

# United States Patent

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[54] **ANIMAL-TRAINING FLYBALL APPARATUS**  
 2 Claims, 5 Drawing Figs.

[52] U.S. Cl. .... **119/29,**  
 273/95

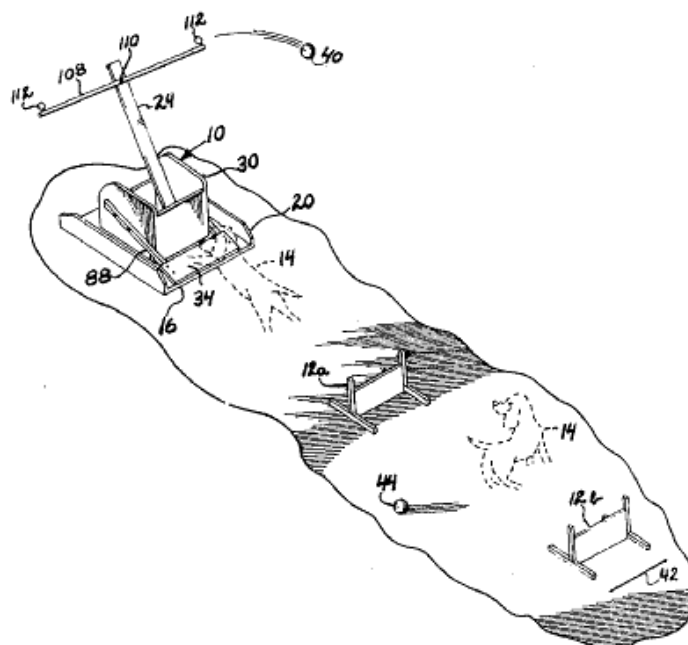
[51] Int. Cl. .... **A01k 15/00,**  
 A63b 65/00, A63b 69/40

[50] Field of Search ..... 124/6, 34,  
 37, 16, 33; 273/95; 119/15.6, 29

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**ABSTRACT:** The invention provides an animal-training apparatus for hurling a ball into space upon being actuated by the dog who then attempts to catch the ball in his mouth before the ball strikes the ground and return the ball to the trainer or some other agreed point. The apparatus when used in team play is placed at the end of a predetermined number of hurdles of variable height. Scoring depends on whether the ball is caught in midair or on the first, second or more bounces and whether all required hurdles are in fact cleared by the dog with the winning team being the one with the highest score in a fixed time period.



