

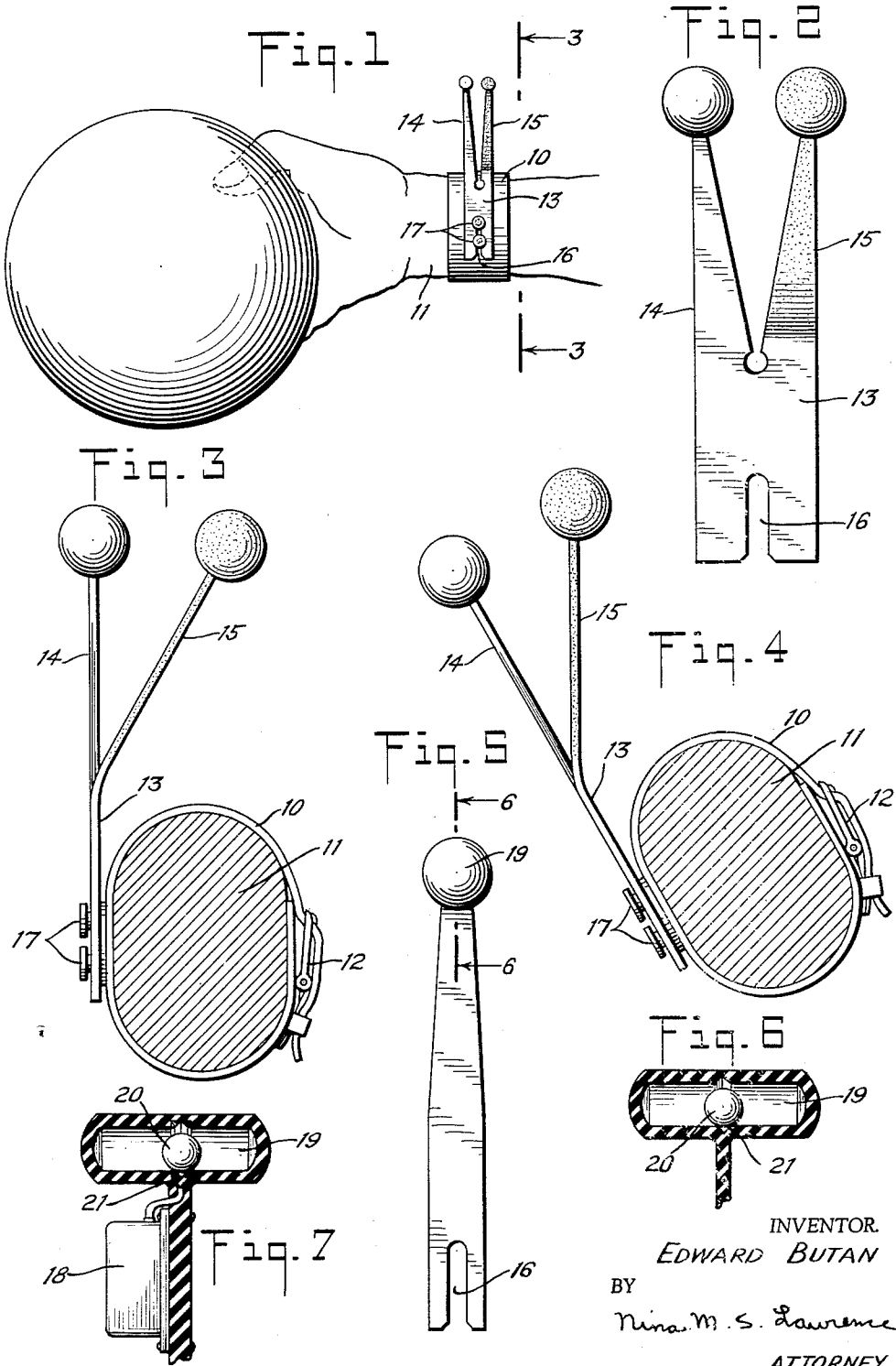
Sept. 14, 1965

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WRIST ATTACHED PLUMB INDICATOR FOR BOWLERS

Filed Dec. 26, 1962



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3,206,200 WRIST ATTACHED PLUMB INDICATOR FOR BOWLERS

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Filed Dec. 26, 1962, Ser. No. 247,027

6 Claims. (Cl. 273-54)

This invention relates in general to bowling aids and in particular to a novel wrist plumb for use in bowling.

