

No. 764,185.

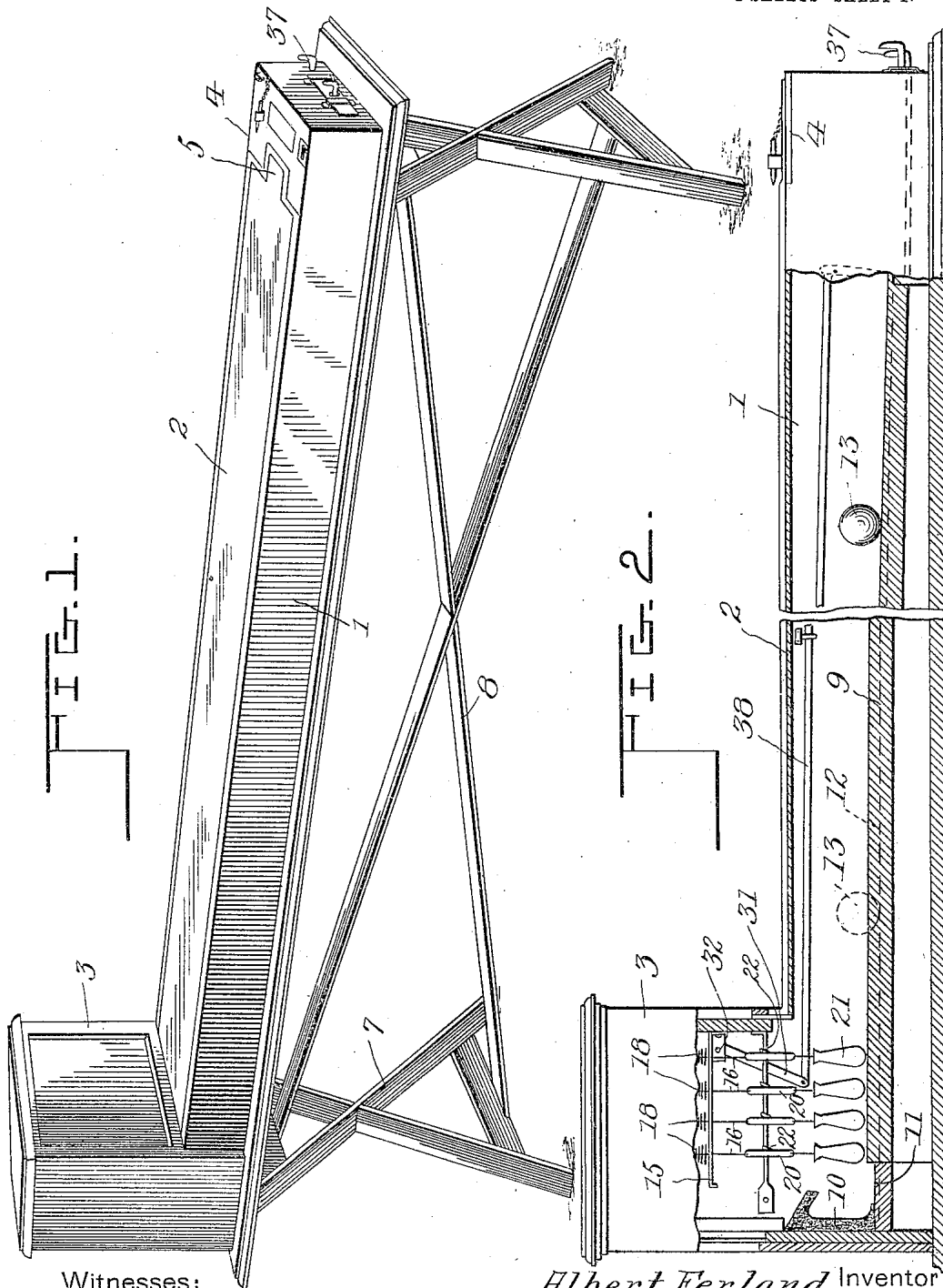
PATENTED JULY 5, 1904.

