

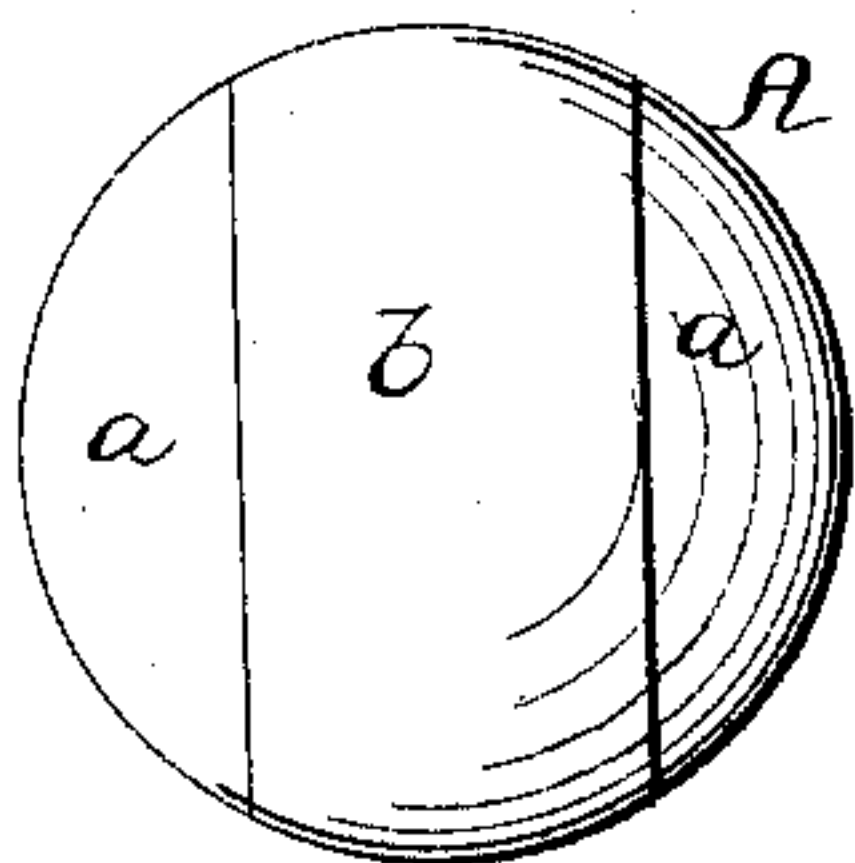
*C. B. J & W. C. Rogers,*

*Billiard Ball.*

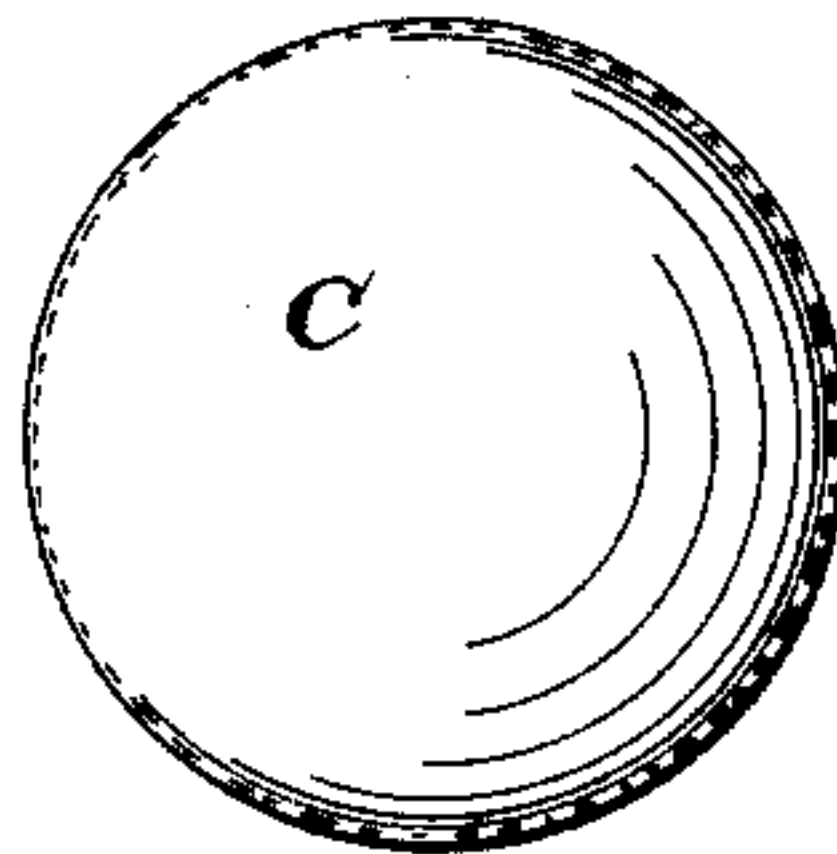
*N<sup>o</sup> 21,444.*

*Patented Sep. 7, 1858.*

