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Mike et al.

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[54] **ELASTIC TYPE SURFACE SUPPORTED PORTABLE INDOOR-OUTDOOR BALL PROJECTING DEVICE**

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[52] **U.S. Cl.** ..... **124/20 R,** 124/30 R, 273/26 D, 273/26 E

[51] **Int. Cl.** **F41b 7/00**

[58] **Field of Search** ..... 124/17, 20 R, 20 A, 20 B, 124/35, 41, 29; 273/95 A, 97 R, 29 A, 29 R, 26 D, 26 E; 272/6; 43/19, 6

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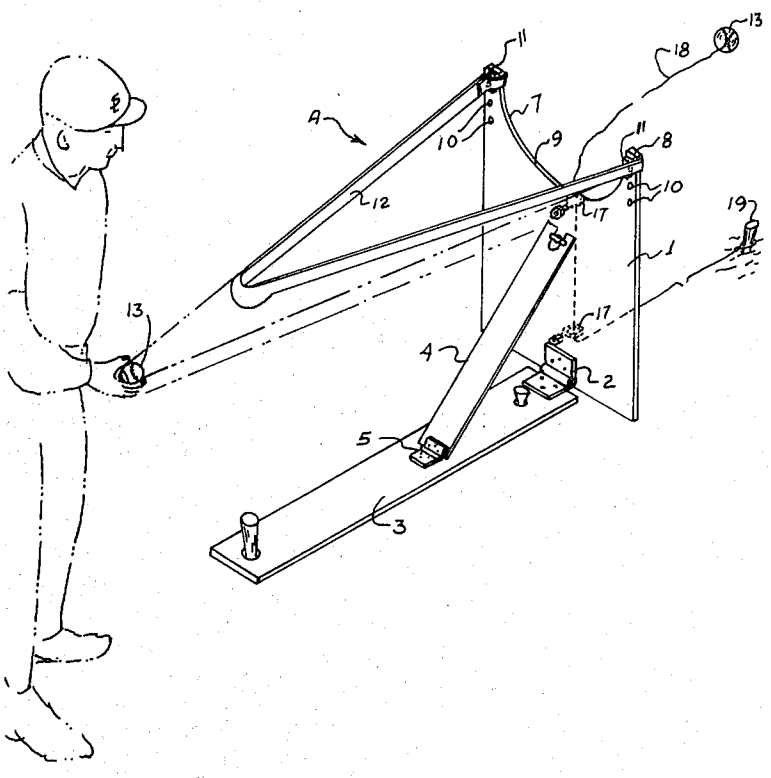
[57] **ABSTRACT**

In an apparatus for projecting a ball for a significant distance, the apparatus incorporating a pair of upward extensions between which an elastic strap connects, and from the lower most end of said frame member there is hingedly connected a base member that is disposed rearwardly of the frame member for stabilizing the apparatus upon the ground, while a brace interconnects between said frame and base members to hold said frame approximately upright and aids in stabilization during usage of the apparatus. A wire may be connected to the forward side of the frame member and anchored to the ground to help stabilize the apparatus. A line is anchored to the ground, then threaded through a guide on the apparatus and then tethered to a ball to be projected. The line limits the distance that the tethered ball is thrown.