The wrist plays one of the most important parts in proper bowling. It must be "locked," that is not flex or rotate, but be firm and rigid, during delivery of a bowling ball. In addition, the angle of the wrist determines the type of ball (hook or straight) the bowler will throw when releasing the ball. There is a need in the bowling field for a simple and effective device which will lock the wrist during delivery of a ball, which will provide a means of consistently determining the proper angle of the wrist when it is desired to throw either a hook or a straight ball and which also will enable the bowler to follow through properly when releasing the ball.

It is, therefore, an object of the present invention to provide a device which will "lock" the bowler's wrist during delivery of a ball.

It is also an object of the present invention to provide a simple means of consistently determining the proper angle of the wrist for throwing a straight or hook ball.

It is also an object of the present invention to provide a device which will enable the bowler to "follow through" properly when releasing the bowling ball.

It is a further object of the present invention to provide a simple and inexpensive bowling aid which will eliminate the guesswork from proper bowling and improve the game of both the beginner and the experienced bowler.

It is also an object of the present invention to make the bowler more conscious of the proper position of the hand, wrist and arm required for successful bowling.

These and other objects are accomplished by the present invention in which a wrist plumb for bowlers comprises the combination of a strap adapted to be secured to the wrist of a bowler and plumb means adapted to be attached to said strap, whereby the maintaining of said plumb means perpendicular to the floor during delivery of a bowling ball enables the bowler to resist twisting or turning of the wrist.

With reference to the drawings:

FIG. 1 is a perspective view of one embodiment of the wrist plumb of the present invention as applied to the bowler's wrist;

FIG. 2 is an enlarged view of the two-position plumb indicator of the present invention shown in FIG. 1 when detached from the wrist strap;

FIG. 3 is an enlarged view partly in section taken along the line 3-3 of FIG. 1, showing the position of the plumb indicator when throwing a straight ball;

FIG. 4 is an enlarged view partly in section showing the position of the wrist and the plumb indicator when throwing a hook ball;

FIG. 5 is an enlarged view of another embodiment of the plumb indicator of the present invention;

FIG. 6 is a sectional view of the plumb indicator shown in FIG. 5 taken along the line 6-6;

FIG. 7 is a sectional view similar to that shown in FIG. 6 showing in addition a transistorized buzzer unit attached thereto.

Referring to the drawings, the strap 10 may be made of any convenient material, such as leather, plastic, etc., and of any desired width and thickness. It may be fastened or secured to the wrist 11 in any known manner, such as for example, by the buckle 12. Attached to the strap 10 is the two-position plumb indicator 13 of the present invention. The plumb indicator 13 has two

prongs, a straight one and a bent one, which shall be referred to herein as a first-position plumb indicating means 14 and a second-position plumb indicating means 15. The plumb indicator 13 may be made of any convenient material, such as for example, leather, plastic, metal or wood, and is preferably easily removable from the strap 10 for reasons of safety and comfort and so that it can be stored readily when not in use. As shown in the drawings, the plumb indicator 13 may have a notch 16 which fits snugly over the protrusions 17 in the strap 10. The angle between the first- and second-position indicating means 14 and 15 is preferably about 30 degrees, so that when the first-position indicating means 14 is perpendicular to the floor they stand at about 12 and 2 o'clock in the case of a right handed bowler or 12 and 10 o'clock in the case of a left handed bowler.

If desired, the plumb indicator may be made in two separate and distinct parts, one straight as shown in FIG. 5 for use in throwing a straight ball and the other bent for use in throwing a hook ball. Or the plumb indicator may be constructed with one prong which is adapted to be either straight or bent. Other embodiments not departing from the spirit and scope of the present invention may occur to those skilled in the art and are comprised within the present invention.

In order to use the wrist plumb of the present invention, the strap 10 is placed on the wrist so that the first-position indicating means 14 is directly in line with the middle of the thumb, as shown in FIG. 1. When the bowler wishes to throw a straight ball, he lines up his hand and wrist so that the straight first-position plumb indicating means 14 is perpendicular to the alley. He freezes this position, and lets the ball drop straight back into a pendulum swing, releases the ball and follows through, making sure during and at the end of his delivery that the plumb is still perpendicular to the alley as it was when he started and not twisted either to the right or left, which would denote an incorrect delivery.

In order to throw a hook ball, the bowler lines up his hand and wrist so that the bent second-position indicating means 15 is perpendicular to the alley. He freezes this position for the entire delivery, making sure that the plumb 15 is perpendicular to the alley at all times and not twisted to the right or left.

