Dec. 14, 1965 H. D. JONES 3,223,408

BOWLING BALL WITH SIGHTING MEANS

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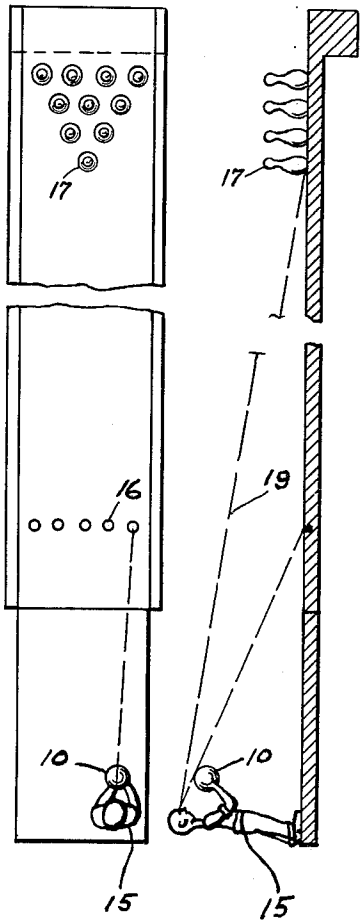


Fig. 1

Fig. 2

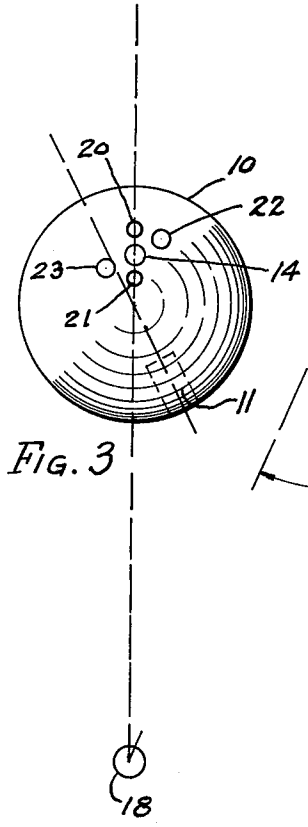


Fig. 3

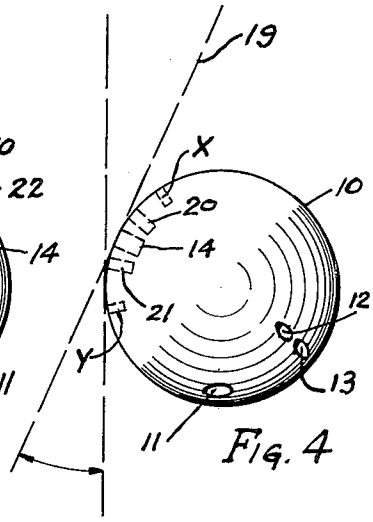


Fig. 4

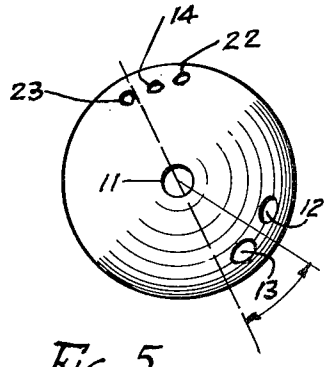


Fig. 5

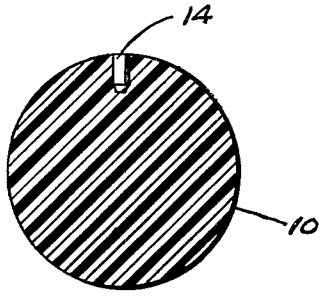


Fig. 6

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BOWLING BALL WITH SIGHTING MEANS

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This invention relates to a bowling ball sighting and positioning device for use in combination with a bowling ball and in particular pertains to a sight for accurately relatively positioning the ball, the bowler, and the alley relative to one another each time the bowler bowls.

