

No. 698,513.

Patented Apr. 29, 1902.

E. KEMPSHALL.
GOLF BALL.

(Application filed Mar. 24, 1902.)

(No Model.)

Fig. 1.

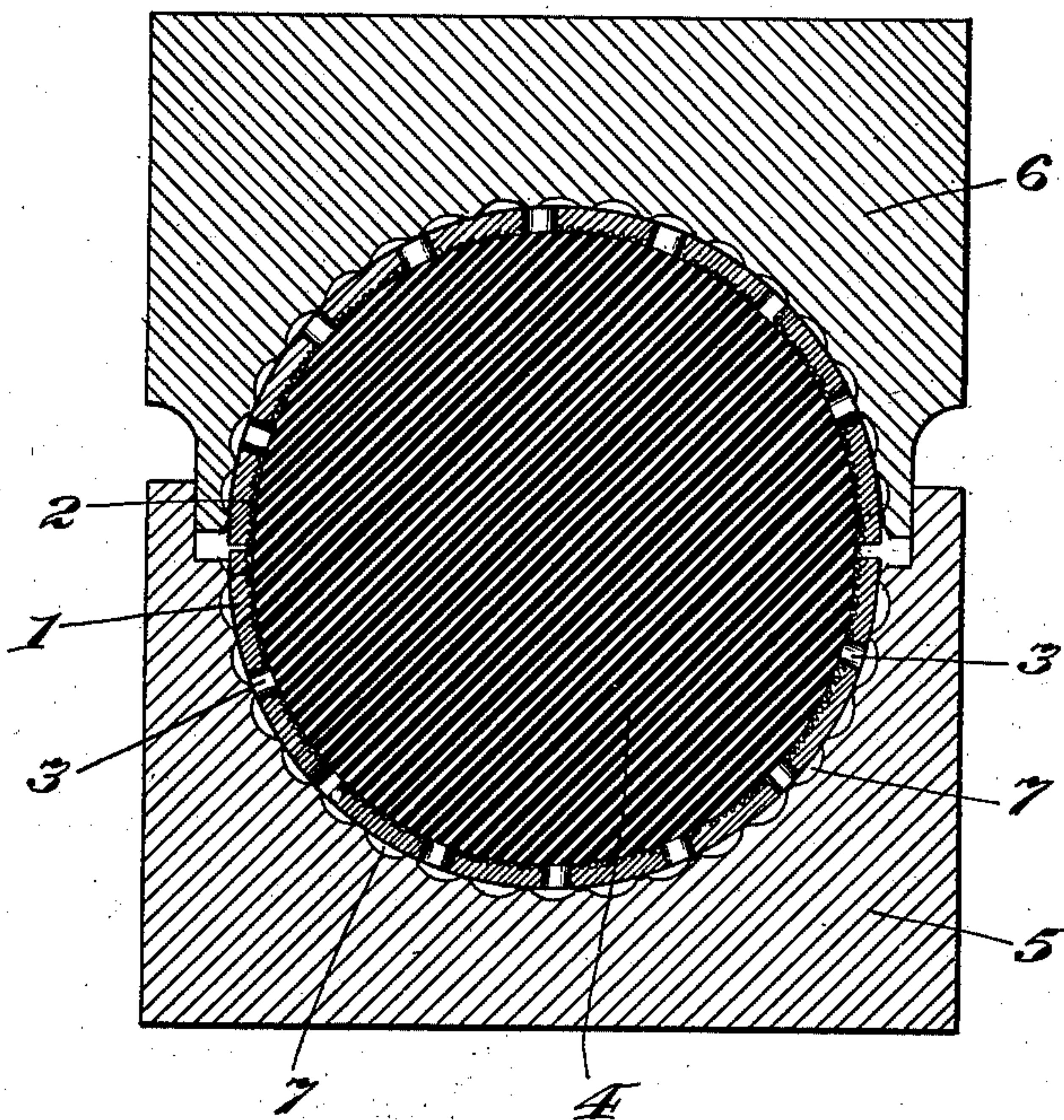


Fig. 3.

