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PIVOT POSITIONER FOR A BASEBALL PLAYER'S REAR FOOT

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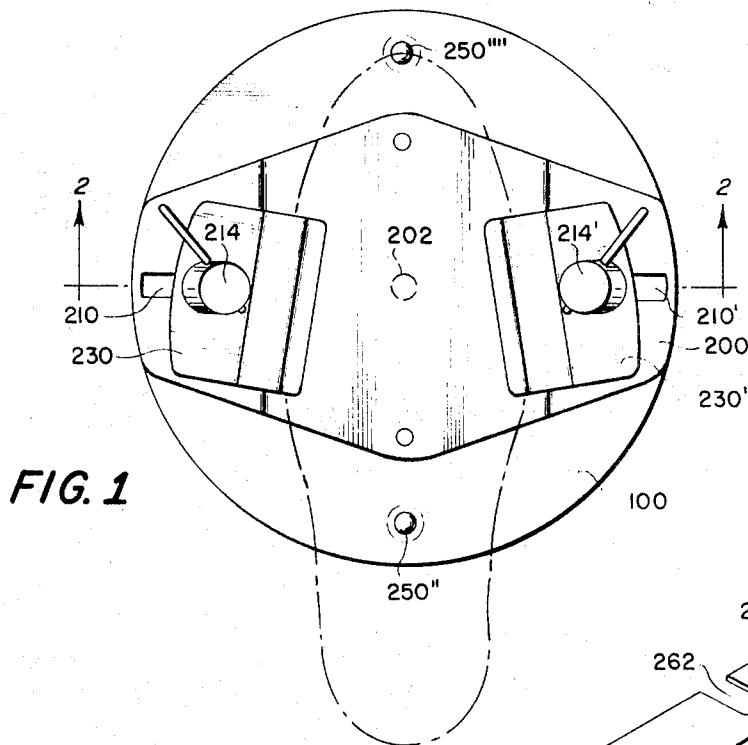


FIG. 1

FIG. 2

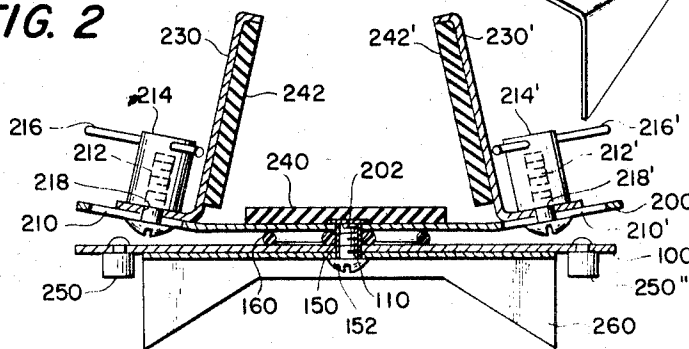


FIG. 4

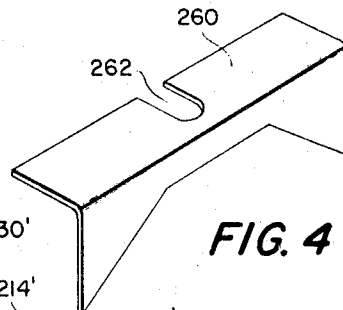
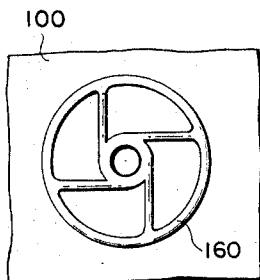


FIG. 3

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PIVOT POSITIONER FOR A BASEBALL PLAYER'S REAR FOOT

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5 Claims

ABSTRACT OF THE DISCLOSURE

A pivot positioner for a player's foot which is designed to ensure proper rear foot pivot action as in batting in baseball. The device comprises foot securing clamps which are mounted upon a rotatable plate causing the player to pivot in position on his rear foot, securing his balance and avoiding thereby lunging, overstriding and related errors in performing baseball and related sports.

Cross references to related applications

This device is related in principle to my invention entitled Sports Training Device, U.S. Patent No. 3,372,930, granted Mar. 12, 1968 and co-pending patent application Ser. No. 581,996, filed Sept. 21, 1966, entitled Sports Training Device.

Background of the invention

In baseball it is important for the hitters to pivot and push on the ball of the rear foot when batting. This gives complete utilization and control of the body, and consequent proper hitting technique and form.

Proper action of the rear pivotal foot gives better footwork, which in turn results in: the proper and desired body balance and control; full hip and shoulder action; the desired shorter and firm front foot stride; level shoulders and hips for level swing; and head restrained from excessive movement so that eyes can better follow the ball. All of this gives the player better timing, consistency and maximum power.

