

Aug. 12 , 1924.

1,504,461

M. J. WHELAN

BOWLING BALL

Filed Feb. 20, 1922

*Fig. 1*

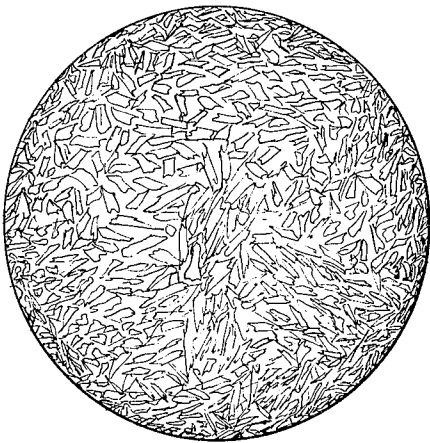


*Fig. 2*

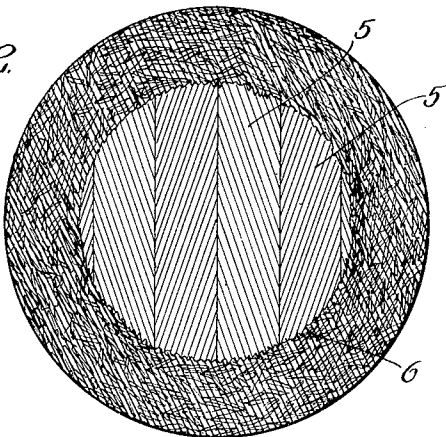
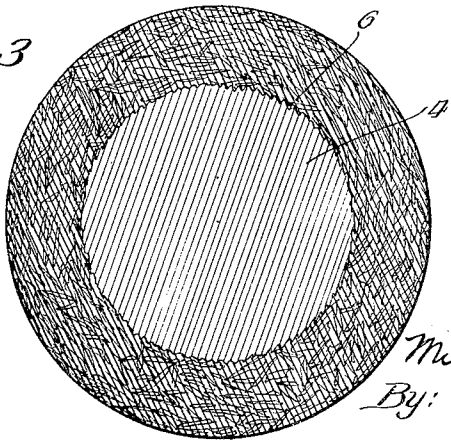


*Fig. 3*



*Inventor:*  
*Michael J. Whelan*  
*By: Wm. O. Belt*  
*Atty.*

## UNITED STATES PATENT OFFICE.

MICHAEL J. WHELAN, OF MUSKEGON, MICHIGAN, ASSIGNOR TO THE BRUNSWICK-BALKE-COLLENDER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

## BOWLING BALL.

Application filed February 20, 1922. Serial No. 537,674.

*To all whom it may concern:*

Be it known that I, MICHAEL J. WHELAN, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Bowling Balls, of which the following is a specification.

Bowling balls of the best quality were formerly made almost, if not altogether, exclusively of lignum vitæ but lately composition bowling balls have come into favor and are now used to a very large extent and the best quality of composition balls have been found to be more satisfactory than the wood balls because they will hold their size, shape and weight better. It is desirable to provide a ball of standard size but of lighter weight for use by ladies, novices and by those who prefer a light ball in playing ten pins and it is also desirable to provide small balls for playing other games which will have the advantages, so far as possible, of the high quality composition balls which have been found to be so desirable.

It is the object of my invention, therefore, to provide a bowling ball of regulation size having the desirable characteristics of a composition ball of superior quality but which is light in weight and especially suitable for ladies and novices in the game; and also to provide such a ball which possesses the characteristics of a composition ball of superior quality and is of a size suitable for playing certain games such as duck pins or candle pins.

In the accompanying drawings I have illustrated certain selected embodiments of the invention referring to which—

Fig. 1 illustrates a complete ball;

Fig. 2 is a central sectional view showing a built-up core and

Fig. 3 is a sectional view showing a solid core.

The invention comprises a wood core having a composition covering vulcanized thereon and consisting of a hard rubber compound and small wood pieces preferably in the form of little sticks or splinters thoroughly incorporated therewith. The core may be made of a solid block of wood 4 as shown in Fig. 3 or it may be made up of a plurality of pieces 5—5 glued together with the grain running in

different directions as shown in Fig. 2. The surface 6 of the core is preferably roughened in any suitable manner, by any suitable means.

The rubber compound employed may include the usual ingredients of such compounds now or hereafter well known in the art and I prefer to use a comparatively large proportion of wood pieces therewith, in fact I have found it satisfactory to use as much as 85% by volume of wood to 15% by volume of compound. The wood pieces are thoroughly incorporated with the compound and are preferably in the form of small, substantially straight sticks or splinters or slivers. I do not mean that the wood pieces must necessarily be straight and in the form of sticks because small pieces of the nature of shavings can also be satisfactorily used provided they are not curled in such a way as to produce voids or other imperfections in the covering as sometimes happens when curled shavings are used. The covering provides a surface which gives a pleasing ring sound when the ball strikes the pins which is very much desired by players. The covering is substantial in character, it will not crack, split or splinter, it preserves its shape and the size of the ball and the weight of the ball, and it enables the ball to be made in any size and in any weight desired. For this reason the invention is particularly useful in making balls of regulation size for playing ten pins but of a suitable weight for ladies and novices in the game and it is also useful for making small balls with all the desirable qualities of a composition ball but of suitable weight. The covering is vulcanized to the core and firmly united therewith so that it will not become freed therefrom in the use of the ball and this union of the covering with the core is promoted by the roughening of the surface of the core. It will be understood that the size and weight of the ball may be varied as desired by properly proportioning the size of the core and the covering and in this way the invention can be employed for making balls of different sizes and different weights to meet the requirements of a great many different users.

I have shown and described certain selected forms of the invention but, as herein indicated, the invention is not restricted to the

particular disclosure and I reserve the right to make all such changes therein as fairly fall within the scope of the following claims.

I claim:

5 1. As a new article of manufacture, a bowling ball have a wood core and a composition covering vulcanized thereon and consisting of hard rubber compound and small sticks of wood thoroughly incorporated therewith. 10

2. As a new article of manufacture, a bowling ball having a wood core and a composition covering vulcanized thereon and consisting of hard rubber compound and 15 small sticks of wood in the proportions of approximately 15% by volume of compound to 85% by volume of wood.

3. As a new article of manufacture, a bowling ball having a wood core provided 20 with a roughened surface and a composition covering vulcanized on the core and consist-

ing of a hard rubber compound and a greater proportion of small pieces of wood than compound and thoroughly incorporated with the compound. 25

4. As a new article of manufacture, a bowling ball having a laminated wood core and a composition covering vulcanized thereon and consisting of a hard rubber compound and small pieces of wood thoroughly incorporated therewith. 30

5. As a new article of manufacture, a bowling ball having a laminated wood core provided with a roughened surface and a composition covering vulcanized on the core, 35 the composition covering consisting of a hard rubber compound and a greater proportion of small pieces of wood than compound and thoroughly incorporated with the compound.

MICHAEL J. WHELAN.