event, it may be desirable to augment the frictional engagement with a bead on the outer end of the handle. The spiral wire cage is preferably of a substantially bell shape and may be varied in size and shape so as to make it more or less difficult, as may be desired, to catch a ball therein.

A plunger 15 is disposed in the bore 11 and is slidable longitudinally therein, the plunger hav-

ing preferably a slight clearance in the bore so as to permit relatively free movement therein. A compression spring 16 is disposed in the bore 11 at the closed end thereof, one end of the spring resting against the bottom of the bore and the other end of the spring ending against the inner end of the plunger 15. It is to be understood, of course, that various types of members may be substituted for the compression spring to normally urge the plunger in a direction toward the outer open end in the bore.

A finger piece 17, preferably of metal, is secured to the plunger 15, the plunger preferably having an aperture therein to receive one end of the finger piece in frictional engagement therewith. The finger piece may, however, be formed together with the plunger as a single piece in wood or metal, the free end of the finger piece extending through the slot 12 and therebeyond for manipulation by the thumb or finger of the user. The position of the finger piece with respect to the plunger is determined by the groove 13 and the necessary extent to which it may be found desirable to extend the plunger beyond the end of the handle 10 since the finger piece engages the end convolution received in the groove to limit the outward movement of the plunger. It is, of course, necessary to permit the plunger to pass a substantial distance beyond the end of the handle for the purpose of rocketing the ball which initially rests in the cage on the end of the handle when the plunger is moved against the compression of the spring.

In the operation of the construction incorporating the features of this invention, the handle formed of wood or metal is held in the hand of the user and the finger piece 17 is moved in a direction against the tension of the compression spring 16 so that the ball or other missile employed rests on the upper end of the handle. The finger piece is thereafter released and the plunger strikes the ball resting on top or at the end of the handle to rocket the ball in the air, the plunger 15 being limited in its outward movement by the finger piece 17 engaging the end convolution of the cage 14 which convolution rests preferably in the groove 13. The ball is caught on its return in the cage 14 which, as aforesaid, may be of any suitable diameter to make it more or less difficult for play.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the prior art and the appended claims.

I claim:

1. In a device of the character described, a handle portion formed of a solid block of wood having a longitudinally extending bore opening into an outer end thereof and a longitudinally extending slot communicating with said bore, a plunger slidable longitudinally in said bore, means for normally forcing said plunger in a direction toward said outer open end, a finger piece secured to said plunger and extending through said slot for manipulation outside of said handle, and an open top cage formed of spirally wound wire, the end convolutions of the wire being contracted to frictionally engage said handle at the open outer end thereof over said slot for preventing displacement of the cage from the handle and for engaging said finger piece in one position thereof to limit the outward movement of said plunger.

2. In a device of the character described, a handle portion having a longitudinally extending bore opening into an outer end having a circumferential groove and a longitudinally extending slot communicating with said bore, a plunger slidable longitudinally in said bore, means for normally forcing said plunger in a direction toward said outer open end, a finger piece secured to said plunger and extending through said slot for manipulation outside of said handle, and an open top cage formed from a spirally wound wire, the end convolutions of the wire being contracted to frictionally engage said handle with at least one convolution thereof engaging said groove at the open outer end thereof for preventing displacement of the cage from the handle and for engaging said finger piece in one position thereof to limit the outward movement of said plunger.

3. In a device of the character described, a handle portion having a longitudinally extending bore opening into an outer end thereof, a plunger slidable longitudinally in said bore, means for normally forcing said plunger in a direction toward said outer open end, an open top cage formed of spirally wound wire, the end convolutions of the wire being contracted to frictionally engage said handle at the open end thereof for preventing displacement of the cage from the handle, and means on said plunger engaging said end convolution in one position of said plunger for limiting the outward movement thereof.

4. In a device of the character described, a handle portion having a longitudinally extending bore opening into an outer end thereof and a longitudinally extending slot communicating with said bore, a plunger slidable longitudinally in said bore, means for normally forcing said plunger in a direction toward said outer open end, an open top cage formed of spirally wound wire, the end convolutions of the wire being contracted to frictionally engage said handle at the open end thereof for preventing displacement of the cage from the handle, and means on said plunger extending through said slot for engaging said end convolutions of said wire in one position of said plunger to limit the outward movement thereof.

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