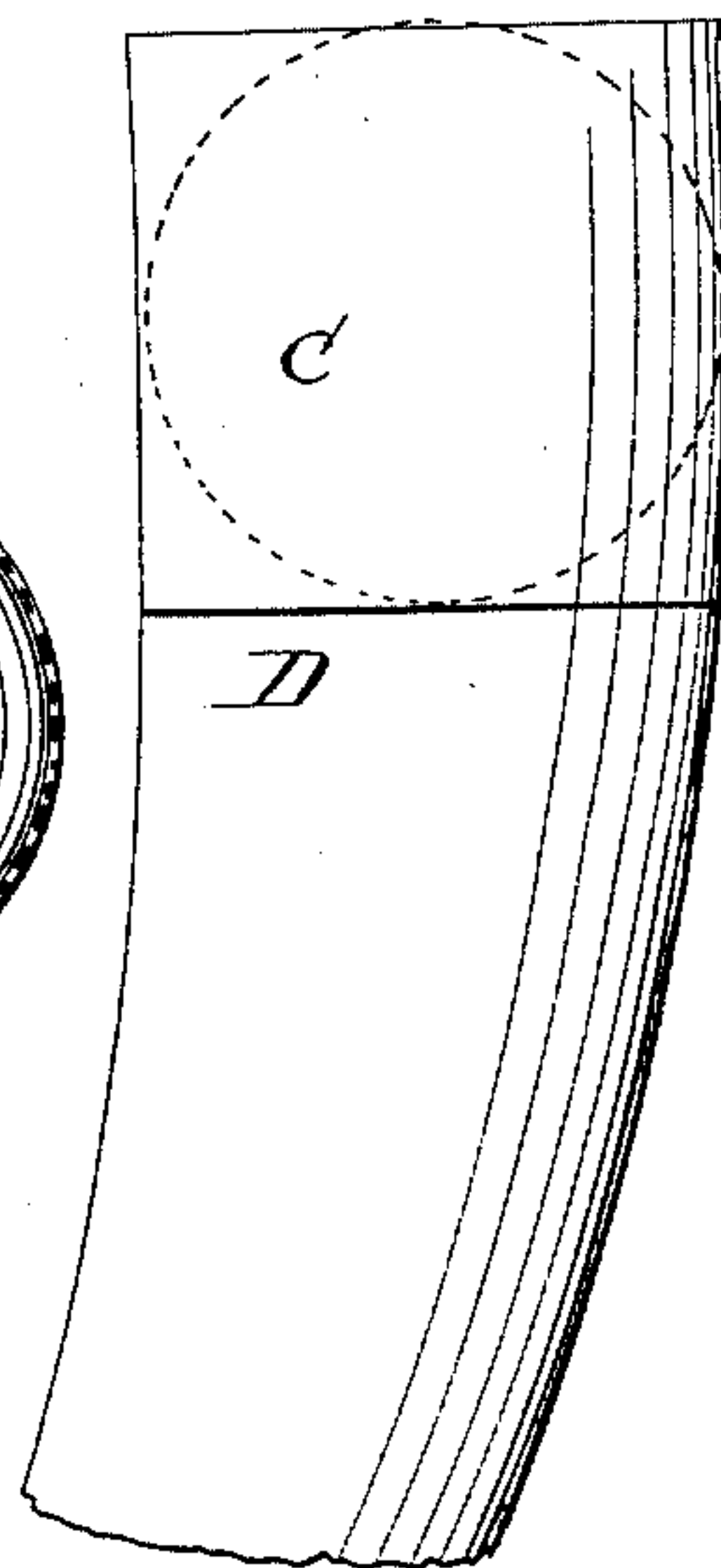
*Fig; 1.*



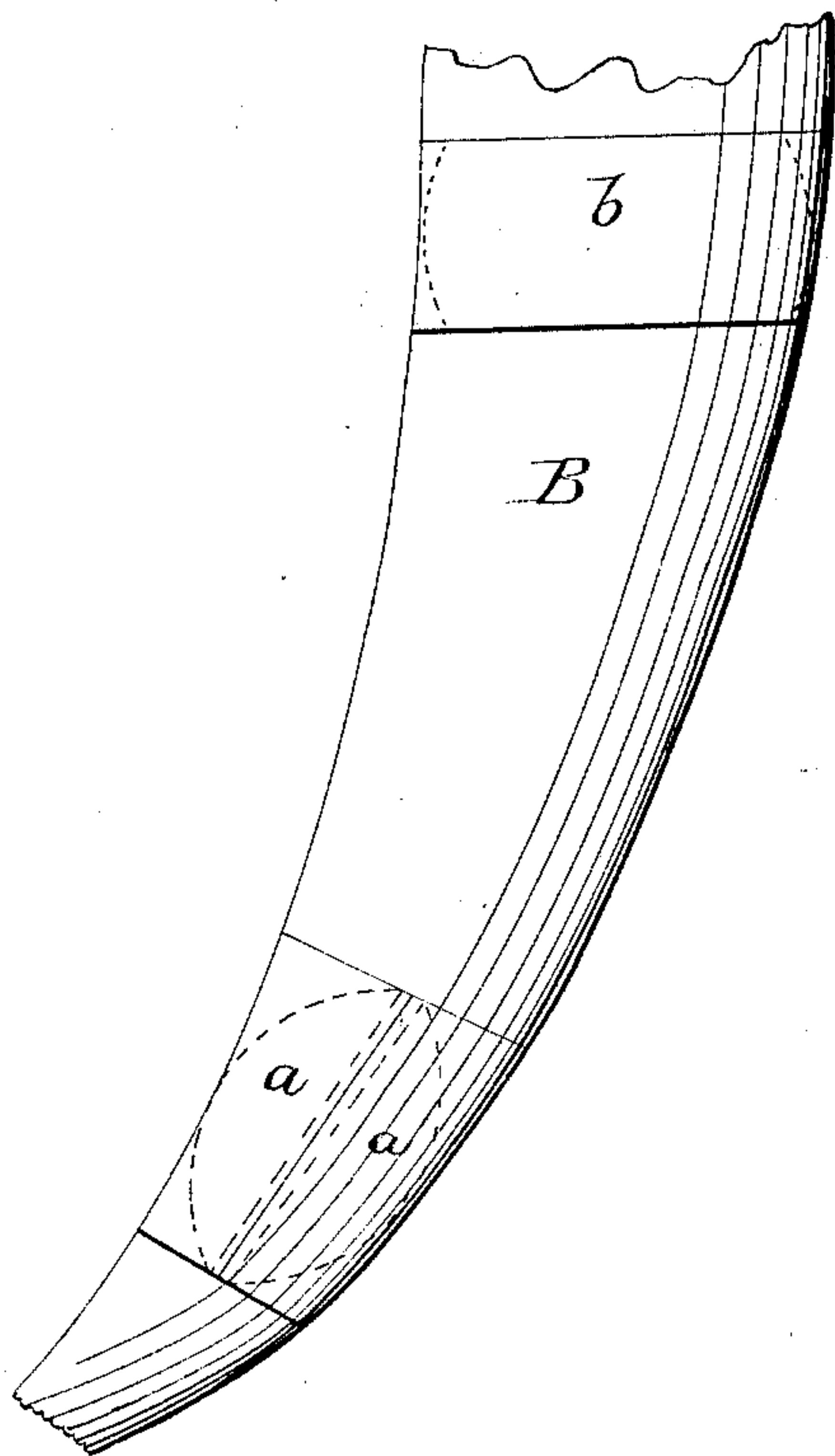
*Fig; 3.*



*Fig; 4.*



*Fig; 2.*



# UNITED STATES PATENT OFFICE.

C. B. ROGERS, J. ROGERS, AND W. C. ROGERS, OF DEEP RIVER, CONNECTICUT.

## BILLIARD-BALL.

Specification of Letters Patent No. 21,444, dated September 7, 1858.

