

No. 734,339.

PATENTED JULY 21, 1903.

C. T. KINGZETT.
MANUFACTURE OF GOLF BALLS.
APPLICATION FILED FEB. 4, 1903.

NO MODEL.

Fig. 1.

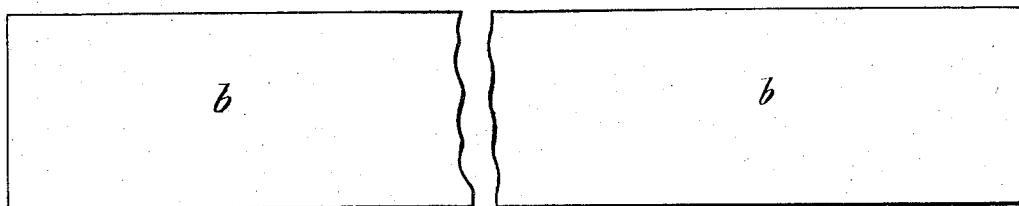


Fig. 2.

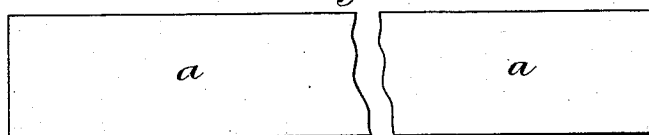


Fig. 3.

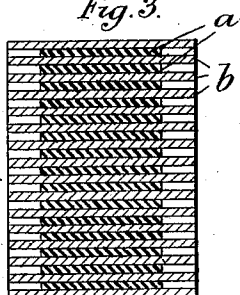


Fig. 4.

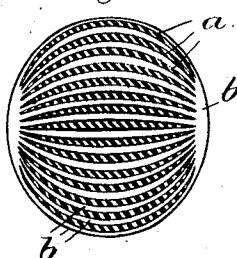


Fig. 5.

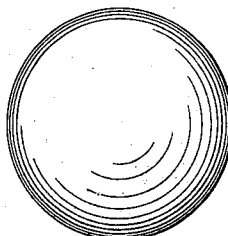


Fig. 6.

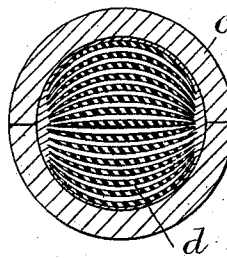


Fig. 7.

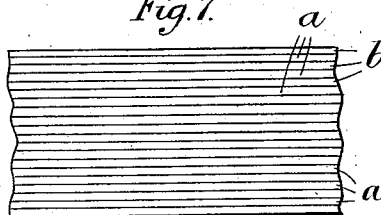


Fig. 8.

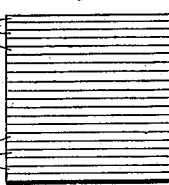
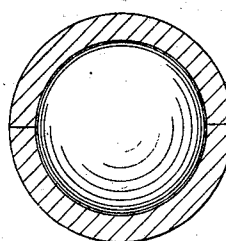


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES THOMAS KINGZETT, OF CHISLEHURST, ENGLAND.

MANUFACTURE OF GOLF-BALLS.

SPECIFICATION forming part of Letters Patent No. 734,339, dated July 21, 1903.

Original application filed September 2, 1902, Serial No. 121,811. Divided and this application filed February 4, 1903. Serial No. 141,875. (No model.)

To all whom it may concern:

Be it known that I, CHARLES THOMAS KINGZETT, chemical manufacturer, a subject of the King of Great Britain, residing at Elmstead Knoll, Chislehurst, in the county of Kent, England, have invented a certain new and useful Improvement in the Manufacture of Golf-Balls, of which the following is a specification.

According to my invention I construct golf-balls or portions of golf-balls of several alternating layers of gutta-percha and india-rubber or of other similar slightly and highly elastic substances. By this means the elasticity derived from the partial use of rubber is well distributed throughout their entirety and is not confined to one particular part.

In balls with a core of india-rubber thread or sheet the core really constitutes a hard although elastic core, and the coating of gutta-percha being only about one-eighth inch thick every impact from the edge of an iron club is felt severely, and in the end the shell is cut through to the core or cracked and then the ball is useless. Not so in my balls. The impact is communicated in a wave-like manner from layer to layer. In other words, they are better cushioned and more continuous in nature, so that after the blow the balls more easily recover their original shape. It follows that my balls wear better and are easily remade by merely heating and remolding or, at worst, by adding a thin coating of gutta-percha.

