Sept. 17, 1935. F. E. KROKER 2,014,899

BOWLING ALLEY

Filed Feb. 5, 1935 2 Sheets-Sheet 1

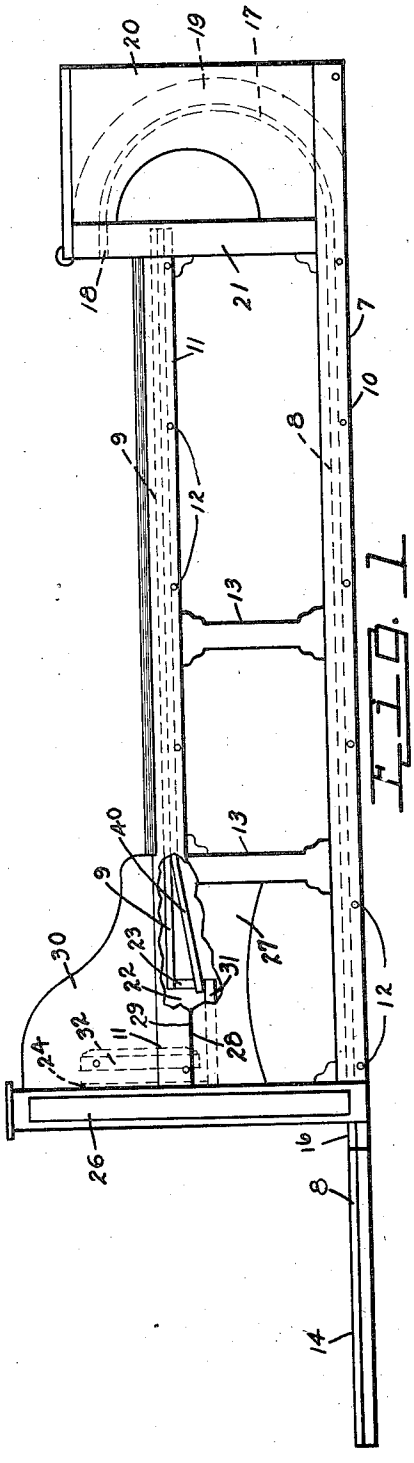


FIG. 1

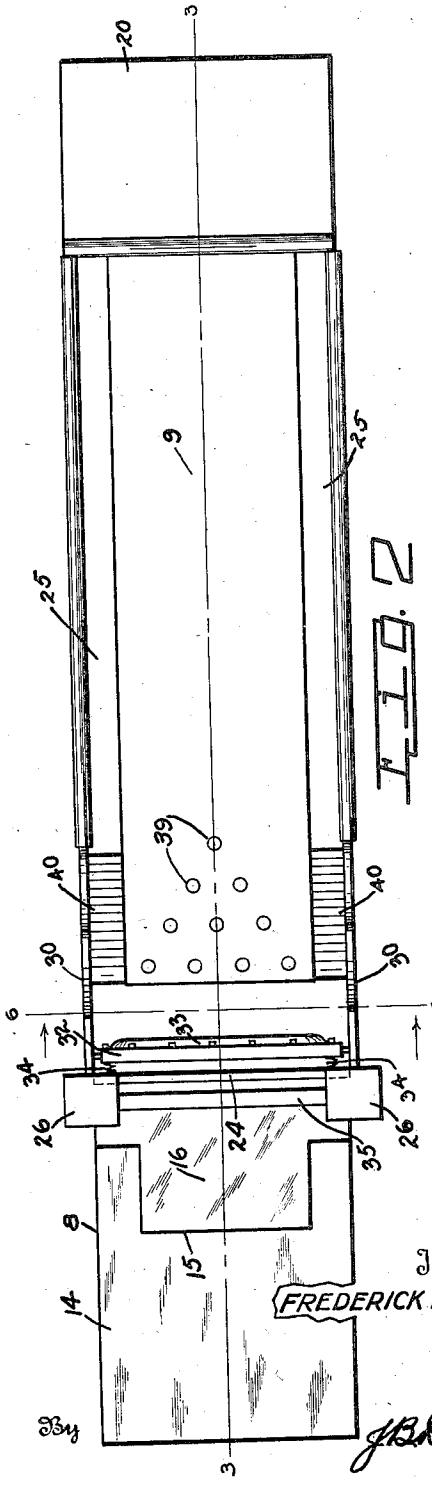


FIG. 2

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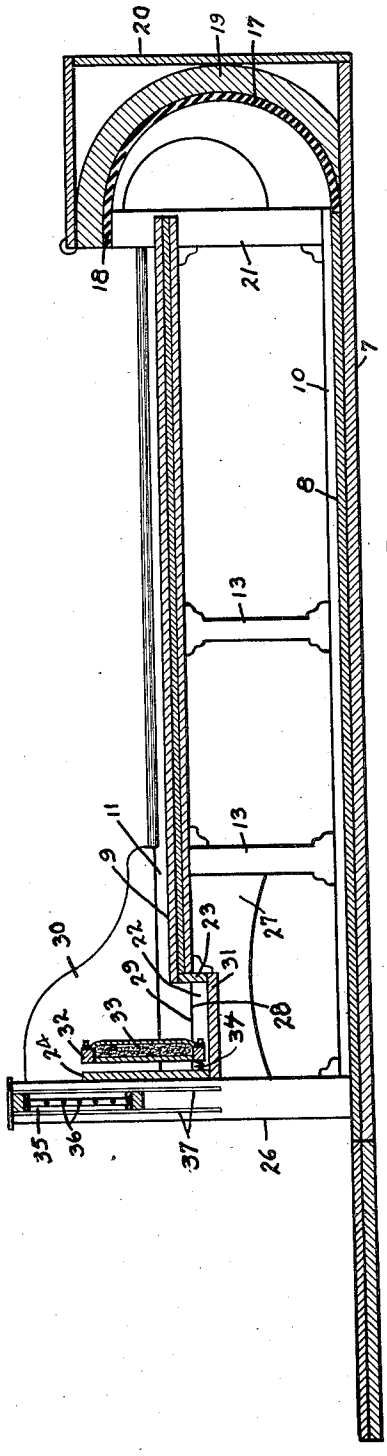


FIG. 2

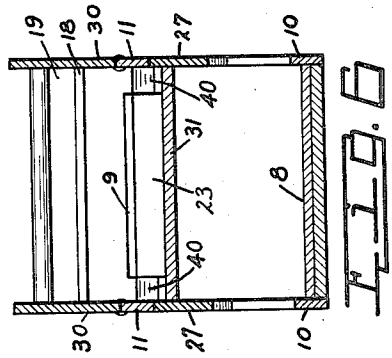


FIG. 6

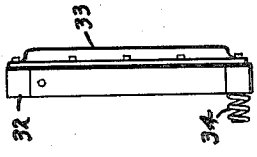


FIG. 5

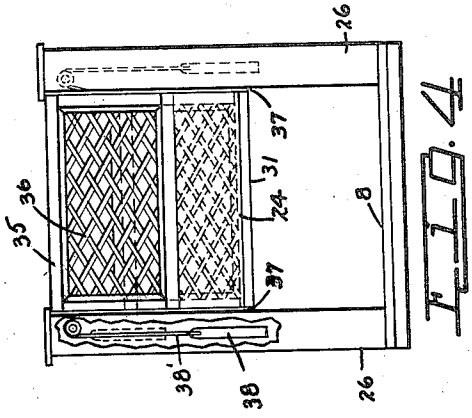


FIG. 4

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BOWLING ALLEY

Frederick E. Kroker, Washington, D. C.

Application February 5, 1935, Serial No. 5,108

2 Claims. (Cl. 273—39)

The present invention relates to improvements in bowling alleys, and particularly to bowling alleys of the portable or reduced range type, one which may be installed in homes and other places, which, due to the lack of proper length, preclude the regulation apparatus from being installed.

An object of the invention is the provision of a reduced range bowling alley having all of the essential characteristics of a regulation alley and requiring the same degree of skill to play as the regulation alley requires.

Another object of the invention is the provision of a lower going alley and an upper return alley, the end of the going alley being arcuate and having a portion overlapping the return alley to guide the ball onto the return alley.

A still further object of the invention is the provision of a pivotally mounted back stop equipped with resilient cushion shock absorbing means, the back stop being so positioned the pins and balls on impact are deflected into the pit.

A still further object of the invention is the provision of a slidable protective means at the end of the pit.

A still further object of the invention is the provision of the gutters on either side of the receiving alley adjacent the pins and inclined downwardly and into the pit.

A still further object of my invention is the provision of a detachable portion of my novel bowling alley.

With the foregoing and other objects in view, the invention consists in the novel arrangement and combination of parts hereinafter more specifically claimed and illustrated in the accompanying drawings, in which:—

Figure 1 is a detail elevational view of my improved bowling alley, portions of the view being broken away.