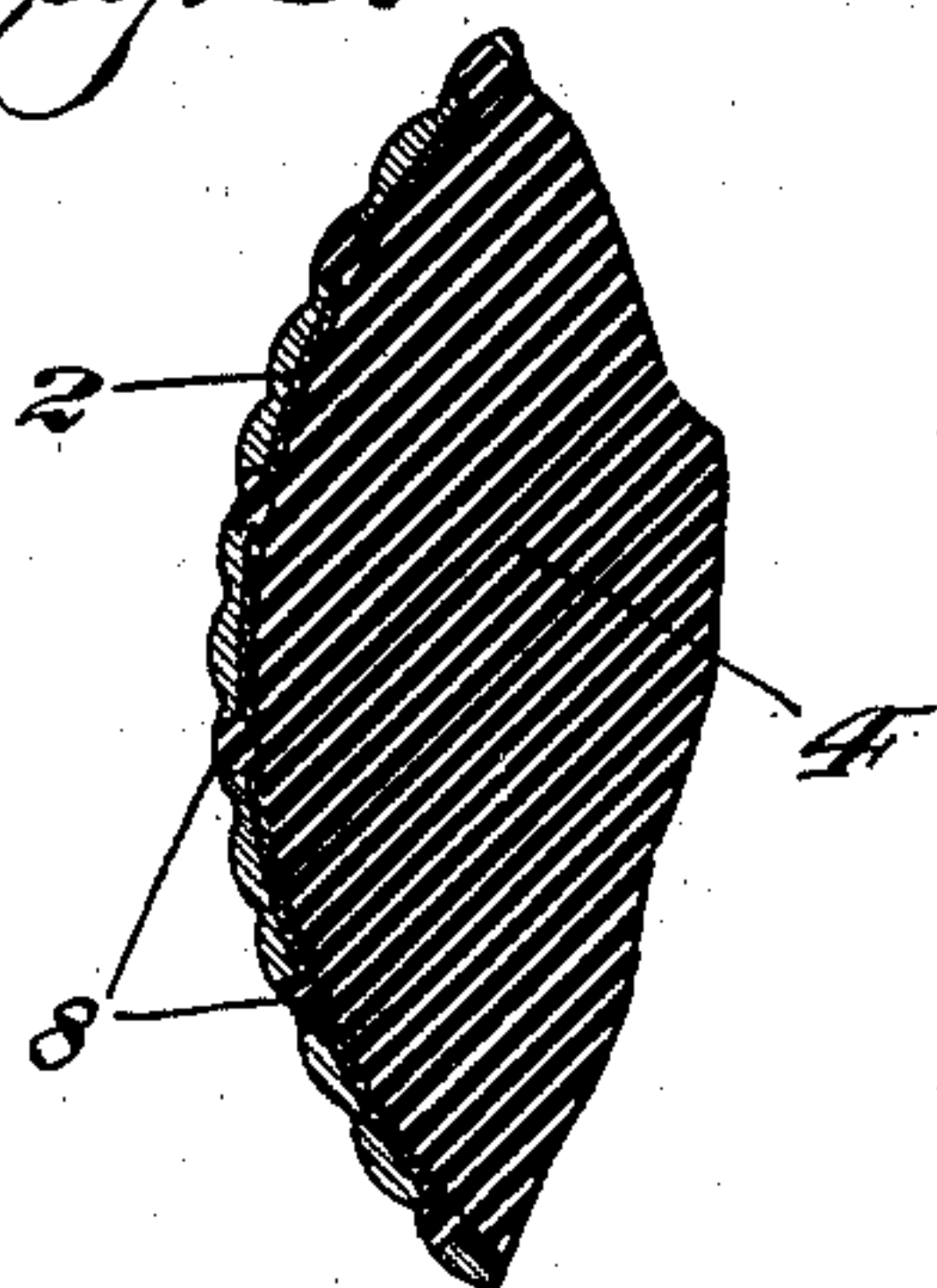