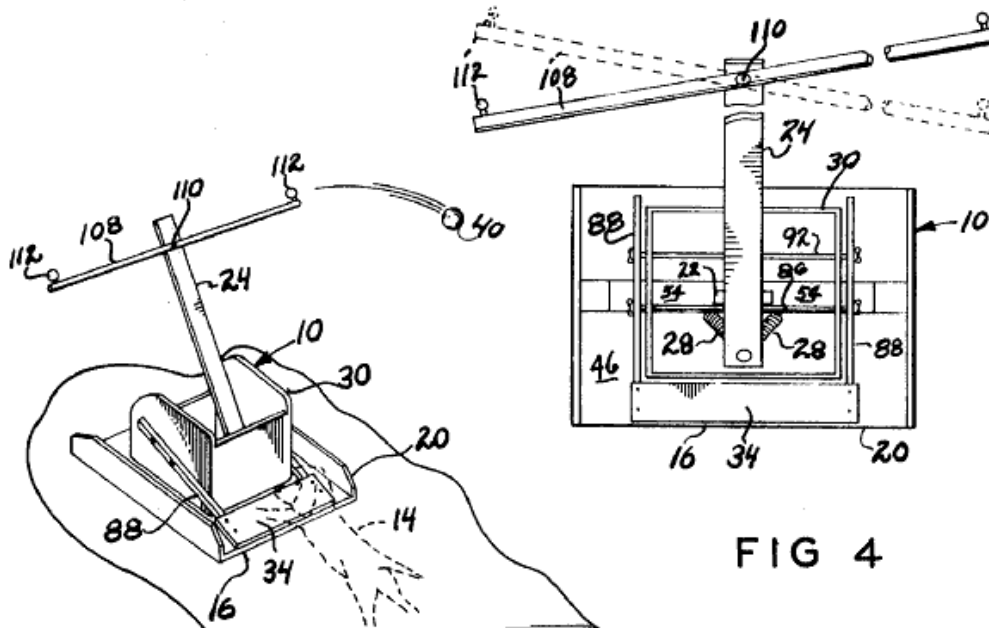


FIG 1

FIG 4

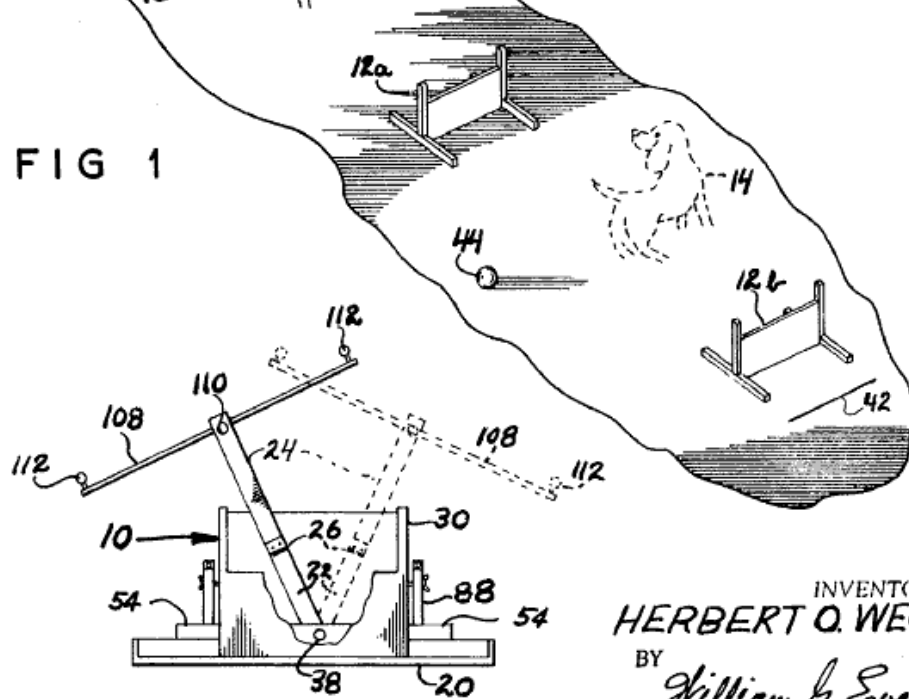


FIG 5

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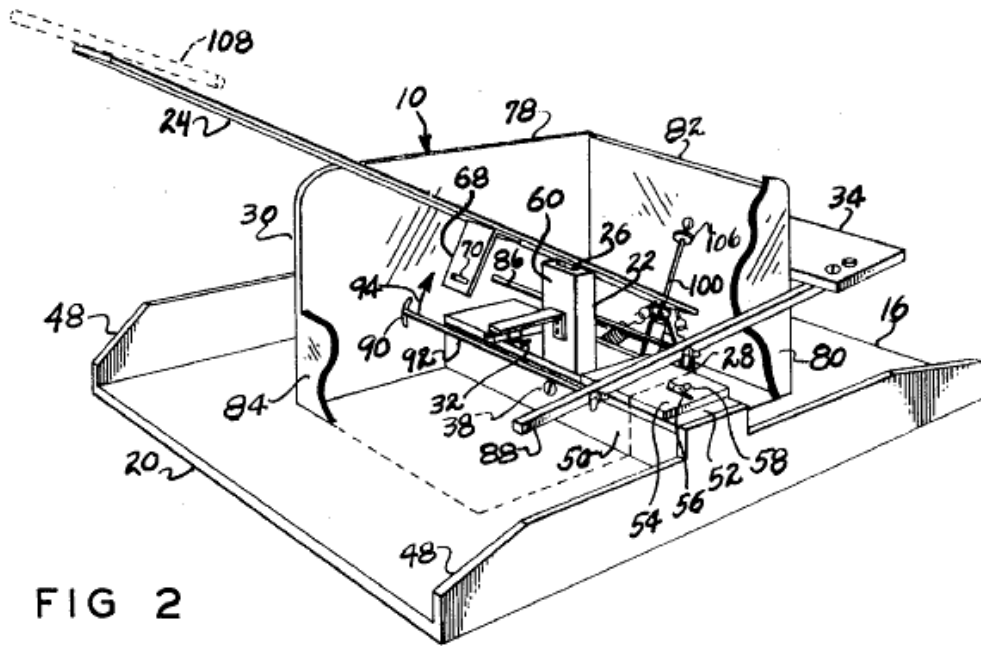


