



US 20040121862A1

(19) **United States**

(12) **Patent Application Publication**
Socci

(10) **Pub. No.: US 2004/0121862 A1**

(43) **Pub. Date: Jun. 24, 2004**

(54) **TRAINING DEVICE FOR BATTING AND PITCHING**

Related U.S. Application Data

(60) Provisional application No. 60/403,431, filed on Aug. 15, 2002.

(76) Inventor: **Roger D. Socci, Reston, VA (US)**

Publication Classification

Correspondence Address:
**ARMSTRONG, KRATZ, QUINTOS, HANSON
& BROOKS, LLP**
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006 (US)

(51) **Int. Cl.⁷ A63B 69/00**

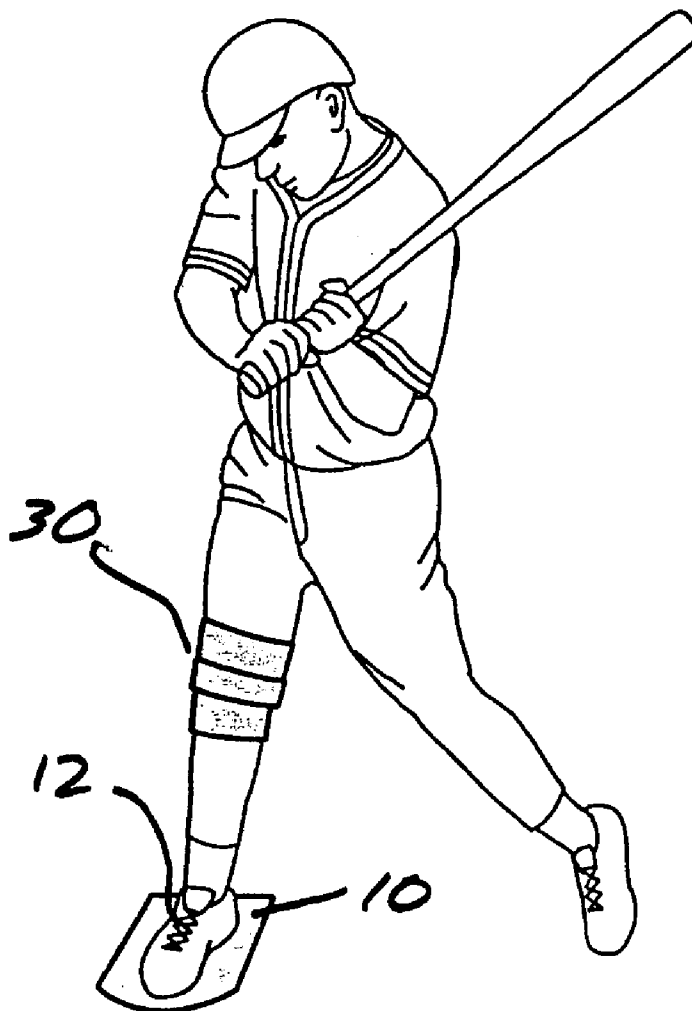
(52) **U.S. Cl. 473/458**

(57) **ABSTRACT**

A baseball training device for use in improving batting and/or pitching skills, particularly launching skills while batting and avoid rushing while pitching, the device comprising an elongated member of at least a length to extend about the knee of a wearer and forming a loop, and a signaling device secured to the elongated member, the signaling device adapted to generate a signal when the knee of the wearer with the training device bends that knee toward the other knee of the wearer.

