June 12, 1923. 1,458,672

C. C. WITMER ET AL

BALL

Filed Nov. 17, 1921 2 Sheets-Sheet 1

Fig. 1.

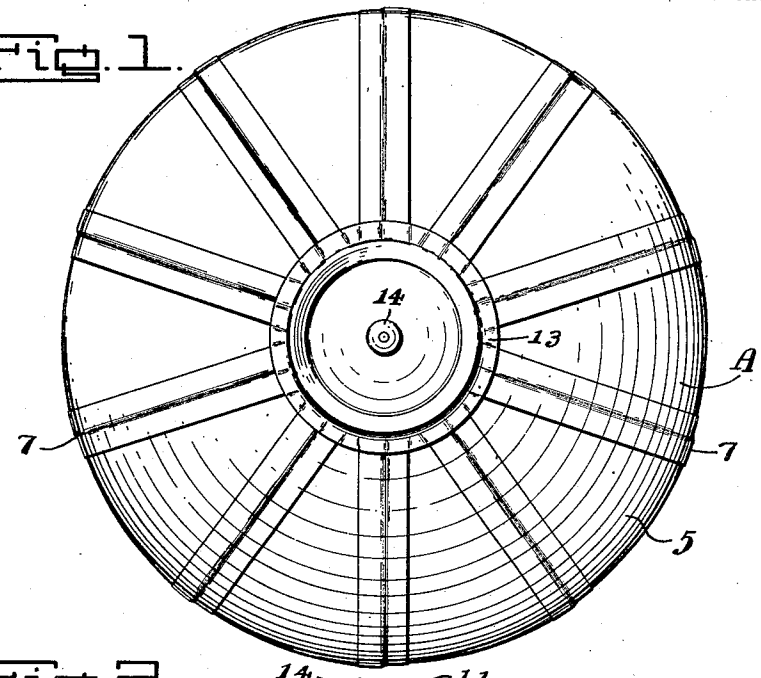
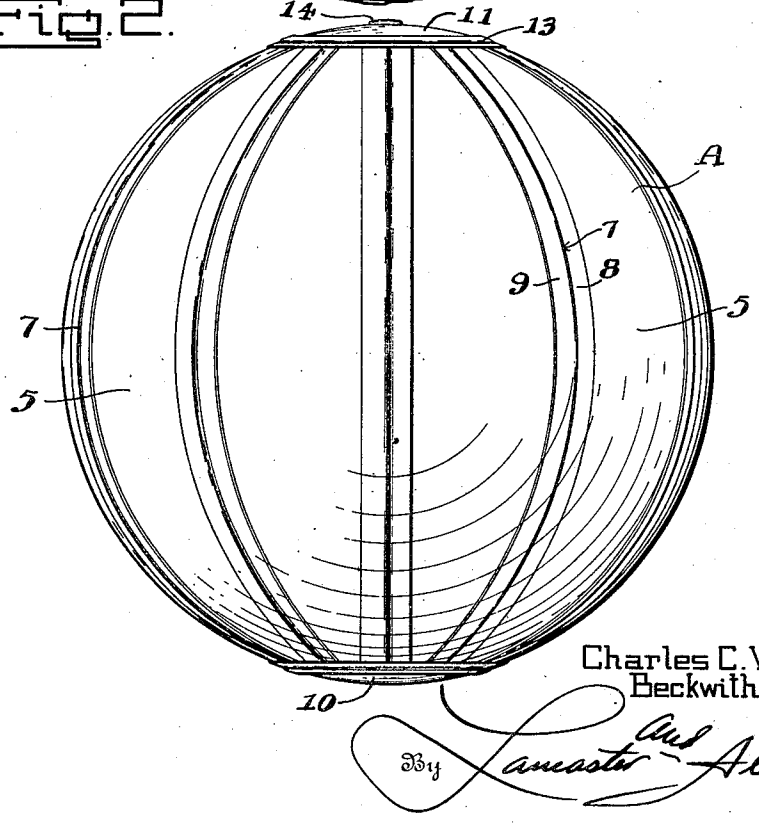


Fig. 2.



Inventors
Charles C. Witmer
Beckwith Havens

By Lancaster & Allwine

Attorneys

June 12, 1923. 1,458,672

C. C. WITMER ET AL

BALL

Filed Nov. 17, 1921 2 Sheets-Sheet 2

Fig. 3.

