May 3, 1949. C. W. JEROME 2,469,268

BOWLING BALL INSERT

Filed March 25, 1948

FIG. 1

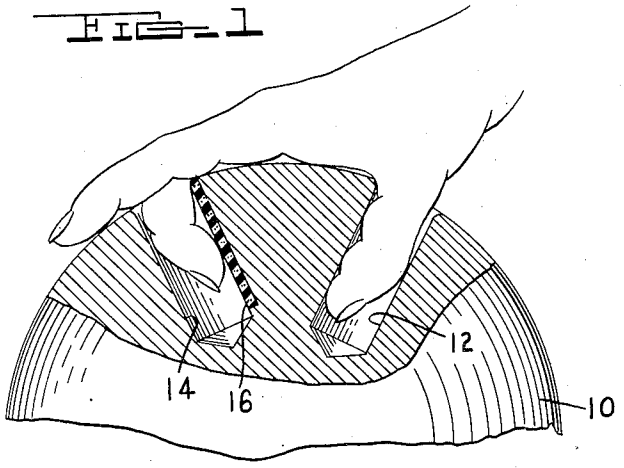


FIG. 3

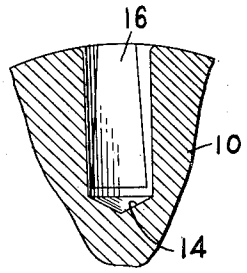


FIG. 2

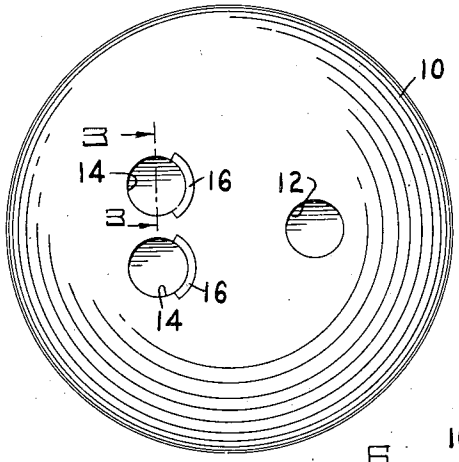


FIG. 6

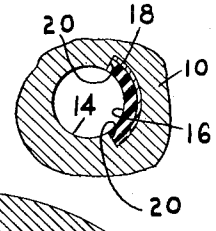
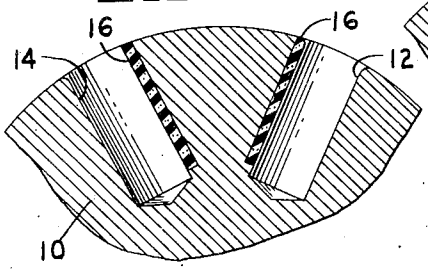


FIG. 4



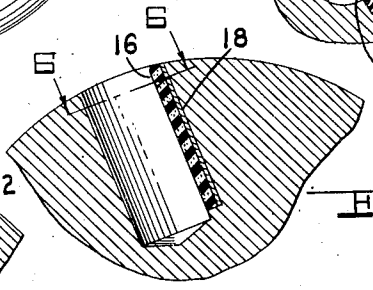


FIG. 5

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BOWLING BALL INSERT

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5 Claims. (Cl. 273—63)

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This invention relates to improvements in bowling balls.

An object is to provide a bowling ball with a compressible resilient friction surface plug inserted within the wall surface of a finger opening in the ball, which plug is of such a dimension and is so positioned within the wall space of the finger opening that the bowler is able to exercise maximum control over the twist and turn of the ball upon delivery.

A meritorious feature is that the friction surface of the resilient insert is so disposed within the wall surface surrounding the finger opening that the front face only of the finger is in contact therewith whereby the high frictional contact is only upon that position of the finger through which direct control is exercised over the ball.

Another meritorious feature is that the twist control insert is so positioned within the wall space surrounding the finger opening in the ball that it extends from a point flush with the outer surface of the ball whereby upon the instant of release of the ball by the bowler the end of the finger is in contact with such resilient friction surface plug.

More particularly an object is to provide a bowling ball with a finger gripping insert in the wall space surrounding the finger opening which insert is formed of compressible resilient rubber or the like which insert extends lengthwise of the finger opening from a point flush with the outer surface of the ball at the mouth of said opening inwardly toward the bottom of the opening. Such insert is flush with the wall surface of the ball surrounding the opening and has an arcuate dimension not substantially in excess of 120°. It is fixed within a recess in the ball and it preferably tapers lengthwise from a maximum dimension at its inner end toward the mouth of the opening.

Other objects, advantages and meritorious features will more fully appear from the following description, claims and accompanying drawings wherein:

Fig. 1 is a fragmentary elevation of a bowling ball partly in section and embodying my invention in a finger receiving opening.

Fig. 2 is an elevation of a bowling ball taken at a right angle to the elevation of Fig. 1 and embodying my invention in the two finger openings.

Fig. 3 is a fragmentary cross-sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary sectional view through

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a bowling ball exhibiting my invention in one finger receiving and one thumb receiving opening.