Figure 2 is a top plan view of my improved bowling alley.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is an end elevational view illustrating my novel slidable protective means, the protective means being shown in its normal protective position by full lines, and in the position the protective means assumes when the player sets up the pins on the receiving alley.

Figure 5 is an end elevational view per se of my novel back stop equipped with resilient cushion means.

Figure 6 is a transverse elevational view taken on line 6—6 of Figure 2 looking in the direction of the arrows.

Referring to the drawings in detail wherein similar reference characters designate corresponding parts throughout the several views, the numeral 7 represents my improved bowling alley, comprising a going alley 8 and a return alley 9. The alleys 8 and 9 on their longitudinal edges are equipped with guard rails 10 and 11 secured thereto in any suitable manner, such as by screws or bolts 12. Interposed between these guard rails 10 and 11 are a plurality of vertical supports 13 which hold the return alley in spaced relation to the going alley 8. The going alley at the front end has a detachable portion 14 which is provided with a substantially U-shaped cut out portion 15 which engages a corresponding cut out portion 16 of the going alley 8. At the rear end, the going alley 8 is equipped with an arcuate portion 17, and this portion 17 is illustrated in the drawings as vulcanite, however I do not limit myself to this specific material, as the arcuate portion may be made of wood, sheet iron or any other suitable material. It is to be noted that the upper end portion of the arcuate portion 17 terminates into a horizontal portion 18 which portion overlaps the end of the return alley 9, and this overlapping portion is in spaced relation to the return alley approximately the width of a playing ball. The arcuate portion 17 and the horizontal portion 18 serves as a continuation of the going alley 8. The arcuate portion 17 and the horizontal portion 18 are reinforced by a portion 19 which may conform to the contour of the portions 17 and 18, and these portions 17, 18 and 19 are housed in a housing 20, the vertical portion 21 of the housing serving as a support for the return alley 9.

