No. 712,044. Patented Oct. 28, 1902.

# H. COOPER.

## GAME BOARD.

(Application filed Feb. 27, 1902.)

(No Model.) 2 Sheets—Sheet 1.

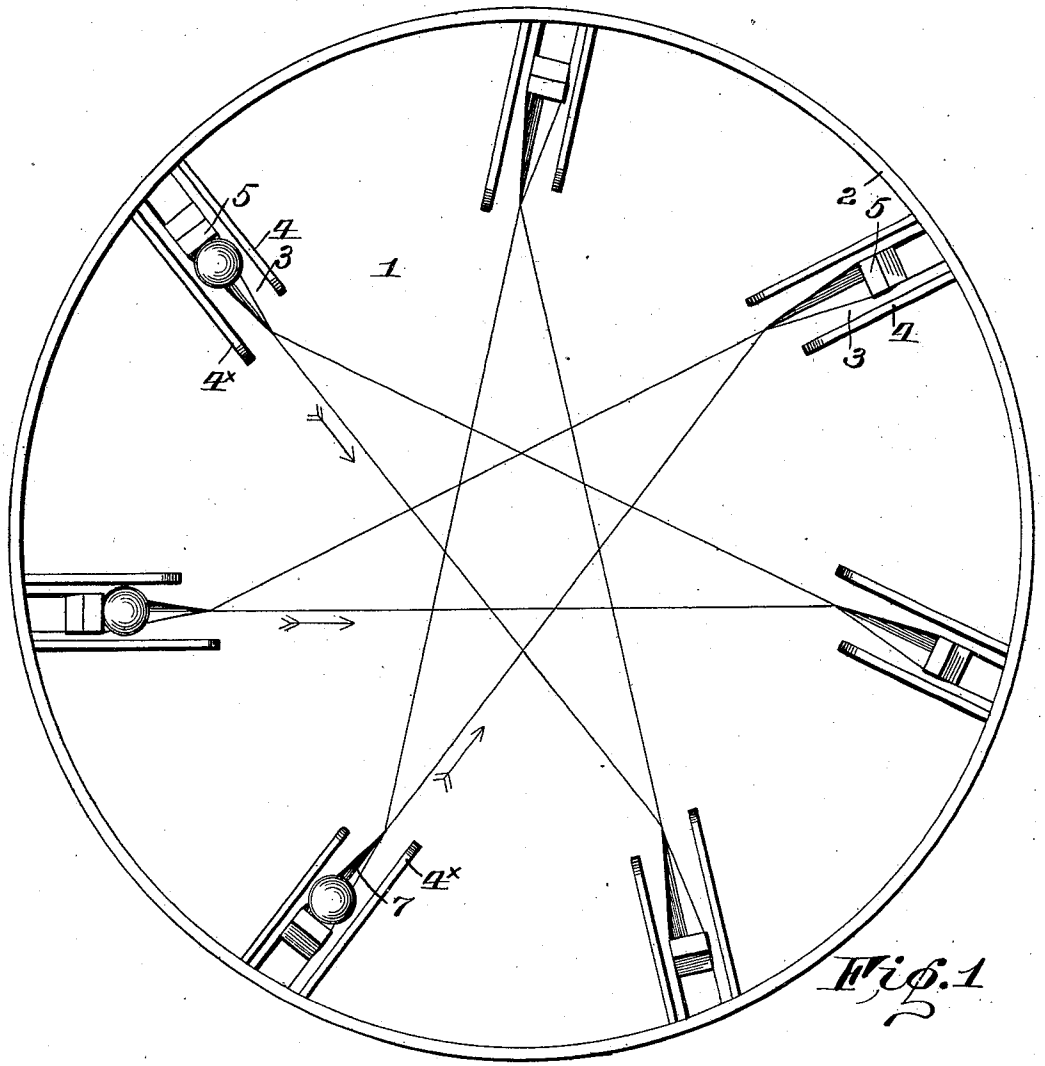



Fig. 1.

Witnesses.
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Fig. 2.