*To all whom it may concern:*

Be it known that we, C. B. ROGERS, J. ROGERS, and W. C. ROGERS, of Deep River, in the county of Middlesex and State of Connecticut, have invented a new and useful Improvement in Billiard-Balls; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is an external view of a ball constructed according to our invention. Fig. 2, is a view of a portion of an elephant's tusk drawn for the purpose of explaining clearly the way in which our improved ball is constructed. Fig. 3, is an external view of a ball constructed in the ordinary way. Fig. 4, is a view of a portion of a tusk drawn for the purpose of showing the construction of the ordinary balls.

Similar letters of reference indicate corresponding parts in the several figures.

Our invention consists in constructing ivory billiard balls in sections, or, of a series of pieces cemented or otherwise secured together and disposed or arranged relatively with each other in a novel way in respect to their fiber, whereby several important advantages are obtained as hereinafter described.

To enable those skilled in the art to fully understand and construct our invention we will proceed to describe it.

A, Fig. 1, represents an improved ball which is constructed of three pieces *a, a, b*. These pieces are sawed or cut from the tusk B, as shown clearly in Fig. 2, the piece *b*, being cut transversely from the tusk and the two pieces *a, a*, so cut that the fiber or grain will be parallel with the bases or plane surfaces of said pieces when turned. The three pieces *a, a, b*, are connected or otherwise secured together so that the pieces *b*, will be between the two pieces *a, a*, the grain or fiber of the central piece *b*, being at right angles to the grain or fiber of *a, a*, as clearly shown in Fig. 1. The pieces *a, a, b*, may be connected by a compound of ordinary joiner's glue and plaster of Paris, and if desired the pieces may be doweled as well as

cemented together in order to insure proper adhesion. We have however pretty thoroughly tested the cement above mentioned and it has been found fully efficient, the balls having been completely chipped in pieces by hand blows and the joints of the pieces remaining firm. The pieces *a, a, b*, when secured together are turned in the usual way so as to form a perfect sphere or as perfect as may be. The piece *b* may be of two parts if desired and the pieces *a, a*, may each be formed of more than one piece cemented together, but it must be understood that the same relative position of the grain or fiber is to be observed whether three or more pieces are employed.

C, Fig. 3, is an ordinary billiard ball which is turned from a single block of ivory *c*, cut from the tusk D, see Fig. 4.

By our invention it will be seen that the external surface of the ball has the sides of the fiber or grain exposed at all points or nearly at all points and greater elasticity is consequently obtained, for in the ordinary ball C, the end of the grain or fiber is exposed at opposite sides, see *d, d*, Fig. 3, and the elasticity is not as great endwise or longitudinally of the grain or fiber as sidewise or laterally. Another advantage attending our improvement is that the shrinkage of the ball, there being in all cases more or less, will be equal all around from its center, whereas in the ordinary balls, the shrinkage being only laterally of the fiber, the balls soon become spheroids as shown by the red outline Fig. 3. By our invention also balls may be constructed at a greatly reduced price, for pieces of ivory may be used which are now worthless for such purpose.

The stock of billiard balls is very expensive as the best India ivory is or should be used, and this with the labor of turning causes them to be a very expensive article. By our invention the price may be reduced fully one half and a superior ball obtained.

We do not claim simply the cementing of a series of pieces of ivory together and turning the same to form a billiard ball irrespective of the disposition and arrangement of said pieces in respect to each other as described, for various articles are formed in



sections or of a series of pieces joined together and turned or otherwise formed into proper shape, but

We claim as new and desire to secure by  
5 Letters Patent,

Constructing billiard balls of a series of pieces *a, a, b*, three or more, cemented or otherwise secured together, when said pieces are disposed or arranged in relation to each

other in respect to their fiber or grain, as 10 herein set forth.

CALVIN B. ROGERS.  
JOHN ROGERS.  
WM. C. ROGERS.

Witnesses:

SAML. SHAILLES,  
O. C. CARTER.