Nov. 18, 1941. S. ROSS 2,263,052

BOWLING BALL

Filed Jan. 22, 1940

Fig. 1.

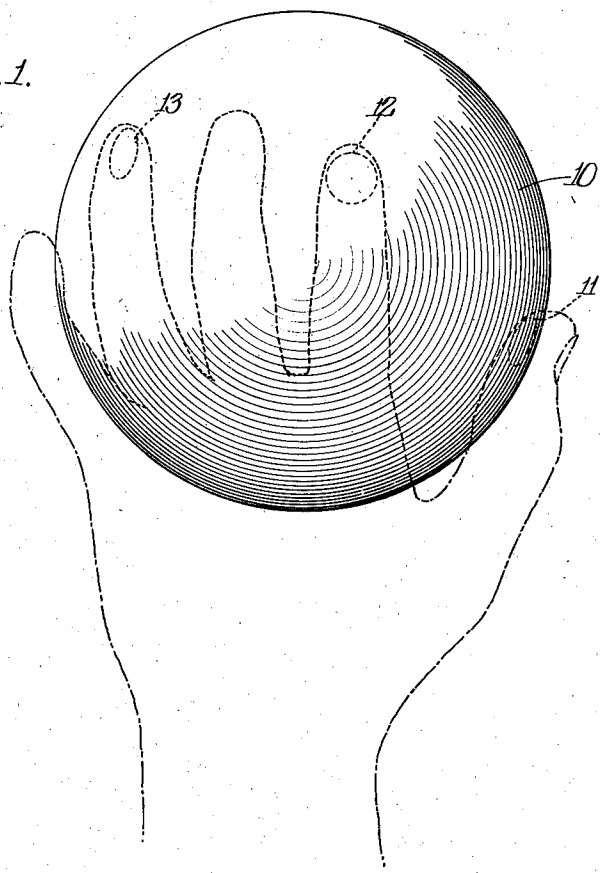


Fig. 2.

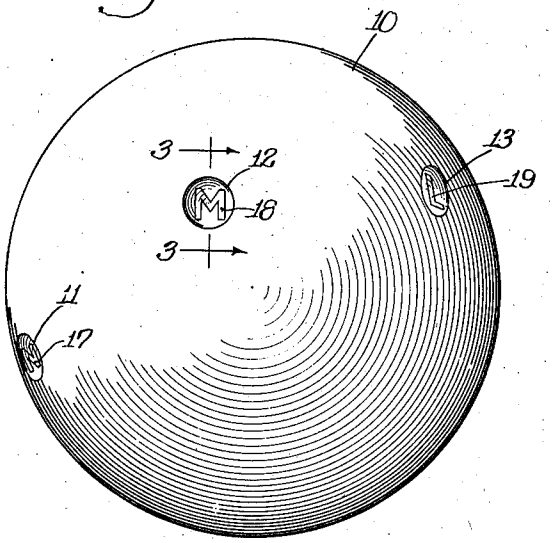
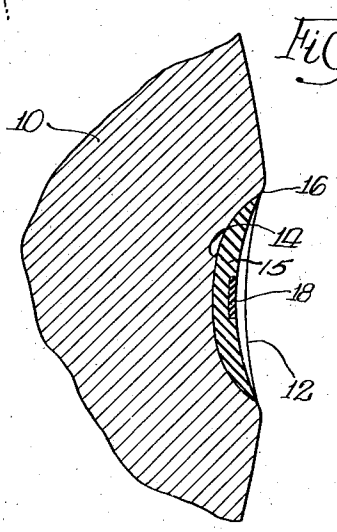


Fig. 3.



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BOWLING BALL

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4 Claims. (Cl. 273—63)

More particularly the invention relates to small bowling balls such as so-called duck-pin and candle-pin balls, and the provision of means on the ball for locating the bowler's hand and improving his grip on the ball.

Heretofore small bowling balls have generally been made of a hard composition material with a perfectly smooth spherical surface. These balls are preferably five inches in diameter although some are manufactured with a diameter of four and one-half inches or four and three-quarters inches in order to accommodate bowlers who have small or weak hands. In use these balls are grasped in the palm of a bowler's hand with the fingers more or less spread apart. Since the ball is hard and perfectly smooth there is nothing to guide the bowler in applying his hand and fingers to the ball and nothing to assist him in holding the ball.

The rules of the American Duck Pin Congress provide that a bowler must use a ball five inches in diameter or less. At present, manufacturers customarily produce this ball either four and one-half inches, four and three-quarters inches, or five inches in diameter, although there is a small percentage of balls produced of intermediate sizes. Bowlers with small or weak hands usually use one of the smaller sized balls as with the present style of ball such a bowler could not properly grasp and control the five inch ball. Obviously, bowlers who use a smaller ball are at a disadvantage. For example, the widest portion of a duck pin is four and one-eighth inches in diameter. With a four and one-half inch ball, a bowler, to pick up a single pin, must roll the ball within a space thirteen and one-eighth inches wide centering on the center of the pin. With a five inch ball the bowler can roll the ball within a space fourteen and one-eighth inches wide, centering on the center of the pin, this providing an additional margin of safety and a better chance to knock down a single pin. Then, too, the bowler who uses a five inch ball has the additional advantage of the extra weight as a five inch ball weighs more than a four and one-half inch ball.