A. FERLAND.
TENPIN GAME.

APPLICATION FILED NOV. 10, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

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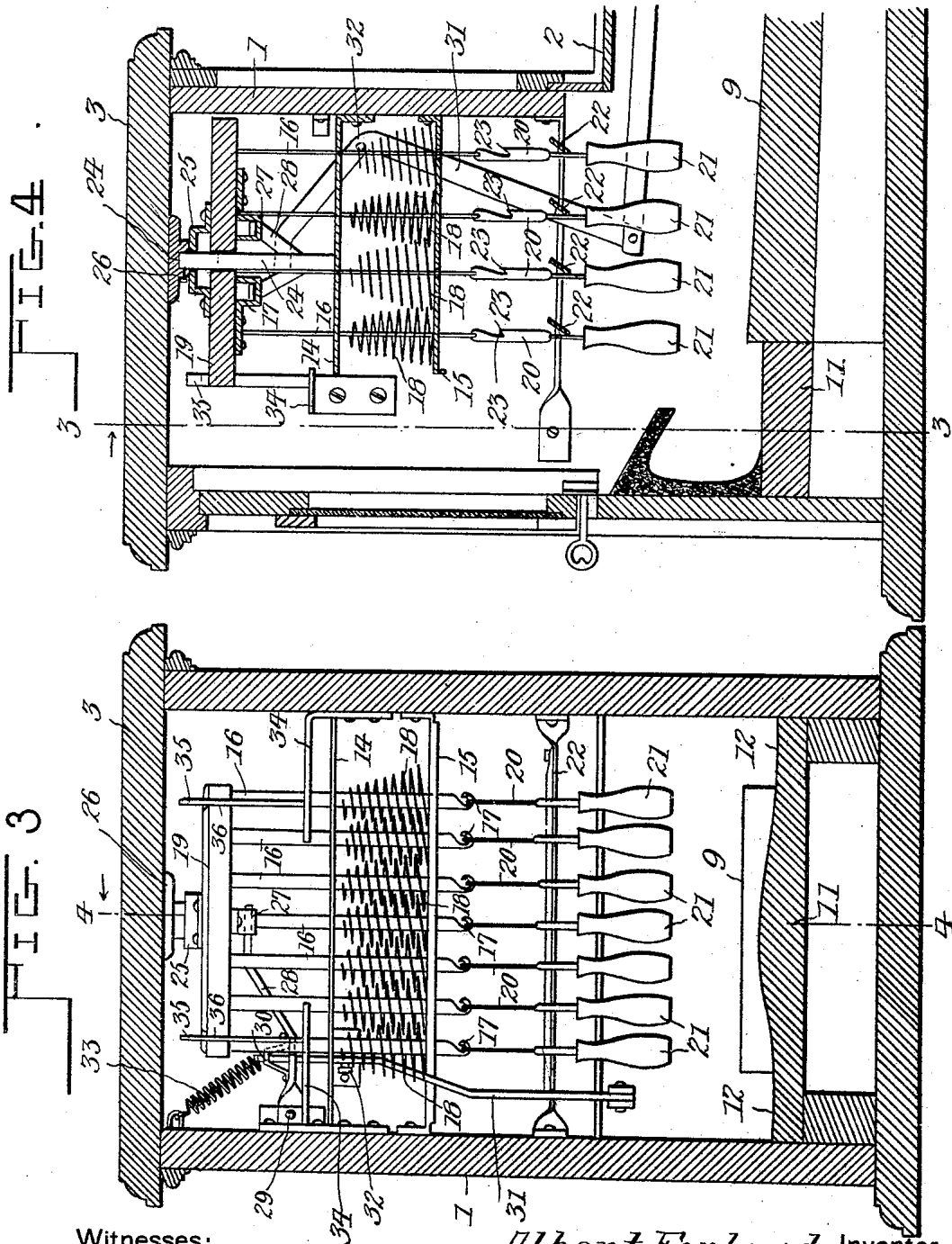
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UNITED STATES PATENT OFFICE.

ALBERT FERLAND, OF LAWRENCE, MASSACHUSETTS.

TENPIN GAME.

SPECIFICATION forming part of Letters Patent No. 764,185, dated July 5, 1904.

Application filed November 10, 1902. Serial No. 130,683. (No model.)

To all whom it may concern:

Be it known that I, ALBERT FERLAND, a citizen of the United States, residing at 17 Dracut street, in the city of Lawrence, in the State of Massachusetts, have invented certain new and useful Improvements in Tenpin Games; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to apparatus for playing tenpins or bowling.

The invention is intended to be especially useful in connection with a miniature bowling-alley for carrying on this game; and the object of the invention is to provide an improved means for removing the pins individually when struck by the ball and for resetting the same collectively after each player's turn.

The invention consists in a certain construction and combination of parts to be more fully described hereinafter, and definitely set forth in the claims.

