

964,466.

Patented July 12, 1910.

3 SHEETS—SHEET 1.

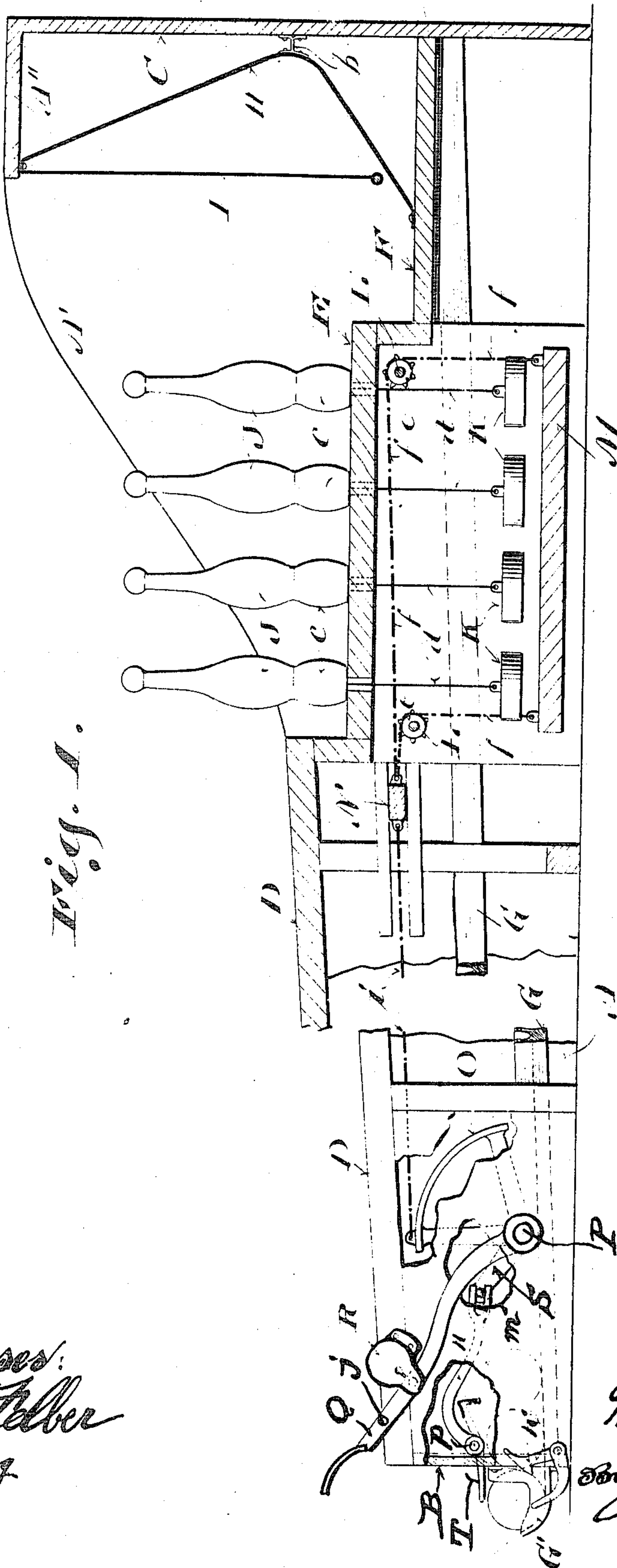


Fig. 1.