The primary object of the invention is to provide a bowling ball sighting and positioning device integrally combined with the ball which is simple in design and construction, inexpensive to manufacture, easy to integrate with the ball, and easy to use in bowling and which provides an accurate means for positioning the ball relative to the bowler, the bowler relative to the ball, and the bowler and ball relative to the alley in a substantially identical relationship each time the bowler bowls the ball.

An object of the invention is to provide one or more sight plugs at a position on the ball suitable to the individual bowler with plugs being a different color than the ball so that they are readily seen and used as a sight point by the bowler.

An object of the invention is to provide relatively smaller plugs fore and aft of the main sight plug located along the bowler's axis of sight so as to provide the bowler with calibration on the angular position of the ball along the axis of sight providing a gage on the angular position of the ball along the axis of sight.

An object of the invention is to provide side sight plugs on either side of the main sight plug for the purpose of accurately gaging and calibrating the transverse angle of the ball relative to the axis of sight.

A more particular object of the invention is to provide a bowling ball having new and improved guide markings or sights thereon for aiding a bowler in repeatedly determining an accurate position in hand and a more accurate alignment with markings on the bowling alley.

A further object is to provide markings calibrated on a bowling ball to allow a bowler to make a simple but accurate rotation of the ball position by hand to vary a curving or hooking path of the ball upon delivery down the bowling alley.

These and other objects of the invention will become apparent by reference to the following description of a bowling ball and sight combination embodying the invention taken in connection with the accompanying drawing in which:

FIG. 1 is a top plan view of a bowling alley diagrammatically showing a bowler, a bowling ball, and an axis of sight to an alley marker in dotted lines.

FIG. 2 is a cross-sectional view of FIG. 1 taken on a longitudinal line.

FIG. 3 is a top plan view of a bowling ball equipped with the inventive sight plugs showing the thumb hole in dotted lines and the sight axis and thumb hole axis in dotted lines.

FIG. 4 is a side elevational view of FIG. 3 showing the angle of sight tangent to the ball at the inventive sight plugs in dotted lines.

FIG. 5 is a side elevation view of FIG. 3 taken on the axis of the thumb hole showing the thumb hole axis in dotted lines; and

FIG. 6 is a cross-sectional view of the bowling ball at a sight plug.

While the invention is susceptible of numerous modifications and alternate constructions, it is here shown and will hereinafter be described in a preferred embodiment. It is not intended, however, that the invention is to be

limited thereby to the specific construction disclosed, but, on the contrary it is intended to cover all modifications and alternative constructions falling within the spirit and scope of the invention.

Referring now to the drawing wherein like numerals refer to like and corresponding parts throughout the several views, the inventive bowling ball and sight combination disclosed herein to illustrate the invention comprises a bowling ball **10** having a thumb hole **11** and finger holes **12** and **13** which are adapted to respectively receive the thumb, fore finger, and middle finger of the bowler; a main sight plug **14** is disposed in the ball so that its end constitutes an unbroken peripheral surface together with the ball with the main sight plug **14** being located on a side of the ball over and above the thumb and finger holes so that when a bowler holds the ball in the sighting position the sight plug is substantially on the top of the ball. It is to be understood that the sight plug **14** preferably is made of substantially the same material as the ball **10** but is of a different contrasting color so as to provide easy identification by the bowler.

The bowler **15**, holds the ball in the raised sighting position such as shown in FIGS. 1 and 2 and sights along the top of the ball over the main sight plug **14** to a mark **16** on the alley or to one of the pins **17**, as desired, and it is to be noted that the line or axis of sight between the bowler's eye **18** and the mark **16** is tangent to the peripheral surface of the ball **10** and the sight plug **14** as seen in FIGS. 2 and 4 as illustrated and the line of sight to the pin **17** can also lie tangent to the ball as desired.