(21) Appl. No.: **10/640,316**

(22) Filed: **Aug. 14, 2003**



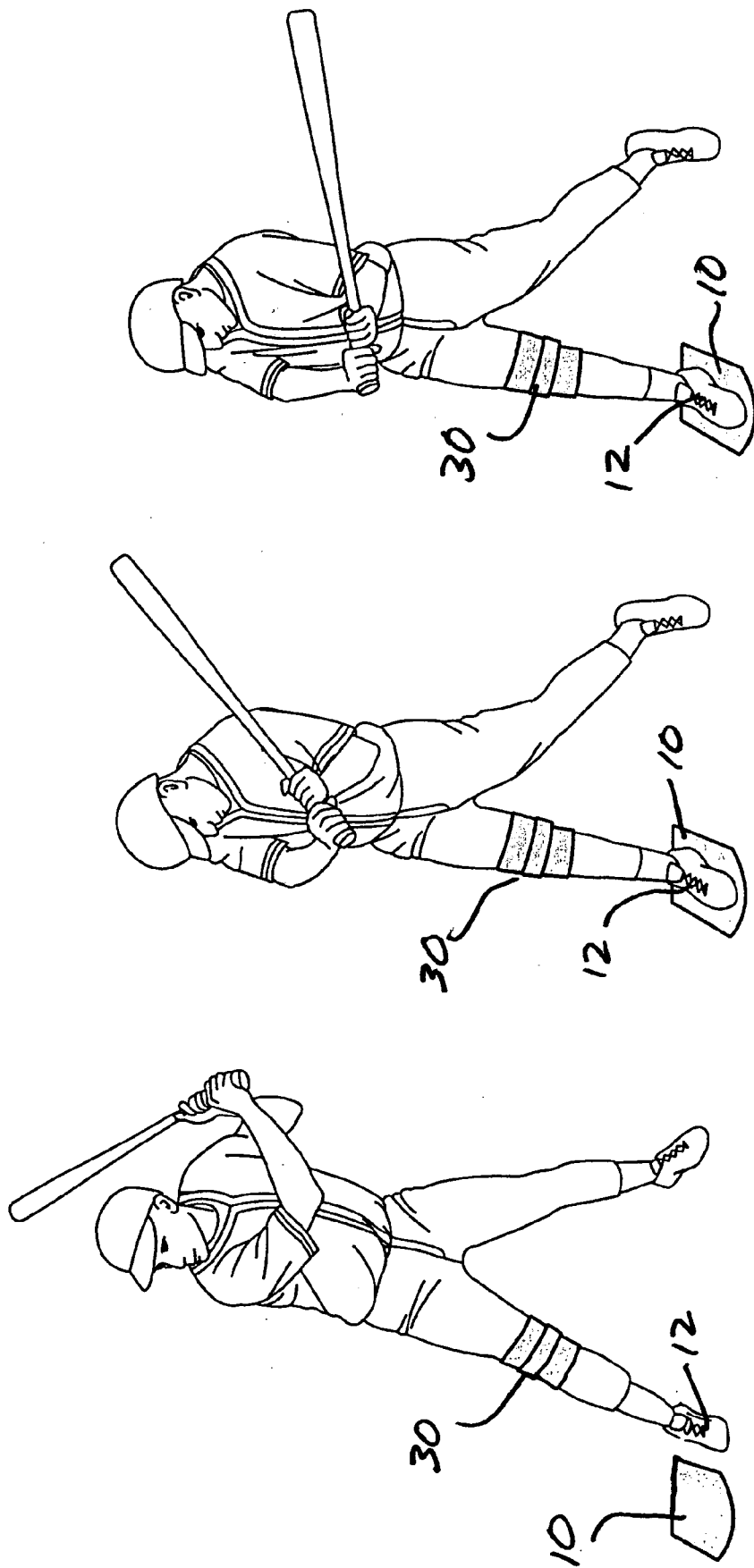