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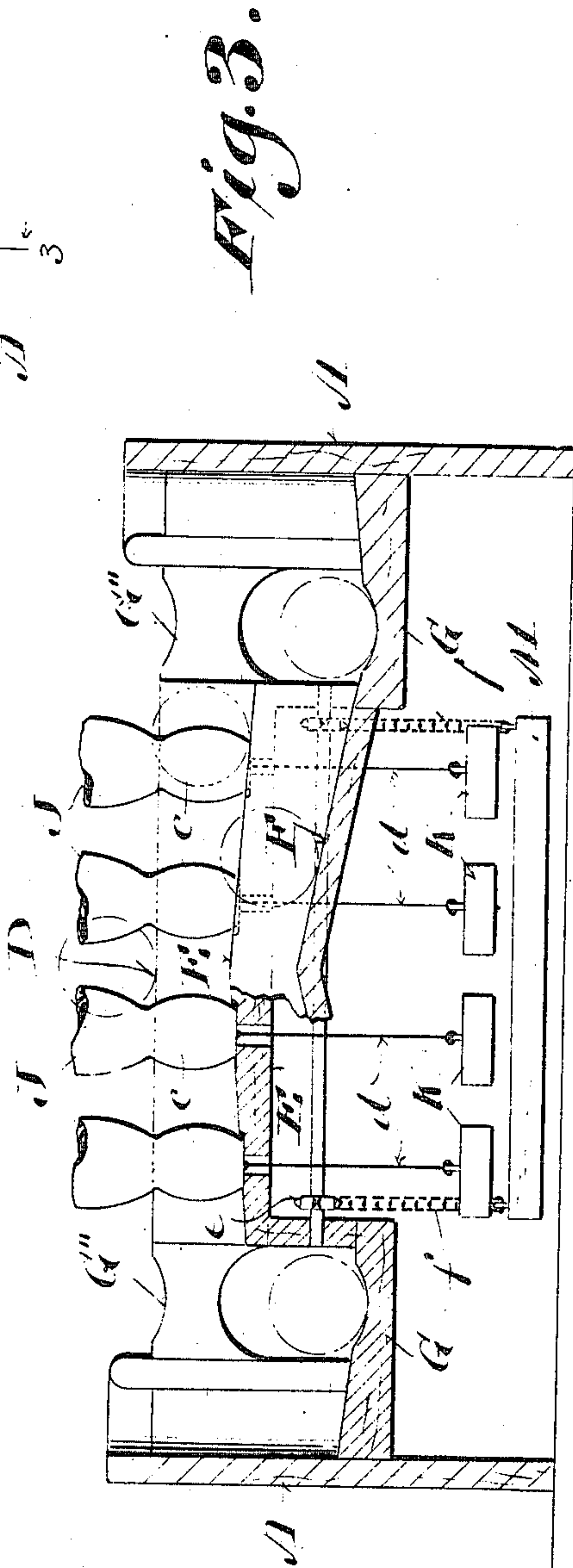
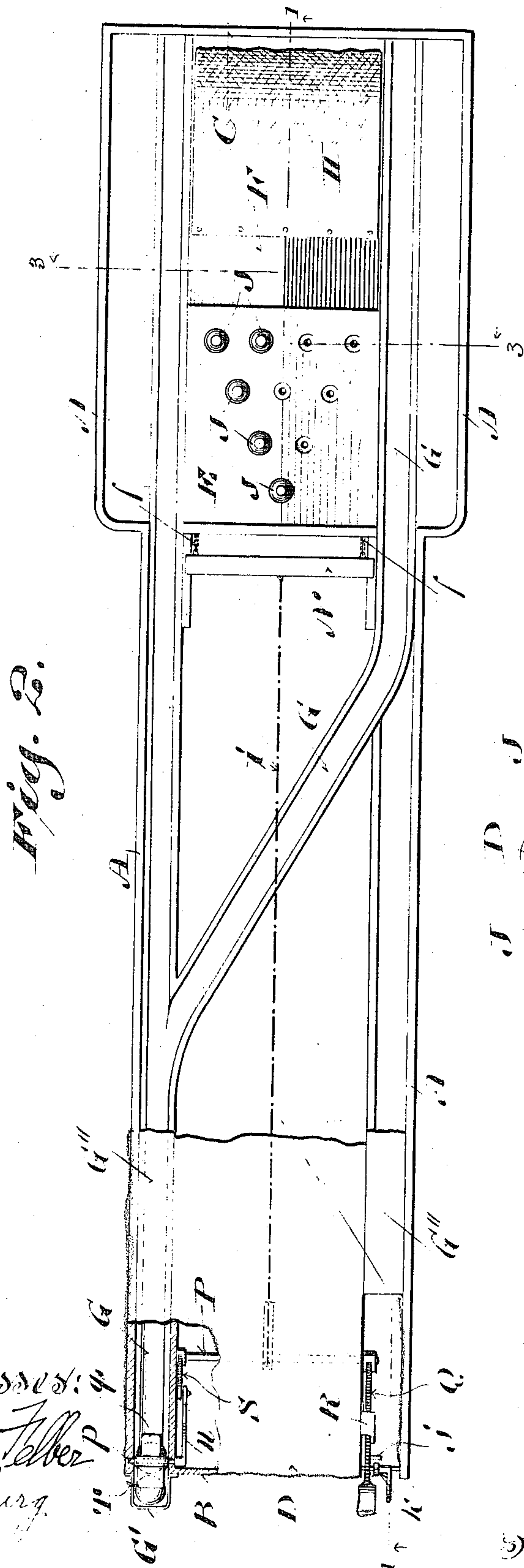
GAME APPARATUS.

