J. D. BUTLER.
Game-Apparatus.

No. 165,154. Patented July 6, 1875.

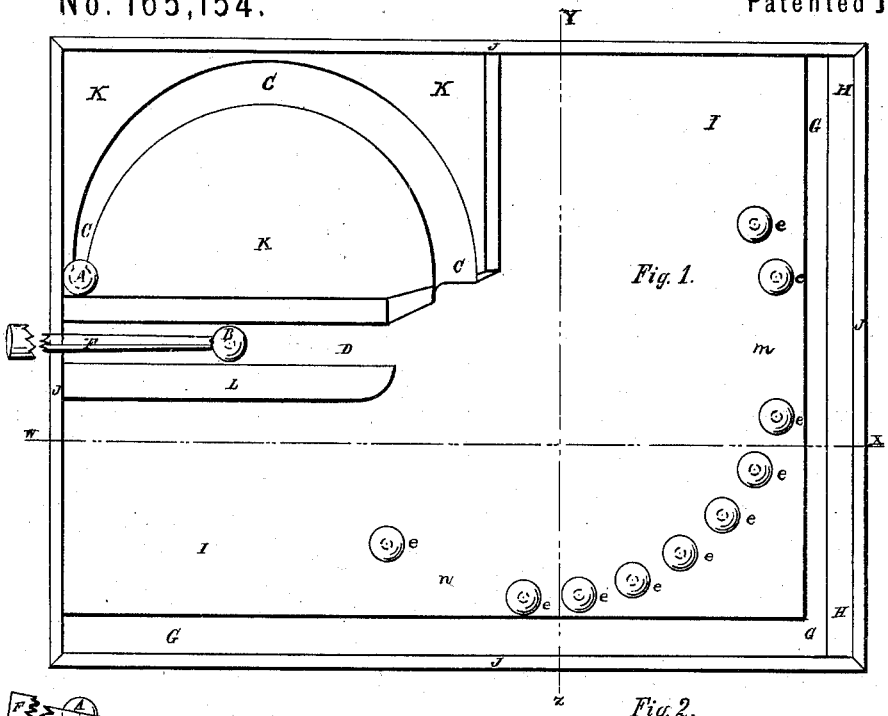


Fig. 1.

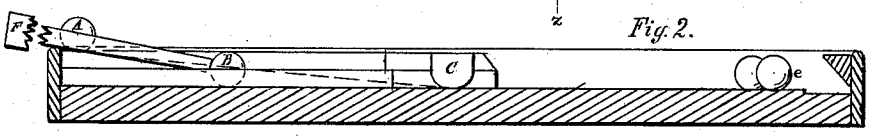


Fig. 2.

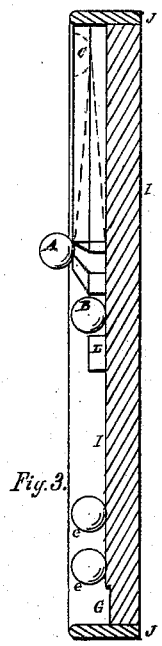


Fig. 3.

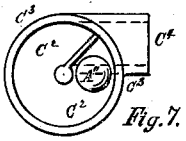


Fig. 7.

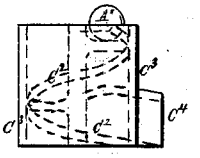


Fig 8.

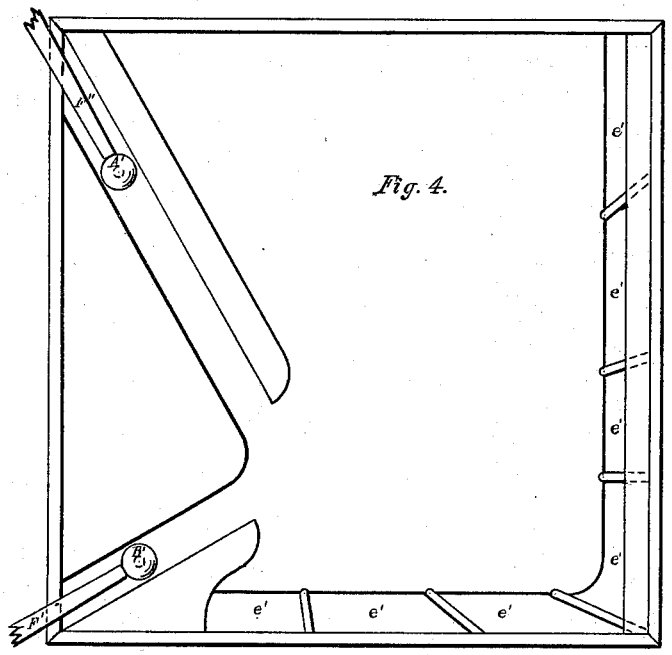
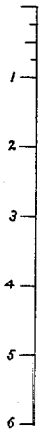


Fig. 4.

