

972,568.

J. E. NOONAN.
PORTABLE BOWLING ALLEY.
APPLICATION FILED JULY 9, 1909.

Patented Oct. 11, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

WITNESSES
Geo. W. Taylor
Leo. J. Foster

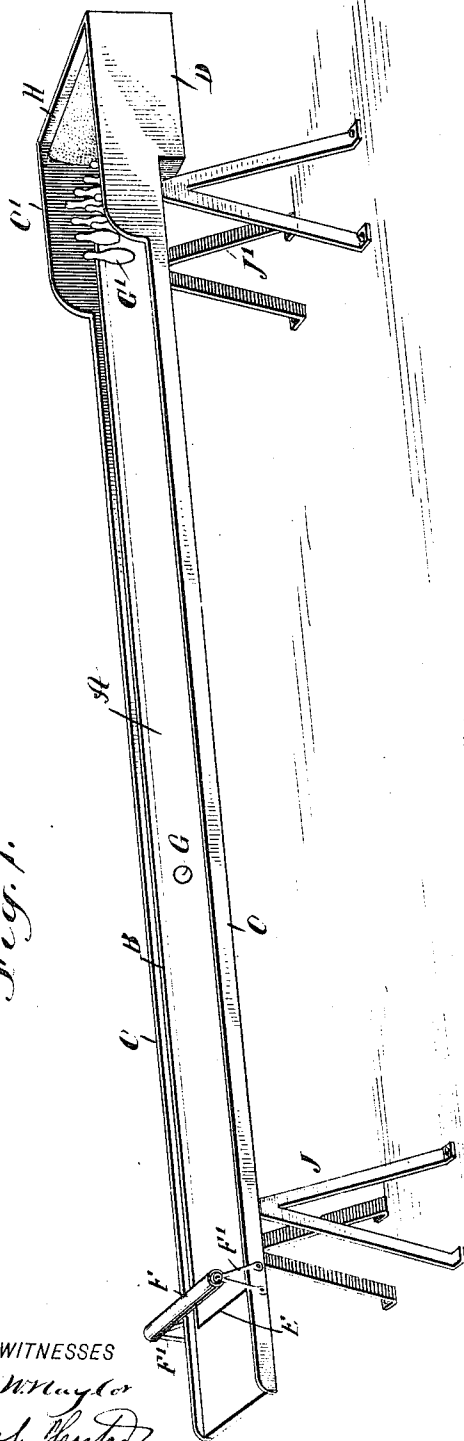
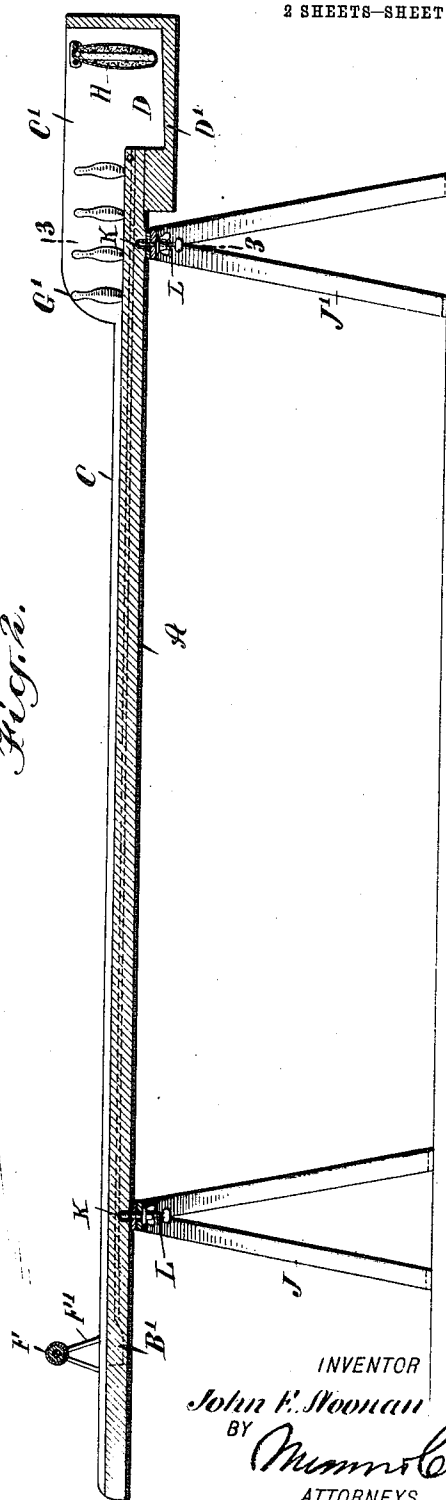


Fig. 2.