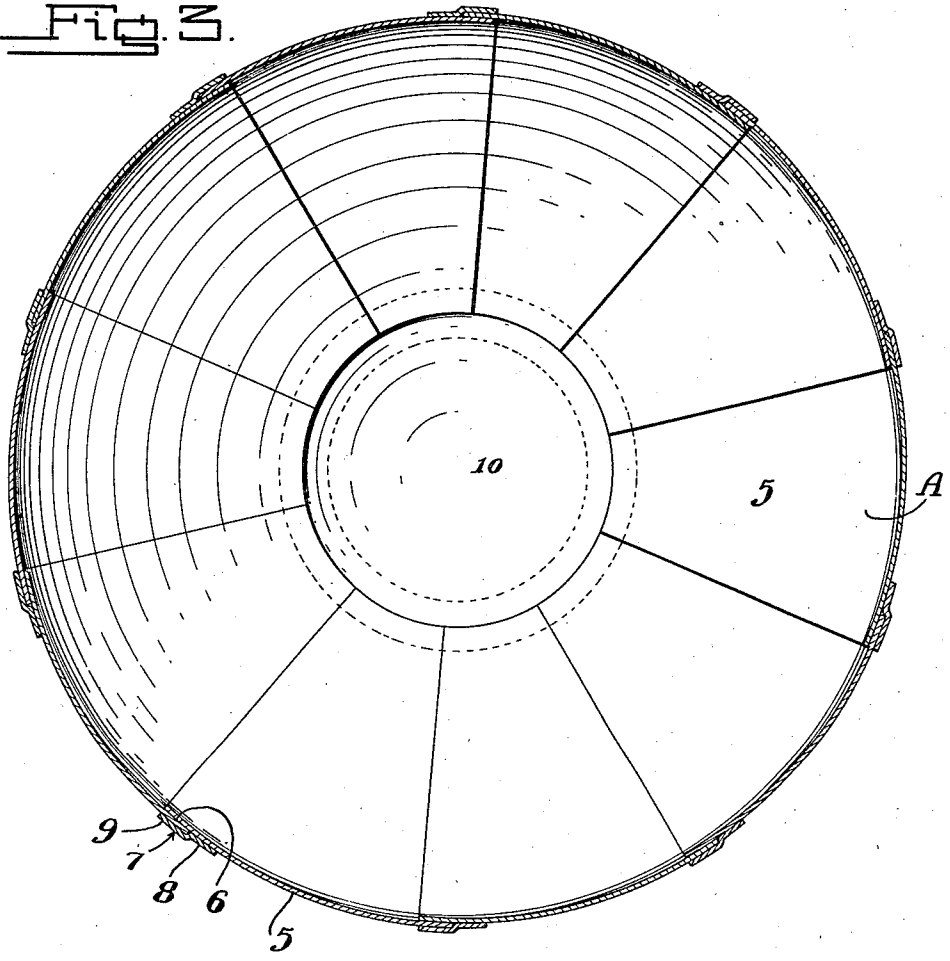
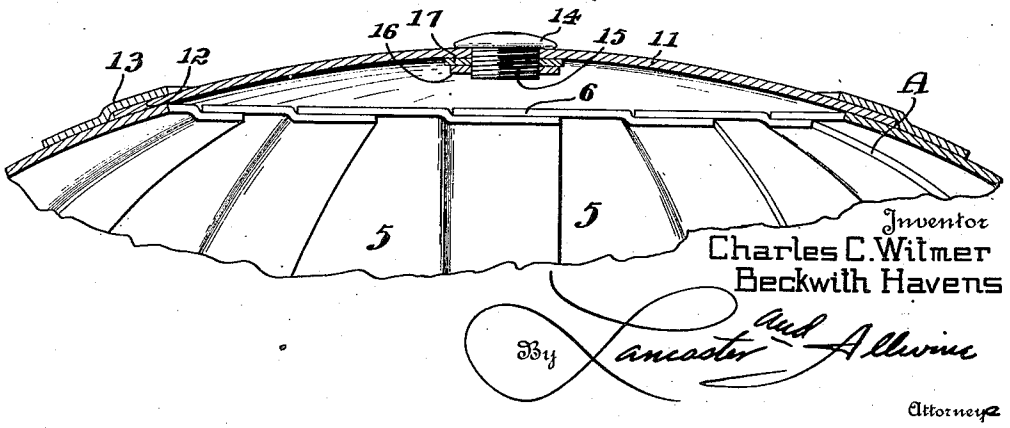


Fig. 4.



Inventor
Charles C. Witmer
Beckwith Havens

By Lancaster and Allwine

Attorneys

Patented June 12, 1923. 1,458,672

UNITED STATES PATENT OFFICE.

CHARLES C. WITMER AND BECKWITH HAVENS, OF HAMMONDSPORT, NEW YORK, ASSIGNORS TO AIRSHIPS INCORPORATED, OF HAMMONDSPORT, NEW YORK, A CORPORATION OF NEW YORK.

BALL.

Application filed November 17, 1921. Serial No. 515,930.

To all whom it may concern:

Be it known that we, CHARLES C. WITMER and BECKWITH HAVENS, citizens of the United States, residing at Hammondsport, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Balls, of which the following is a specification.