In the drawings, Figure 1 represents my invention in perspective. Fig. 2 is substantially a side elevation, which is broken away and partly shown in section for the purpose of clearness. Fig. 3 is a vertical section taken at the pin-house at the lower end of the alley, this section being taken substantially on the line 3 3 of Fig. 4. Fig. 4 is a section at this point, but in a plane at right angles, and is taken substantially on the line 4 4 of Fig. 3.

Throughout the drawings the same reference-numerals denote like parts.

Referring to the parts by numerals, 1 represents the body of the alley, which consists of a substantially rectangular box which is open above and covered with a sheet of glass 2. At its farther extremity there is provided a superstructure or box 3, which I shall call the "pin-house," because it contains the tenpins and the mechanism immediately connected with them. At the head of the alley or its near extremity there is provided a cover-plate or board 4, at the forward edge of which there is formed a deep and wide notch 5, which notch is located just above the mechanism

for aiming and projecting the ball, so that the same is clearly visible through the glass covering 2.

The alley is suitably supported in a horizontal position upon proper standards 7, which may be connected with suitable braces 8, as indicated.

The construction of the body of the alley and the framework are most clearly shown in Fig. 2. It comprises a false bottom or main floor 9, which inclines upwardly slightly from the player's position toward the pin-house, and beyond it the rear wall of the pin-house is provided with a suitable back-stop or buffer 10, adapted to arrest the flight of the ball, there being a depressed floor 11 in front of this buffer, which inclines downwardly toward each side, as clearly shown in Fig. 3, for the purpose of deflecting the ball toward one side or the other, whereupon the ball will be returned to the player's position down either of the inclined runways 12 upon either side of the main floor 9 of the alley.

Before proceeding to a description of the pin-setting mechanism it may be said that the pins when a play is about to take place are suspended immediately above the alley-floor 9, as shown in Fig. 2, and when any one of them is struck by the ball 13 it is drawn up automatically into an elevated position, in which position all of the pins are shown in Figs. 3 and 4. The setting mechanism affords means for returning all withdrawn or elevated pins to the "set" position in which they are shown in Fig. 2. The mechanism for effecting these results comprises substantially horizontal guide-plates 14 and 15, mounted within the pin-house, and through which are vertically-guided tenpin-holders 16. These pin-holders consist substantially of flat metallic strips or bars provided at their lower extremities with hooks 17, as shown. Coil-springs 18 constrain these pin-holders upwardly, so that their upper extremities abut against the lower side of a vertically-movable setting-plate 19. The hooks 17 support, respectively, pin-hangers 20, which carry below them rigidly the tenpins 21, as shown. It should be said at this point that the tenpins are arranged as in playing the game upon standard

bowling-alleys. Immediately in front of the pin-hangers 20 are mounted inclined locking-plates 22, which extend across each row or phalanx of the pins, and the hangers 20 are
 5 provided with notches 23, which when sufficiently depressed are adapted to be engaged by the locking-plates 22, so as to maintain the pins in the depressed position in which they are shown in Fig. 2. It should be understood
 10 that depressing the plate 19 effects this locking or setting of the pins. A vertical guide 24 is provided for this plate, the plate being provided with a guide-bracket 25, secured above it, as indicated, the guide 24 being
 15 suitably mounted in a plate 26, as shown. Upon the lower face of the setting-plate 19 are mounted two yokes or stirrups 27, which receive the bifurcated extremity of a lever 28, constructed substantially as shown and pivoted as indicated at 29. This lever is itself
 20 provided with a yoke 30, which receives the extremity of a bell-crank lever 31, pivoted at 32, and a helical spring 33 normally maintains this lever in the position in which it is shown
 25 in Fig. 4, which operates to maintain the setting-plate 19 normally elevated. At each side are provided bracket-plates 34, the horizontal portions of which constitute stops to limit the downward movement of the setting-plate 19,
 30 and these brackets are provided with substantially vertical extensions 35 adjacent to the faces 36 of the setting-plate, which prevent any rotation of the same upon the aforesaid vertical guide 24. When the pins have been
 35 set and are in the position in which they are shown in Fig. 2, if any one of the pins were moved rearwardly, as it could be by the moving ball, the notch 23 corresponding to that pin is released and its spring 18 immediately
 40 withdraws it or elevates it out of reach of the ball. In this manner the struck pin or "dead-wood" is cleared away for the next shot.