INVENTOR
John E. Noonan
BY *Mumma & Co.*
ATTORNEYS

972,568.

J. E. NOONAN.
PORTABLE BOWLING ALLEY.
APPLICATION FILED JULY 9, 1909.

Patented Oct. 11, 1910.

2 SHEETS—SHEET 2.

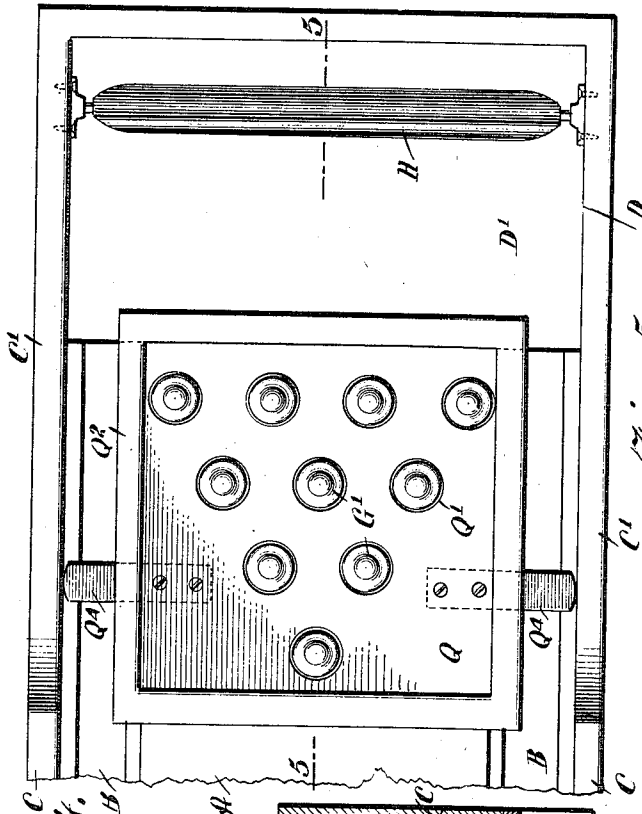


Fig. 4.

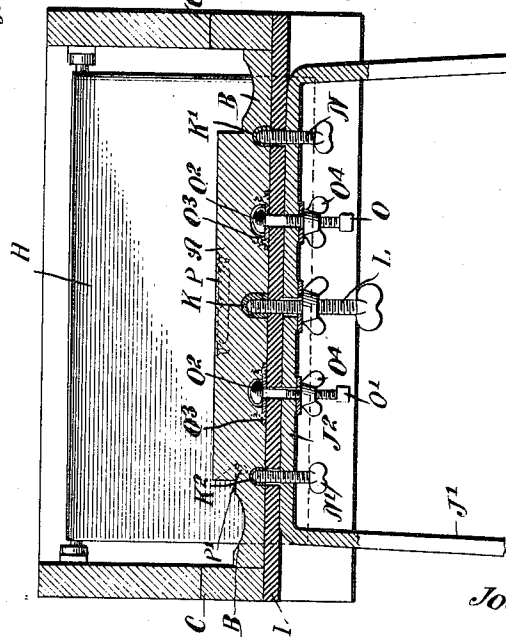


Fig. 3.