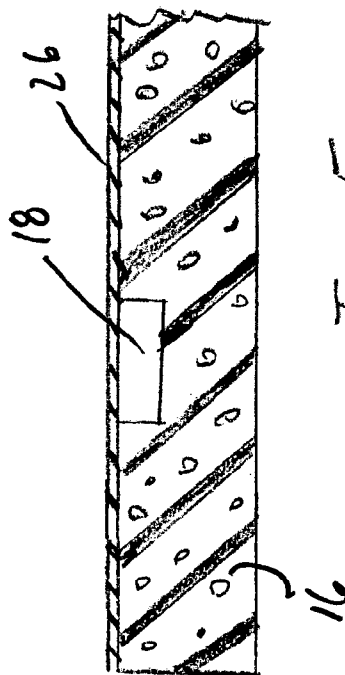
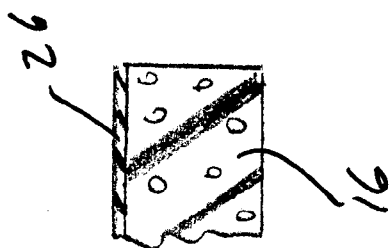
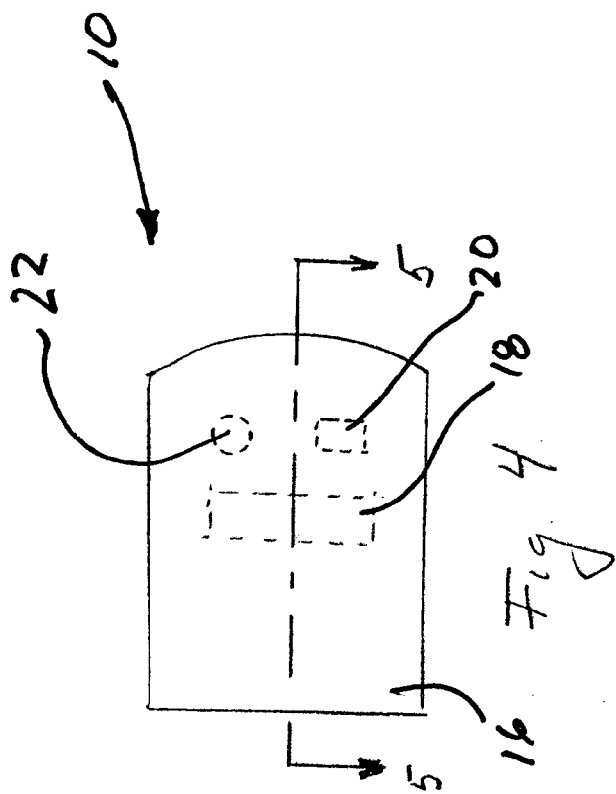


