Aug. 13, 1940. J. H. KISSINGER 2,211,470

BOWLING GAME APPARATUS

Filed Oct. 3, 1939

Fig. 1

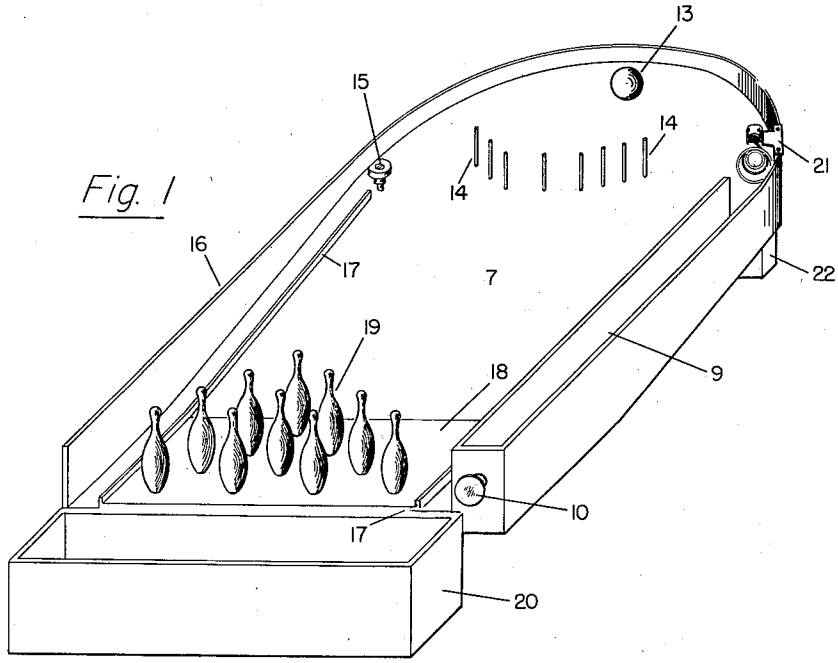



Fig. 2

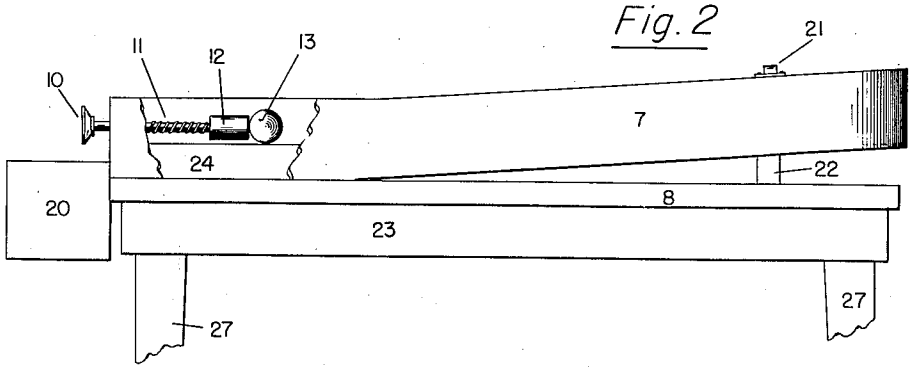
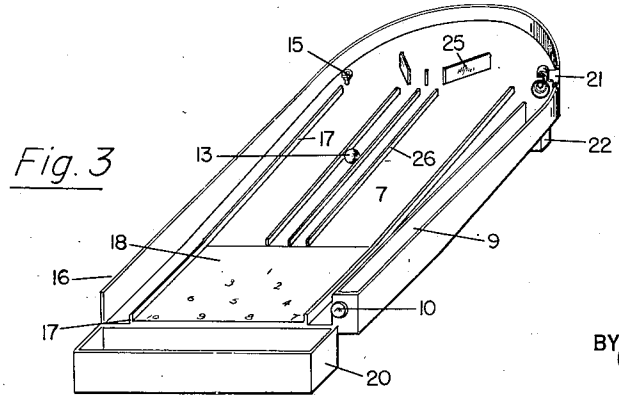



Fig. 3




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Patented Aug. 13, 1940

2,211,470

# UNITED STATES PATENT OFFICE

2,211,470

## BOWLING GAME APPARATUS

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Application October 3, 1939, Serial No. 297,700

3 Claims. (Cl. 273—38)

My invention relates to bowling game apparatus, particularly apparatus where indirect propelling means for the bowling ball is employed in effecting contact of such ball with the ten pins, and its objects are to divert and amuse the players, to afford an opportunity for the excuse of skill in directing the course of the ball; to provide a game apparatus in the operation of which there are a plurality of chance factors creating interest and excitement on the part of the players; to furnish a game which may be played equally well with interest by both adults and children; to produce a miniature bowling game which is portable, easily assembled, and arranged so as to be taken down and readily packed within a convenient receptacle; to afford a container for catching both pins and ball in the line of progress after bowling contact; and to simplify and render more effective the operation of the several parts. Other objects will hereinafter appear.