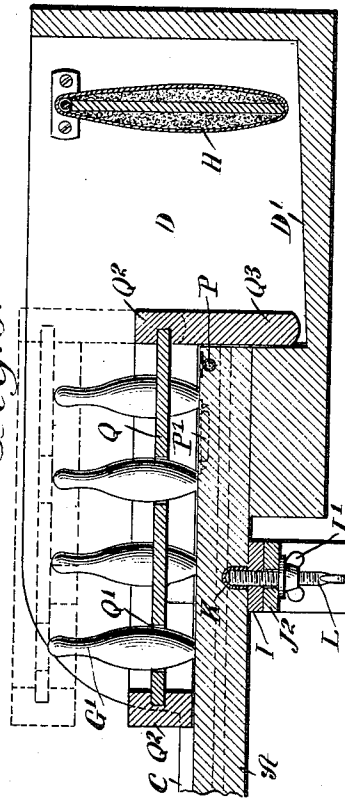


Fig. 5.

WITNESSES

George Taylor
R. G. Foster

INVENTOR

John E. Noonan

BY

Mumford & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN EDWARD NOONAN, OF NEW YORK, N. Y.

PORTABLE BOWLING-ALLEY.

972,568.

Specification of Letters Patent. Patented Oct. 11, 1910.

Application filed July 9, 1909. Serial No. 506,659.

To all whom it may concern:

Be it known that I, JOHN E. NOONAN, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Portable Bowling-Alley, of which the following is a full, clear, and exact description.

The invention relates to game apparatus, and its object is to provide a new and improved portable or parlor bowling alley, adapted to be set up and accurately leveled on a floor or other support, and arranged to permit of playing the game of ten pins by the use of balls thrown by the player.

The invention consists of novel features and parts and combinations of the same, which will be more fully described herein-after and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the portable bowling alley; Fig. 2 is a longitudinal section of the same; Fig. 3 is an enlarged transverse section of the same on the line 3—3 of Fig. 2; Fig. 4 is a plan view of the rear end of the bowling alley and showing the pin-setting device in place; and Fig. 5 is a sectional side elevation of the same on the line 5—5 of Fig. 4.

The alley A is provided with the usual bowling surface and with the gutters B and side rails C, enlarged at their rear ends C' to form the sides for the pit D located at the rear end of the alley A, as plainly indicated in the drawings. The gutters B lead into the pit D and extend to the foul line E, arranged across the alley A near the front end thereof, and directly above this foul line E is arranged a barrier F to stop the arm of the player throwing the ball G over the alley A, with a view to knock down the pins G' set up in the usual manner on the rear end of the alley A. The barrier F is preferably in the form of a cushioned roller, journaled in brackets F', secured to the rails C at the outside thereof, as plainly indicated in the drawings. The forward ends of the gutters B are preferably deepened to form pockets B' for retaining the balls G returned by way of the gutters B

from the pit D. The pit D is provided with a bottom D' extending a distance below the bowling surface of the alley A, and the said bottom is inclined downwardly and forwardly, as plainly shown in Figs. 2 and 5, and within the pit D is hung a transversely-extending buffer H, mounted to swing clear of the bottom, sides and ends of the pit D, it being understood that the balls G or pins G' on striking the buffer H are deflected in a downward direction onto the inclined bottom D', to cause the balls or pins to accumulate at the rear end of the alley A below the surface thereof, and without danger of the balls or pins rebounding onto the bowling surface.

The alley A above described is mounted at its front and rear ends on legs J and J', in such a manner that the alley A can be readily and accurately leveled to insure proper playing of the game of ten pins on the alley A. For the purpose mentioned adjustable connections are provided between the alley A and the legs J and J', and as the said connections are alike on both legs, it suffices to describe but one in detail, special reference being had to Fig. 3. Each of the legs J, J' is provided with a cross bar J², above which is a cross bar I, extending across the under side of the alley A from side to side, and in the under side of the alley A at the longitudinal center line thereof are arranged sockets K engaged by the upper ends of screws L, screwing in the cross bars I and passing loosely through the cross bars J² of the legs J and J'. Now by screwing the screws L up or down, the alley A is raised or lowered at the corresponding end, until the surface of the alley A is leveled at the longitudinal center line, and then the alley A is leveled in a transverse direction by the use of adjusting screws N and N', located on opposite sides of the corresponding center adjusting screw L of the leg J or J', the said adjusting screws N, N' screwing in the cross bars J² and passing loosely through the cross bars I, to engage sockets K', K² held in the under side of the alley A. Thus by adjusting the sets of screws L, N and N', a proper accurate leveling of the alley A can be obtained irrespective of the conditions of the floor or other support on which the legs J and J' are set. Each of the screws L is locked in place after the desired adjustment is made by a jam nut L',

