J. P. KEENAN.

GAME APPARATUS.

APPLICATION FILED APR. 22, 1914.

1,111,592.

Patented Sept. 22, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

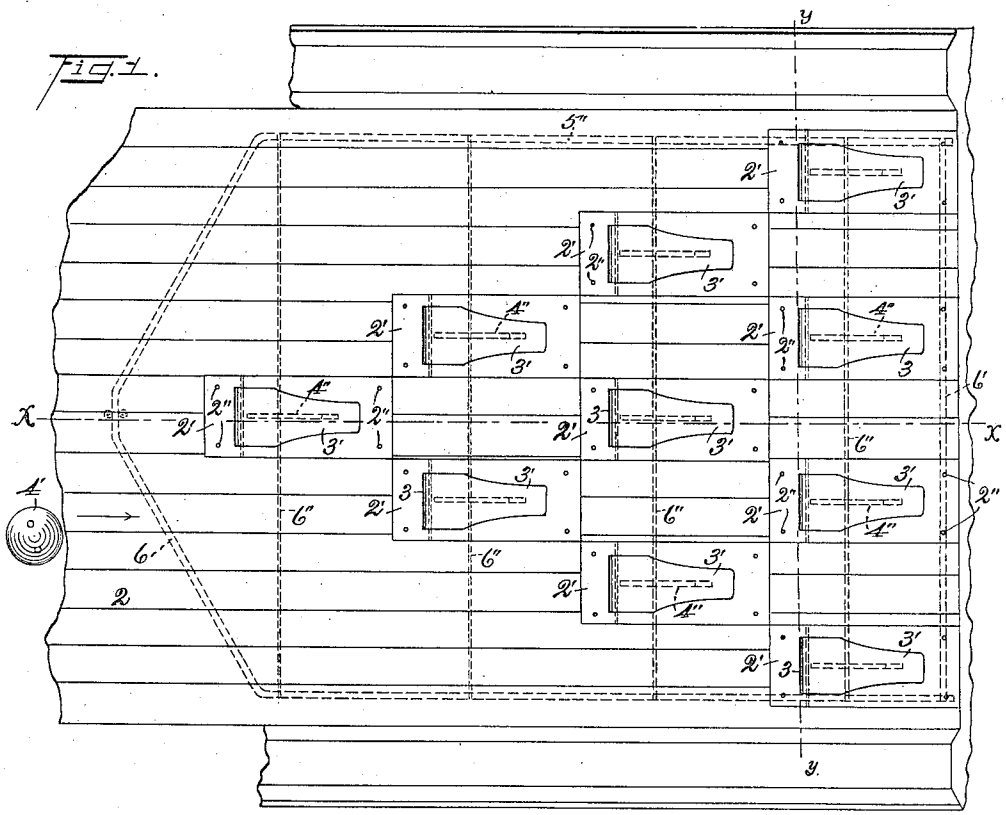


Fig. 2.

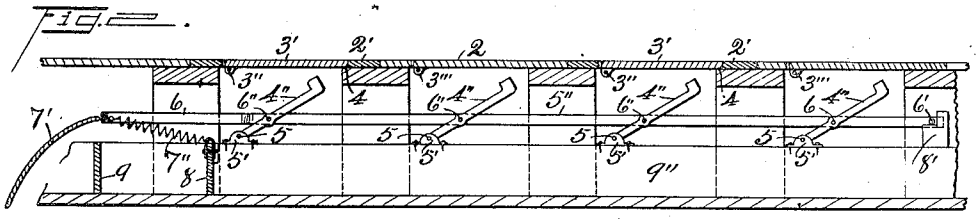
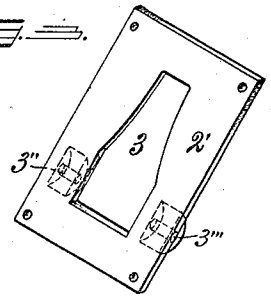


