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Spurgeon

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[54] **BASEBALL BATTING PRACTICE APPARATUS**

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[52] **U.S. Cl.** ..... **273/26 E**

[51] **Int. Cl.**[2] **A63B 69/40**

[58] **Field of Search** .... 273/26 R, 26 A, 26 E, 29 A, 273/95 A, 33, 200 B, 204, 206, 208, 196, 197 R, 197 A, 198

[56] **References Cited**

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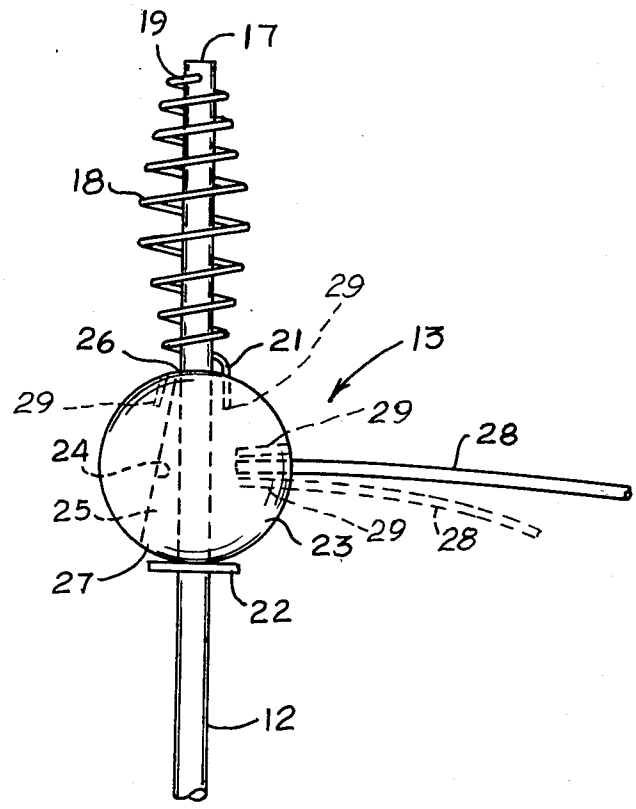
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Assistant Examiner—T. Brown
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[57] **ABSTRACT**

An elongated shaft member having a ground engageable end, a free upstanding end and a collar affixed intermediate the ends. A support member having a bore formed therein receives the shaft therethrough and is rotatable about the shaft and movable along the length of the shaft between the collar and the upstanding end of the shaft. A spring is affixed between the support member and the upstanding end of the shaft, and a flexible arm having a ball member affixed thereto is attached to the support member.

