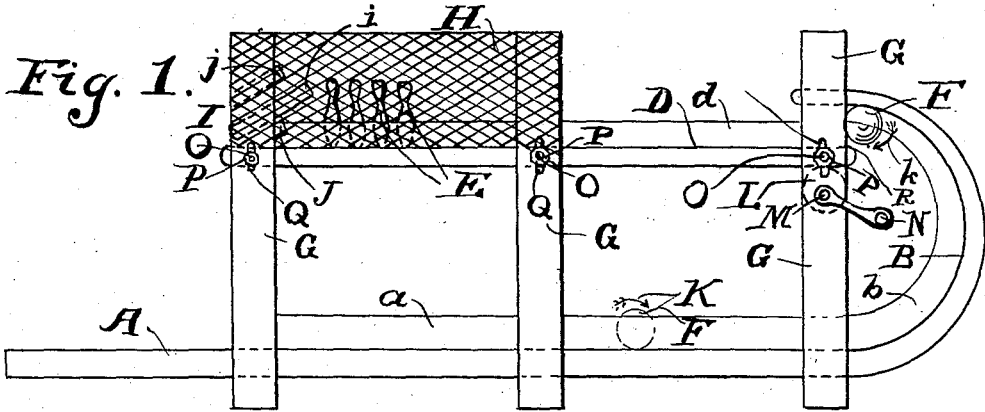


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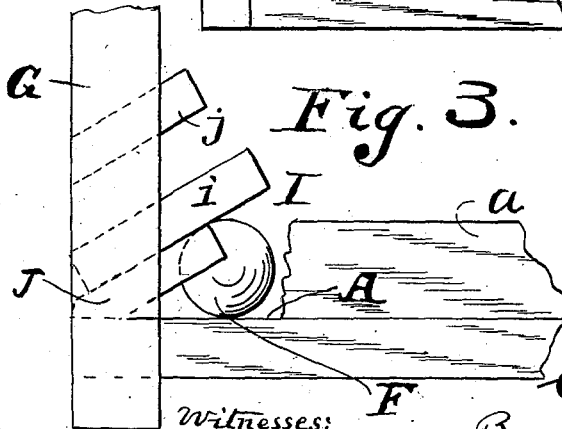
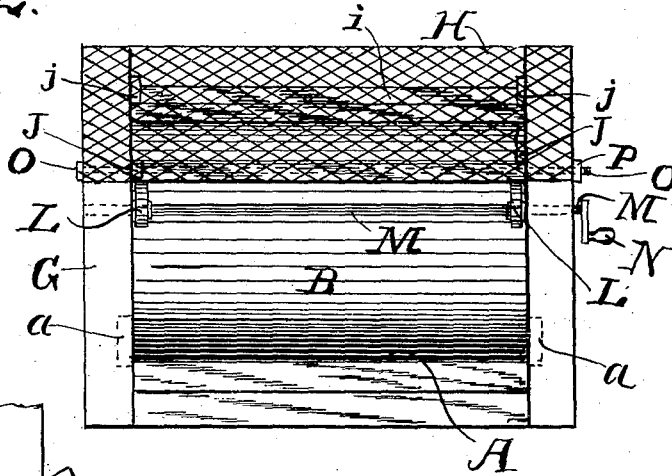
PATENTED AUG. 20, 1907.

C. LUFKY.  
BOWLING ALLEY.

APPLICATION FILED FEB. 23, 1907.



*Fig. 2.*



Witnesses:

A. St. August,  
C. A. Adams.

Inventor:  
Charles Lufsky,  
By Charles Turner Brown,  
Atty.

# UNITED STATES PATENT OFFICE.

CHARLES LUFKY, OF CHICAGO, ILLINOIS.

## BOWLING-ALLEY.

No. 863,732.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed February 23, 1907. Serial No. 358,855.

To all whom it may concern:

Be it known that I, CHARLES LUFKY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bowling-Alleys, of which the following, when taken in connection with the drawing accompanying and forming a part hereof, is a full and complete description, sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to what are known as bowling alleys or ten pin alleys, and the object of the invention is to obtain a portable bowling alley, which will occupy less space than the regulation bowling alley and on which games can be played in a manner requiring the exercise of skill and permitting the expenditure of any preferred force in bowling the balls.

A further object of the invention is to obtain a portable bowling alley which may be used without danger of injury to the persons playing thereon or to spectators. And a further object of the invention is to obtain a portable bowling alley which may be easily taken down, set up and adjusted and which will not be liable to get out of order.