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

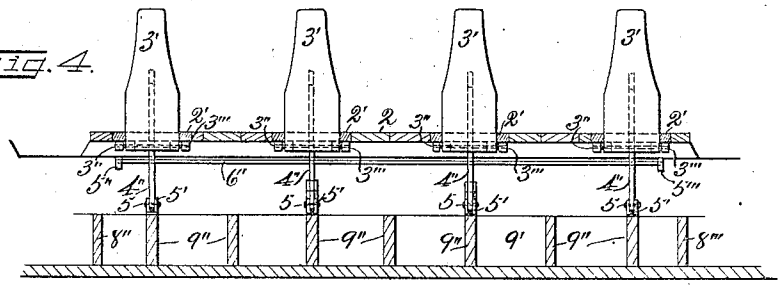


Fig. 5.

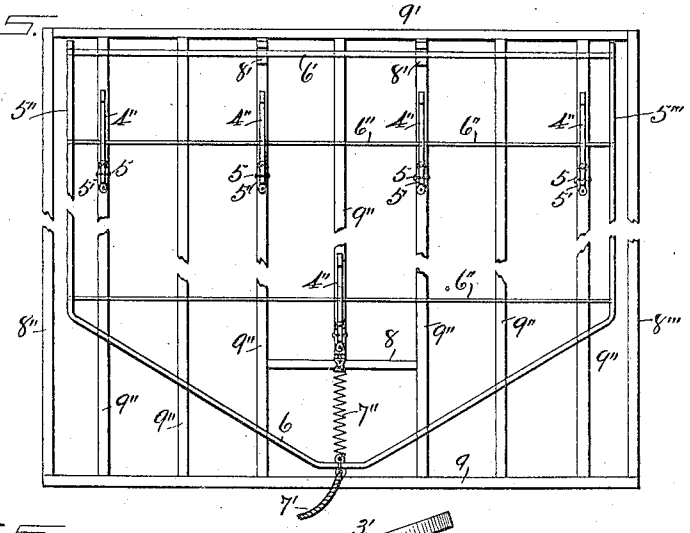


Fig. 6.

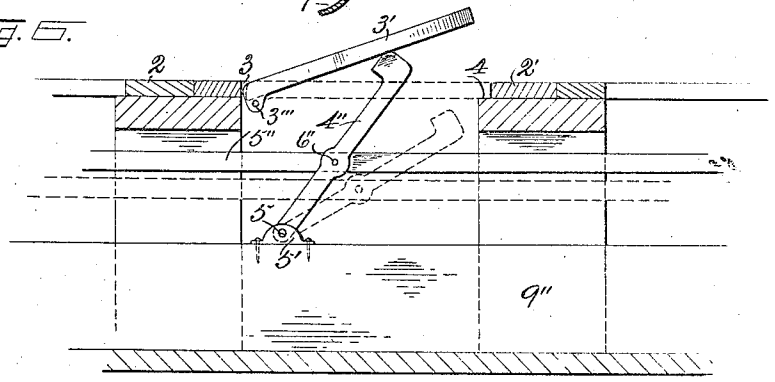
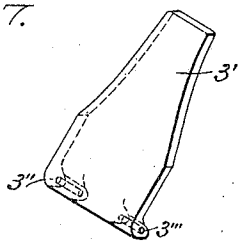


Fig. 7.



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GAME APPARATUS.

1,111,592. Specification of Letters Patent. Patented Sept. 22, 1914.

Application filed April 22, 1914. Serial No. 833,592.

To all whom it may concern:

Be it known that I, JOSEPH P. KEENAN, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Game Apparatus, which improvements are fully set forth in the following specification.

This invention relates to improvements in game apparatus, and more particularly to game apparatus of that type commonly known as bowling or ten-pin alleys.

The object of this invention is to provide a game apparatus of the character above named which shall be simple and comparatively inexpensive as regards its construction; durable, efficient and reliable in practical service; which shall be available in the playing—for purposes of manual exercise, amusement, or otherwise, and without the aid of an attendant for resetting the several pins made use of—of a game closely approximating that commonly known as bowling or ten-pins; and which shall possess certain well-defined advantages over prior analogous constructions.