The pins may be reset by pulling upon the handle 37, which operates through the link 38
 45 to move the bell-crank lever 31, which operates in turn to depress the setting-plate 19. The lower side of this setting-plate rests upon the members 16, which it depresses in unison sufficiently for the notches 23 to engage, re-
 50 spectively, with the members 22.

While I shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the
 55 details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following
 60 claims or of mechanical equivalents to the structures set forth.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

65 1. In tenpin-game apparatus, in combina-

tion, a body of tenpins, members attached vertically thereabove, means for individually constraining said members upwardly, a member engaging directly with said first members to force the same downwardly collectively, and
 70 means for locking the said first members in a depressed position.

2. In a tenpin-game apparatus, in combination, a plurality of holders, hangers attached thereto and having notches, tenpins carried
 75 by said hangers, members which may cooperate with said notches to maintain said tenpins in a depressed position, a depressible plate engaging directly with the said holders, and means for constraining said pins toward
 80 an elevated position.

3. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, plates having alining openings receiving said members, a plurality of ten
 85 pins suspended below said members, means for locking said members in a depressed position, and springs constraining said members upwardly.

4. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, a plurality of tenpins respectively carried thereby, a plate constituting a
 90 guide for said members, a second plate abutting said members, springs resting against
 95 said first plate and constraining said members upwardly, means for depressing said second plate, and means for locking said members in a depressed position.

5. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, a plurality of tenpins carried respectively thereby, a plate constituting a
 100 guide for said members, springs constraining said members vertically upward, means en-
 105 gaging said members directly for forcing the same downwardly collectively, and means for locking said members in a depressed position.

6. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, a plurality of tenpins carried
 110 respectively thereby, means for guiding said members, means for preventing the rotation of said members, members having notches in conjunction with said pins, other members
 115 which may engage said notches to maintain said pins in a depressed position, and means for constraining said first members toward an extreme position.

7. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, a member constituting a guide
 120 for said first members, said first members having a flat face whereby they are prevented from turning, a plurality of tenpins depending
 125 respectively from said members, means for constraining said members toward an extreme elevated position, and means for locking said members in a depressed position.

8. In a tenpin-game apparatus, in combina- 130

tion, a plurality of substantially vertically disposed members having flat faces, a plate having openings through which said members pass and constituting a guide therefor, springs constraining said members toward an elevated position, a plurality of tenpins depending respectively from said members, means for locking said tenpins in a depressed position, and a member adapted to engage all of said members simultaneously to depress the same.

9. In a tenpin-game apparatus, in combination, an alley, a plurality of substantially vertically disposed members, means for constraining the same toward an elevated position, a plurality of pins disposed vertically below said members, a connection between said pins and said members permitting a movement of said pins toward the rear of said alley, members having notches in conjunction with said pins, and other members which may engage said notches.

10. In a tenpin-game apparatus, in combination, a plurality of substantially vertically disposed members, hangers vertically disposed therebelow, a connection between said hangers and said members permitting a substantially pivotal movement of said hangers, a plurality of pins carried by said hangers, said hangers having notches, other members adapted to engage said notches to maintain said pins in a depressed position, and springs constraining said members toward an extreme position.

11. In a tenpin-game apparatus, in combination, a plurality of pin-holders, a plurality of tenpins connected therewith, a member engaging said pin-holders, means for forcing said member downwardly to set said pins, and

means for constraining said tenpins to withdraw them individually from their set position.

12. In a tenpin-game apparatus, in combination, a plurality of pin-holders, a plurality of tenpins connected respectively therewith, a member against which the extremities of said pin-holders abut, means for actuating said member whereby said tenpins may be set simultaneously, and means for individually withdrawing said tenpins when struck.

13. In a tenpin-game apparatus, in combination, an alley, a plurality of substantially vertically disposed pin-holders, tenpins carried respectively thereby, a pair of plates constituting guides for said pin-holders, a third plate adapted to set said pins against which the extremities of said pin-holders abut, an operating-handle at the head of said alley, mechanism connecting said operating-handle with said third plate, and means for constraining said pin-holders individually away from their set position.

14. In a tenpin-game apparatus, in combination, an alley, a plurality of tenpins adapted to assume a set position, a plurality of holders connected with said pins, a plate adapted to advance said holders to set said pins, a lever connected with said plate and adapted to advance the same, a spring adapted to return said plate, and means for actuating said lever from the head of said alley.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ALBERT FERLAND.

Witnesses:

FRANCOIS CARON,
CHRISTOPHER H. ROGERS.