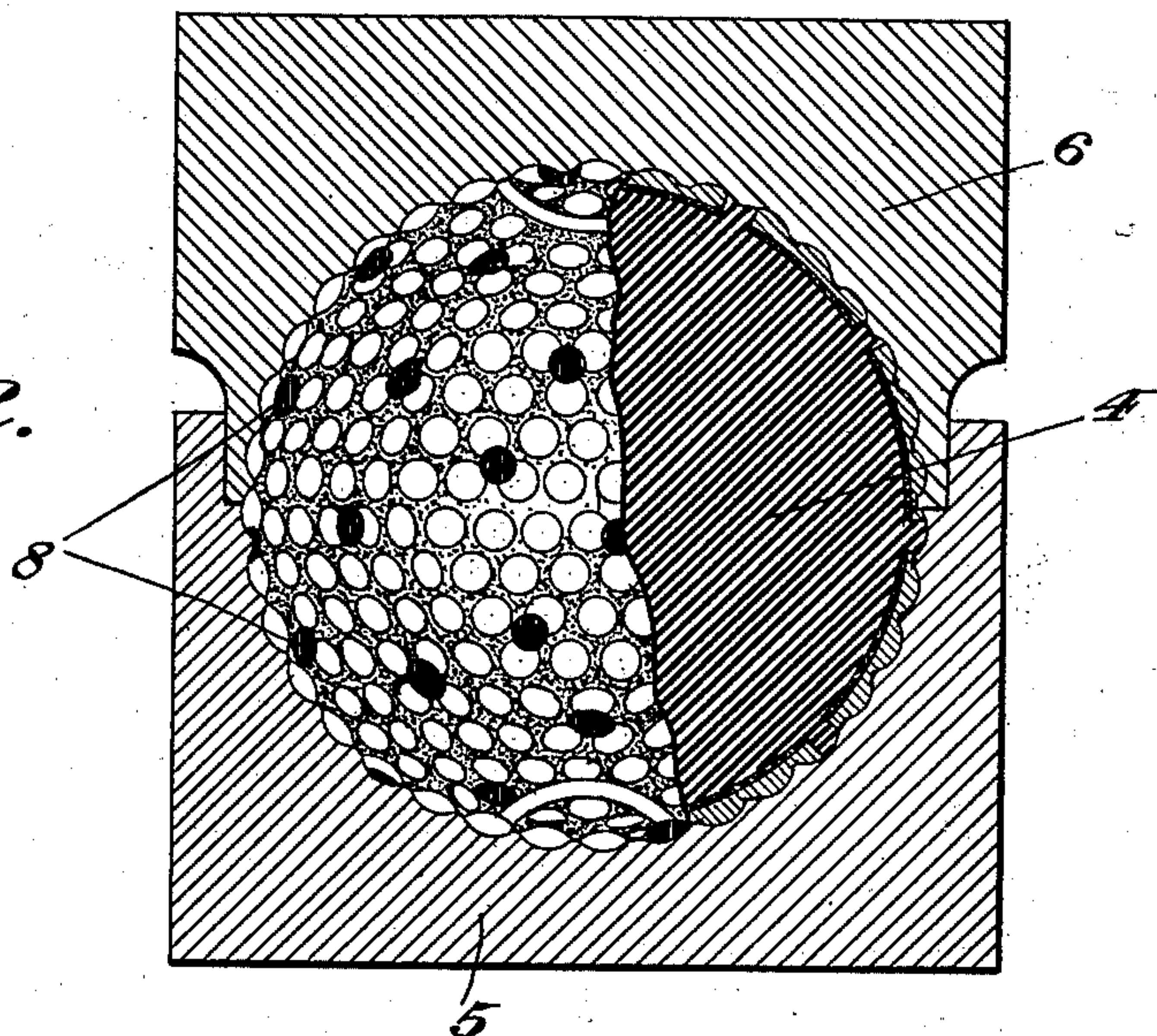