My balls putt well, for by reason of the elasticity being better diffused they do not jump about so much when coming in contact with irregularities on the ground as do balls whose elasticity is concentrated, so to speak, in the core of elastic thread or elastic sheet, respectively.

In the accompanying drawings, Figure 1 represents a sheet of gutta-percha, say about one-sixteenth inch thick; Fig. 2, a similar shorter and narrower sheet of india-rubber. Fig. 3 is a longitudinal section of the same after they have been placed one over the other and then rolled together, so as to form a cylindrical roll. Fig. 4 shows a section of such cylindrical roll after its ends have been

roughly closed in by hand and the whole brought to an approximately spherical form. Fig. 5 shows an exterior view of the roll after it has been compressed in a mold to bring it to a truly spherical form. Fig. 6 shows a section of a smaller ball formed in this way incased in an outer casing of gutta-percha. Fig. 7 shows a number of alternating sheets of india-rubber and gutta-percha placed one over the other. Fig. 8 shows a cylinder punched out from such pile of alternating sheets. Fig. 9 shows this cylinder compressed to a spherical form and inclosed in an outer casing of gutta-percha. The sphere is shown in elevation and the casing in section.

Preferably I place a strip of sheet india-rubber *a* onto a sheet of gutta-percha *b* of greater width and length and roll them up together when more or less heated to form a cylindrical roll with a gutta-percha exterior surface and with the side edges of the gutta-percha sheet protruding outward beyond the side edges of the rubber sheet, as illustrated in Fig. 3. The ends of the cylindrical roll are then, when the roll is heated, closed in by hand, so as to bring it approximately to a spherical form, which may then be further compressed by a suitable mold; or, as illustrated in Fig. 6, a smaller ball *d* may be formed in this way and inclosed in an outer casing of gutta-percha *c*, being two hemispherical cups of gutta-percha, first molded and placed over the smaller ball and the whole then compressed together, or, again, the folds may be manifold, although alternating—that is to say, several layers or folds of first the one substance and then the other, and so on, or, as illustrated in Figs. 7 to 9, a spherical core of alternating layers (not rolled) of india-rubber and gutta-percha may be inclosed within an outer casing of gutta-percha.

I do not herein claim the ball as an article of manufacture, as such claims are made in my application for Patent No. 121,811, filed September 2, 1902, of which this case is a division.

What I claim is—

1. The hereinbefore-described process of forming balls, consisting in placing together one over the other a plurality of alternate

layers of sheet india-rubber and sheet gutta-percha, and squeezing the assemblage of layers when heated into a spherical form.

2. The hereinbefore-described process of forming balls, consisting in placing together one over the other a plurality of alternate layers of sheet india-rubber and sheet gutta-percha, the layers of gutta-percha being of greater width than the layers of india-rubber, and squeezing the assemblage of layers when heated into a spherical form.

3. The hereinbefore-described process of forming balls, consisting in placing a strip of sheet india-rubber onto a strip of sheet gutta-percha, winding up the strips into a roll, and then squeezing the roll when heated into a spherical form.

4. The hereinbefore-described process of forming balls, consisting in placing a strip of sheet india-rubber onto a strip of sheet gutta-percha of greater width and length, winding up the strips into a roll in such way that the outermost layer of the roll is of gutta-percha, and then squeezing the roll when heated into a spherical form.

5. The hereinbefore-described process of forming balls, consisting in placing together one over the other a plurality of alternate layers of sheet india-rubber and sheet gutta-percha, and squeezing the assemblage of layers when heated into a spherical form, then surrounding the sphere so formed with gutta-percha, and squeezing the whole together when heated within a mold.

6. The hereinbefore-described process of forming balls, consisting in placing together one over the other a plurality of alternate layers of sheet india-rubber and sheet gutta-percha, the layers of gutta-percha being of greater width than the layers of india-rubber, and squeezing the assemblage of layers when heated into a spherical form, then surrounding the sphere so formed with gutta-percha, and squeezing the whole together when heated within a mold.

7. The hereinbefore-described process of forming balls, consisting in placing a strip of sheet india-rubber onto a strip of sheet gutta-percha, winding up the strips into a roll, and then squeezing the roll when heated into a spherical form, then surrounding the sphere so formed with gutta-percha, and squeezing the whole together when heated within a mold.

8. The hereinbefore-described process of forming balls, consisting in placing a strip of sheet india-rubber onto a strip of sheet gutta-percha of greater width and length, winding up the strips into a roll in such way that the outermost layer of the roll is of gutta-percha, and then squeezing the roll when heated into a spherical form, then surrounding the sphere so formed with gutta-percha, and squeezing the whole together when heated within a mold.

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Witnesses:

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