Fig. 3

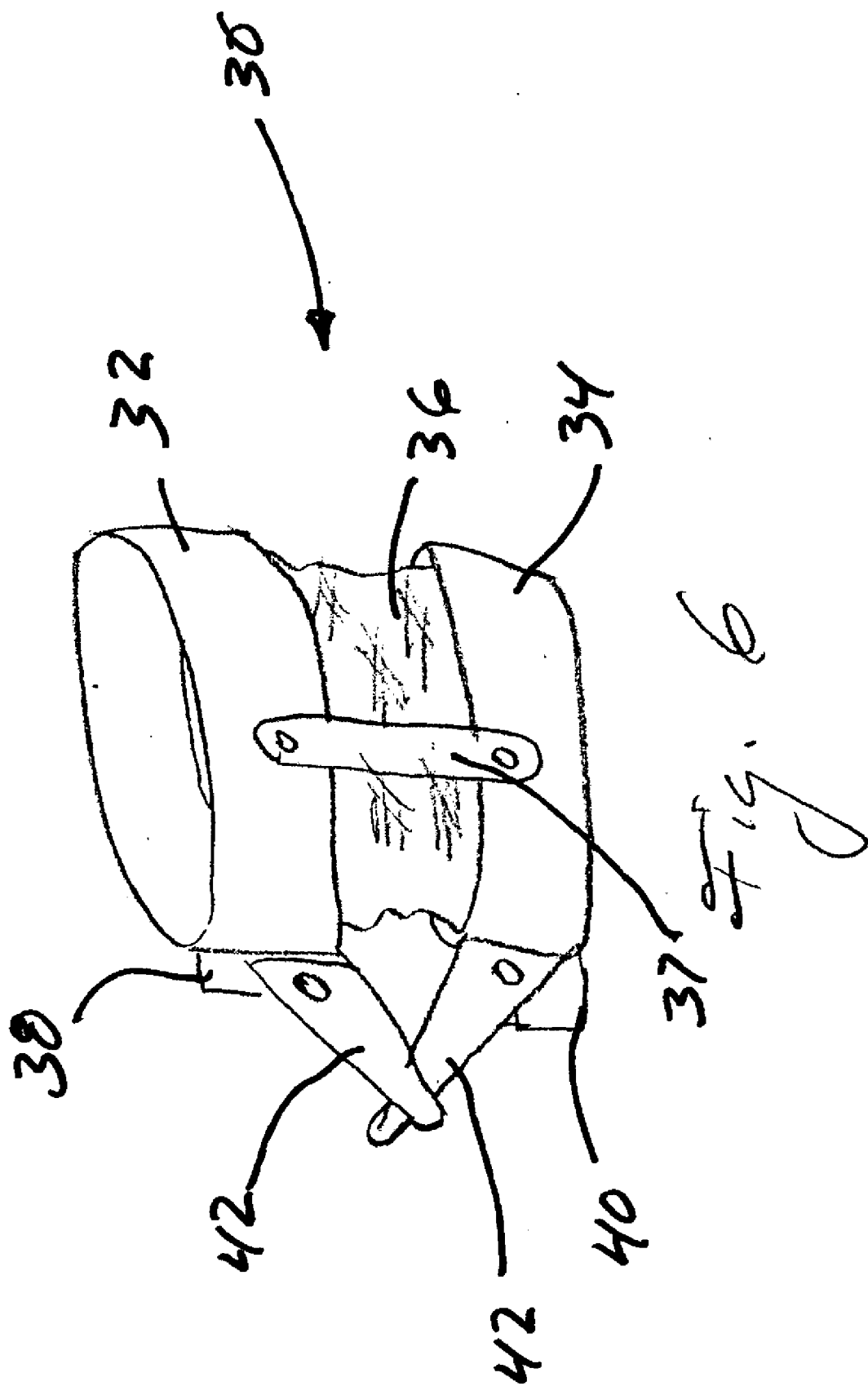
Fig. 2

Fig. 1



10

Fig 5



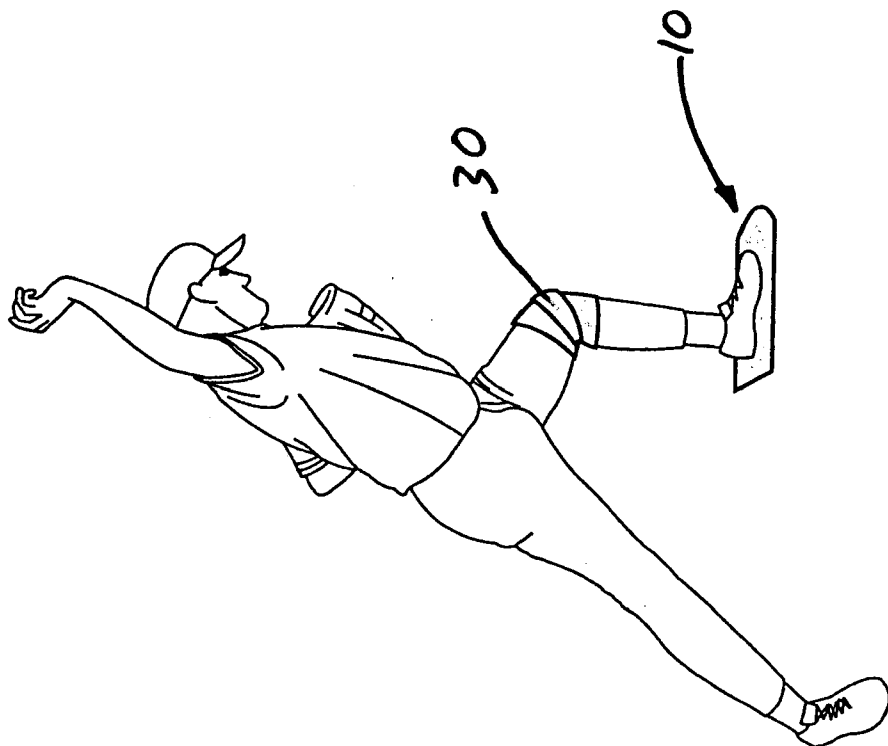


Fig. 8

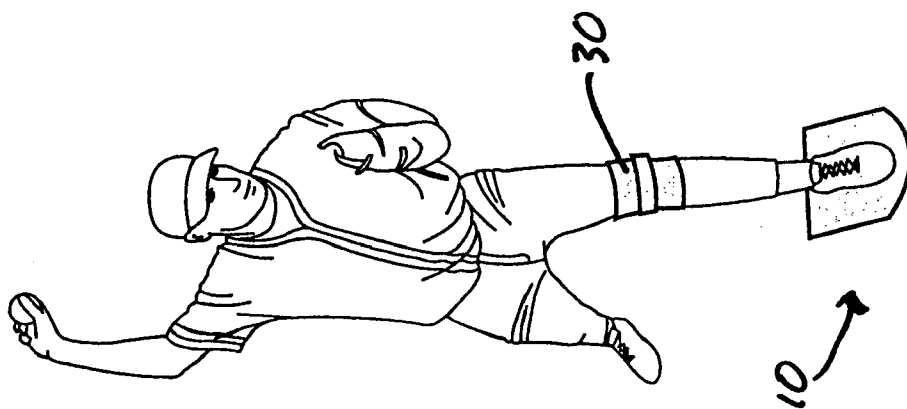


Fig. 7

TRAINING DEVICE FOR BATTING AND PITCHING

[0001] The present invention relates generally to devices for assisting persons to learn sports skills and, more particularly, to devices for assisting persons to learn or improve both batting and pitching skills for playing the game of baseball.

[0002] A baseball swinging motion consists of two parts, (1) the launch position which comprises the stride and (2) the actual swing of the bat itself. The actual bat swing or second part to the swinging motion does not take place until the front stride foot has moved forward three to eight inches and then stopped. Further, the hands are held back in the launch position until the front foot lands and begins to straighten from a flexed landing position. The hands move forward to swing the bat only after the front stride leg and foot have landed and begun to straighten out. If a batter swings the bat at the same time as striding, he will be off balance to hit and be vulnerable to all sorts of other mechanical problems in the swinging motion.

[0003] In pitching a baseball, a baseball pitcher ideally should only throw or pitch the ball after his leg foot has landed at approximately a 90-105 degree angle ensuring that his throwing arm has reached its apex in the wind-up. If a pitcher is able to do this, he will ensure that he is not throwing before his arm has reached its highest point in the wind-up confirming he can deliver the ball with more force and minimize rushing. Rushing is anathema to a pitcher because he is throwing or delivering the ball before his arm and body are in the correct position.

SUMMARY OF THE INVENTION

[0004] It therefore is a feature of the subject invention to provide a device for assisting persons to learn and/or improve batting skills for playing the game of baseball.

[0005] It also is a feature of the subject invention to provide a device for assisting persons to learn and/or improve "launching" skills when batting in the game of baseball.

[0006] It therefore is a feature of the subject invention to provide a device for assisting persons to learn and/or improve pitching skills for playing the game of baseball.

[0007] It also is a feature of the subject invention to provide a device for assisting persons to avoid "rushing" when pitching in the game of baseball.

[0008] Briefly, the present invention comprehends in its broader aspects a baseball training device for use in improving batting and/or pitching skills, particularly launching skills while batting and avoid rushing while pitching, the device comprising an elongated member of at least a length to extend about the knee of a wearer and forming a loop, and a signaling device secured to the elongated member, the signaling device adapted to generate a signal when the knee of the wearer with the training device bends that knee toward the other knee of the wearer.

