

No. 753,392.

PATENTED MAR. 1, 1904.

H. L. HASKELL.  
BILLIARD OR POOL BALL.  
APPLICATION FILED OCT. 2, 1902.

NO MODEL.

Fig. 1.

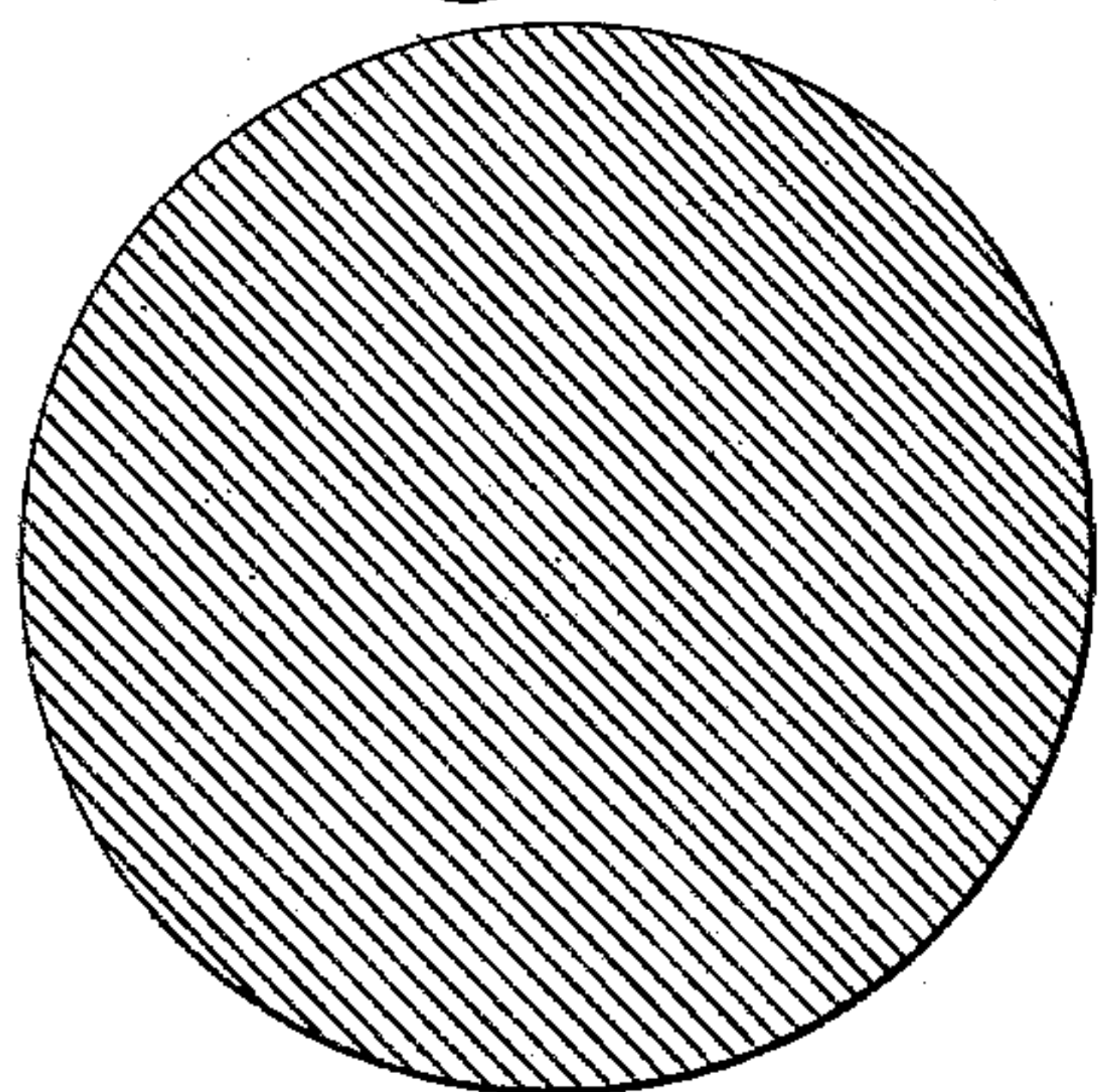


Fig. 2.