APPLICATION FILED SEPT. 23, 1908.

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Patented July 12, 1910.

3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

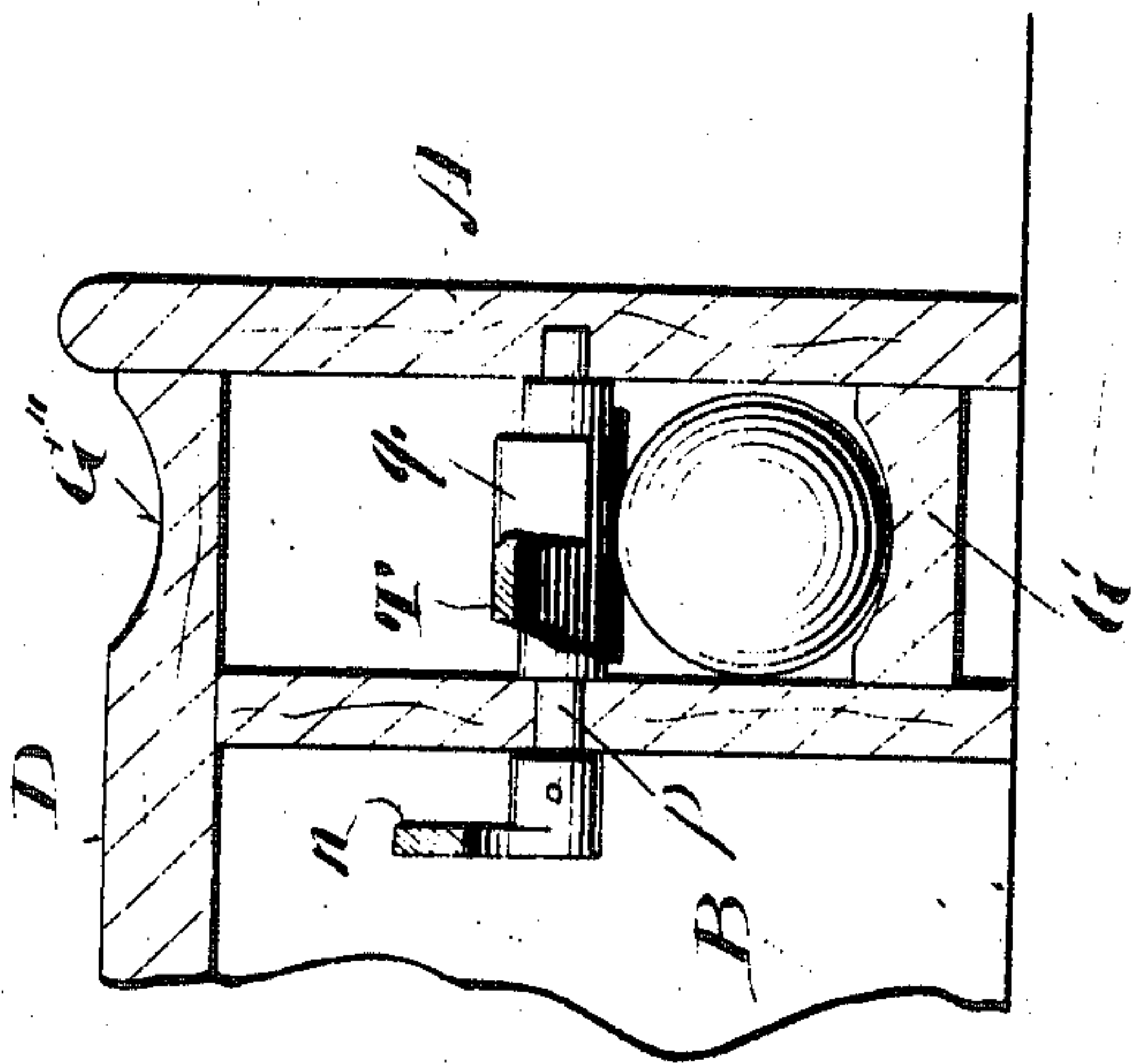
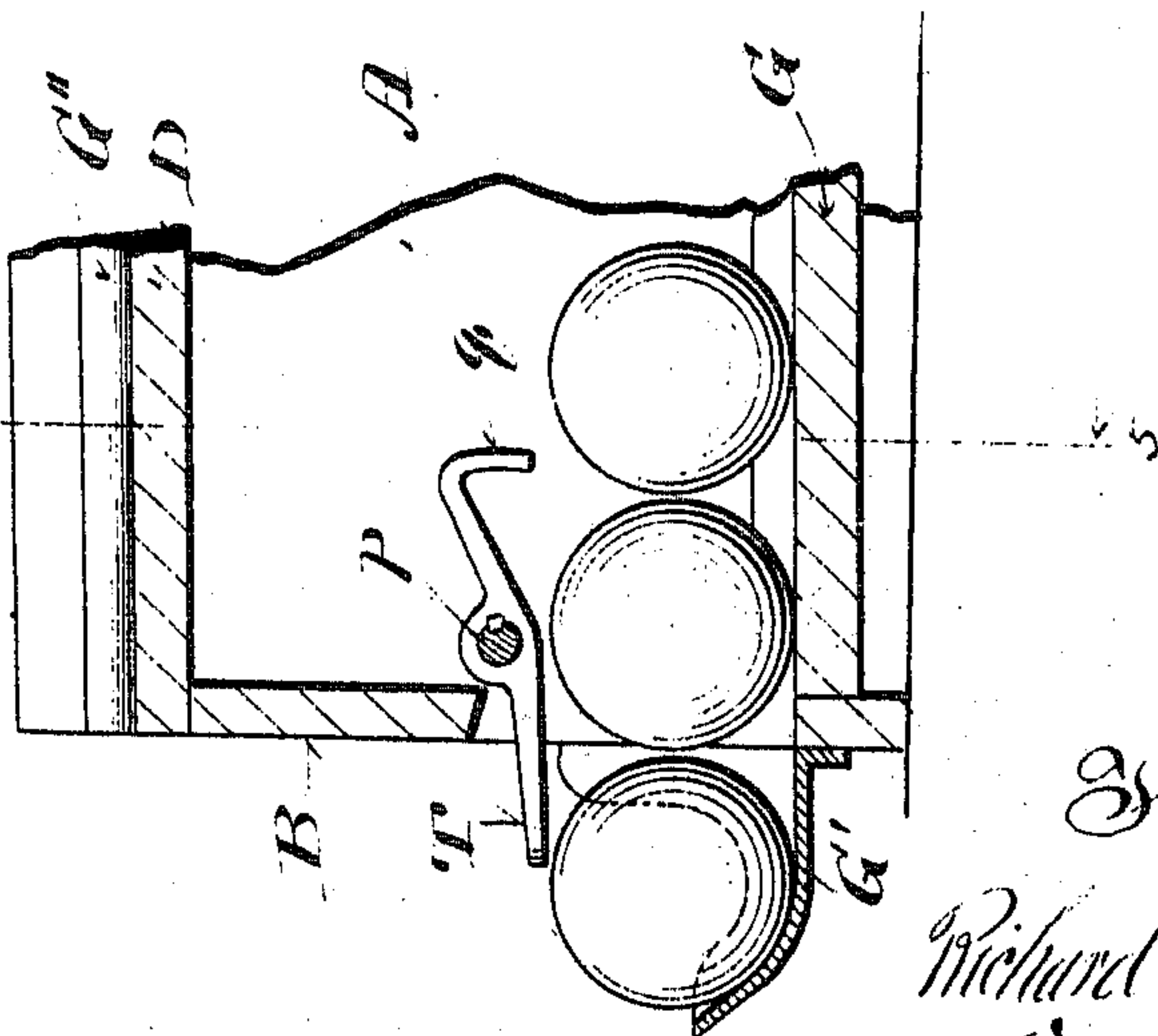