The invention consists in certain combinations, details and parts whereby, together with the novel disposition and relative arrangement of said parts, the attainment of the foregoing object is rendered practicable, all of which will be hereinafter more particularly referred to and set forth in the appended claims.

The invention is clearly shown in the accompanying drawings, wherein—

Figure 1 is a fragmentary plan view of a game apparatus embodying my said improvements, the several pins made use of being depressed. Fig. 2 is a vertical, longitudinal section of same, as along the broken line *x*—*x* of Fig. 1. Fig. 3 is a view showing in perspective and detached one of the pin-supporting frames made use of, the scale being enlarged. Fig. 4 is a vertical transverse section, as along the broken line *y*—*y* of Fig. 1, certain of the pins made use of occupying, each its upstanding position. Fig. 5 is a plan view of the general pin-resetting mechanism, detached. Fig. 6 is a view similar to Fig. 2, the pin-resetting mechanism having been manipulated in a manner to cause the pin shown thereabove to measurably undergo its upward swinging movement, the scale being enlarged. Fig. 7 is a view showing in perspective and detached one of the pins made use of.

Having reference to the accompanying drawings, wherein similar reference-characters denote like parts throughout the several views I make use, in carrying out my invention, of a duly supported bed or play-floor 2, within which is seated, with its top surface flush with the top surface of said play-floor, a pin-supporting frame 2′, said frame being duly secured in position by means of suitable fasteners, as the screws 2″.

The frame 2′ has an opening 3 formed therein, and relatively to said opening swingingly operates a pin 3′. More specifically, and as here shown, the pin 3′ is hingedly attached to the frame 2′ as at the opposite points 3″, 3‴. Also, pin 3′ has a flat active or play surface substantially as shown, which play surface registers flush with the top surface of the frame 2′, when the pin 3′ is depressed, as indicated in Figs. 1 and 2 of the drawings. By preference, the pin aforenamed conforms in perimetric contour to the general contour of the opening three, measurably operates therein, and when depressed, as above stated, closes the same, as will be clearly understood.

When occupying its upstanding position, the pin 3′ preferably inclines somewhat forwardly with respect to the bed 2, as indicated in Fig. 2, thereby making it needless to provide any part or medium for restraining said pin against any tendency thereof to casually return to its depressed position aforenamed. In practice it is desirable that means, as the minor seat 4, be provided for sustaining the free end portion of the pin 3′, when depressed, and whereby movement of the pin downwardly shall be checked when the play surface thereof comes into registry flush with the top surface of the frame 2′, as will also be clearly understood.

In the practical operation of my improved game apparatus, the player, standing suitably in advance of the pin 3′, forcibly delivers thereat a ball or spherical object 4′, with the purpose of having the same engage, depress and pass beyond said pin, said object rolling along the bed 2 in the direction indicated by the arrow in Fig. 1, and all mainly as in common practice in playing the game commonly known as bowling or ten-pins; and in the event that the spherical object aforenamed does engage, depress and

pass beyond the pin 3′, it becomes desirable that said pin shall be reset or returned to its upright position. To accomplish this latter end without the aid of a youth or attendant, I make use of a novel resetting mechanism which will now be described.

4″ denotes a pin-resetting arm, situated beneath the pin 3′, swingingly operating, under stress duly applied thereto, on a pivot 5, projecting more or less upwardly from the latter, and whose free end plies within an arc of swinging movement which intersects and mainly but not wholly lies within, the arc of swinging movement of the pin aforenamed, all as clearly indicated in Fig. 6; and whereby, under direct movement of said arm, its free end engages said pin, when depressed, and causes it to swing into its upright position, (see Fig. 4), where it is left upon said arm being reversely moved or retracted, as in a manner to cause it to assume its normal position of rest, (see Fig. 2). In this instance the arm 4″ has its lower end pivotally positioned and held between the opposite side-members of a duly supported, upstanding clip 5′, but the same may be otherwise disposed.