It is the general object of this invention to provide a new and improved bowling ball.

It is another object of this invention to provide a new and improved duck or candle pin ball with markings or grips for locating the bowler's fingers on the ball and for aiding the bowler in gripping the ball and controlling its delivery.

With the help of such finger markings or grips, a bowler with a small or weak hand can grasp and control a five inch ball better than that same bowler can now control the present four and one-half inch ball and merely from the standpoint of the ball of additional size and additional weight that my invention enables a bowler to control, such a bowler will obviously improve his game. From the standpoint of the manufacturer of duck pin balls, my invention will make possible the elimination of various sizes of balls now used and decrease the quantity of balls that must be kept in stock.

Another object is to provide a new and improved duck pin ball with a gripping means enabling a player with small or weak hands to grip and use the standard five inch diameter ball.

It is another object to provide a duck pin ball with one or more inserts spaced apart and positioned on the ball at points convenient to locate and to receive the portions of the player's fingers which press most tightly against the ball.

A further object is to provide a bowling ball with a grip means comprising a soft rubber member inserted in a shallow recess in the surface of the ball and vulcanized to the ball.

Other objects will become readily apparent from the following detailed description taken in connection with the accompanying drawing, wherein:

Fig. 1 is an elevational view of the ball shown in the position assumed in relation to the hand of a bowler which is indicated in a dash-dot line.

Fig. 2 is an elevational view looking at the rear side of the ball shown in Fig. 1.

Fig. 3 is an enlarged and fragmentary section through a grip portion of the ball of Figs. 1 and 2.

While my invention is susceptible of embodiment in many different forms, I have shown in the drawing and shall herein describe in detail one such embodiment with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

In general the invention relates to the provision of a bowling ball of a size suitable for use with duck and candle pins, having means on the surface thereof to aid a bowler in locating his fingers on the ball and in gripping the ball. In the drawing I have illustrated a duck pin ball 10 made of a hard rubber composition

material. A plurality of circular recesses 11, 12 and 13 are formed in the surface of the ball in positions intended to locate the thumb and first and third fingers, respectively, of the bowler's hand. These recesses are herein shown as quite shallow and are provided with a concave bottom wall 14 and a chamfered edge portion 16. By placing his thumb and fingers over these recesses a bowler is enabled to locate his thumb and fingers on the same spots and thereby obtain the same grip on the ball each time the ball is played.

In order further to improve the bowler's grip upon the ball, inserts or disks 15 of a relatively soft material such as uncured soft rubber may be placed in the recesses. These are preferably secured to the ball by vulcanizing each insert to the ball. In practice this may be accomplished by applying a heated vulcanizing element against the outer surface of the insert and applying pressure thereto to force the insert into the recess and against the walls thereof. As illustrated herein, the recesses and inserts are proportional so as to provide shallow depressions for portions of the bowler's thumb and fingers.

It is to be understood that the grips thus provided for the fingers are located differently for each player. If desired fewer or additional grips may be provided. In the form herein illustrated the grips not only provide a slight depression into which portions of the thumb and fingers fit, but the inserts, being of relatively soft rubber, provide a slightly tacky surface which aids in gripping the ball. By providing such grips on the ball the player can readily grip the ball in an exact manner each time the ball is used and in addition the player has more complete control of the ball during its delivery.

Different markings may be used for the different fingers and thumb so that a bowler could at a glance determine how to grasp the ball. Furthermore, an owner's initials may be sunk into the inserts as shown at 17, 18 and 19 herein, the initials being also of uncured soft rubber and vulcanized in place.

The average bowler does not always grasp his ball in the same way. By measuring the distance between his fingers when a bowler is grasping the ball in the most comfortable and proper manner possible, and then indicating those points of contact on the ball in a clear and distinctive manner, the bowler will have an automatic means of determining the best way in which to grasp his ball. This will remove one of the difficulties that keeps the bowler in the average rather than the expert class, as with the ball disclosed herein one of the variables in his game has been removed and he can now concentrate his energy and efforts on the other points involved in getting a good score. With the finger markings or grips on the ball it is possible to train a new bowler more quickly as the question of how to grip the ball is taken care of automatically.

The soft rubber inserts vulcanized to the ball provide surfaces with greater adhesive qualities and thus enable the bowler to grasp the ball more firmly and to release it with better control. When placed in depressions in the ball these grip inserts enable the bowler to grasp the ball and to release it with still better control.

I claim as my invention:

1. A bowling ball having on its surface shallow finger tip gripping depressions, the depressions being of such slight depth that they will contact only the surfaces at the outer ends of the tip portions of the fingers, when the ball is grasped by the hand.

2. A bowling ball formed of a hard rubber composition material and having a plurality of gripping recesses formed in the surface thereof, inserts of soft rubber positioned in said recesses, the recesses being of such slight depth that they will contact only the surfaces at the outer ends of the tip portions of the fingers, when the ball is grasped by the hand.

3. A bowling ball having on its surface shallow finger tip gripping depressions, the depressions being of such depth and shape that they will only accommodate the tip portions of the fingers, when the ball is grasped by the hand.

4. A bowling ball having on its surface shallow finger tip gripping depressions, the depressions being of such slight depth that they will contact only the surfaces at the outer ends of the tip portions of the fingers, two of the depressions being placed at substantially opposite sides of the ball.

SOL ROSS.