and the alley A is locked in adjusted position by the use of clamping screws O and O', having their heads O² extending into recesses formed in the under side of the alley A and abutting against plates O³ attached to the under side of the said alley. The clamping screws O and O' extend loosely through the cross bars I and J², and wing nuts O⁴ screw on the screws O, O', serving to fasten the alley in place on the legs J, J', after the alley has been adjusted to level position, as above explained.

In order to enable the person setting up the alley to readily determine the level position thereof, use is made of a transverse spirit level P and a longitudinal spirit level P' embedded in the alley A, as indicated in Figs. 3 and 5. Thus when the operator adjusts the alley by the use of the screws L, N and N', as before explained, it is evident that the spirit levels P and P' indicate when the desired level position of the bowling surface is reached, to then lock the alley in place in the adjusted position by the use of the screws O and O'.

In order to permit convenient, quick and accurate setting up of the pins G' at the rear end of the alley A, use is made of a plate Q provided with apertures Q', spaced apart in the manner in which the pins G are intended to be set up on the alley A. The plate Q is mounted in a frame Q² adapted to set on the alley A, so as to hold the plate Q a desired distance above the bowling surface, as plainly indicated in Fig. 5, the rear cross bar of the frame Q² having a depending extension Q³, adapted to abut against the rear end of the alley A, so as to properly locate the setting up frame Q² and its plate Q on the rear end of the alley A. The frame Q² and its plate Q are also provided with transversely-extending lugs Q⁴, adapted to abut against the enlarged ends C' of the side rails C, to assist in holding the frame and its plate in proper position. Now when the frame and its plate are held on the rear end of the alley A, as described, the pins G' can be readily set up on the alley through the apertures Q', and then the operator can lift the setting up frame to disengage the plate Q from the pins. When this has been done, the player can roll a ball G over the alley, with a view to knock down the pins, the arm of the player being arrested by the barrier F, located a sufficient distance above the bowling surface of the alley A, to let the ball G pass between the said barrier and the surface of the alley A.

The portable bowling alley shown and described is very simple and durable in construction, and can be accurately set up to

insure proper bowling on the part of the players.

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

1. A portable bowling alley, provided with an alley, and a transverse barrier located a short distance from the front end of the alley and extending above the same for the passage of the balls between the face of the alley and the said barrier.

2. A portable bowling alley, provided with an alley, and a cushioned roller extending across the alley above the foul line of the alley.

3. A portable bowling alley, comprising an alley, supporting legs for the said alley having cross bars extending under the alley, transverse and longitudinal levels held on the said alley, and adjusting means on each of the cross bars of the legs for engagement with the said alley to adjust the same lengthwise and transversely until a level position of the alley is indicated by the said spirit levels.

4. A portable bowling alley, comprising an alley, supporting legs for the said alley having cross bars extending under the alley, transverse and longitudinal spirit levels held on the said alley, adjusting means on each of the cross bars of the legs for engagement with the said alley to adjust the same lengthwise and transversely until a level position of the alley is indicated by the said spirit levels, and locking means carried by the said cross bars for locking the alley in the adjusted level position on the said legs.

5. A portable alley, comprising an alley, supporting legs having cross bars extending under the said alley, sets of sockets in the under side of the said alley, one set at each cross bar, and adjusting screws on each of the said cross bars engaging corresponding sockets to permit of leveling the alley.

6. A portable bowling alley, comprising an alley, supporting legs having cross bars extending under the said alley, sets of sockets in the underside of the said alley, one set at each cross bar, adjusting screws on each of the said cross bars and engaging corresponding sockets to permit of leveling the alley, and locking bolts engaging the alley and each cross bar for locking the alley in the adjusted level position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN EDWARD NOONAN.

Witnesses:

WILLIAM C. GILLON,
EDWARD SINNOTT.