FIG 2

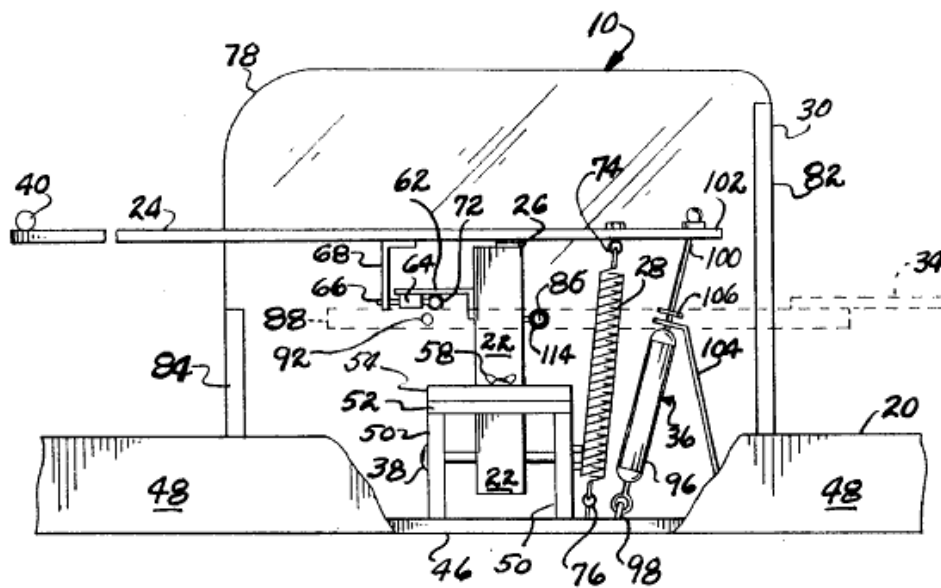


FIG 3

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**ANIMAL-TRAINING FLYBALL APPARATUS**

This invention relates to an apparatus for training dogs and more particularly to an apparatus adapted to hurl a ball into space when actuated by the dog who is to catch the ball, hopefully on the fly, and return the ball to a predetermined point.

According to the invention, there is provided a flyball apparatus for launching a ball into space for dogs to retrieve in flight, comprising, in combination, base means, launching means operatively mounted on the base means and adapted to receive the ball prior to the launching, spring means operably disposed on the base means and coupled to the launching means for providing a source of energy to launch the ball, and actuating means carried on the base means and adapted to be actuated by one of the dogs whereby the energy stored in the spring means is spent in the launching means to hurl the ball into space for retrieval by the dog.

Accordingly, it is a primary object of the invention to provide an apparatus for dogs to play flyball.

It is another object of the invention to provide an apparatus of the type described that is readily assembled and dismantled for storage and transit purposes.

It is yet another object of the invention to provide an apparatus of the type described which is adaptable for use with one or more hurdles or variable height and operably disposed relative to said apparatus.

Another object of the invention is to provide an apparatus of the type described and having features for varying the direction and distance in which the ball is hurled for retrieval by a dog.

Other objects, features and advantages of the invention will appear and be brought out more fully in the following description, reference being had to the accompanying drawings wherein:

FIG. 1 is a perspective view of the apparatus according to the invention shown in operable disposition with two spaced-apart hurdles, one of two dogs shown in broken delineation being also shown as having depressed a footboard resulting in actuating the apparatus and causing the ball to be launched as shown;

FIG. 2 is an enlarged perspective view of the apparatus according to the invention, a portion of the housing being removed to show the internal mechanism of the apparatus in a state just after the ball is launched;

FIG. 3 is an enlarged side elevational view of the apparatus according to the invention with a portion of the housing removed to facilitate an operable description of the mechanism, said mechanism being disposed in a state ready to be actuated;

FIG. 4 is a view of the apparatus according to the invention as seen from above and showing the pivotal mounting of the lateral member for controlling the flight path of the ball; and

FIG. 5 is a rear elevational view describing graphically the range through which the launching mechanism may be adjusted for controlling the flight path of the ball.

