March 2, 1948. B. J. SEURYNCK 2,436,976

BOWLING BALL

Filed April 29, 1944

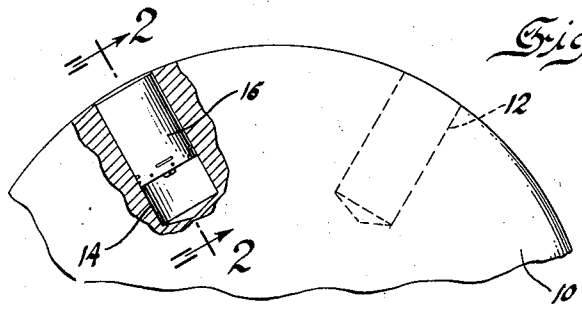


Fig. 1

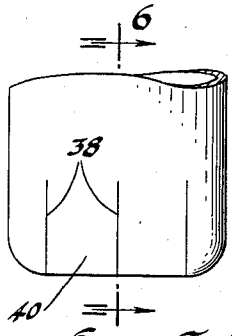


Fig. 5

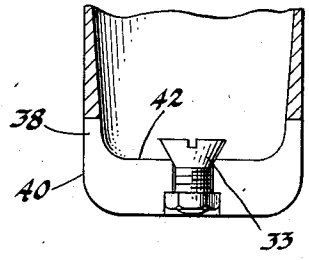


Fig. 6

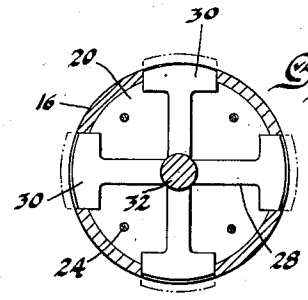


Fig. 3

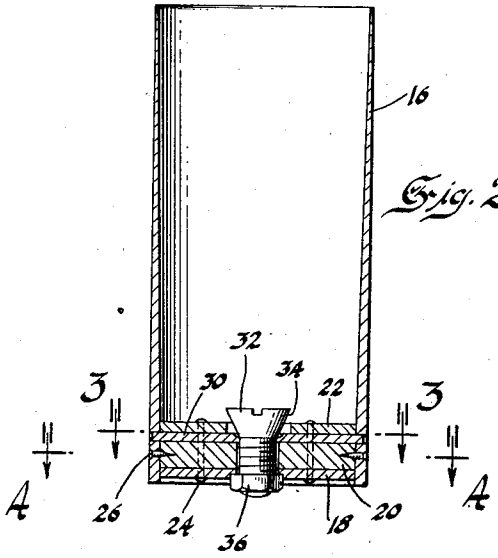


Fig. 2

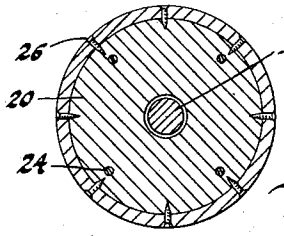


Fig. 4

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BOWLING BALL

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1 Claim. (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 selected finger receiving sleeve adapted to be removably positioned within a finger receiving opening in the ball and which sleeve is of a size to fit the finger of the bowler using the ball whereby more perfect control over the ball may be attained by the user.

Another object is to provide a bowling ball with an improved finger receiving sleeve receivable within the conventional finger receiving opening in the ball and adapted to be easily secured in position and readily removable therefrom.

A further object is to provide an improved finger receiving sleeve adapted to be received within the conventional finger receiving opening of a bowling ball and which sleeve is provided with means adapted to be readily engaged with the cylindrical wall of the opening in the ball to maintain the sleeve in position therein.

A meritorious feature resides in the fact that sleeves of varying size may be provided whereby a bowler may select a sleeve of the proper size and such sleeve may be easily secured in position within the conventional cylindrical finger opening in a bowling ball, thereby adapting the ball to the particular user. When the ball is provided with a sleeve adapted to fit a particular user such user can obtain a better grip on the ball and better control thereover and particularly over the hook or spin desired to be given to the ball.