Fig. 5 is a fragmentary sectional view through a bowling ball exhibiting my invention in a slightly modified form.

Fig. 6 is a fragmentary cross-sectional view taken on the line 6—6 of Fig. 5.

The bowling ball itself is a ball of conventional character formed of standard material and provided with the usual finger and thumb receiving openings. In the drawing such a ball is indicated by the numeral 10. It is provided with a thumb receiving opening 12 and and a pair of finger receiving openings 14. This is conventional construction. Each of the finger receiving openings is shown as embodying my invention.

The ball is cut away along the wall surface of a finger opening, lengthwise thereof, so as to exhibit a groove or recess which extends from the outer surface of the ball at the mouth of the opening inwardly lengthwise of the opening to the depth desired. This groove has an arcuate dimension preferably not substantially in excess of one-third of the circumference of the cylindrical finger opening. The groove is of a depth to receive and retain a suitable compressible plug, which plug is of rubber or the like. Such a plug is indicated in the figures of the drawing by the numeral 16.

In the first two figures of the drawing the finger openings only are shown as embodying my friction surface resilient plugs 16. This plug is illustrated as being formed of a suitable rubber combination of a compressible resilient character. Rubber has a relatively high friction surface. The plug may be secured in the groove in the opening by rubber cement or the like or the groove which receives the plug may be formed to interlock therewith. The rubber plug may extend, as shown in the figures of the drawings, substantially to the bottom of the finger opening. On the other hand it may be terminate spaced thereabove if desired.

In Fig. 4, a finger receiving opening 14 and the thumb receiving opening 12, each is provided with the rubber insert 16. It is obvious that such plugs 16 may be provided in both the thumb and finger openings or in the finger openings only.

This plug insert should preferably have an arcuate dimension not substantially greater than 120° because it is desired that it engage only the forward part of the finger through which control is exercised by the bowler over the ball. It is

important that it does not engage the finger throughout its circumference so as to exert a suction or too much of a drag thereon upon the release of the ball. The drag should only be exerted upon the finger throughout that part through which the bowler exercises control over the ball.

Another characteristic of the plug **16** is that while the depth to which it may extend lengthwise of the finger opening, that is whether it extends entirely to the bottom or not, may be as desired but it is important that it extend outwardly to the surface of the ball at the mouth of the finger opening. It is desirable that the bowler be able to exercise the maximum amount of control over the ball up to the instant of its release and for this reason it is important that the plug extend to the mouth of the finger opening.

Preferably the plug may be tapered as shown in Fig. 3 and received within a tapered groove so that the plug will be held securely in place within the groove against accidental displacement whether adhesively secured within the groove or not. Such groove is undercut along its linear margin as at **20** as shown in Fig. 6 to assist in holding the insert **16** therein. The plug is illustrated as having a finger contacting surface which is flush with the adjacent portion of the wall surface of the opening in the bowling ball. At its outer end the plug is flush with the outer surface of the ball.

In Figs. 5 and 6 means in the form of a shim **18** is provided which shim is received within the finger opening underneath the rubber insert **16** to hold the insert inwardly of the finger receiving opening.

What I claim is:

1. In a bowling ball having a generally cylindrical finger receiving hole, said ball provided in the wall surrounding the hole with a groove extending from the outer end of the hole lengthwise thereof, said groove extending for an arcuate distance substantially less than the complete circumference of the hole and an insert of compressible resilient material seated within and filling said groove.

2. In a bowling ball having a generally cylindrical finger receiving hole, said ball provided in the wall surrounding the hole with a recess extending from the outer surface of the ball lengthwise of the hole and extending for an arcuate dimension not substantially greater than one-third of the circumference of the hole, a compressible resilient rubber insert seated within and filling said recess, said insert extending inwardly from a point flush with the outer surface of the hole and flush with the wall surface of the hole to a point adjacent to the bottom of the hole.

3. In a bowling ball having a generally cylindrical finger receiving opening, said ball provided in the wall surrounding the opening with a recess extending from the outer surface of the ball lengthwise of the opening, said recess extending throughout an arcuate dimension not substantially in excess of 120°, said recess being tapered lengthwise of the opening, a resilient rubber insert fixed within said recess and filling the same adjacent, said insert extending from adjacent to the outer end of the opening inwardly thereof and being flush with the outer surface of the ball adjacent to the mouth of the opening.

4. A bowling ball having a generally cylindrical finger receiving opening provided with a compressible resilient rubber insert fixed within the wall about the opening and being flush with the wall surface of the opening and extending from a point flush with the outer surface of the ball at the mouth of the opening lengthwise of the opening and having an arcuate dimension circumferentially of the opening not substantially greater than 120°.

5. A bowling ball having a generally cylindrical finger receiving opening provided with a compressible resilient rubber insert fixed within the wall of the ball about the opening and being flush with the wall surface of the opening formed by the ball material and extending from a point flush with the outer surface of the ball at the mouth of the opening lengthwise of the opening to a point adjacent to the bottom thereof, said insert having an arcuate dimension circumferentially of the opening not substantially in excess of 120° and being tapered from a maximum arcuate dimension at its inner end outwardly of the opening.

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No references cited.