5 Claims, 2 Drawing Figures



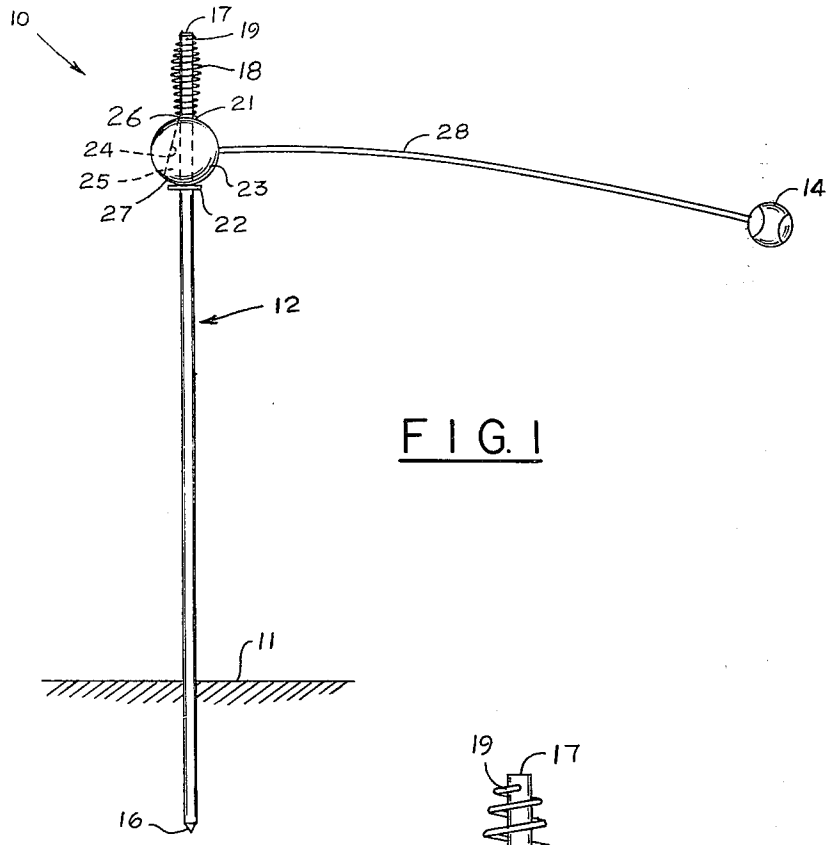

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FIG. 1

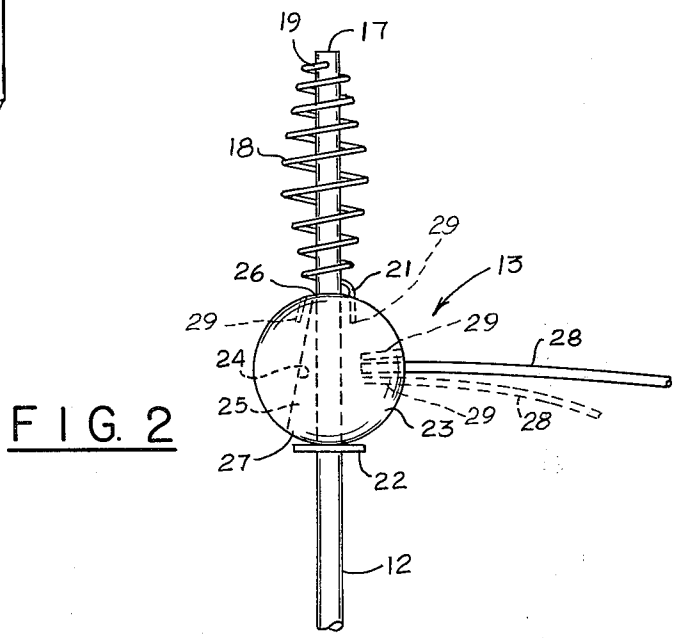

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FIG. 2

BASEBALL BATTING PRACTICE APPARATUS

BACKGROUND OF THE INVENTION

This invention relates to devices which are used to develop and to practice ball game skills. More particularly this invention is a batting practice apparatus which relates to devices used to develop baseball hitting skills.

A large number of devices have been conceived which move a ball relative to the user of the device, which ball the user attempts to strike. Most of these devices have a stand supporting a rigid arm to which the ball is either directly attached or attached by means of a rope or cord. U.S. Pat. No. 2,633,320 issued to Salmi and U.S. Pat. No. 3,118,670 issued to Smith illustrate devices having a ball directly attached to a rigid arm. U.S. Pat. No. 3,408,070 issued to Gonzales illustrates a somewhat less rigid arm. U.S. Pat. No. 1,862,044 issued to White and U.S. Pat. No. 2,017,720 issued to Lake illustrate attachment of the ball to a rigid arm by means of a cord.

A major problem with the use of certain is that severe damage to the structure can result from striking the rigid arm with a bat. Other devices substitute a different problem in that the cords involved may wrap around the arms of the devices.

Another major problem shared by batting practice devices in general is the inability to provide a ball motion which simulates realistically an actual baseball pitch. The devices either do not actively move the ball past the user at all, move the ball only in a plane parallel to the ground, which movement has a repetitive sameness not characteristic of a series of actual baseball pitches, or moves the ball in highly unusal directions and in jerking motions, which movement is more appropriate for the practice of such games as handball, tennis or squash.

There are pitching-arm machines available which can accurately simulate a real baseball pitch; however, these are rather complex and quite costly, require a large amount of space and auxiliary structures such as nets, and are used primarily by major professional baseball league teams and some colleges.

SUMMARY OF THE INVENTION

According to this invention, a ball game practice apparatus is provided which is suitable for aiding in the teaching and refinement of baseball hitting technique.

An elongated shaft is made to engage the ground at one end. A spring member is affixed to the upwardly directed opposite end and spirals downwardly therefrom, the shaft passing centrally through the spring. A collar member is affixed to the shaft between the ends of the shaft.