Any appropriate medium may be availed of for manipulating and generally controlling the arm 4″, though in this connection I prefer making use of a longitudinally reciprocating rack, embodying opposite side-pieces 5″ 5‴, firmly connected by an advance transverse tie-member 6, and, by preference, a rear transverse tie-member 6′. Said rack surrounds the pin 3′, and may be shiftably supported in position for service in any common and well known manner, the same, however being, in this instance, measurably thus supported by the arm 4″, indirectly through the medium of a transverse rod 6″, the latter engaging at its opposite ends the opposite side-pieces 5″ 5‴, and intersecting and extending through the arm aforenamed, as at a point suitably removed upwardly from the axis of swinging movement thereof.

The rod 6″ may be disposed either fixedly or freely with respect to the arm 4″ or the opposite side-pieces 5″ 5‴, but in any event its disposition relatively to these parts, or any thereof, should be such as to insure, under direct or reverse longitudinal movement of the rack aforenamed, a correlative swinging action on the part of said arm.

The rack aforenamed is preferably provided with a flexible connection 7′, which may lead to any desired point, as forwardly along the bed 2, and through the medium of which connection direct movement of said rack may, for the purpose hereinbefore explained, be conveniently effected, said rack being caused to automatically undergo its reverse movement through the medium of any common and well known expedient, as the contractile spring 7″, here shown as connected at one of its ends to the tie-member 6, and at its opposite end to any suitable fixed part, as the minor transverse partition 8.

It is desirable that the reverse movement of the rack aforenamed be duly limited; and with a view to the attainment of this end I provide a stop 8′, engageable, in this instance, by the tie-member 6′, and whereby, in conjunction indirectly with the arm 4″ said rack tends, at all times under the impulse of its controlling spring 7″, to assume and occupy its normal position of rest, as clearly indicated in Fig. 2.

While any appropriate structure may be employed for duly supporting the foregoing resetting mechanism, it is my purpose to provide a sub-frame therefor, which sub-frame consists of opposite side-elements 8″ 8‴, firmly connected by front and rear end-sections 9, 9′, there being arranged longitudinally within said sub-frame an upstanding partition 9″, at a suitable point along the upper edge of which may be positioned and secured the clip 5′, as clearly shown in the drawings, the sub-frame aforenamed generally underlying the pin-resetting mechanism aforenamed. To the end that my improved game apparatus may be more fully applied to the playing of a game closely approximating that commonly known as bowling or ten-pins, having, collectively, the common general triangular arrangement, each supported, pivotally as hereinbefore explained, by a pin-supporting frame 2′, and each of the plurality of the latter made use of, together with each of said pins, being, in all essential details of construction and disposition, the counterpart of its neighbor or neighbors.

I further make use of a corresponding plurality of pin-resetting arms 4″, one for coöperation with each of the pins 3′, and surrounded collectively by the longitudinally movable rack aforenamed, the latter being provided with an appropriate number of upstanding, longitudinal partitions 9″, suitably spaced apart, and serving, each to support one or more of the clips 5′, a suitable plurality of the latter being availed of, one for coöperation of each of the arms 4″. Again, the rack aforenamed is provided with an appropriate number of transverse rods 6″, each for coöperation, as hereinbefore explained, with one, two, or more of the arms 4″, accordingly as the same may stand as a unit, or as elements of a transverse series or row thereof, as will be readily understood. Hence, where the above multiple form of my improved apparatus is availed of, upon the rack aforenamed being moved forwardly, as hereinbefore explained, the several arms 4″ will be caused to swing upwardly in unison, with the result that the several pins 3′ made use of, will also be

caused to swing upwardly in unison, each of said arms taking with it the pin situated thereabove; and upon said rack being retracted, as through the medium of its controlling spring 7″, said pins will each occupy and remain in its upstanding position. Now, upon a play being made by a player, such pin or pins as he may succeed in knocking down or depressing, may be readily reset in the manner above defined.