I have illustrated a device embodying my invention in the drawing hereinbefore referred to, in which

Figure 1 is a side elevation of a portable bowling alley embodying my invention, with bowling pins set up thereon, and Fig. 2 is an end elevation of a portable bowling alley embodying the invention, and Fig. 3 is a side elevation, on an enlarged scale, of the return end of a portable bowling alley embodying the invention.

A reference letter applied to designate a given part is used to indicate such part throughout the several figures of the drawing, wherever the same appears.

A is the lower portion of the bed of the bowling alley, and as the balls used in playing a game on such bowling alley are delivered by the bowlers on such lower portion of the bed it will hereinafter be termed the receiving bed.

B is a curved portion of the bed of the bowling alley and D is the remaining portion of such bed, and is hereinafter termed the return end of the bed.

E, E, are bowling pins which are placed on the return end D of the bed of the bowling alley at about the place where such pins are illustrated in Fig. 1.

a, b, and d are respectively side walls to prevent balls F from rolling off the bed A, B, D.

G, G, G, are posts holding the bed A, B, D, in position.

H is a netting placed at the return end of the bowling alley to receive the pins E, E, and ball F, thereby protecting players and by-standers from injury.

I is a stop at the return end of the bowling alley arresting forward motion of the balls and preventing

backward rolling thereof. Stop I consists of cleats J, j, and board or plank i.

Cleats J, j, are secured to posts G, G, at the return end of the bowling alley, in an inclined position, and the board or plank i rests loosely on cleats J, J. When a ball rolls underneath the plank or board i such ball continues its forward course until by the weight of the plank or board on the ball it is stopped. At such time the plank may be raised from cleats J, J, and resting on the ball it prevents backward movement or rebound of such ball.

In the use of this bowling alley the ball F rotates in the direction indicated by the arrows K, k, Fig. 1, when on receiving bed A and curved portion B of the bed; but after such ball is delivered to the return end D of the bed such rotation is arrested by friction and its rotation in the direction indicated is ultimately stopped, and before such ball reaches the pins E, E, it is usually rotating in the opposite direction. I have found that the ball F may be delivered on to receiving bed A with any degree of force possible by a player and at all times its forward movement at the time of striking the pins E, E, is so moderated that no danger of throwing the ball or pins through or over the netting need be apprehended; and I believe the retardation of the forward movement of the ball is due to the change of rotation thereof hereinbefore described, the effect being comparable to that resulting in what is known as a draw shot in billiard playing.

L, L, are cams on shaft M and N is a crank on shaft M.

O, O, are rods extending through posts G, G, on opposite sides of the alley and through the return end D thereof.

P, P, are nuts on rods O, O.

Q, Q, are slots in posts G, G.

The end R of return end D of the bed rests on cams L, L, when such cams are used, and by turning the crank N the end R is adjusted to the size of balls to be used on the alley. After bed D is adjusted it is held in an adjusted position by tightening nuts P, P, against the posts. In practice I find that the opening between the end R of the return end of the bed and the adjacent end of the curved portion B of such bed should be slightly more than the diameter of the ball to be used. As say, if balls six inches in diameter are to be used such opening may well be  $\frac{1}{8}$  and  $\frac{3}{8}$  inches high. When so constructed there will be no jumping or pounding of the ball in passing from curved portion B of the bed to return end D thereof.

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

1. In a portable bowling alley the combination of a ball, posts, a receiving bed attached to the posts, a curved bed at the discharge end of the receiving bed, such curved bed attached to adjacent posts, and a return bed adjustably attached to the posts and arranged to receive a ball discharged from the curved bed.

2. In a portable bowling alley the combination of a ball, posts, a receiving bed attached to the posts, a curved bed at the discharge end of the receiving bed, such curved bed attached to adjacent posts, a return bed attached to the posts and arranged to receive a ball discharged from the curved bed, means to adjust the return bed relative to the curved bed, means to maintain the return bed in an adjusted position, and means to stop the ball adjacent to one end of the return bed.
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- 10 3. In a portable bowling alley the combination of a ball, posts, a receiving bed attached to the posts, a curved bed at the discharge end of the receiving bed, such curved bed attached to adjacent posts, an adjustable return bed arranged to receive a ball discharged from the curved bed, a rod with cams thereon to adjust the receiving end of the return bed relative to the curved bed, and rods provided with nuts thereon, such rods extending through the return bed and through oppositely placed posts, to maintain the return bed in an adjusted position, and means to stop the ball adjacent to one end of the return bed.
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CHARLES LUFISKY.

In the presence of—  
CORA A. ADAMS,  
CHARLES TURNER BROWN.