My invention generally comprises the novel structures, features and combinations illustrated in the drawing and hereinafter more particularly described and claimed.

As generally played on the regulation full sized bowling alley, the game of ten pins is both healthful and of universal interest, and is a sport which affords relaxation and needed exercise for a large number of people, both young and old. It is accordingly a major purpose of my invention to create an interest in the game which ultimately will lead to the adopting of this healthful form of exercise, although in and of itself my improved game apparatus is an ample means for relaxation.

Attention is hereby directed to the accompanying drawing illustrating two preferred forms of my improved game apparatus, in which similar numerals of designation refer to similar parts throughout the several views, and in which:

Figure 1 is a perspective view of one form of my invention, showing the ten pins in position and the ball at the top of the board and about to descend;

Figure 2 is a side elevation of the apparatus shown in Figure 1, the ball being shown in contact with the plunger head;

Figure 3 is a perspective view of a modification of the apparatus shown in Figure 1.

Referring to Figures 1 and 2 of the drawing, all of the operating parts of my invention are mounted upon the inclined board 7, the upper surface of which constitutes a miniature bowling alley, and which is surrounded, except at the front end thereof with the guard rail 16. In order that each of the ten pins 19 may rest upon a level surface, I so shape the front portion of said board as to provide a platform 18, embracing the area for the setting of said pins, which is made as nearly flat and horizontal as possible. This may be accomplished by constructing said platform 18 integral with the board itself, or, as shown by forming a separate stage and mounting the same upon the board in the position desired, care being taken that smooth joints are secured so as to offer no obstruction to the passage of the ball to the pins. To the front end of each platform 18, is secured the box 20, shaped and depressed to receive both pins and ball after the same have been driven backward off the board. As will be observed, the portion of the board 7 behind the platform 18, is slightly inclined so that the rear end thereof approaches the top of the guard rail 16, although sufficient clearance above said board is provided to prevent the escape of the ball. Such inclination is further accomplished and maintained, by the legs 22 affixed underneath said board at the outer end thereof. Preferably the construction is such that my improved apparatus embodying this form of my invention may rest upon the top 8 of a table of the form in general use, having side strips 23 and legs 27; and so that the rectangularly shaped box 20 may make registering contact with the adjacent edge of said top, and thereby prevent said apparatus as a whole from being pushed forward thereon or readily moved laterally or dislodged from operative position by the player.

At one side of the board 7 (preferably the right) is located the runway or chute 9, the channel of which is preferably of such a width as to permit the ball 13 readily to pass through, but not so wide as to permit any appreciable play therein. The front end of said runway is closed in order to allow the plunger 10 to be installed therein, in an opening provided therefor, a helical spring 11, surrounding the shank of said plunger, being interposed between the plunger head 12 and the closed end of the said runway, to provide a means of propulsion of the ball 13 through said runway and out of its open end at the rear thereof upon the floor. As shown of the board 7, said runway leads out.

Directly in front of the mouth of the open end of said runway is located the spiral spring stop 21 attached to the guard rail 16, the construction of said stop being such that, while no material obstruction is offered to the passage of the ball 13

from said runway, an effective barrier is presented to the return of such ball back into said runway. Directly across the board from said stop 21 and adjacent to the guard rail 16 is located the buffer 15 which is firmly affixed to said board by a screw or spike, and which is composed of rubber or other resilient material capable of cushioning the ball and of causing the same to rebound therefrom. At the rear of the inclined surface of the board 7, and preferably located slightly beyond the area between the buffer 15 and the stop 21, are the pegs 14, which are firmly driven into or affixed to the board, and which are so spaced as to afford two openings, as nearly as possible to the central longitudinal line of said board, for the passage of the ball therethrough. If desired, only one of such openings may be used. Preferably, I employ pegs of such length and material as to be somewhat resilient in character, and arrange such pegs so as to have one peg midway between the sides of said board and diagonally arranged rows of pegs on each side of said central peg and separated therefrom by a space sufficient for the passage of said ball. As will be observed, the said central peg is positioned upon the upper part of the board directly opposite to the head pin situated lower down upon the setting platform 18, both the said peg and pin being located in the middle of said board and in the central longitudinal line thereof; the effect of such arrangement obviously being, when the ball passes through either of the openings on either side of said central peg, to tend to cause the ball to roll downwardly, and to hit the side of the central pin or the pins on one side or the other of said central pin, and not to hit the same upon the nose; and the ball being thereby, to a considerable extent guided so as to secure a maximum number of spares and strikes. On each side of said board near the guard rail 16, are the longitudinally extending ridges 17 made sufficiently high to prevent the ball from passing thereover in its course down the board. These ridges 17 are for the purpose of confining the movement of the ball within the width of the platform 18.