This invention relates to sporting goods and toys and more particularly to a novelly constructed ball, and the primary object of the invention is to provide an improved inflatable ball of a relatively large size constructed of balloon cloth, so as to insure not only a fluid tight body, but a body of great durability, thereby eliminating the necessity of providing a protecting cover and bladder, is now used in inflatable balls on the market, the said cloth rendering the balls impervious to water, thereby rendering the balls particularly adaptable for water sports, where in cases of necessity the same can be used as a life preserver.

A further object of the invention is the provision of an inflatable ball, which will be of a very light weight and which can be constructed or cut from patterns similar to regular balloons, so as to insure the quick and inexpensive production thereof.

A further object of the invention is the provision of an inflatable ball made of balloon cloth and including a plurality of gores connected together in a novel manner so as to form ridges facing in the same circumferential direction, the connection serving as means for reinforcing the ball and as anti-skid surfaces for facilitating the throwing and the catching of the ball, the connection serving as means for permitting the curving of the ball when being thrown or struck, by an object.

A still further object of the invention is the provision of a novelly constructed inflatable ball formed of balloon cloth, embodying a minimum number of parts, and a novel means for associating the parts together, so as to form a strong, neat and inexpensive ball.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, forming a part of this specification, in which drawings:

Figure 1 is a plan view of the improved ball.

Figure 2 is a side elevation of the improved ball.

Figure 3 is a horizontal diametric section through the improved ball.

Figure 4 is an enlarged fragmentary vertical section through the ball illustrating the means of connecting the valve therewith.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the views, the letter A generally indicates the improved ball, which is preferably formed of balloon cloth. The ball is formed relatively large, that is, of a size ranging from eighteen to thirty inches. Of course, the size of the ball may be varied without departing from the spirit or scope of the invention, but the range mentioned has been found to be the most practical, and convenient for the main purpose intended.

The ball A includes a plurality of gores 5, which all can be cut from a single pattern. The gores 5 taper from a central point toward their ends to form a segment of a sphere. The meeting edges of the gores 5 are successively overlapped as at 6 and cemented together with pure up-river Pará cement. In order to further strengthen the ball at the points of connection of the gores 5, the reinforcing strips 7 are provided. These strips 7 may be formed of balloon cloth or of canvas or any suitable material possessing the desired strength or qualifications. The strips 7 are also preferably cemented in position and include the attaching portion 8, which engages one of the gores, and the flange portion 9 for engaging the adjacent gore. These strips or tapes 7 seal the seams and make each seam or connection actually stronger than the fabric itself. Thus it can be seen that these strips or tapes perform a four-fold function; first, for sealing the seams or connections; second, to reinforce the ball; third, to form means for catching the ball by the hands; and, fourth to act as anti-skid surfaces to permit the curving of the ball during the throwing thereof or the hitting thereof with a bat or similar instrument.

End walls 10 and 11 are provided for the terminals or poles of the sphere or ball and these walls 10 and 11 are curved to conform to the general configuration of the ball, that is, the same will be of a substantially concavo-convex form, and the edges thereof overlap the terminals of the gores 5 as indicated by the reference character 12, and the edges of the walls 10 and 11 are cemented in position. A suitable tape or strip 13 can be used, so as to seal the seam or connection and to add rigidity and strength to the ball at each terminal thereof. One end wall, such as the wall 11 may be provided with a suitable inflating valve 14, which is provided with a threaded shank 15. This threaded shank 15 is threaded through the wall 11 and is held in place by a suitable internally threaded washer or nut 16, which abuts against a rubber wear washer or gasket 17.

The use to which the ball can be put is unlimited and it is particularly adapted to be used as a water polo ball, push ball or the like. If desirable the ball may be given a coating of aluminum before it is vulcanized, and this will give a ball a novel and attractive appearance.

From the foregoing description, it can be seen that a novel ball has been provided of balloon cloth, which will be light in weight, durable in use, and one which can be placed upon the market at a reasonable cost.

Changes in details may be made without departing from the spirit of the invention or scope of the claims; but,

We claim:

1. A ball formed of balloon cloth consisting of a plurality of gores having their edges arranged in overlapping relation and cemented together, disc shaped end walls cemented to the terminals of the gores, and reinforcing and sealing strips disposed over the meeting edges of the gores and end walls.

2. An inflatable ball formed of balloon cloth comprising a plurality of segmental gores, the gores having their edges overlapped in successive order circumferentially around the ball, sealing and reinforcing strips overlying the gores at their points of interconnection, end walls overlying the terminals of the gores, and a reinforcing sealing strip extending around the edges of the end walls

3. An inflatable ball comprising a plurality of segmental gores, the gores having their edges overlapped in successive order circumferentially around the ball, sealing and reinforcing strips overlying the gores at their points of interconnection, concavo-convex end walls overlying the terminals of the gores, and an annular reinforcing sealing strip disposed around the edges of the end walls and over the terminals of the first mentioned sealing and reinforcing strips.

CHARLES C. WITMER.
BECKWITH HAVENS.