Thus, by positioning the ball relative to the line of sight indicated by the dotted line **19** relative to the main sight plug **14** it will be noted that the bowler properly locates the ball by positioning the main sight plug **14** at a 90 degree angle to the line of sight and that he can vary this position by rolling or angularly moving the ball along the line of sight. When the main sight plug lies at the position X or Y, this changes the position of the ball as hereinafter more fully described.

The main sight plug **14** may be elongated or, preferably, smaller front and rear plugs **20** and **21** are positioned fore and aft of the main sight plug **14** so as to provide a sightable axis on the ball so that the main sight plug is angularly aligned with the line of sight substantially identically each time.

The side sight plugs **22** and **23** are located on either side of the main sight plug **14** and are provided for calculating and calibrating the transverse or side-to-side angular position of the ball relative to the line of sight to controllably calibrate various side-to-side angular positions of the ball in the sighting position relative to the line of sight for the purpose of increasing or lessening the angle of transverse rotation as applied relative to the alley or the applied angle of spin put on the ball when released.

Thus, by rolling the ball up and down tangent to the line of sight between the positions X and Y the bowler can visually calibrate the amount of variation he has made from the norm for the purpose of adjusting the angular position of his hand, arm and body relative to the ball and by transversely angularly moving the ball from side to side between the side plugs **22** and **23** relative to the axis or line of sight, the bowler can visually calibrate the various desired angles he is applying to the ball upon release.

In operation, the bowler assumes a normal position spaced from the foul line of the bowling alley and raises the ball to the sighting position and looks over the ball and sight plug thereon to a mark **16** on the alley or one of the pins **17** and then rotates the ball fore and aft to align the sight plugs **14**, **20** and **21** as desired

relative to the line of sight and then sidewise rotates the ball **10** to align the ball relative to the side plugs **22** and **23** relative to the line of sight so as to position the ball properly and/or as desired relative to the line of sight; he then bowls the ball in the normal manner.

Due to the fact that the bowler can accurately position and hold the ball substantially identically each time he bowls and/or apply the various calibrated angular changes in transverse planes each time, the bowler can accurately control his bowling because he can then accurately control the amount of angular variation relative to the torque angles and release angles of the ball relative to the alley.

While the inventive sight has been disclosed as a single plug or a group of sight plugs imbedded in the ball, it is obvious that the sight may be of any desired shape and that the location of the sight on the ball can be set as desired for the individual bowler.

As best seen in FIG. 6 each plug is inserted in a recess in the ball. Other variations may be the indentation or scratching and chalk filling, or other means of identification of positive position such as addition of adhesive materials to the exterior surface of the ball or any definable mark.

Although the shape and location of the spots as shown in the drawings are preferable, it is to be understood that neither the shape of the spots, nor their arrangement, nor their manner of formation are the essence of the invention, and that the spots may have any arrangement other than herein shown so long as the arrangement is such that the spots may be employed in aiding the bowler to repeatedly determine a given position of ball in hand by sighting with such marks prior to imparting a desired trajectory to a curved path or straight line path of the ball upon projection of the ball upon the bowling alley.

Due to the fact that a bowler sighting a ball without the inventive sighting device cannot determine the accurate position of the ball relative to the angle upon which he has rolled it up fore and aft and/or side to side it is quite obvious that the inventive sight has high utility and inventive simplicity to enable a bowler, whether professional or an amateur, to accurately locate the ball so that he can substantially identically position the ball each time before he bowls.

Although but a single embodiment of the invention has been shown and described in detail, it is obvious that many changes may be made in the size, shape, detail, and arrangement of the various elements of the invention within the scope of the appended claims.