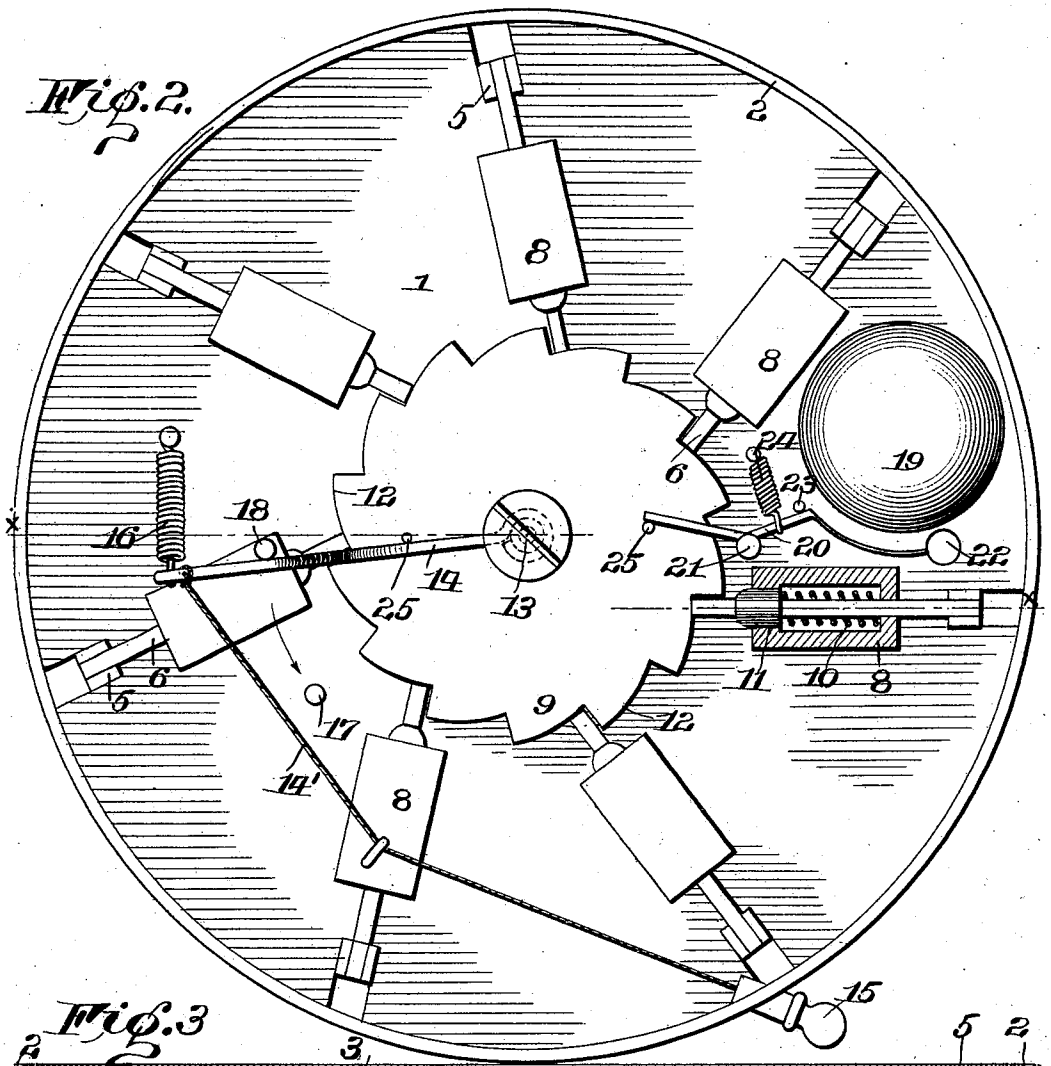
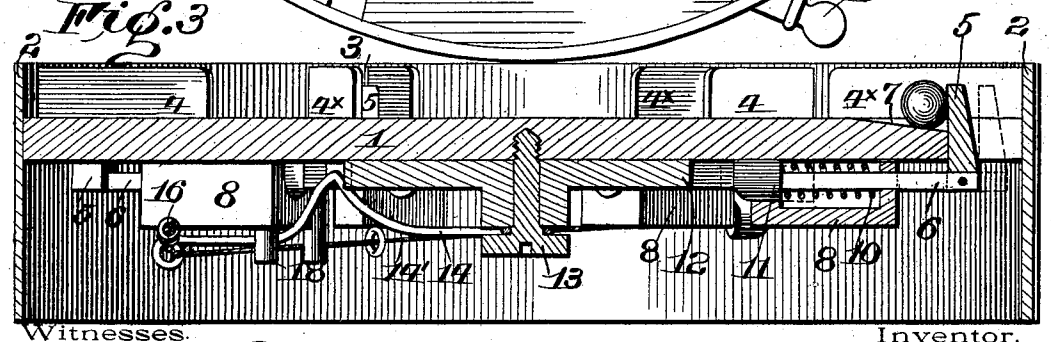



Fig. 3.