FIGURES 5 to 7 illustrate another embodiment of the present invention in which a transistorized buzzer unit 18 is utilized. The plumb indicator may, as mentioned above, be made in two separate and distinct parts, one straight as shown in FIG. 5 for use in throwing a straight ball and the other bent (not shown) for use in throwing a hook ball. The plumb indicator in FIG. 5 has a hollow tube 19 at the top containing a ball 20, made of steel for example or any other substance capable of conducting electricity. When the tube 19 is parallel to the ground, the ball 20 rides in a V shaped groove 21 which is lined with strips made of copper or other electrically conductive material (said strips being spaced from each other) and makes contact with the transistorized buzzer unit 18 when the latter's switch is on causing a buzzing sound. The ball 20 will ride in the groove 360 degrees as long as the tube 19 is maintained parallel to the ground. If the tube is tilted, the ball will pop out of the groove at either the left or right depending on the direction. This embodiment is a great aid in maintaining a perfect pendulum motion of the arm when throwing a bowling ball. The bowler selects one of the plumb indicators, attaches it to the wrist strap and turns the switch "on." He then picks up his bowling ball and lines up the tube so that it is parallel to the bowling alley, which causes the ball to fall into the groove, thereby starting the buzzing sound. As long as the wrist is held in the proper position, the buzzing will continue. As soon as the wrist is twisted,

the ball will pop out of the groove, contact will be lost and the buzzing sound will cease.

The same principle as above could be applied to a light bulb fed by a miniature mercury battery, said bulb and battery being contained in a case such as 18 in place of the transistorized buzzer unit. When the ball pops out of the groove, for example, the light would go out signifying that an improper pendulum swing was made.

The bowling aid of the present invention automatically makes a bowler follow through properly when releasing the ball. The plumb indicating means provides a simple, scientific and effective way of determining the proper relative position of the wrist for throwing a straight or hook ball and takes the guesswork out of bowling. The strap itself helps to "lock" the wrist. The latter principle can be illustrated by wrapping the left hand securely around the right wrist and then trying to rotate the right hand. It will be found that the hand will not respond readily because it is locked. The bowling aid of the present invention makes the grip, wrist and forearm one solid acting unit, which is so essential to proper bowling. It also has the psychological effect of slowing down the delivery motion and makes the bowler more conscious of the correct position of the hand, wrist and arm which are so essential to good bowling.

The present invention of course can be used by both right and left handed bowlers.

Although I have described my invention with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of the bowler, first-position plumb indicating means adapted to be attached to said strap and to be perpendicular to the floor and in line with the middle of the thumb when the hand is held palm inward, thumb upward in position for throwing a straight ball, second-position plumb indicating means adapted to be attached to said strap and to be perpendicular to the floor when the hand is in position for throwing a hook ball, each of said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor and means attached to each of said plumb indicating means for causing a buzzing sound when said ball rides in said groove.

2. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of a bowler and plumb indicating means removably attached to said strap and extending upwardly therefrom, said plumb indicating means being perpendicular to the floor and in line with the middle of the thumb when the hand is held palm inward thumb upward in position for throwing a straight ball, said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor and means attached to said plumb indicating means

for causing a buzzing sound when said ball rides in said groove.

3. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of a bowler and plumb indicating means removably attached to said strap and extending upwardly therefrom, said plumb indicating means being perpendicular to the floor when the hand is in position for throwing a hook ball, said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor and means attached to said plumb indicating means for causing a buzzing sound when said ball rides in said groove.

4. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of a bowler, first-position plumb indicating means adapted to be attached to said strap and to be perpendicular to the floor and in line with the middle of the thumb when the hand is held palm inward thumb upward in position for throwing a straight ball, second-position plumb indicating means adapted to be attached to said strap and to be perpendicular to the floor when the hand is in position for throwing a hook ball, each of said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor, and means attached to each of said plumb indicating means for producing a signal light when said ball rides in said groove.

5. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of a bowler and plumb indicating means removably attached to said strap and extending upwardly therefrom, said plumb indicating means being perpendicular to the floor and in line with the middle of the thumb when the hand is held palm inward, thumb upward in position for throwing a straight ball, said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor, and means attached to said plumb indicating means for producing a signal light when said ball rides in said groove.

6. A wrist plumb for bowlers comprising a strap adapted to be secured to the wrist of a bowler and plumb indicating means removably attached to said strap and extending upwardly therefrom, said plumb indicating means being perpendicular to the floor when the hand is in position for throwing a hook ball, said plumb indicating means having a hollow tubular portion containing therein a ball and a groove in which said ball rides when said hollow tubular portion is parallel to the floor, and means attached to said plumb indicating means for producing a signal light when said ball rides in said groove.

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