A support member has an internal wall which forms a conical shaped bore therethrough. The support receives the shaft through the bore and is rotatable about the shaft and slidable along the shaft between the collar and the upper end of the shaft. The lower depending end of the spring is attached to the support. A flexible arm member is affixed at one end to the support and has a ball member attached to the opposite end.

It is an object of this invention to provide a novel baseball batting practice apparatus which will move a ball past a batter in a motion which will accurately simulate a real baseball pitch.

It is a further object of this invention to provide a baseball batting practice apparatus capable of achieving the aforementioned object and which is sturdy, simple in structure and therefore easy to manufacture, and economical in that it is affordable for an ordinary family and requires energy not from any outside source but only that supplied by the exertions of the user.

These objects and other features and advantages of this invention will become readily apparent by reference to the following description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The appended drawings illustrate the invention wherein:

FIG. 1 is an end elevational view generally depicting the baseball batting practice apparatus of this invention in engagement with the ground and in a position of rest, hatched lines being used to indicate certain internal structures more clearly; and

FIG. 2 is an enlarged fragmentary view of the invention, hatched lines being used to depict internal structures of the invention more clearly.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, in FIG. 1 the baseball batting practice apparatus of this invention is indicated generally at **10** in engagement with the ground **11.** The invention **10** includes an elongated supporting shaft member **12,** a main support structure **13** and a ball structure **14.** More particularly, the shaft **12** includes a first ground engageable end **16** which is pointed to facilitate placement of the invention **10** into the ground **11,** and a second opposite end **17** which is free and upstanding when the batting practice apparatus **10** has been placed into the ground **11.**

Referring now to FIG. **2,** the shaft **12** includes a spring or coil member **18** having an upper end **19** and a lower depending end **21.** The upper end **19** is affixed to the second end **17** of the shaft **12,** and the spring **18** spirals downwardly therefrom and terminates in the lower depending end **21.** The shaft **12** passes centrally through the area enclosed by the spring **18.** A collar retarder member **22** is affixed to the shaft **12** between the ends **16, 17.**

Again referring to FIG. **2,** the main support structure **13** includes a support **23,** herein depicted as spherical in shape. The support **23** has an internal wall or surface **14,** indicated by hatched lines, which is conical in shape and which forms a control-socket or bore **25** within the support **23.** The bore **25** has an upwardly directed smaller opening **26** and a downwardly directed larger opening **27.** The shaft **12** is received through the bore **25,** and the lower end **21** of the spring **18** is affixed to the support **23.** The support **23** is movable along the length of the shaft **12** between the collar **22** and the second end **17** and is rotatable about the shaft **12.** A flexible arm **28** is affixed at its inside end to the support **23,** and the ball structure **14** (FIG. **1**) is affixed to the outwardly extended end of the flexible arm **28.** The flexible arm **28** is preferably constructed of fiberglass.

When the batting practice apparatus **10** is used, the shaft **12** is made to engage the ground **11.** The shaft **12** is shown in FIG. **1** as being perpendicular to the surface of the ground **11;** however, the shaft **12** may be inserted into the ground **11** at angles other than 90° in order to

adjust the type of pitch desired and to adjust for the height of the batter. The shaft **12** may be driven into the ground **11** to a shallow depth or to a deeper depth in order to adjust for the height of the batter.

After insertion into the ground **11**, the invention **10** assumes a rest orientation, as depicted in FIG. **1**. The batter may then strike the ball structure **14** with a bat. The motion imparted to the ball **14** is in turn imparted to the flexible arm **28** and the support **23**, thereby causing the ball **14**, arm **28** and support **23** to move along the shaft **12** and to rotate about the shaft **12**, the spring **18** resisting these movements. The spring **18** stops and reverses these movements, causing the support **23** and arm **28** to carry the ball **14** back past the batter in simulation of a baseball pitch.

Instead of the batter initially striking the ball **14**, a second person may grasp the arm **28** and rotate the ball **14**, arm **28** and support **23** about the shaft **12** and against the spring **18**. The second person then releases the arm **28**. The pitching of the ball **14** to the batter can in this manner be more precisely controlled.