[0009] The present invention also comprehends a baseball training step device for use in improving batting skills and/or pitching skills, particularly launching skills while batting and avoid rushing while pitching, the step device comprising a generally planar pad and, secured to the pad,

a sensor device adapted to generate a signal when impacted by a user. The subject invention additionally comprehends a combination of the above knee sensor device and the above step device together as a baseball training device for use in improving batting skills, particularly launching skills while batting, and/or for use in improving pitching skills, particularly avoiding rushing while pitching.

[0010] The present invention further comprehends a baseball training method for use in improving baseball activities such as batting or pitching skills, particularly launching skills while batting or avoiding rushing while pitching, the method comprising providing a knee sensor device about the knee of a wearer and a pad device adjacent to the wearer, engaging in baseball activities while wearing the knee sensor device set to provide a signal when the knee of the wearer is in a particular position and stepping on the pad device while engaging in the baseball activities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] In the drawings,

[0012] FIG. 1 is a perspective view of a baseball player using an embodiment of the training device for batting in accordance with the present invention,

[0013] FIG. 2 illustrates in another perspective view a baseball player using the embodiment of the training device for batting as shown in FIG. 1,

[0014] FIG. 3 is a further perspective view of a baseball player using the embodiment of the training device of the invention and as shown in FIG. 1,

[0015] FIG. 4 is a detailed top view of a pad device in accordance with the present invention,

[0016] FIG. 5 is a cross-sectional view taken along line 5-5 of FIG. 4,

[0017] FIG. 6 is a perspective view of a knee angle sensor device in accordance with the present invention,

[0018] FIG. 7 is a perspective view of a baseball player using an embodiment of the training device for pitching in accordance with the present invention, and

[0019] FIG. 8 illustrates in another perspective view a baseball player using the embodiment of the training device for pitching as shown in FIG. 1, and

[0020] FIG. 8 is a detailed view of a knee device in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] As mentioned above, the training devices according to the present invention be used interchangeably for both pitchers and hitters. The devices include at least one of a knee angle sensor device which can be used by both the pitchers and hitters use to facilitate correct knee positioning during their respective movements. The knee angle sensor device is adjustable so as to work for the different front landing requirements of pitchers and hitters. The second device is a pad device containing a foot-actuated switch that activates a voice or sound generator.

[0022] Referring first to the use of the devices to train a batter, FIGS. 1-3 show the sequence E of a batter in

generating a swing in order to hit a baseball. In the initial position shown in **FIG. 1**, the batter is in the ready position with his front foot placed several inches behind pad device **10** relative to the pitcher. As the batter strides as shown in **FIG. 2**, the front foot **12** contacts pad device **10** and generates an audible sound and the swing commences. The swing then continues as shown in **FIG. 3**.

[0023] The batter further wears knee sensor device **30** as shown in **FIGS. 1-3**. The knee device **30** is a knee angle sensor device which is used by batters to facilitate correct knee positioning during swinging. More particularly, it is desired that the knee of the front leg (the leg nearest the pitcher) be straight as the bat impacts the ball, that is, roughly the position shown in **FIG. 3**. The details of the knee angle sensor device **30** are detailed later.

[0024] As mentioned above, pad device **10** creates an audible sound when the front foot of the batter lands on the pad device. This sound from pad device **10** will direct the hitter to swing the bat. The correct placement of the pad device **10** will also insure that batters do not either understride or overstride.

[0025] One embodiment of pad device **10** is shown in detail in **FIGS. 4 and 5**. Device **10** includes a relatively thin planar resilient pad **16** of a size somewhat larger than the size of the adult human foot although the size may vary considerably. Pad **16** may be rubber or foam polymeric material and includes recesses containing foot-activated pressure switch **18**, interconnected power source **20** such as a battery and sound generator **22** such as a buzzer, horn, alarm or the like. The recess **24** for foot-activated pressure switch **18** is shown in **FIG. 5**.

[0026] Overlying and covering the recesses such as recess **24** is layer **26** which may be of wear resistant material such as cloth, polymeric films, rubber and the like.