I claim:

1. A bowling ball and sighting device combination comprising a bowling ball having a first and second hemisphere having a thumb receiving socket and at least one finger socket in said first hemisphere for respectively receiving the thumb and finger of a bowler; said thumb socket constituting a pivotal axis about which said finger socket swings in arcuate relation thereto in conjunction with the bowler's arm, wrist, and hand movement in positioning said ball relative to a bowler; and a sight plug in said ball second hemisphere locatable on a line tangent to said ball between the eye of the bowler and a mark on a bowling alley when the bowler initially sights the ball with his hand substantially below said ball in supporting relationship thereto with said first hemisphere facing substantially downwardly and said second hemisphere facing substantially upwardly; said sight plug in said upwardly facing second hemisphere permitting the bowler to similarly position his arm, wrist, and hand relative to the ball; to similarly position the ball relative to his body; and to similarly position himself and the ball relative to the alley each time he bowls, thus giving the bowler a particular orientation of said ball relative to the bowler.

2. In a device as set forth in claim **1**, side sight plugs in said ball on either side of said sight plug for calibrating the angular relation of said ball about said thumb socket

axis to controllably change the position of the bowler's arm, wrist, and hand relative to the ball, thus giving the bowler an adjusted particular orientation of said ball relative to the bowler.

3. A bowling ball and sighting device combination comprising a bowling ball having a thumb hole and at least one finger hole for respectively receiving the thumb and finger of a bowler; a sight mark on said ball comprising a plug in said ball of a color contrasting to the color of said ball for easy visual identification; said sight mark being spaced from said holes and located on said ball so as to lie tangentially of the ball relative to the line of sight of the bowler when the bowler raises said ball to the sighting position with his hand on said ball in supporting relationship thereto; said sight mark being alignable between the eye of a bowler and a sighting object; said sight mark when so aligned each time by the bowler providing a measuring device for the bowler to similarly position the ball relative to himself and the alley thereby effecting a like trajectory of the ball each time he bowls, thus giving the bowler a particular orientation of said ball relative to the bowler.

4. In a device as set forth in claim **3**, fore and aft sight marks in said ball ahead of and behind said sight mark defining a line of the ball along the line of sight providing fore and aft calibration of the ball in the sighting position, thus giving the bowler an adjusted particular orientation of said ball relative to the bowler.

5. In a device as set forth in claim **3**, side sight marks in said ball on either side of said sight mark providing side-to-side angular calibration of the ball in the sighting position, thus giving the bowler an adjusted particular orientation of said ball relative to the bowler.

6. A bowling ball and sight combination comprising a solid spherical mass having holes formed therein for receiving the thumb and at least one finger of a person bowling; said ball being raisable by a person to a sighting position in front of the chest area for aligning said ball between the eye and target; said sighting position involving angular relationships between the person's body, arm, wrist and hand relative to the ball, the angular position of the ball, and the angular relationship of both the person and the ball relative to the alley; said angular relationships normally not being visually perceptible to the person bowling by viewing said ball; and a sight plug in said ball spaced from and located relative to said ball thumb and finger holes so as to lie tangentially on the top of said ball relative to the bowler's line of sight when said ball is in the desired bowling position; the person by locating said sight plug on the line of sight between his eye and the target being able to visually perceive said angular position and locate said ball each time he bowls in a like angular position so that like hand, wrist, and arm stresses are established each time thereby giving the ball the same stressed influence each time it is released to impart a like trajectory to the ball each time he bowls, thus giving the bowler a particular orientation of said ball relative to the bowler.

7. In a device as set forth in claim **6**, fore and aft sight plugs in said ball ahead of and behind said sight plug for calibrating greater and lesser angular roll-up of said ball along the line of sight, thus giving the bowler an adjusted particular orientation of said ball relative to the bowler.

8. In a device as set forth in claim **6**, side sight plugs in said ball on either side of said sight plug for calibrating greater and lesser side-to-side angular relationship of the ball relative to the line of sight, thus giving the bowler an adjusted particular orientation of said ball relative to the bowler.

9. A bowling ball having a thumbhole and at least one fingerhole, and also provided with a plurality of contrasting marks spaced a predetermined distance apart and forwardly from the thumbhole and in such positions that a selected one of the marks may be located at the top of the ball when the ball is held for the start of an approach

with the thumbhole positioned substantial distances behind and below the uppermost part of the ball.

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