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# UNITED STATES PATENT OFFICE.

HUGH COOPER, OF BROCKPORT, NEW YORK, ASSIGNOR OF ONE-HALF TO GEORGE C. GORDON, OF BROCKPORT, NEW YORK.

## GAME-BOARD.

SPECIFICATION forming part of Letters Patent No. 712,044, dated October 28, 1902.

Application filed February 27, 1902. Serial No. 95,931. (No model.)

*To all whom it may concern:*

Be it known that I, HUGH COOPER, of Brockport, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Game-Boards; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention relates to that class of game apparatus in which balls or marbles are thrown by catapults or projecting devices, and has for its particular object to provide a board having a plurality of ball-containing pockets or recesses so arranged that balls may be projected therefrom and caused to traverse the board and enter other pockets, the several balls being made to successively occupy during a series of operations all the pockets on the board and at the conclusion of said operations being returned to the pockets they originally occupied.

To these ends the invention consists in certain improvements hereinafter described, the novel features being pointed out in the claims at the end of the specification.

In the drawings, Figure 1 is a top plan view of a board embodying my invention, with several of the marbles removed to illustrate underlying parts. Fig. 2 is a bottom plan view with one of the plunger-guides shown in section, and Fig. 3 is a sectional view on the line $x\,x$ of Fig. 2.

Similar reference-numerals in the three figures indicate similar parts.

The board I have shown in the drawings embodies a base or support 1, preferably circular in form, of any suitable material and surrounded by a rim 2, projecting on both sides thereof, said rim serving to raise the lower operating parts above the surface on which the board may be placed and also to retain the balls on the upper surface of the board.

At equal distances around the periphery of the board 1 are arranged pockets 3, preferably but not necessarily at equal angles to radial lines extending from the center and formed by narrow strips or walls 4, arranged close together, although it will be understood they might be otherwise formed, if desired, and the base 1 provided with slots at its outer edge and between the walls of the pockets to receive projections 5 on the ends of plungers 6. The pockets 3 are preferably made slightly wider than the diameters of the balls, and in order that they will have the desired directions when projected across the board I cut notches or slots 7 centrally of the open ends of the pockets, into which notches the balls fall when they enter the pockets, and as the latter are arranged at an angle to each other I extend the end of one of the walls $4^{\times}$ slightly in advance of the other walls, as shown, to direct the ball or marble into the pocket. The plungers for actuating the balls are adapted to be set for operation and released simultaneously, the setting being accomplished by cams or levers and the actuation by springs or equivalents. In the present embodiment of my invention I have shown the plungers guided in blocks 8, arranged at the same angle to the center as the corresponding pockets and held normally in engagement with a ratchet or cam wheel 9 by spiral springs 10, located in recesses in the blocks 8 and bearing thereon at one end and on shoulders 11 on the plungers 6 at the other. The wheel 9 is provided with cams 12 at its periphery, and it will be seen that by revolving the wheel the plungers 6 are forced outward by the cams against the tension of the spring until their ends pass out of engagement therewith, when they will be released, and, being retracted by the springs, will impart motion to the balls in the pockets. The wheel 9 is pivoted centrally of the base on a stud or screw 13 and is moved by an arm or pawl 14, also pivoted on the stud 13, said pawl engaging the ends of successive cams or teeth at each operation. A cord 14′, provided with a finger-piece or knob 15, is attached to the outer end of the pawl 14, and a spring 16 is also fastened to the pawl to return it to the normal position after being moved to the operative position, as will be understood. When the pawl is moved in the direction of the arrow, it engages the end of one of the cams or teeth and rotates the wheel the desired distance; but when returned by the spring 16 it rides over the surface of the succeeding tooth

until it reaches the end, when the spring, drawing the pawl toward the base, causes the engagement of the pawl with the next tooth. To limit the motion of the ratchet, I provide a stop 17, with which the pawl engages at the end of its movement in the direction indicated by the arrow, and I also provide a stop 18 to limit the rearward movement of the pawl when retracted by the spring. In order that the distance the operator is obliged to pull the cord may not be inconveniently large, I provide the wheel with two or more teeth to every plunger, thereby shortening the cam-faces and making the stroke of the pawl correspondingly short. To notify the operator when he has made the desired number of strokes, I arrange a bell or alarm 19 below the base, and to coöperate therewith provide a lever 20, pivoted on a pin 21 and having a hammer 22, said lever being held in engagement with a pin or stop 23 by a spring 24. One or more pins 25 (two in this case) are provided on the wheel and adapted to engage the lever 20 during a complete revolution, as shown in Fig. 2, so that when the wheel is moved a half-revolution one of the pins will cause the lever to be moved against the action of the spring and then released, when the hammer will strike the bell.