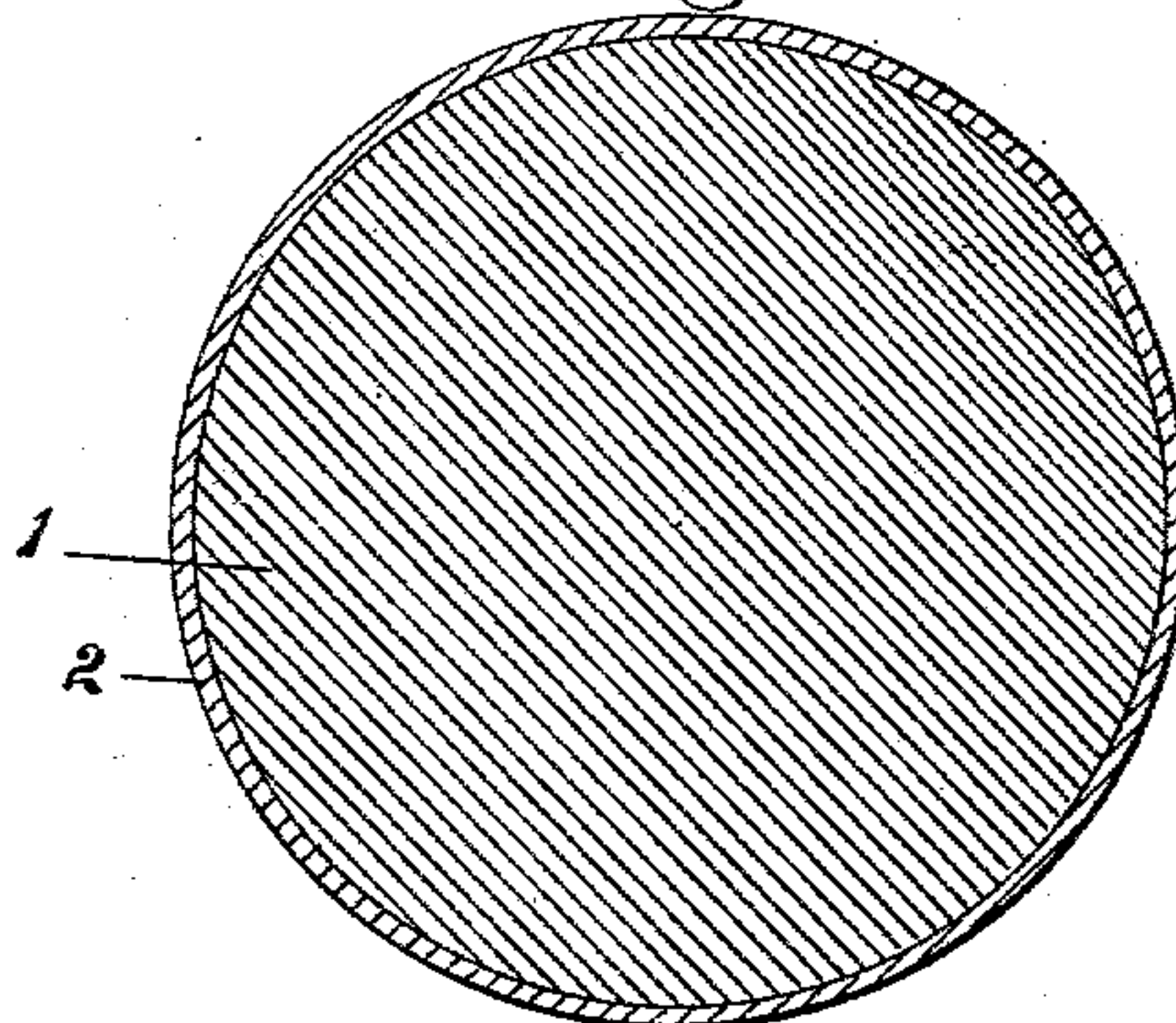


Fig. 3.