It will be seen that my improved game apparatus is well adapted for the purposes for which it is intended, and further that the same may be modified to a considerable extent, without materially departing from the scope of the claims hereto appended.

I claim:

1. A game apparatus comprising a bed and a pin, the latter being so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, and vice versa, having a flat play surface, and, when occupying its horizontal position, having its said play surface flush with the top surface of said bed.

2. A game apparatus comprising a bed, a pin-supporting frame depressed therein, the top surfaces of said bed and frame registering, each flush with the other, and a pin, the latter being so supported by said frame as to be capable of undergoing movement from a substantially vertical position to a horizontal position, and vice versa, having a flat play surface, and, when occupying its horizontal position, having its said play surface flush with the top surface of said frame.

3. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, whereby said pin may be reset or returned to its said vertical position.

4. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, the latter affording an arm arranged beneath, and whose free end-portion is movable into and out of the arc of movement of the pin aforenamed, and whereby said pin may be reset or returned to its said vertical position.

5. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, whereby said pin may be reset or returned to its vertical position, said mechanism comprising an arm arranged beneath, and whose free end-portion is movable duly into and out of the arc of movement of the pin aforenamed, and a rack whereby said arm may be duly actuated, said rack being freely conjoined with said arm.

6. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, whereby said pin may be reset or returned to its vertical position, said mechanism comprising an arm arranged beneath, and whose free end-portion is movable duly into and out of the arc of movement of the pin aforenamed, and a rack whereby said arm may be duly actuated, said rack affording a connection leading to a point distant therefrom.

7. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, whereby said pin may be reset or returned to its vertical position, said mechanism comprising an arm arranged beneath, and whose free end-portion is movable duly into and out of the arc of movement of the pin aforenamed, a rack freely conjoined with the arm aforenamed, a connection leading from said rack to a point distant therefrom, and whereby the same may be directly actuated, and means for yielding effecting automatically a return movement of said rack upon the connection aforenamed being freed from stress.

8. A game apparatus comprising a bed and a pin, the latter so arranged on the former as to be capable of movement from a substantially vertical position to a horizontal position, in registry with said bed, and pin-resetting mechanism, whereby said pin may be reset or returned to its vertical position, said mechanism comprising an arm pivotally disposed beneath, and whose free end-portion is movable duly into and out of the arc of movement of the pin aforenamed, a rack surrounding and freely conjoined with the arm aforenamed, a flexible connection leading from said rack to a point distant therefrom and whereby the same may be directly actuated, and an elastic element, the latter exerting at all times an elastic force on said rack, to correspondingly hold the same retracted, or in its normal position of rest.

9. A game apparatus comprising a bed and a plurality of pins the latter collectively arranged on said bed and movable, all in one and the same direction, and each from a substantially vertical position to a horizontal position, in registry with the bed aforenamed.

10. A game apparatus comprising a bed and a plurality of pins the latter collectively

arranged on said bed and movable, all in one and the same direction, and each from a substantially vertical position to a horizontal position, in registry with the bed aforenamed, and pin-resetting mechanism, whereby any one of said pins, or any number thereof collectively and in unison, when depressed, may be reset or returned to a substantially vertical position relatively to the bed.

11. A game apparatus comprising a bed, a plurality of pin-supporting frames, the latter depressed, respectively, within said bed, and a like plurality of pins, one supported by each of said frames, said pins being movable, all in one and the same direction, and each from a substantially vertical position to a horizontal position, in registry with the frame which supports it.

12. A game apparatus comprising a bed, a plurality of pin-supporting frames, the latter depressed, respectively, within said bed, a like plurality of pins, one supported by each of said frames, said pins being movable, all in one and the same direction, and each from a substantially vertical position to a horizontal position, in registry with the frame which supports it, and pin-resetting mechanism, whereby any one of said pins, or any number thereof collectively and in unison, when depressed, may be reset or returned to a substantially vertical position relatively to the bed.

13. For a game apparatus of the class herein described, a pin-supporting, flat frame pivotally supporting a flat pin, the latter adapted to swing into and out of registry with said frame.

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