The common fault with the majority of hitters, especially beginners, is lunging and hitting off the front foot, thereby preventing the back foot from pivoting properly. This results in improper footwork which in turn causes bad hitting habits, technique and form, such as body lunging forward and being off-balance causing overstriding, excessive head movement, lunging, locked hips, unlevel swing along with making it difficult for the player to avoid being hit by pitched balls. Lunging and being off the back foot alone creates this danger. All of these faults can be improved or corrected by the player's position residing in simply remaining and pivoting on the back foot. Improper footwork, it is known, usually results in poor body action.

The hitting experts know and realize the importance of remaining and pivoting on the back foot; the problem being how to accomplish the difficult task of remaining and pivoting on back toe. It is recognized that hitters are made and not born through proper habits, instructions and practice. Good hitters continue to practice hitting form to retain or improve timing, body control and coordination.

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It is thus necessary if a player is to become expertise in such sports, that he be taught the proper use of the rear foot and toe which will, in turn, lead to the proper desired footwork for desired hitting technique and form.

This invention is therefore concerned with an apparatus for teaching proper rear foot pivot primarily for baseball, as well as other various sports such as softball, golf, tennis or any sport where the rear foot pivot action is essential or desired for proper footwork and body coordination. This will become apparent from the following specification and attached drawings which describe the invention in terms of a baseball form training apparatus.

The object of this invention is to provide an apparatus to teach proper player form and technique in hitting ball in sports. This training device forces the hitter's back foot to remain and pivot which in turn gives the desired footwork and body coordination. Thus, a hitter learns and feels the proper use of rear foot pivot, and forms the habits of correct hitting technique and form. This device can be used indoors or outdoors, with or without a platform.

Another object of this invention is to describe a device which may readily be used by individuals, as well as large groups of players, such as by a professional club, or by amateur groups such as Little League, etc., as part of their ordinary training.

Another object of this invention is to provide an apparatus for clamping a player's rear foot in position, so as to teach proper player form and technique.

Another object of this invention is to provide a sports training device which may be easily assembled with a minimum of effort and time, for efficient utilization of said sports training device.

Another object of invention is to provide a sports training device that is easily adaptable for both indoor and outdoor use.

These and other objects of invention will be apparent from the following specification and drawings in which:

FIGURE 1 is a top plan view of the sports training device;

FIGURE 2 is a cross-sectional view of the sports training device, taken along the section lines 2—2 of FIGURE 1;

FIGURE 3 is a top view of the Teflon washer 160;

FIGURE 4 is a perspective view of the outdoor anchor 260.

This invention represents an improvement over the Sports Training Device, Ser. No. 453,286, in that rotating means as well as the means for holding the rear foot in proper position, are substantially simplified.

FIGURES 1 and 2 illustrate the general configuration of the sports training device, as comprising a round, flat metal plate 100. This base plate 100 defines hole 110 at its center. Upper foot plate 200 also defines a hole 202 at its center, holes 110 and 202 being positioned so as to coincide when the plates are coaxially arranged. As internally-threaded cylindrical casing 150, having a small head on its upper end, acts as an axial pin when fitted through holes 110 and 202. The upper foot plate 200 is allowed to rotate on casing 150. The attachment of plates 100 and 200 is completed with the insertion of screw 152 into casing 150.

Surrounding this pin between the two plates is washer 160 of the configuration illustrated in FIGURE 3, com-

prising two concentrically arranged lubricant rings connected by four tangential radials of the same material. The arrangement of these radials permits the washer 160 to discard particles which might otherwise accumulate between the two rings. Washer 160 permits smoother rotation of the raised plate on the axial casing by reducing friction between plates 100 and 200. The friction tension may be varied by tightening screw 152.

The upper foot plate 200 is bent slightly upward on each end as can be seen in FIGURE 2. The beveled portions of the upper plate 200 define slots 210 and 210'. These slots are arranged on the line extending from the center of the plate to the midpoints of the outside edges. Slots 210 and 210' are of a width corresponding to the square heads of bolts 212 and 212' so that the bolts when fitted into the slots cannot be turned, although they are free to move either toward or away from the center of the plate along the length of the slots.

Bolts 212 and 212' are extended through holes 218 and 218', as defined by the clamps 230 and 230'. The attachment of the clamps to the upper foot plate 200 is completed by screwing the large, internally-threaded cylindrical casings 214 and 214' down onto bolts 212 and 212'. This screwing action which also provides for the adjustment of the positioning of the clamps is accomplished more easily by the use of handles 216 and 216'.

Clamps 230 and 230' are bent at approximately 90° as illustrated in FIGURE 2 so that when the base half of the clamp is flush with the beveled portion of the upper foot plate 200, the side panels of the clamps are perpendicular to these beveled portions and consequently lean in towards the level portion of the upper foot plate. This positioning of the clamps permits both vertical and horizontal forces to act in securing the player's foot.

It should be noted that the attachment of the clamps 230 and 230' to upper foot plate 200 is effected in such a way as to permit easy adjustment of the clamp towards or away from the center of upper plate 200. Further, when casings 214 and 214' are loosened, the clamp plates are allowed to rotate on bolts 212 and 212', thus permitting the adjustment of the clamp plates to the position required by the shape as well as the width of the player's foot.