7 Claims, 4 Drawing Figures



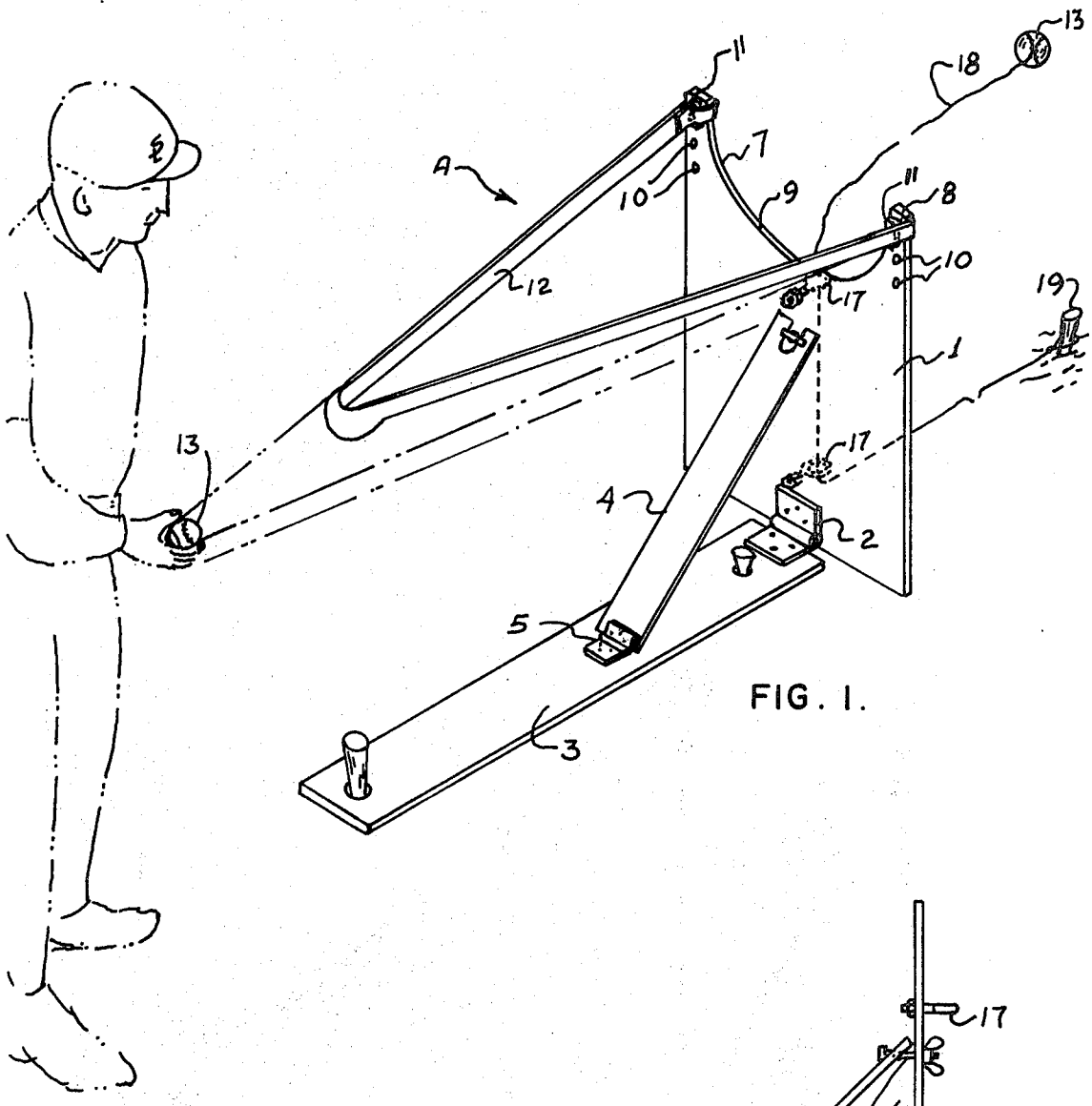


FIG. 1.