The front end of the return alley 9 is provided with a pit 22, the rear end 23 of the pit being secured to the return aley 9, the front end 24 of the pit being secured in a manner to be later described. On each side of the return alley 9 I provide gutters which communicate with the pit 22 in a manner to be later described.

On the going alley 8 and positioned an appreciable distance in from the front end of the going alley are posts 26. The guard rails 10 and 11 have one end T'd into the posts 26 which adds to the rigidity of my novel structure, the posts also serving to support the return alley 9, the other end of the guard rails 11 being T'd into the vertical portion 21 of the housing. Interposed between the posts 26 and some of the vertical supports 13 are reinforcing sides 27 which are T'd into the supports 13 and post 26. The top edges 28 of the reinforcing sides 27 engage the bottom edges

29 of the guard rails 11 and serves as a further supporting means for the return alley 9. Mounted on top of the guard rails 11 are side guards 30 having one edge T'd into the posts 26, the bottom edge being dowled or otherwise secured to the top edge of the guard rail 11. Transversely mounted between the posts and rigidly secured thereto is the front end pit member 24. To the bottom edge of the members 23 and 24 is secured the floor member 31 of the pit, the members 23, 24 and 31, and the members 11, and 27 comprising the pit structure. The pit members 23 and 31 are further secured by screws to the reinforcing side members 27.

Pivotally mounted between the side guards 30 is a back stop 32 equipped with a padded portion 33 and resilient shock absorbing means 34, and as illustrated in the drawings the shock absorbing means are of resilient springs, however any suitable resilient means may be employed. The back stop 32 is so mounted that it is spaced from the pit member 24 allowing for swinging movement when struck by either the pins or the balls.

Referring to the drawings Figure 4, it will be seen that a gate 35 equipped with a wire grille 36 is mounted for slidable movement between the posts 26 and the gate is held in slidable position by track strips 37. The gate is normally held in a protective position by weights 38, the gate being so positioned as to height, that the player may lean over the gate to set up the pins on the return alley 9, the gate and weights then assuming the position illustrated in dotted lines Figure 4. On the return alley I provide spots 39 for the pins in order that the player when leaning over the gate may place the pins in proper position. After the pins have been spotted the player takes his playing position, the gate 35 automatically assuming its protective position.

In Figure 1 of the drawings I have shown a portion broken away which illustrates the incline portion 40 of the gutters adjacent the king pin into the pit 32. This novel arrangement of the gutters eliminates the possibility of dead wood interfering with the game and also provides a means whereby toppled pins will go into the pit, where they are accessible to the player.

In playing a game of pins on my improved alley, the player delivers the ball on the going alley 8 where it travels until the curved portion is met, the ball being then diverted to the receiving alley 9 down the receiving alley to the pins and into the pit. When the player has delivered the game number of balls he then reaches over the gate which automatically goes down, giving the player free access to the receiving alley and the pit, whereby the pins are spotted on the alley 9 and the player then is again ready to deliver the balls on the going alley.

While the principles of the invention will always be adhered to, the invention is susceptible to certain changes and modifications and I do not wish to limit myself to the exact structure, and changes may be made without departing from the spirit of the invention or the scope of the claims hereto appended, but

What I claim is:—

1. In a bowling alley, the combination of a going alley, a curved alley and a return alley, the going alley equipped with a detachable portion, a pit at the end of the return alley, gutters on each side of the receiving alley, said going alley and return alley equipped with guard rails, the gutters of said return alley adjacent said pit being inclined downwardly into the pit, side guard members secured to some of said guard rails, a back stop pivotally mounted between said side guard members, shock absorbing means on said back stop, posts on said going alley, the said guard rails and side guards being connected to said posts, and a movable guard means interposed between said posts.

2. In a bowling alley, the combination of a going alley, a curved alley and a return alley, the going alley equipped with posts and a detachable portion, a pit at the end of the return alley, gutters on each side of the return alley, a portion of said gutters adjacent the pit inclined downwardly into said pit, guard rails on the going alley and the return alley, said alleys held in spaced relation by upright members, posts, side guard members and side reinforcing members, said side guard members and reinforcing members secured to some of said guard rails and said posts, a back stop pivotally mounted between said side guard members, said back stop equipped with resilient cushion means, a gate slidably mounted between said posts equipped with a protective means and means on said gate attached thereto for normally holding said gate in a protective position to said pit and receiving alley.

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