Referring now to the drawing, shown there in perspective at FIG. 1 is a flyball apparatus 10 for training dogs in sports according to the invention. FIG. 1 also depicts one arrangement in which the apparatus 10 is used in conjunction with, in this illustration, two spaced-apart hurdles 12a and 12b, over which each dog, as depicted by the reference numeral 14, must jump either on the way to or on return from, or both if desired, the apparatus 10 for reasons to be described. It should be noted that each of the hurdles 12 is disposed in linear alignment relative to the approach side 16 and along extensions of an arrow 18.

The apparatus 10 for dogs in sports includes a base structure 20, an upstanding post or support member 22, a movable arm 24 operably mounted on the top of the support member 22 by means of a conventional hinge 26, spring elements 28, a housing 30, a latch assembly 32, and an actuating or footboard release mechanism 34. A dampening device 36 is also provided for the movable arm 24. Moreover, the support member 22 is pivotally mounted on a shaft 38 which lies in a plane passing through the centerline of the movable arm 24.

At this point, a brief description of the flyball apparatus 10 would appear to facilitate a clear understanding of the invention. Hence, when the dog 14 puts enough of his weight on the activating or footboard release mechanism 34, such mechanism is depressed and the latch assembly 32 in turn is released. If the movable arm 24 had been depressed in an operably ready state as shown in FIG. 3 with the spring element 28 in outstretched energy storing disposition, then the release of the latch assembly 32 would permit the energy stored to be applied to the movable arm 24 causing same to rotate about the hinge 26 and in turn hurl a ball 40 into space as shown in FIG. 1.

In the event the support member 22 was disposed in a vertical configuration, the ball 40 would be hurled through space along a path parallel to the arrow 18. However, had the support member 22 been inclined to the right about the shaft 38 as shown in solid delineation in FIG. 5, then the ball 40 would have been hurled along a flight path that crosses any line paralleling the arrow 18. Stated differently, the ball 40 would follow a flight path having a ground line that extends from the approach side 16 and to the right as seen when viewing the apparatus 10 from a starting line 42. With the support member 22 rotated about the shaft 38 in the disposition as shown in FIG. 5 in broken delineation, the ball 40, if not caught, may come to rest to the left of the arrow 18 as shown by the reference numeral 44.

The base structure 20 may be made from a sheet 46 of, for example, plywood and provided with two side runners 48 between which two spaced-apart braces 50 are secured as by, for example, nailing. The sheet 46 may in turn be nailed to the braces 50. Openings, not shown, may be centrally provided in the braces 50 to receive the shaft 38. A cap 52 may be provided at the end portions of both braces 50 to add rigidity to the structure so that the shaft 38 is held secure. With such an arrangement, adequate clearance is thereby provided for the support member 22, which, as noted, may rotate as best seen in FIG. 5, in either direction. To provide means for controlling the limits of such rotation of the support member 22 about the shaft 38, there is provided adjustable plates 54, each having an elongated opening 56, reference FIG. 2, through which a conventional threaded fastener 58 is passed to secure the plate 54 at predetermined positions relative to the caps 52 after the plates 54 have been disposed in contact relationship with the support member 22 at the desired position on the shaft 38.

As pointed out above, the hinge 26 is operatively mounted on the top surface of the support member 22 with the hinge pin pointing in a direction that is parallel to the approach or front side 16. Mounted on the support member 22 on the rear side surface 60 is a bracket 62 to which is mounted a conventional latch 64 having a movable pin 66. Extending downwardly from the underside of the movable arm 24 is another bracket 68 having a slot 70 adapted to receive the movable pin 66 when the movable arm 24 is disposed in the lowest position, as for example that shown in FIG. 3. The latch 64 includes a spring, not shown, which causes the movable pin 66 to enter the slot 70 when properly aligned. The movable pin 66 may also be provided with a ringlike handle 72, or other suitable configuration, which when urged in a direction opposing the internal spring of the latch 64, causes the movable pin 66 to be withdrawn from the slot 70, whereupon, as aforesaid, the movable arm rotates about the hinge 26 to launch the ball 40.