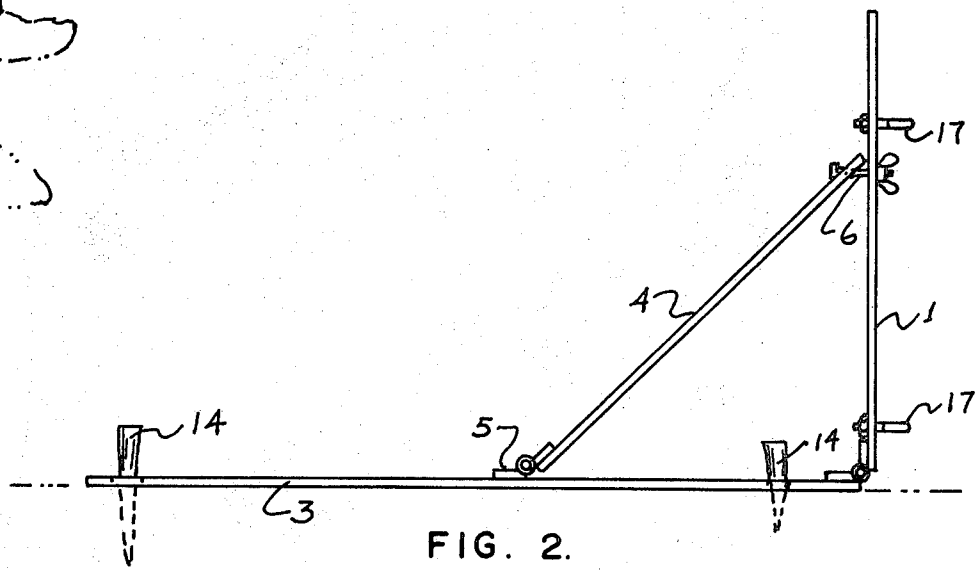


FIG. 2.

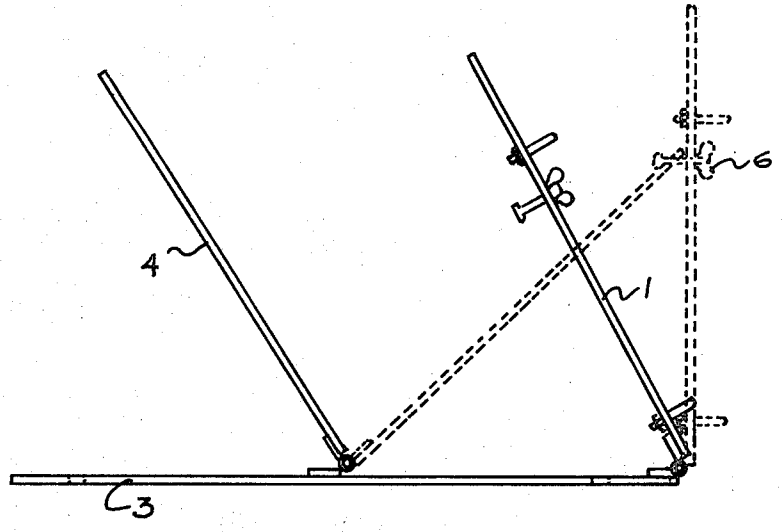


FIG. 3.

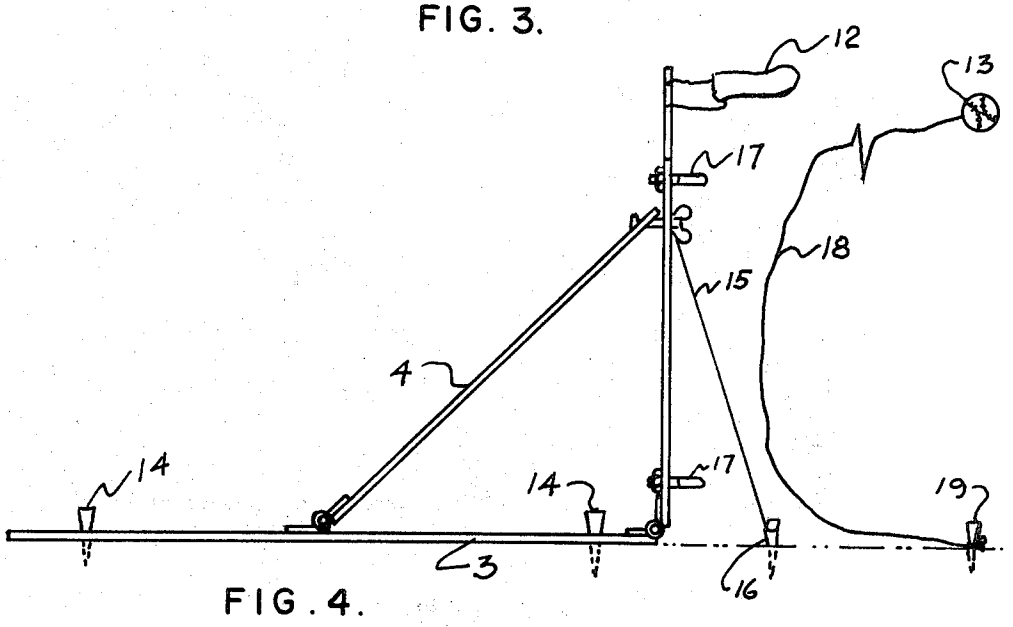


FIG. 4.