Fig. 4.



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UNITED STATES PATENT OFFICE.

RICHARD F. DOWNEY, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO AUTOMATIC BOWLING ALLEY COMPANY, OF MILWAUKEE, WISCONSIN.

GAME APPARATUS.

964,466.

Specification of Letters Patent.

Patented July 12, 1910.

Original application filed November 14, 1905, Serial No. 287,253. Divided and this application filed September 23, 1908. Serial No. 454,471.

To all whom it may concern:

Be it known that I, RICHARD F. DOWNEY, a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Game Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention, herein particularly set forth with reference to the accompanying drawings and pointed out in claims, was originally disclosed in my application Serial No. 287,253, filed November 14, 1905, of which this application is a division; and said invention has especial reference to structural detail of bowling-alley apparatus designed for use in places of public resort where space is limited and extra help undesirable.

Figure 1 of the drawings represents a side elevation of my improved game apparatus partly broken away and in section, the view being indicated by lines 1—1 in the next in numerical order of the several illustrations; Fig. 2, a plan view of the apparatus partly in horizontal section; Fig. 3, a transverse section view of said apparatus on the lines indicated by 3—3 in Fig. 2; Fig. 4, a partly sectional side elevation of a portion of the aforesaid apparatus, and Fig. 5, a transverse sectional view indicated by line 5—5 in Fig. 4.

Referring by letter to the drawings, A indicates the sides, B, C, the ends and D, E, F, top-sections of a box-like casing, said sides being offset at the rear and upwardly extended. At the rear of the casing, its upwardly extended end C, upward side extensions A' and an overhang A'' combine to constitute a hood.

The top-section D of the casing is shown as being preferably inclined upward toward the rear, and it constitutes the roll-way of the game-apparatus. The top-sections E, F, are at different elevations below the rear end of the roll-way and serve respectively as a pin-stand and bottom of a ball-pit.

Between the pin-stand and ball-pit and the upward extensions of the offset rear ends of the casing-sides are the rear open ends of a pair of ball-returns G that have pitch toward the front of the apparatus, one of the ball-returns being made to have junction

with the other, so that all the balls caught in both returns have their outlet at the front end of that one of the same that is parallel throughout its length with a side of the casing, as is clearly illustrated in Fig. 2. Side gutters G'' are provided adjacent to the top section of the casing.

The pin-stand E and the bottom of the ball-pit are both inclined from the center downward toward the open ends of the ball-returns and any ball stopped in its flight on said stand or in said pit will, by gravity, find its way into one or the other of said returns.

Secured at one end in the overhang of the hood is a bowed shield of canvas or other pliable material having its lower end fastened on the bottom of the ball-pit, and this shield is attached by flexible straps b, intermediate of its ends to the rear end C of the casing. By fastening the shield to the back of the hood as aforesaid, an inclined plane is provided between said back and the pit, the balls stopped by the curtain having descent on said plane to said pit. Hung in the hood, forward of the shield H, is a swing curtain I, also of canvas or other suitable material. The curtain serves as a yielding buffer for balls that have sufficient impetus to reach the same, and these balls fall onto the bottom of the pit aforesaid, there being a yield of said shield to the balls striking the same. The curtain and shield aforesaid serve as noiseless fenders for the balls.