The spring elements 28 are provided, two being preferred although one would be satisfactory. More specifically, a threaded eye fastener 74 may be attached to the movable arm 24 and the spring elements 28 removably mounted therein at one end. A similar threaded eye fastener 76 may be attached to the base structure 20 at two spaced-apart locations, each to receive the other end of the spring elements 28.

The housing 30, reference FIGS. 2 and 3, comprises two sidewalls 78 and 80, a front wall 82, and a rear wall 84, each of the walls being secured to the bottom sheet 46 of the base structure 20. It should be noted that the outer ends of the

plates 54 and the fasteners 58 are not enclosed in the housing 30 to permit adjustments of the support member 22 and hence control the direction in which the ball 40 is hurled.

The housing 30 also includes openings, not shown, in the sidewalls 78 and 80 to receive a stationary rod 86, on the outer ends of which are mounted two levers 88. The actuating or footboard member 34 is supportedly mounted on the levers 88 near the front wall 82. Disposed in the sidewalls 78 and 80 are two matched curved slots 90 through which pass an actuating rod 92. Openings, not shown, are provided in the levers 88 to receive the actuating rod 92 in fixed relationship therewith. The actuating rod 92 is positioned accordingly along the levers 88 so that the rod 92, when urged upwardly in the direction of the arrow 94, reference FIG. 3, engages the ring-type handle 72 to in turn urge the movable pin 66 out of the slot 70 thereupon releasing the latch assembly 32. The result is the movable arm 24 is abruptly displaced from the position as shown in FIG. 3 to that as shown in FIGS. 1 and 2.

The dampening device 36 may comprise a conventional cylinder 96 pivotally mounted by a conventional fastener 98 to the base structure 20. A plunger, not shown, is mounted on a rod 100 and operably disposed within the cylinder 96 at one end of the rod 100. The other end of the rod 100 is loosely attached to the forwardmost end of the movable arm as depicted by a reference numeral 102. A support bracket 104 may be provided to guide the rod 100 as same moves in and out of the cylinder 96 when the movable arm 24 is displaced. With this arrangement, the movable arm 24, which is accelerated rapidly immediately after the latch assembly 32 is released, is decelerated at a more desirable rate. If desired, an adjustable stop 106 may be provided on the rod 100 and positioned as desired between the bracket 104 and the forward end 102 of the movable arm 22 for purposes of providing a lost-motion type of connection between the movable arm 22 and the dampening device 36.

The movable arm 22 may also include a crossarm 108 pivotally mounted by way of a pivot pin 110. At each end of the crossarm 108, there is provided a ball-receiving cup 112, each of which may be mounted in a conventional ball-socket connector, not shown. With such an arrangement, complete control of the trajectory of the ball 40 is achieved.

It should be pointed out that the position of the latch assembly 32 relative to the actuating rod 92 must be maintained for continued satisfactory operation, especially in view of the fact that the support member 22 may be free to move forward or rearward along the shaft 38. To maintain this desired relative position, a clamp 114 is mounted on the support member

22. Through this clamp 114 extends the stationary rod 86. With this arrangement, the support member 22 may be positioned through a small angle of arc about the vertical on the shaft 38 without materially preventing the actuating mechanism 34 from functioning properly.

While I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of my invention, which is not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent devices and methods.

I claim:

1. In an animal-training flyball apparatus for launching a ball into space for dogs to retrieve in flight, the combination comprising:

base means;

launching means operatively mounted on said base means and adapted to receive said ball prior to said launching;

spring means operably disposed on said base means and coupled to said launching means for providing a source of energy to launch said ball; and

actuating means carried on said base means and adapted to be actuated by one of said dogs whereby the energy stored in said spring means is spent in said launching means to hurl said ball into space for retrieved by said dog;

said launching means further including

a support member pivotally mounted along an axis lying in the same plane as the centerline of said movable member;

a movable arm pivotally mounted on said support member;

means adjustably disposed on said movable arm at one end thereof for receiving said ball to be launched; and

latch means operably disposed on said movable arm intermediate said pivot mounting and said ball-receiving means, said latch means including a movable pin for selectively holding said movable arm in fixed disposition relative to said support member.

2. The apparatus in accordance with claim 1 further characterized in that said launching means further includes a lateral member pivotally mounted to said movable arm at said one end thereof; and in that said ball-receiving means are provided on said lateral member and pivotally mounted at each end thereof.

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