

No. 726,504.

PATENTED APR. 28, 1903.

G. BROWNING & C. E. BOUTWOOD,
GOLF BALL.

APPLICATION FILED JUNE 5, 1902.

NO MODEL.

Fig. 1.

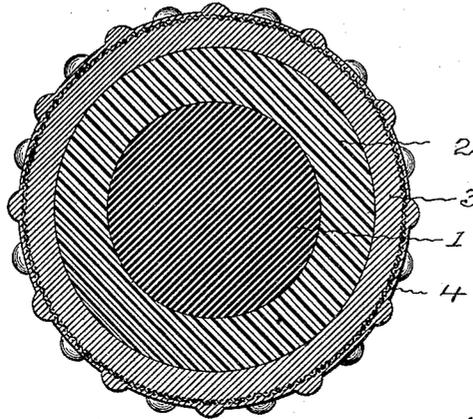


Fig. 2.

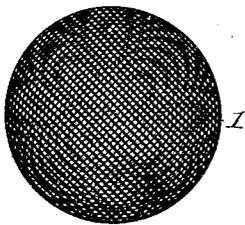


Fig. 3.

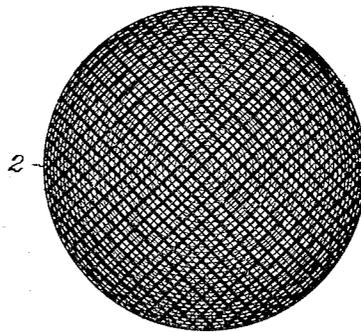
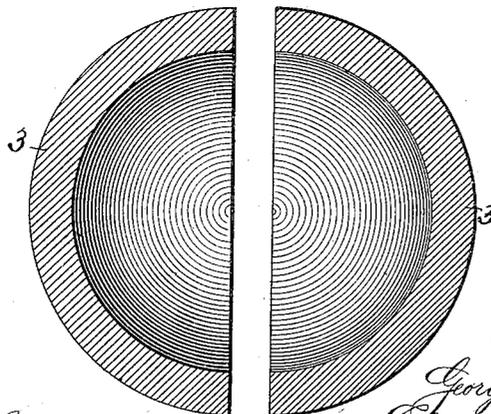


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE BROWNING AND CHARLES EDWARD BOUTWOOD, OF HINSDALE,
ILLINOIS.

GOLF-BALL.

SPECIFICATION forming part of Letters Patent No. 726,504, dated April 28, 1903.

Application filed June 5, 1902. Serial No. 110,253. (No model.)

To all whom it may concern:

Be it known that we, GEORGE BROWNING, a subject of the King of Great Britain, and CHARLES EDWARD BOUTWOOD, a citizen of the United States, both residing at Hinsdale, in the county of Dupage and State of Illinois, (with post-office addresses at Hinsdale, Illinois,) have invented certain new and useful Improvements in Golf-Balls, of which the following is a specification.

This invention relates to the composite type of golf-balls, and has for its object to provide a simple, cheap, and durable construction combining the features of proper weight or density and a high elasticity under heavy impacts and but little elasticity under light impacts, all as will hereinafter more fully appear and be more particularly pointed out in the claims. We attain such objects by the arrangement and combination of parts illustrated in the accompanying drawings, in which—

Figure 1 is a central section of a golf-ball embodying the present invention; Fig. 2, an elevation of the elastic center or core of the present balls formed by windings of india-rubber thread; Fig. 3, an elevation of the partly-completed ball and showing the companion windings of india-rubber thread and silk or other like inelastic thread with which the center or core shown in Fig. 2 is surrounded; Fig. 4, sectional elevations of the blank semispheres of gutta-percha which are united together to inclose the parts shown in Fig. 3 to constitute the outer or inclosing shell of the ball.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 represents the elastic core or center, which in the present invention is formed wholly of india-rubber thread without any central support or core heretofore employed in the formation of the elastic rubber cores of golf-balls. We find that by the formation of the core solely of rubber threads any compression tending to change the spherical shape of the core or center is transmitted entirely through or across the same, and in consequence the resiliency of the core or center so formed is materially

increased over a core formed on a solid or semi-elastic center.

2 is a supplementary covering for the center or core 1. Such covering is of a semi-elastic nature and is formed by a combined winding of elastic rubber thread and inelastic threads of silk or like material, the elastic and inelastic threads being wound simultaneously over the central core 1 to constitute the covering 2. In Fig. 3 of the drawings such combined winding is represented by alternate heavy and light lines, the one representing the elastic-thread winding and the other the inelastic-thread winding.

3 represents a pair of semispherical shells of gutta-percha or other similar material, applied outside the supplementary semi-elastic covering 2 to form the outer inclosing shell of the golf-ball.

4 is a layer of tough open-mesh fabric inclosing the outer gutta-percha shell 3 and adapted to impart added toughness to the surface thereof, and to such end the said layer of fabric is embedded wholly in the surface of such gutta-percha shell 3 during the final manufacture of the ball and in which heat and pressure are employed to soften and mold such gutta-percha shells into the required shape and at the same time weld the two shells or blanks together.

The final process of manufacture above referred to consists in placing the ball formed and assembled together in a molding apparatus similar to that shown in our Patent No. 685,095, of October 22, 1901, and by means of heat and pressure imparting the desired size and configuration to the ball, such heat and pressure acting to join or bond the parts of the ball together in a very perfect and efficient manner.

With the present invention the very resilient core enables us to employ a thicker and more serviceable outer shell of gutta-percha and is especially useful in causing the ball to rebound at the end of its flight. In like manner the mixed windings of elastic and inelastic threads composing the supplementary semi-elastic covering 2 is adapted to impart an increased degree of solidity to the golf-ball, so that the same will offer a greater resistance

to a hard blow and carry farther before touching the ground.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination in a golf-ball, of a center or core formed wholly of windings of india-rubber threads affording diametrical elasticity entirely across the core, and an inclosing shell of gutta-percha or the like, substantially as set forth.

2. The combination in a golf-ball of a center or core formed wholly of windings of india-rubber threads, a supplementary winding of india-rubber threads and silk or the like threads, simultaneously applied to the outside of said core, and an inclosing shell of gutta-percha or the like, substantially as set forth.

3. The combination in a golf-ball of a center or core formed wholly of windings of india-rubber threads, an inclosing shell of gutta-percha or the like, and a layer of open-mesh

fabric embedded in the outer surface of such shell with the material of such shell penetrating through and showing upon the outer surface of such fabric, substantially as set forth.

4. The combination in a golf-ball of a center or core formed wholly of windings of india-rubber threads, a supplementary winding of india-rubber threads and silk or the like threads, simultaneously applied to the outside of said core, an inclosing shell of gutta-percha or the like, and a layer of open-mesh fabric embedded in the outer surface of such shell with the material of such shell penetrating through and showing upon the outer surface of such fabric, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORGE BROWNING.

CHAS. EDWARD BOUTWOOD.

Witnesses:

ROBERT BURNS,

HENRY A. NOTT.