Fig. 5.

Fig. 6.

Scale.



Witnesses: Charles G. Murdock
W. L. Wilder

Inventor:
James D. Butler.

UNITED STATES PATENT OFFICE.

JAMES D. BUTLER, OF LANCASTER, MASSACHUSETTS.

IMPROVEMENT IN GAME APPARATUS.

Specification forming part of Letters Patent No. **165,154**, dated July 6, 1875; application filed November 12, 1874.

To all whom it may concern:

Be it known that I, JAMES D. BUTLER, of Lancaster, Massachusetts, have invented a Game Apparatus, of which the following is a specification:

My invention covers a game apparatus, in which balls are run upon a table in such a manner as to afford very novel and entertaining exercise.

The accompanying drawing represents in Figure 1 a plan of the apparatus; Fig. 2, a section through line W X; and Fig. 3, a section through line Y Z; Fig. 4, a plan of a modified form; Fig. 5, a side elevation; and Fig. 6 an end elevation of the same; Fig. 7, a plan of a modified form of one part; and Fig. 8 an elevation of the same.

In Figs. 1, 2, and 3, I is a flat table with raised sides J. Upon one corner of this table is a board, K, in which is the curved groove C. This groove is very shallow at the end near A, and deep at the other, the bottom of it being a gradual incline from one end to the other. At two of the edges of the board I are the troughs G. Upon one of the raised sides J is a strip, H, which is triangular in section. Upon the surface of I are little cups or depressions in which the marbles *e* are placed. At the top of the track C is a slight depression in which the ball A rests. The ball B is placed upon the surface of the table between the edges of the board K and the strip L. The balls and marbles being placed in the above-described positions, the player gently starts the ball A. This ball runs down the inclined track C, and the player then strikes the ball B with the cue F, endeavoring to make it hit against A, when the latter crosses its track. The object in the play is to knock the marbles *e* out of their cups. But if A and B do not come in contact with each other, they will continue to move in the direction in which they emerge from their tracks C and D, and B will go through the space *m* in the line of marbles, and A through the space *n*. In this case the marbles *e* will not be touched by either ball. But if A and B strike together they will turn each other from their original directions toward some of the marbles *e*, which they may knock out of place. As the player endeavors to strike any particular one of the marbles *e*, which may be left in place after the others have been knocked away, an opportunity is given for the display of great skill. If the ball A were at rest when struck by B, the courses of the two balls would be determined almost entirely by their relative positions at the instant of contact, without much reference to the velocity of B. But as in this game A is already in motion when struck by B, the direction of the two balls is determined quite as much by their relative rates of motion as by their relative positions. It therefore is necessary in playing the game skillfully that the player shall not only make the balls hit together when in the proper relative positions, but their relative rates of motion must also be just right. When the balls or marbles strike against the inclined side of the strip H they must rebound downward, and against the edge of the trough G, by which they are kept from going back over the board. Although I think that it is better to have the balls A and B run in grooves C and D, which will give to them definite directions, yet it will answer to have A run upon a plain inclined surface, and B may be rolled upon the open surface of the table. Instead of using the marbles *e*, pins, such as are used in the game of "ten-pins" may be stood upon the table; and the object in playing will then be to knock these pins over. In Figs. 4, 5, and 6 the ball A′, instead of being started down an inclined track, may be run upon the surface of the table, and receive motion by a stroke from the cue F″. B′ may then be struck by F′ to hit against A′. And instead of having marbles like *e* in Figs. 1, 2, and 3, pockets *e′* may be made along the two sides J′ of the board, and the object in playing shall then be to shoot A′ and B′ into these pockets. The directions in which A′ and B′ run as they cross each other's tracks may be at an oblique instead of a right angle. If the table is inclined so that A′ will run of itself, the use of the cue F″ will be unnecessary. Figs. 7 and 8 represent a spiral or auger-shaped surface C^2 in a cylinder, C^3, which may be used in place of the track C in Figs. 1, 2, and 3. After running down this spiral way, the ball emerges from the opening C^4 at the base of the cylinder.

It is very plain that the shape of the inclined track C may be varied without limit, and I do not confine myself to the use of any particular form.

The ball B may receive motion in other ways than from the stroke of a cue, such as by the snapping of the fingers, or by hitting it with a mallet.

I claim—

1. A game apparatus consisting of the table I, the two balls A and B, the incline C, and the marbles *e*, or their equivalents, substantially as described.

2. The combination, in the table I, of the grooves C and D, substantially as and for the purpose described.

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Witnesses:

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