In Figure 3, I have shown a modification of the device illustrated in Figures 1 and 2, in that I have substituted for the diagonally arranged rows of pegs, the resilient strips 25, which are made of thin pieces of metal or other suitable material and firmly attached to the board. Also to aid the ball to pursue a straight course down the board, I affix to said board the elongated strips 26, here shown preferably as three in number and so spaced as to afford two passageways for the downward movement of the ball. If desired, however, two such strips could be used with a single passage therebetween.

As shown in Figure 3, the central strip is located in the middle of the board equidistant from the sides thereof so as to point directly to the space occupied by the head pin; and as will be observed each of the outer strips 26 is positioned as to form with said central strip a passageway leading in the direction toward one side or the other of said head pin and not so as to cause the ball to hit said pin squarely on the nose; this guiding arrangement of said strips being such as obviously to insure, more often than would otherwise be the case, the making of strikes and spares.

To operate the bowling apparatus shown in Figures 1 and 2, such apparatus is placed upon the floor or preferably upon a table as shown in Figure 2, and the ten pins 19 are set in their usual position upon the platform 18, as indicated in Figure 1. Then the ball 13 is placed in the runway 9, and caused to contact with the head 12 when the plunger 10 has been drawn back by the operator against the spring 11 to the extent desired by him. Then upon the release of said plunger by the operator, the ball will be shot forward in the runway 9 in response to the impulse so imparted. If such impulse is of sufficient strength, the ball 13 will be caused to pass under and to clear the top 21, and thereupon to follow the guard rail 16 to the buffer 15, from which, according to the impact therewith, the ball will, on its rebound, either pass through one of the two large openings through the pegs 14 or will pass downwardly on one side or the other of said pegs. If the ball should pass through either of said larger openings, it will then by reason of gravity and the inclination of the board 7, descend the middle portion of the table and strike the pins upon the platform 18 and cause all or a portion of them to fall upon said platform or into the box 20. As will be observed, once the stop 21 is cleared, it will be impossible for the ball 13 to return into the runway 9, although if the initial impulse is insufficient, the ball will not pass out of the runway, and will return to its original position without contacting the pins 19. It is therefore evident that considerable skill may be exercised in using the proper degree of force in expelling the ball from its runway and causing it to make contact with the pins. In operating the form of device shown in Figure 3, a similar course of action will be followed.

My invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments, as above set forth and described, are therefore to be considered in all respects as illustrative and not restrictive, the scope of my invention being indicated by the appended claims, and all changes which come within the meaning and range of equivalency of the elements of the combinations set forth in the claims are therefore intended to be embraced therein.

What I claim and desire to secure by Letters Patent is:

1. In a bowling game apparatus, the combination of a longitudinally extending board forming a miniature bowling alley, a platform at one end adjacent to the player for setting small ten pins, an immovable barrier located in the middle of said board, two obstacles each of which is located upon said board on one side of said barrier opposite to the other obstacle, and forms an offset gateway operating to discharge the bowling ball in the direction of and so as to cause said ball to strike against one side of the head pin of said pins, and means for imparting movement of the bowling ball up the alley and back through, or adjacent to, one of said gateways toward said pins.

2. In a bowling game apparatus, the combination of a longitudinally extending board forming a miniature bowling alley, a flat platform at one end of said board adjacent to the player for setting small ten pins, an offset open conduit for the bowling ball adjacent to the central part of said board, the entire length of said conduit being straight and immovable in the direction of its width and discharging in the direction of, and so as to cause said ball to strike against, one side of the head pin, spring actuated means for

imparting movement to the ball up the alley and back through said conduit, and means for causing it to strike against said head and other pins.

3. In a bowling game apparatus, the combination of a longitudinally extending board forming a miniature bowling alley, a flat platform at one end of said board for setting small ten pins, two offset open passageways for the bowling ball separated by a ridge located in the central part of said board, the entire length of said passageways being straight and said passageways being immovable in the direction of their width and each discharging in the direction of, and so as to cause said ball to strike against, one side of the head pin, spring actuated means for imparting movement to the said ball to and through or to one side of said passageways and means for causing it to strike against said pins.

JOHN H. KISSINGER.