The operation will now be readily understood. All of the pockets 3 being filled with balls or marbles, the operator grasps the knob 15 on the cord 14′ and pulls the latter outwardly until the arm or pawl engages the stop 17, during which the ratchet is revolved by the pawl 14 a sufficient distance to set and release the plungers 6, which will then be actuated by the springs 10 to project the balls simultaneously across the board in the directions indicated by the arrows in Fig. 1, and on account of their uniform velocities and the unequal distances from their starting-points to the intersections of their respective paths they will all pass by each other and enter pockets opposite those from which they were projected.

The board is preferably arranged so that each player is entitled to as many strokes during his turn at play as there are pockets before the alarm is sounded and so that the balls will be projected on the second operation to pockets one removed from the original ones until the balls have made the circuit of the board and are returned to their original pockets; but these conditions are not absolutely necessary, as the pockets could be arranged in any desired positions on the board, and the plungers might be operated by other means than those shown.

I claim as my invention—

1. The combination with a game-board having a plurality of pockets arranged at an angle to each other, and ejecting devices operating therein, of a single operating mechanism coöperating with said devices whereby missiles located in said pockets may be projected across the face of the board from one pocket to another.

2. The combination with a game-board having a plurality of pockets each arranged about a central point at an angle to a radial line and adapted to contain missiles, of a single ejecting device arranged in each pocket, and an operating mechanism controlling said devices whereby a missile may be projected from one pocket into another.

3. The combination with a game-board, a series of pockets arranged about a central point and at an angle to a radial line extending therefrom, and walls on the same relative side of each pocket extending across the central line of a preceding pocket, of ejecting devices arranged in the several pockets, and operating mechanism therefor.

4. The combination of a game-board, and a series of pockets arranged about a central point and extending at an angle to each other and having the outer ends open and in alinement with a preceding pocket whereby a missile may be projected from one pocket into another, with an ejecting device arranged in each pocket.

5. The combination with a game-board, a plurality of pockets thereon, and plungers having the ends operating in the pockets, of a rotatable member having cam-surfaces coöperating with the several plungers, and means for actuating said member.

6. The combination with a game-board, a plurality of pockets thereon arranged at an angle to each other, the open end of each being in alinement with a preceding pocket, and a plunger operating in each pocket, of a mechanism coöperating with the plungers to cause their simultaneous operation whereby missiles arranged in the several pockets will be projected toward a succeeding pocket.

7. The combination with a game-board having a plurality of pockets adapted to contain missiles, and ejecting devices operating in each pocket, of a rotary operating mechanism engaging with the several ejecting devices to cause their simultaneous operation.

8. The combination with a game-board having a plurality of pockets adapted to contain missiles, and an ejecting device arranged in each pocket embodying a plunger extending toward the center of the board, of a wheel having a plurality of cam-surfaces coöperating with the plungers, and a reciprocating arm engaging said wheel whereby the latter may be actuated.

9. The combination with a game-board, pockets thereon arranged about a center having the open inner ends and the ejectors lying in the outer ends of the pockets, of plungers attached to the ejectors, a central wheel provided with one or more cam-surfaces for each plunger, and an operating-arm for revolving the wheel.

10. The combination with a game-board having pockets thereon each adapted to con-

tain a missile, and longitudinally-movable plunger-rods having the ends in the pockets, of elastic connections between the board and rods operating to move the latter inwardly, a wheel having the cam-surfaces forming ratchet-teeth engaging the rods to move them outwardly, and a pivoted lever-arm engaging the teeth to rotate the wheel.

11. The combination with a game-board having pockets thereon, longitudinally-movable plunger-rods having the ends lying in the pockets, and elastic connections between the board and rods normally moving the latter toward the inner ends of the pockets, of a wheel revolubly supported on the board having the cam-surfaces forming ratchet-teeth engaging the rods to move them outwardly, a lever-arm movable over the teeth and coöperating therewith to revolve the wheel, an alarm mechanism and projections on the wheel coöperating therewith.

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Witnesses:
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