A realistic baseball pitch is provided due to the whip-like flexing of the arm **28** and due to the pivoting of the support **23**, and therefore of the arm **28**, with respect to the shaft **12** as the support **23** and arm **28** rotate about the shaft **12** and move along the length of the shaft **12**. The upper edge of the internal wall **24**, which forms the upwardly directed opening **26**, acts as a fulcrum, pressing against the shaft **12**, about which the support **23** pivots with respect to the shaft **12**. The support **23** pivots with respect to the shaft **12** due to the conical shape of the control socket or internal wall **24** and of the bore **25** formed by the wall **24**.

As depicted in FIG. **2**, the axis of the bore **25** is at an angle to the axis of the shaft **12**. The axis of the bore **25** does not coincide with a diameter of the spherical shaped support **23**. In the rest position assumed by the invention **10** and depicted in FIGS. **1** and **2**, the shaft **12** rests against the internal wall **24**. The rest position of the batting practice apparatus **10** and the movement of the ball **14** could be altered by providing a support **23** which has a bore **25** with an axis coinciding with the axis of the support **23**. The movement of the ball **14** could be further adjusted by providing a support **23** to which both the lower end **21** of the spring **18** and the flexible arm **28** could be attached in a variety of locations **29**. The support **23** could be of a shape other than spherical.

If the ball **14** is "ticked" or struck only a glancing blow, as in hitting a foul ball, the ball **14**, arm **28** and support **23** will assume a movement which is primarily vertical, along the length of the shaft **12**. The collar **22** and spring **18** serve to dampen violent movement of the support **23** along the shaft **12** so that a normal baseball pitch may quickly be simulated again after the striking of a glancing blow by the batter.

The batting practice apparatus **10** of this invention provides a realistic baseball pitch to the practicing batter and requires no energy for actuation other than that expended by the user of the invention **10**. Thus it can be seen that the objects of this invention have been met.

Although a preferred embodiment and modifications thereto have been disclosed herein, it is to be remembered that various modifications and alternate constructions can be made thereto without departing from the full scope of the invention, as defined in the appended claims.

I claim:

1. A baseball batting practice apparatus comprising:

an elongated shaft member having a first ground engageable end and having a second opposite end which is free and upstanding when said shaft is engaged with the ground, said shaft having a collar member intermediate said first and second ends;

a spring member having an upper end and a lower depending end, said upper end being affixed to said second end of said shaft, said spring member depending from said second end and encircling said shaft;

a support member having an internal wall forming a bore through said support member, said shaft being received through said bore, said support being rotatable about said shaft and movable along said shaft between said collar member and said second end, said lower depending end of said spring being affixed to said support, said internal wall forming a bore which is conical in shape, said support member having upwardly and downwardly directed openings of said bore, said upwardly directed opening being smaller than said downwardly directed opening and being substantially the diameter of said shaft;

a flexible arm member at an inner end being affixed to said support member and having an outwardly extended end; and

a ball member being affixed to said outwardly extended end, whereby said arm and said ball are allowed to move in more than one plane when said ball is struck.

2. A baseball batting practice apparatus as defined in claim **1** and further wherein said lower depending end of said spring is attachable to said support at a plurality of locations whereby said support, said arm and said ball are provided with a plurality of rest orientations with respect to said shaft.

3. A baseball batting practice apparatus as defined in claim **2** and further wherein said shaft is received by said support member against said internal wall.

4. A baseball batting practice apparatus as defined in claim **1** and further wherein said arm member is attachable to said support at a plurality of locations whereby said arm and said ball are provided with a plurality of rest orientations with respect to said shaft.

5. A baseball batting practice apparatus comprising:

an elongated shaft member having a first ground engageable end and having a second opposite end which is free and upstanding when said shaft is engaged with the ground;

a spring member having an upper end and a lower depending end, said upper end being affixed to said second end of said shaft, said spring member depending from said second end and encircling said shaft;

a support member having an upper portion and a lower portion, said upper portion being connected to said lower portion, said upper portion having an internal wall forming one part of a bore and an upwardly directed opening of said bore, said lower portion having an internal wall forming the other part of said bore and a downwardly directed opening of said bore, said upwardly directed opening being smaller than said downwardly directed opening and being substantially the diameter of said shaft, said shaft being received through said openings, said support being rotatable about said shaft and movable along said

shaft, said lower depending end of said spring being affixed to said support;

a flexible arm member at an inner end being affixed to said support member and having an outwardly extended end; and

a ball member being affixed to said outwardly extended end.

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