ELASTIC TYPE SURFACE SUPPORTED PORTABLE INDOOR-OUTDOOR BALL PROJECTING DEVICE

BACKGROUND OF THE INVENTION

This invention relates generally to a projecting device, and more particularly, relates to a ball projecting apparatus that may propel a ball to either fixed or lengthy distances.

Various types of prior art ball projecting or throwing apparatus are presently available. Most of these devices are rather elaborate in design, and are constructed for use on a commercial basis for throwing baseballs for batting practice either in organized baseball, or at amusement centers. As stated, most of these devices are of elaborate mechanical design, very costly, and usually incorporate an arm that is swiftly pivoted approximately 90° to 180° and immediately stopped allowing a ball to be projected tangentially from where said arm is stopped.

Other forms of prior art devices have incorporated various types of baseball practicing devices, wherein a ball or the like may be held by a length of cable, as in the nature of a tethered ball, and can be swung either as for catching practice or for sharpening the eye of a batter.

It is the principal object of the present invention to provide a ball throwing device that may be utilized by anyone regardless of their skill or dexterity in throwing an object, and allow them to participate in throwing of a baseball for catching or outfield practice, or even for batting practice.

Another object of this invention is to provide a ball throwing device in the nature of a slingshot that can project the ball for a significant distance or for a limited distance depending upon the type of practice desired.

It is a further object of this invention to provide a ball projecting apparatus that incorporates means for limiting the distance that the ball may be thrown, and thereby allow the user to participate in, for example, batting practice without the use of a catcher, or without having to chase the ball any great distance should it be hit.

It is an additional object of this invention to provide a ball projecting device that can be even utilized by the housewife in undertaking a baseball practice session with her youngster.

It is a desirable object of the present invention to provide a ball projecting apparatus that is very stable in construction, can either rest, be held, or fixed firmly to the ground during usage, and propel a ball for any distance comparable to that which may be thrown or hit during practice.

These and other objects will become more apparent to those skilled in this art in light of the following summary, description, and accompanying drawings.

SUMMARY OF THE INVENTION

In accordance with this invention, a ball projecting apparatus is provided that incorporates the basic principle of slingshot projection, modified to the extent that provides for controlled and facile throwing of a ball for either limited or extensive distances. The apparatus basically incorporates a frame member, which is customarily held erect, and which member incorporates a pair

of upward extendings that have interconnected between their approximately upper portions an elastic strap. It is the positioning of the ball or other object into the acute angle of said strap which when pulled into extension, and then promptly released, provides for projecting of the ball for some distance. Obviously, since the distance and direction that the ball may be projected can be reasonably manipulated by means of positioning of the apparatus prior to a drawing of its elastic strap, and through the directing of the angle of inclination of said strap, that anyone with a minor amount of strength can reasonably propel the ball with some degree of accuracy regardless of his athletic skill, dexterity, or experience in playing baseball. Hence, a mother may even pitch batting practice, or fielding practice, with the use of this ball projecting apparatus since all she need to do is simply insert the ball into the strap and draw it for immediate release to propel a ball forward.

To provide further accuracy in the use of this device, and to stabilize the frame member upon the ground, a base member that is fixed in position to the frame member by means of a brace holds said frame member reasonably upright and erect, and either pegs or the weight of the operator can urge the base and frame member tightly to the ground.

Where one desires to utilize this apparatus for, as an example, fielding practice in the nature of the catching of fly balls, as in the outfield, one need simply insert the ball into the elastic means, draw it to significant tensioning, and then aim it to provide for an upward trajectory of the ball after the elastic strap has been suddenly released. On the other hand, this invention further incorporates means to provide for only limited projection of the ball in its discharge from the apparatus. To achieve this, a retaining means, in the nature of a cord, connects at one end to the ball, while its other end may be secured either directly to the apparatus, or to the ground, so that when the ball is thrown from the device, it will only travel that distance its cord has been set to allow. Hence, by further incorporating some type of eyebolt to the frame member, and threading one end of the cord therethrough, it can be readily seen that the length of the cord between the ball and the apparatus may be gauged quite accurately, depending upon how near or remote the other end of the cord is attached to the ground. Then, should it be desired to utilize this apparatus, for example, in batting practice, the length of projection of the ball is predetermined by setting the cord length between the apparatus and the ball at that distance approximating the space between the location of the apparatus from the position of the batter. Hence, through the use of this apparatus, and its ball gauging means, when the ball is projected, it may be directed towards homeplate and at least reach that location so a batter may take his cut, which in the event that he strikes, or even hits the ball, it will only travel that distance its connecting cord will allow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, FIG. 1 provides a back side perspective view of the ball projecting apparatus while being operated by a player;