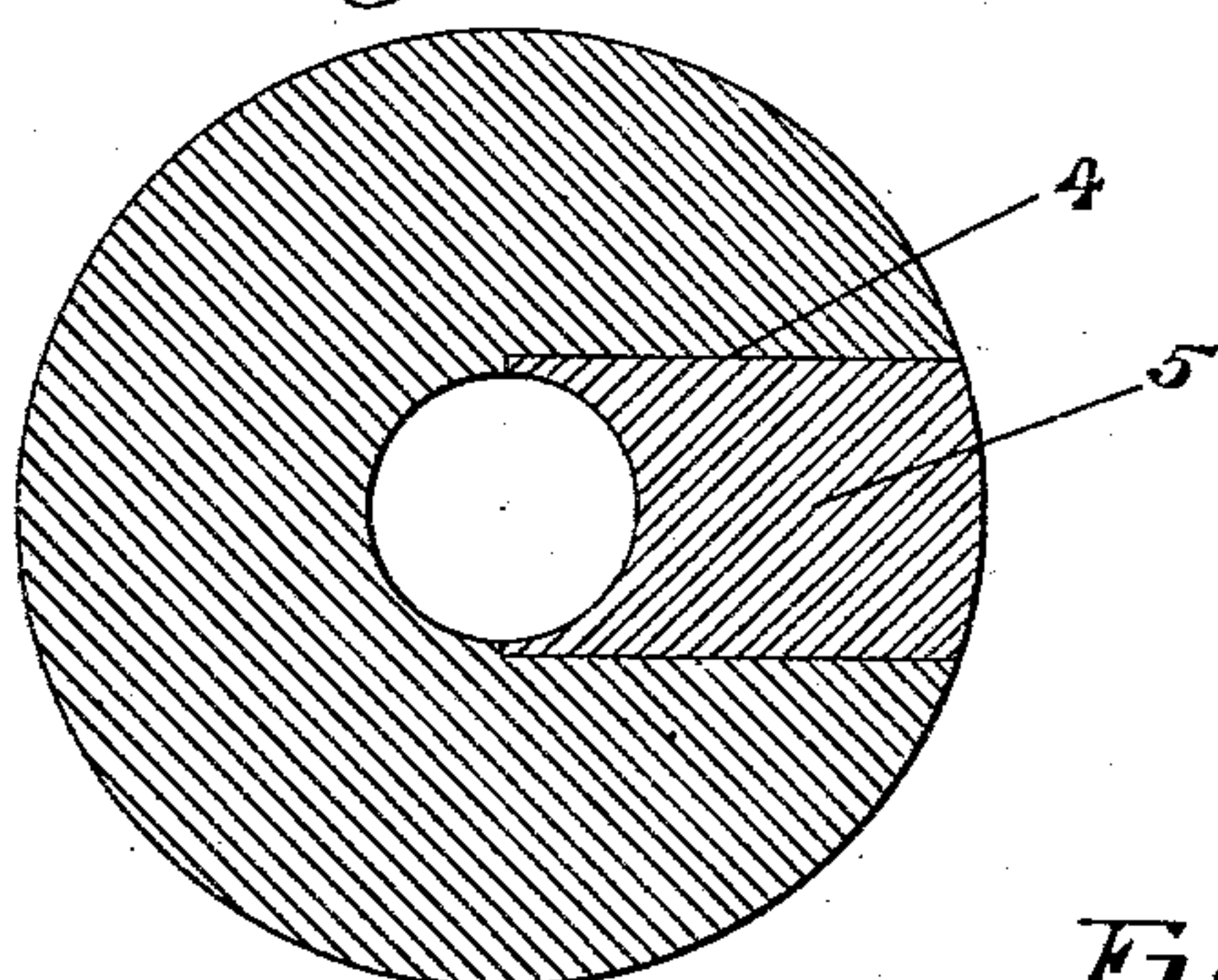


Fig. 4.