Pins J, bulbous at their lower ends, have their support on the stand E aforesaid, and when in vertical position, the lower bulbous portion c of each is below the rear end of the aforesaid roll-way, the appearance from the front being that of an ordinary bowling-pin in standing position. Attached to the lower bulbous end of each pin, central of the same, is a flexible hanger d for a weight K, by which said pin is held in standing position.

Loose on stay-rods L, in the casing, are sprocket-wheels e for chains f that connect with corners of a scaffold M under the pin-weights and the chains are also connected to a horizontal sliding-bar N guided in said casing. The bar N is attached to a chain i, that in turn is attached to the rim of a sector O fast on a shaft P for which the casing is provided with bearings, and the

normal position of the sector is such that the scaffold M is suspended out of touch with the weights K by which the pins J are automatically set in vertical position. One
 5 end of the shaft P is fast in a lever in the form of a treadle Q that extends out at the front of the casing and is provided with a lug j for engagement with a tilt-latch k provided in the casing to extend outward
 10 therefrom at the front end. The lever Q is shown engageable with a lock R when in raised position, and the lock may be coin-controlled, but any suitable stop may be employed to limit upward throw of said lever.
 15 The shaft P is provided with a radial arm S having a lateral lug m engaging the forked end of a crooked arm n fast on an arbor p or a rocker T, one end of which rocker projects outward from the casing
 20 over a ball-receptacle G' in register with a ball-return that is parallel throughout its length with a side of said casing. The other end of the rocker has a depending flange q, and in one position of said rocker the flange
 25 constitutes a ball-stop.

The apparatus, as herein shown is organized for the game of ten-pins, and the movable parts of said apparatus appear in normal position. The treadle-lever Q being un-
 30 locked and depressed results in a lift of the scaffold M to elevate the opposing weight K and thereby slacken the flexible connection between the pins J and said weights. During descent of the lever Q, the rocker T is
 35 automatically adjusted to obtain clearance permitting the removal, one after another, of two balls from the receptacle G', and the flanged end of said rocker is swung down in the path of a returned ball back of the two
 40 aforesaid, said lever being held in depressed position by the latch k aforesaid. A frame of the game can now be rolled by a player, and this being done the treadle-lever Q is
 45 reset of the pins J, a subsequent lift of their weights and a release of two balls accessible to the player. The apparatus is now in condition for the playing of another
 50 frame of the game. After each frame of

returned to normal position, again depressed. its full throw and latched, these operations being continued for each frame of the game.

I claim:

1. A bowling-alley having the pin-stand 55 thereof below the rollway, and pins having extensions below their apparent bases approximating the difference in height between said rollway and stand.

2. A bowling-alley having the pin-stand 60 and ball-pit thereof at different elevations below that of the alley rollway, and pins having extensions below their apparent bases approximating the difference in height between said rollway and stand. 65

3. A game-apparatus comprising a rollway, a pin-stand and ball-pit, and which is provided with a rear upwardly extended hood over said pit, a swing-curtain in the hood, a bowed ball-shield of pliable material secured at its ends to the ball-pit and overhang of said hood in rear of the curtain, and straps flexibly connecting the shield intermediate of its ends with the back of the aforesaid hood to thereby form an inclined 75 plane between said back and the ball-pit.

4. A for the most part covered bowling alley ball-return terminating at the approach end of the alley in an exposed ball-receptacle, and means for regulating escape of re- 80 turned balls to the receptacle.

5. A bowling alley comprising a for the most part covered ball-return terminating at the approach-end of the alley in an exposed ball-receptacle, a rocker having an end 85 thereof projecting outward from the alley-casing over the receptacle, its other end being inwardly flanged; and means for actuating the rocker to clear a ball in said receptacle and to bring its flanged end in position 90 as a ball-stop in said ball-return.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

RICHARD F. DOWNEY.

Witnesses:

L. A. SHAKMAN,

H. E. OLIPHANT.