FIG. 2 provides a side view of the ball projecting apparatus as shown in FIG. 1;

FIG. 3 is a side view of the apparatus, similar to that shown in FIG. 2, with the frame member and its brace being shown during their setup or dismantling; and

FIG. 4 provides a side view of the apparatus as shown in FIG. 2, and further indicating its cooperating ball and cord means in flight, in addition to a modification providing for further stability of the apparatus.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings, in FIG. 1, there is disclosed a perspective view of the ball projecting apparatus A of this invention, as it is being utilized by its user, the ball player as shown. The apparatus incorporates a frame member 1, which, when the device is setup into operative position, is maintained substantially upright and erect, as shown, and has connected thereto, proximate its lower edge, by means of the hinge 2 a base member 3 that extends rearwardly from said frame. To support the frame member upright, there is also provided a brace 4 which may be hingedly connected to said base member by means of a hinge 5, while its other end is removably connected to the back side of the base member by means of any form of fastening device, such as the wing nut and bolt combination 6. See also FIG. 2. While the various forms of connections between the frame and base members and the brace are described as being mostly hinge connections, any form of the standard connecting devices that are presently available upon the market may be utilized for the purpose of fixing these three components securely into their operative positions.

The frame member 1 is designed having a substantial surface at its downward portion, and such surface may be utilized for the purpose of supporting advertising, or the like, while in the upper portion of said frame there is provided a pair of upward extensions 7 and 8, with an intermediate cut out portion, as at 9, that provides clearance for the ball or projectile being thrown from the apparatus as during its use. These upward extensions have a series of apertures, as at 10, provided therethrough, and are disposed for holding a fastening means, and in the nature of a screw, or the like, that connect with mounting blocks 11 that are useful for securing the free ends of an elastic means or strap 12 to the frame member. Obviously since there are a plurality of these apertures 10 provided along various heights of the extensions, the ends of the strap 12 may be positioned at one of these levels along the extensions 7 and 8 so that some adjustment in the height of the elastic strap 12 may be made, to compensate for the size of the player utilizing the apparatus.

The elastic means 12 may be constructed of the usual forms of rubber, a polymer, or other elastomeric material having elasticity so that when it is drawn rearwardly of the apparatus, as shown in FIG. 1, it will give easily with the pull of the operator but yet retain its substantial elasticity so that as said strap is released, it will propel forwardly and provide a forward thrust of the ball 13. As shown in FIG. 1, the user displays how the ball may be cupped within the acute angle of the elastic strap 12, drawn rearwardly, and then when released provides for the projection of the ball forwardly, as is also shown in action in this Figure. Actually, this Figure discloses two sequences of usage of this apparatus.

As additionally shown in FIG. 2, the base member 3 has a series of apertures provided therethrough, and into which may be inserted a pair of pegs 14 that further secure the mounting of this apparatus to the ground, as during usage. Furthermore, and if desired, stability may be maintained during the operation of this device by simply having the user stand on the base member 3 thereby firmly biasing the apparatus onto the ground, and when in this position, he can easily draw the elastic band 12 rearwardly to eventually allow for forward projection of the ball 13. To further add stability to the setup of this apparatus, as during usage, by referring to FIG. 4, it can be seen that a guide wire 15 can be attached directly to the wing nut and bolt combination 6, while the other end of said wire may be pegged to the ground, as at 16, to insure that the apparatus will not rise at its forward portion off the ground while the player is drawing the elastic strap and ball rearwardly just prior to their discharge into the forward thrust.