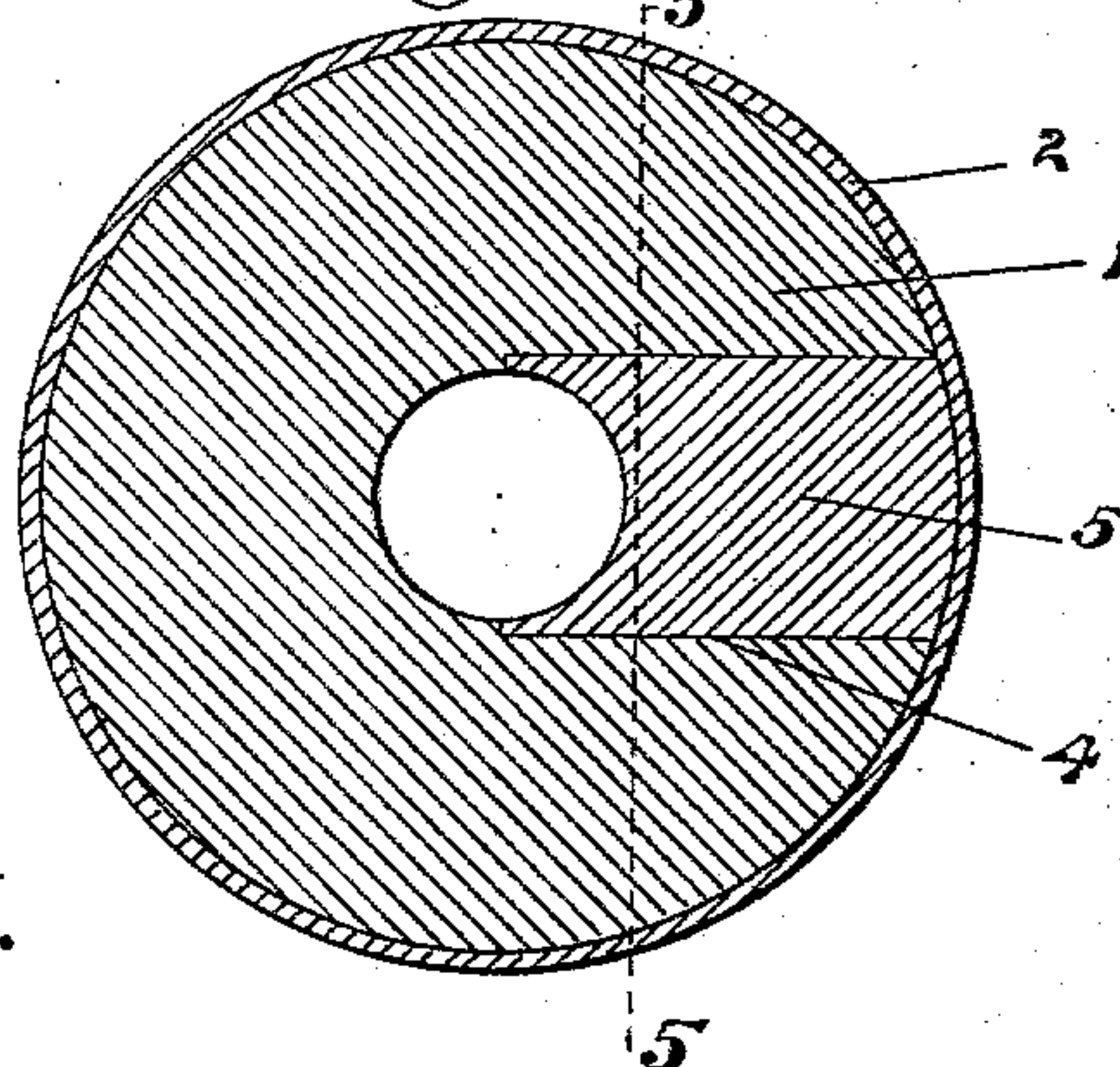