More specifically the improved sleeve is preferably internally tapered from a smooth thin edge at its outer end toward its inner end. Furthermore, the sleeve is provided with a radially expansible portion or means adapted to be adjusted to engage the cylindrical wall of the finger receiving opening in the ball to maintain the sleeve in position therein.

Sleeves may be provided in different finger receiving sizes and with different outside diameters to fit different size conventional finger receiving openings in different bowling balls.

Other objects, advantages and meritorious features of this invention will more fully appear from the following description, appended claim and accompanying drawings, wherein:

Fig. 1 is an elevation of a fragment of a bowling ball partly broken away to show the invention applied thereto;

Fig. 2 is a longitudinal sectional view taken on line 2—2 of Fig. 1;

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Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is an elevation of the fragment of the lower end of a modified form of sleeve;

Fig. 6 is a vertical sectional view taken on line 6—6 of Fig. 5.

Bowling balls are conventionally provided with finger receiving openings. The ball 10 shown in Fig. 1 is provided with two such openings, 12 and 14. The ball is broken away about the opening 14 and positioned within said opening is the improved sleeve 16 which is shown in Fig. 2 in vertical cross section. The sleeve 16 is of a general cylindrical shape as is the finger receiving opening 14 in the ball.

Preferably the sleeve 16 is interiorly tapered from a thin, smooth edge at its outer end as shown in Fig. 2 toward the bottom of the sleeve so that the sleeve is adapted to properly receive a finger of the user. A user would select a sleeve of the proper internal size. Sleeves would also be provided in different outside diameters to fit snugly within the conventional finger opening in a bowling ball, and would be selected to fit the opening wherein used. The sleeve shown in Fig. 2 may be formed of Bakelite, other plastic, metal or any other suitable material.

Radially expansible means is provided to secure the sleeve in position within the opening 14 in the ball. Such means is shown in Fig. 2 as located in the bottom of the sleeve.

In such sleeve there is a composite bottom formed of layers 18, 20 and 22, fastened together by pins 24 and held in place within the sleeve by pins or screws 26. It is apparent that this bottom portion might be formed in whole or in part as an integral portion of the cylindrical wall of the sleeve.

The layer 20 of the bottom is cut away to provide four radially extending guideways 28 spaced equal distances apart as shown in Fig. 3. Slidably supported within these guideways are plungers 30. The plate 22 holds these plungers 30 in place while permitting slidable radial movement of the plungers. An adjusting screw 32 extends axially through the bottom and is provided with a tapered portion 34 adapted to engage the inner ends of the plungers 30. The screw is threaded into a nut 36 which nut is held against rotation within a recess in the plate 18 of the bottom to project the plungers outwardly radially into frictional contact with the cylindrical wall of the opening in the ball to hold the sleeve se-

curely in place therein. When the screw is backed off, the plungers are free to slide inwardly to permit withdrawal of the sleeve from the ball.

It will be seen that the sleeve may be adjusted lengthwise within the opening of the ball to the proper position to suit the particular user. It will also be seen that the thin outer edge of the sleeve will be substantially flush with the cylindrical wall of the opening in the ball. My improved sleeve does not require any alteration in a conventional bowling ball to fit the sleeve thereto and the sleeve may be readily removed and another sleeve inserted.

Figs. 5 and 6 illustrate a modified form of construction wherein the cylindrical wall of a sleeve is axially slitted at intervals as at **38** providing flexible wall portions, **40** terminating in sector shape inturned bottom portions **42** and adapted to be radially expanded into frictional engagement with the wall of the opening **14** in the ball. A tapered screw **33** similar to the screw **32** shown in Fig. 2 extends through the bottom of this sleeve and as shown in Fig. 2 may be rotated to urge the flexible fingers **40** into frictional contact with the wall of the opening **14** in

the ball to hold the sleeve in place in the ball.

What I claim is:

A finger receiving sleeve adapted to be inserted within the radial opening of a bowling ball, said sleeve having an end portion provided with a plurality of radial guide ways, ball engaging elements radially slidably mounted within said guide ways, adjustable means extending through the bottom of the sleeve coupled with said elements operable to shift said elements radially outwards.

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