The mechanical operation of the improved sports training device is briefly as follows. The player places his rear foot on upper foot plate 200, securing the foot in position by the adjustment of clamps 230 and 230'. As the player goes through the motion of a swing, his rear foot pivots causing upper plate 200 to rotate on casing 150. Base plate 100 remains stationary throughout the swing motion.

The present invention is an improvement over the original Sports Training Device Patent No. 3,372,930. The present design permits a simpler construction and less cumbersome operation through the improvement of the frictional relationship between the base and the rotating members. The new Teflon washer permits smoother rotation of the upper plate on the axial pin. The means of attachment also provides a means for adjusting the frictional tension so that the device can be employed by players of all power abilities.

The clamping device supported by the upper foot plate represents a further improvement over the original device. Its design permits a strong and stable securing action through the application of both vertical and horizontal pressure components to the foot. It also permits a relatively simple and versatile means of adjustment.

A rectangular piece of hard rubber 240 is attached to the upper foot plate 200 so that the device may be used with all sorts of sport shoes, including those which are cleated or spiked. Foam rubber pads 242 and 242' are attached to the clamps so that the sports shoe will not be cut or scratched by the metal parts of the device. It should be noted here that clamps 230 and 230' have a small perpendicular flange at their top edge which pro-

jects the rubber pad so that it will not be torn from its position by constant insertion of sports shoes.

The improved sports device can be used in or out of doors. Cushions 250-250'" provide for the use of the improved sports device indoors on any sort of floor and outdoors on hard surfaces. Anchor piece 260 is easily attached to the bottom of the base plate 100 by loosening screw 152 and sliding the anchor along the bottom so that screw 152 fits into slot 262 at which point the screw may be tightened securing the outdoor anchoring piece in position.

To use the pivot training device to practice batting and more particularly to learn to pivot on the rear foot properly during the batting swing, the player inserts his foot in the manner described above. He is forced to stand on the ball of his rear foot throughout the swing because plate 200 is only large enough to support that part of the foot. Staying and pivoting on the back toe restricts lunging, overstriding and prevents the body from going forward excessively. When pivoting properly, the front foot heel will automatically hit the ground giving a solid block from the front leg and hold the body back. The front leg will be rigid and power will remain on the back toe until contact with the ball. Proper pivot results in better body balance and control. Because the freedom of rotation on the device magnifies and overturn in the pivoting motion, the player learns to control the pivot so that balance is maintained.

Although I have described my invention for particular use by a baseball player, it may be used in other sports, for example, golf. Thus, when taking a swing at a golf ball, my invention may be utilized to obtain a correct rear foot pivot action for proper body movement and coordination. My invention could be constructed in a more compact form so that the golfer would be able to keep the device on the bottom of his foot for the duration of his game. My invention is thus designed for use in all sports, where the position of the rear foot angularly when playing, for example, when taking a swing at a ball. After forming the proper hitting habits, through continued use of this invention, the player will then be able to translate them into the actual playing field.

I claim:

1. A pivot position training device which is adapted to ensure proper foot action of a player, comprising:

- (A) a lower anchoring base plate, having means to secure against rotational and lineal dispositive forces;
- (B) an upper foot plate, secured in rotatable relation to said base plate, said upper foot plate having a central portion to support the ball of the player's foot and including

(B1) foot clamping means adjacent the central portion of the plate, to operably secure the foot of the player against movement relative to said plate during use thereof;

(B2) said upper foot plate being bent upwardly at its extremities, said clamping means being adjustably attached to the portions of said upper plate bent upward to operably secure the foot of the user to said foot plate by the application of both vertical and horizontal pressure component means.

2. The invention of claim 1 wherein said clamping means comprises opposed clamps attached to said upper foot plate by the insertion of friction bolts engaging slots defined by upper foot plate on at ends thereof.

3. The device of claim 1, wherein:

- (A) said clamping means are padded interiorly with a resilient tread to prevent injury to the shoe of the user;
- (B) the foot supporting portion of the upper plate supporting the ball of the user's foot being covered by a pad permitting the player to wear spiked or cleated shoes.

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4. The pivot position training device of claim 1 further comprising:

an axial pin engaging the respective plates centrally thereof, securing said plates in rotatable relation and a bearing concentrically disposed in fitting relation to the pin, said bearing comprising two concentric lubricant rings, connected by radials, said radials being arranged to render the bearing self-cleaning.

5. The pivot position training device of claim 1 further comprising:

an axial pin engaging the plates centrally thereof, to secure them in rotatable relation and a bearing concentrically disposed in fitting relation to the pin, said device further comprising screw and thread means adapted to the pin, whereby upon tightening thereof an increase in frictional tension may occur between the upper foot plate and the base plate, permitting control thereby of freedom of rotation of the upper plate with respect to the lower plate.

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