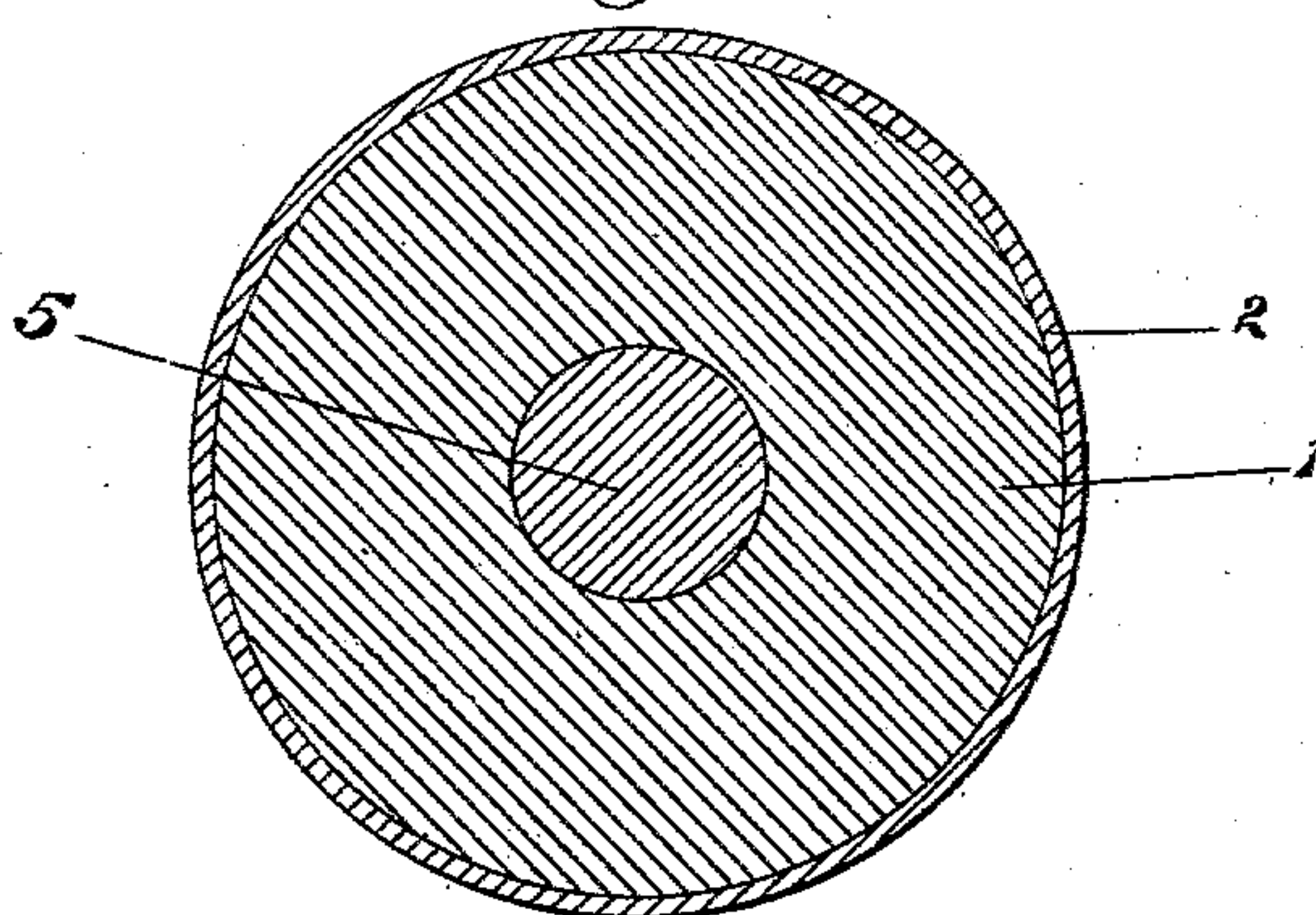