Fig. 2.



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UNITED STATES PATENT OFFICE.

ELEAZER KEMPSHALL, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE KEMPSHALL MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

GOLF-BALL.

SPECIFICATION forming part of Letters Patent No. 698,513, dated April 29, 1902.

Application filed March 24, 1902. Serial No. 99,620. (No model.)

To all whom it may concern:

Be it known that I, ELEAZER KEMPSHALL, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Golf-Balls, of which the following is a specification.

This invention relates to golf or similar playing balls; and its object is to interlock the shell and filling of the ball.

A golf-ball may be struck by the stick from a full central stroke to a nearly-tangential stroke, the first one tending to impart sudden pressure of every molecule of the filling toward the inner side of the shell, bursting the shell, or at least disrupting it from the filling. A tangential stroke is liable to chip off part of the shell, thereby exposing the filling. My present invention obviates these defects by providing the shell with apertures, into which by the process of manufacture part of the filling material is pressed, producing evenly-distributed and effective means for interlocking the shell and filling.

In the drawings forming part of the present application, Figure 1 is a vertical cross-section of a pair of dies containing shell and filling, shown at the moment immediately before final compression. Fig. 2 is a similar view after final compression, showing the finished ball partly in section; and Fig. 3 is a cross-section of a part of a ball, showing the interlocking portions.

I combine a layer of celluloid or other suitable material 1 and a layer of fabric 2 to form shell-segments and provide the same with holes or apertures 3 of any desired shape by cutting, stamping, or otherwise into heating-dies 5 and 6. Within the shells is placed a sphere 4 of gutta-percha or other material. I bring the dies together with great force, the celluloid shell and the gutta-percha being heated and plastic. A small quantity of the plastic gutta-percha is pressed through each of the apertures 3 of the shell and the shell is pressed against and into the pits 7 of the dies. The edges of the segments are welded together by reason of the heat and compression. The ball may be kept under pressure and allowed to cool until the celluloid is suf-

ficiently hardened to retain its shape and hold the core under permanent compression. The shell thus is keyed to or interlocked with the filling by the projections or hobs 8 of the filling entering the apertures 3 of the shell. The shell may be painted over, if desired, so that the dark spots caused by the gutta-percha will not show.

A golf-ball made according to this invention will withstand the usual handling in the game. Even if the shell should crack it is not liable to chip off. The interlocking of the shell and filling near the weld of the shell-segments is particularly efficacious, since it prevents the segments from lifting off from the filling in case the joint should open, or, in other words, the joint is reinforced by means of the interlocking of the shell and filling at the equatorial portion of the ball.

It is not essential in all cases that the interlocking be effected by the precise means herein shown and other materials may be used within the scope of my invention. So long as the shell is keyed upon a sphere it is not essential always that said sphere be solid, since it may either be hollow or serve as a covering for an inner sphere.

Having described my invention, I claim—

1. A ball consisting of a shell having apertures, and a filling secured thereto by the penetration of said filling into said apertures.

2. A ball consisting of a shell of plastic material having apertures, and a filling having integral hobs entering said apertures.

3. A ball consisting of a shell of celluloid, having apertures, and a filling interlocked therewith.

4. A ball consisting of a shell and a filling, said shell consisting of welded segments, each having apertures penetrated by parts of the filling.

5. A ball consisting of a shell, and a filling of gutta-percha interlocked therewith.

6. A ball comprising a sphere and a shell of plastic material and fabric keyed thereon.

7. A ball consisting of a filling of plastic material compressed by a shell which is formed of plastic material and fabric and is provided with openings into which the material of the filling is forced.

8. A ball consisting of a filling of gutta-percha interlocked with a shell, consisting of welded segments of celluloid and fabric and having openings which are engaged by hobs
5 upon said filling.

9. A ball consisting of a springy sphere and a shell of plastic material, one of said elements having perforations and the other having hobs engaging therewith.

10 10. A ball consisting of a sphere of springy material and a shell of celluloid and fabric compressed and keyed thereon.

11. A ball consisting of a shell made of cel-

luloid and a fabric, and a sphere of gutta-percha upon which said shell is keyed. 15

12. A ball consisting of a shell of celluloid lined with fabric, and a sphere upon which said shell is keyed.

13. A ball comprising two spheres, one having perforations and the other having hobs
20 which interlock with said openings.

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Witnesses:

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