A further attribute of this invention is to provide means for gauging the distance that the ball may be projected during usage of the apparatus. A variety of means may be adapted for achieving this function, but essentially it entails the attachment of a cord to the ball, and at some distance along the cord providing for its retention either to the frame member of the apparatus, or to the ground, so that the distance the ball may travel from the retained end of the cord can be conveniently set and adjusted. One way to achieve this result is also shown in FIGS. 1 and 2 wherein at least one eyebolt like means 17 connects to the frame member of the apparatus, and threaded therethrough is the cord 18, which at one end attaches to the ball 13, while the other end of said cord is fixed either to one of the eyebolts or is staked to the ground by means of the peg 19. This connection of the cord end to the ball can be achieved in a variety of ways, such as by stitching it to the ball cover, or by fastening it to the core of said ball. When the ball is retained in this manner, its projection away from the apparatus will be limited to that extent that the cord will allow it to travel after being projected by release of the elastic strap 12 by the player. But, by simply shifting the peg 19 either closer to, or farther away from, the frame member, the distance that the ball may travel after being discharged can be quickly adjusted. It is likely, by also reviewing FIG. 4, that the ball 13 as attached to its cord 18 may simply be staked to the ground, as by means of the peg 19, to provide for this fixing of the distance that the ball may be thrown. This later manner of gauging the distance to which the ball may travel provides a little more flexibility in use of the apparatus. And, if desired, the cord 18 itself may have some slight elasticity so as to reduce breakage of said cord as when the ball reaches the end of its travel.

A further feature of this invention is shown in FIG. 3. The apparatus is depicted as having portability in that it can be collapsed, as after usage, into a rather flat form to facilitate its carriage or storage. As shown, the base member 3 has both the brace 4 and the frame member 1 hingedly attached thereto, so that when it is desired to dismantle the apparatus, the slotted end of the brace 4 may be disengaged by loosening the wing nut 6, and then both said brace and the frame member may be pivoted rearwardly to come to rest upon the base and in a flattened condition. Obviously, the elastic strap 12 may have already been disengaged from the upper extensions of the frame member, as shown removed, or it can be left intact as desired, since it is not

too bulky, and can be easily flattened with the other components of the apparatus.

It can be readily discerned from the foregoing description that this ball projecting apparatus provides for easy assembly, within a minimum of time, and can be used by anyone regardless of their athletic skill or strength. Numerous other variations in the construction of the apparatus of this invention, within the scope of the appended claims, may occur to those skilled in the art in view of the foregoing disclosure. The aforesaid description of the preferred embodiment is merely illustrative of the principles involved.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent is:

1. A portable apparatus for projecting a ball or the like relative distances and capable of stabilized disposition upon the ground comprising a frame member, said frame member having a pair of upward extentions as when the apparatus is set up for operative usage, an elastic means interconnecting between said upward extentions for use in propelling a ball through the upward extentions after being drawn to a cocked position by a user, a base member connected at its front edge to said frame member proximate its lower edge, said base member extending rearwardly of said frame member and arranged for flush disposition upon the ground to stabilize the apparatus during usage, retaining means cooperating with said rearwardly extending base member to prevent the torque produced when the elastic means is released from pivoting the frame member forwardly about the connection of the base member and the frame member, and a brace connecting intermediate both said frame member and base to fix said frame member approximately upright during usage of the apparatus.

2. The invention of claim 1 wherein said base member is hingedly connected to said frame member, and said brace is hingedly connected to said base at one end.

3. The invention of claim 2 wherein a wing nut and bolt combination secures the other end of said brace to said frame member.

4. The invention of claim 1 wherein said retaining means includes at least one peg securing said base member to the ground.

5. The invention of claim 4 and including a wire means for securing said frame member to the ground to provide for the frame member's stabilization during usage of the apparatus.

6. The invention of claim 1 and wherein said retaining means further comprises a means disposed upon the rearwardly extending base member for biasing the base member to the ground for snug stabilization during usage.

7. The invention of claim 1 and including a cord being fixed at one end to a ball, the other end of said cord being guided by said apparatus and anchored to the proximate ground thereby limiting the distance that a ball may be projected from said apparatus during usage.

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