Fig. 5.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## BILLIARD OR POOL BALL.

SPECIFICATION forming part of Letters Patent No. 753,392, dated March 1, 1904.

Application filed October 2, 1902. Serial No. 125,633. (No model.)

*to all whom it may concern:*

Be it known that we, HENRY L. HASKELL, residing at Ludington, in the county of Mason and State of Michigan, and CHARLES F. BRIGHAM, residing at Sheboygan, in the county of Sheboygan and State of Wisconsin, citizens of the United States, have invented certain new and useful Improvements in Billiard or Pool Balls, of which the following is a full, clear, and exact specification.

Our invention relates to billiard and pool balls; and it has for its primary object to provide an inexpensive ball which shall be of the desired specific gravity and identically the same as ivory, if desired, and at the same time be more resilient or elastic and entirely free from the great objection which the ivory ball possesses of expanding and contracting unevenly with slight variations in temperature and "getting out of round."

With these ends in view our invention consists in certain features of novelty hereinafter described, and shown in the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a sectional view of one form of ball embodying our invention. Fig. 2 is a similar view illustrating a modification thereof. Fig. 3 is a similar view illustrating a further modification. Fig. 4 is a similar view illustrating a still further modification; and Fig. 5 is a cross-section taken on the line 5 5, Fig. 4.

In carrying out our invention we compose the ball primarily of porcelain or china-clay, which is ground, mixed with water, molded, dried, and vitrified, and, finally, either superficially ground to a polish or else coated with celluloid, or both, as desired. The specific gravity of clay, however, is too heavy for billiard and pool balls, and in order that the completed ball of a given size may be the same in weight as the regulation ivory ball the clay should be mixed with a suitable material of a specific gravity lighter than both ivory and the clay—such, for example, as magnesia, which should be used in the proportion of about one part of magnesia to five parts of clay, the proportion, however, being varied

to suit the requirements. In preparing this compound the magnesia and clay are ground together or otherwise intimately mixed in powdered form and the ball produced therefrom, as before described. Instead of magnesia we may also employ other light minerals, such as talc and volcanic deposits.

With either of the described compounds the balls may be made solid, as shown in Fig. 1, or the core of the ball may be composed of the composition and the outer surface of celluloid, as shown at 2 in Fig. 2, 1 representing the core.

When the material used is heavier than ivory, however, such as the pure clay, the ball may be lightened by leaving the center thereof in the form of a globular cavity 3. This cavity must be accurately centered, and in order to accomplish that end the ball is formed with a radial bore 4, which extends from its center through its periphery, and one half of the cavity 3 is formed at the inner end of this bore 4 and the other half in the end of a plug 5, preferably composed of the same composition as the body part of the ball and filling the bore from the cavity 3 flush with the circumference of the ball. The plug 5 is cylindrical and larger in diameter than the cavity 3, the bore 4 being a means of forming the cavity 3 at the center of the ball and the plug a means of filling the bore. After the plug 5 is inserted and its outer end trued up with the circumference of the ball the ball may be coated, if desired, with the celluloid coating 2, or its surface may be ground to a polish and the celluloid coating omitted, as shown in Fig. 3, if desired.

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

1. As a new and useful article of manufacture, a billiard and pool ball composed of vitrified clay, and whose bulk is lighter per given measure than the same measure of the clay of which it is composed.

2. As a new and useful article of manufacture, a billiard and pool ball composed of clay and a material lighter than clay intimately mixed therewith, substantially as set forth.

3. As a new and useful article of manufacture, a billiard and pool ball composed of clay and a material lighter than clay mixed therewith, and vitrified, substantially as set forth.
- 5 4. As a new and useful article of manufacture, a billiard and pool ball composed of clay, vitrified and coated with celluloid, substantially as set forth.
5. As a new and useful article of manufacture, a billiard and pool ball composed of clay and a material lighter than clay intimately mixed therewith and vitrified.

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