[0027] One embodiment of knee angle sensor device **30** is shown in detail in **FIG. 6**. Device **30** includes upper band **32** adapted to be about the thigh portion of the leg just above the knee of a wearer and lower band **34** adapted to be about the calf portion of the leg just below the knee of a wearer. Interconnecting upper band **32** and lower band **34** is skirt **36** of flexible material such as cloth, particularly stretch-type cloth so as to provide a better fit. Preferably, bands **32** and **34** are secured together by two elongated members **37** (only one being shown) which are pivotly attached at each end to a band.

[0028] Extending from upper band **32** is flange **38** and extending from lower band is flange **40**.

[0029] Adjustably secured to each flange **38** and **40** is extension **42**, each adapted to carry an angle sensor such as an electrical contact, a projection or the like. Extensions **42** are arranged to contact each other at desired angles of the knee. Contact of the angle sensor carried by one extension with the angle sensor of the other extension may complete an electrical circuit and generate a signal, may generate an audible sound, or otherwise create a signal that the knee is in a particular angular configuration. For example, the signal may be generated mechanically such as by a biased projection passing over another projection, ridge, depression or the like.

[0030] Referring now to the use of the subject devices to train a pitcher, **FIGS. 7-8** show a pitcher in the motion of

pitching a baseball. Pad device **10** is provided to give the pitcher an indication when the front foot has landed. Knee device **30** provides an indication when the knee of the front leg is in the proper or optimal angular position for release of the ball from the pitcher's hand. Further, the correct placement of the pad device **10** also insures that a pitcher does not either understride or overstride.

[0031] While there has been shown and described what are considered to be preferred embodiments of the present invention, it will be apparent to those skilled in the art to which the invention pertains that various changes and modifications may be made therein without departing from the invention as defined in the appended claims.

It is claimed:

1. A baseball training device for use in improving batting and/or pitching skills, the device comprising an elongated member of at least a length to extend about the knee of a wearer and forming a loop, and a signaling device secured to the elongated member, the signaling device adapted to generate a signal when the knee of the wearer with the training device bends that knee toward the other knee of the wearer.

2. A baseball training device according to claim 1, wherein the device includes upper band adapted to be about the thigh portion of the leg just above the knee of a wearer and lower band adapted to be about the calf portion of the leg just below the knee of a wearer.

3. A baseball training device according to claim 2, wherein the device includes a flange extending from upper band and a flange extending from lower band and, an extension adjustably secured to each flange, each extension carrying an angle sensor, the extensions arranged to contact each other at desired angles of the knee.

4. A baseball training device according to claim 3, wherein the angle sensor includes an electrical contact.

5. A baseball training device according to claim 1, wherein contact of the angle sensor carried by one extension with the angle sensor of the other extension completes an electrical circuit and thereby generates a signal.

6. A baseball training device according to claim 1, wherein the angle sensor includes a projection.

7. A baseball training device according to claim 6, wherein contact of the angle sensor carried by one extension with the angle sensor of the other extension mechanically generates an audible sound.

8. A baseball training device according to claim 1, wherein the device includes a step device comprising a generally planar pad and, secured to the pad, a sensor device adapted to generate a signal when impacted by a user.

9. A baseball training step device for use in improving batting skills and/or pitching skills, the step device comprising a generally planar pad and, secured to the pad, a sensor device adapted to generate a signal when impacted by a user.

10. A baseball training step device according to claim 9, wherein the sensor device includes a sound generator and a foot-actuated pressure switch for activating the sound generator.

11. A baseball training step device according to claim 10, wherein the pad is a resilient pad and includes recesses containing the sound generator and pressure switch.

12. A baseball training step device according to claim 11, further including a power source interconnected with the pressure switch and the sound generator.

13. A baseball training step device according to claim 11, further including a layer of wear resistant material overlying and covering the recess.

14. A baseball training method for use in improving baseball skills, the method comprising providing a knee

sensor device about the knee of a wearer and a pad device adjacent to the wearer, engaging in baseball activities while wearing the knee sensor device set to provide a signal when the knee of the wearer is in a particular position and stepping on the pad device while engaging in the baseball activities.

* * * * *