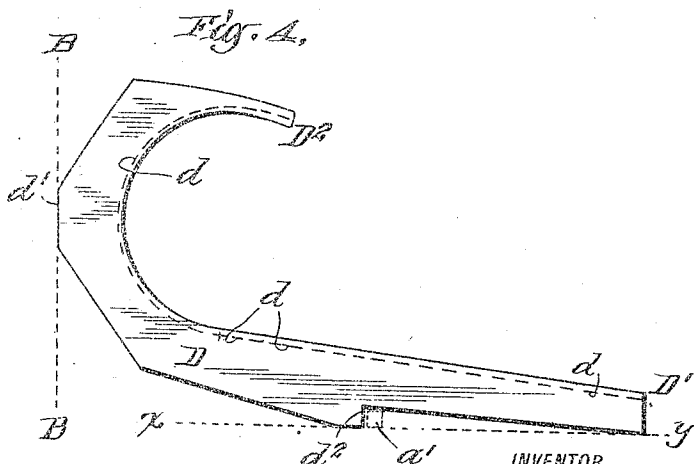
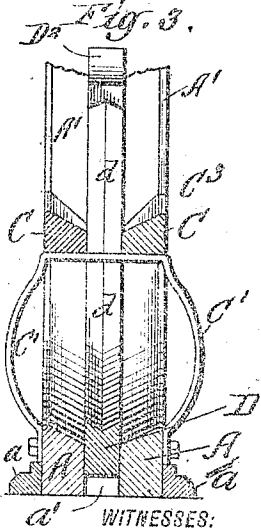
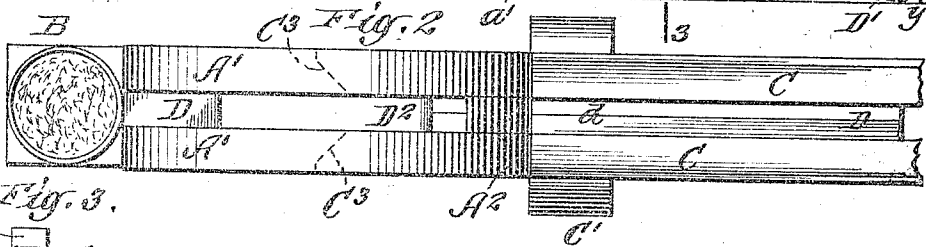
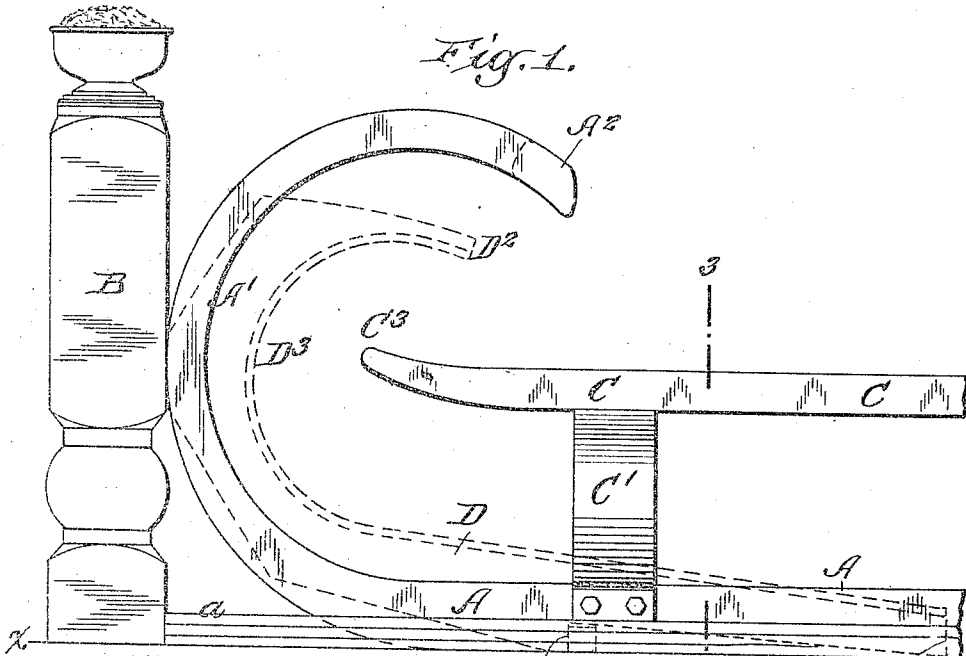


P. J. RIDDELL.
 BOWLING ALLEY BALL RETURNWAY.
 APPLICATION FILED APR. 21, 1910.

1,013,817.

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WITNESSES:
Sh. Lockman
Eric Mearling

INVENTOR
Percy J. Riddell
 BY
J. N. McIntire
 ATTORNEY

UNITED STATES PATENT OFFICE.

PARIS J. RIDDELL, OF NEW YORK, N. Y., ASSIGNOR TO THE BRUNSWICK-BALKE-COLLENDER COMPANY OF NEW YORK, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

BOWLING-ALLEY BALL-RETURNWAY.

1,013,817.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed April 21, 1910. Serial No. 556,805.

To all whom it may concern:

Be it known that I, PARIS J. RIDDELL, a citizen of the United States, residing in the city of New York, in the county of New York and State of New York, (whose post-office address is "Care of The Brunswick-Balke-Collender Company, 29-31 West Thirty-second street, New York city, New York,") have invented a new and useful Improvement in Bowling-Alley Ball-Returnways, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof. My invention relates to bowling alley ball returnways; and is an improvement on that genus of returnways which has come to be known, to the manufacturers of bowling alleys, and to alley keepers, as the "loop-the-loop-returnway;" which is made the subject of U. S. Letters Patent No. 630,728, granted to McIntire and Holden on the 8th day of August, 1899; and is manufactured and sold under said patent. In this type of returnway, as now made and sold under said patent, by The Brunswick-Balke-Collender Co., its owner, it has been found that, when the players' end portions of the ball-tracks; or rails—i. e. the upwardly curved portions of the rails, the forward end of which overhang the rear-most portion of the "terminal" rails, are shaped and proportioned so that the larger balls (say from eight and six tenths diameter to five and a half inches inclusive) travel up on and are properly discharged, always therefrom onto the "terminal," the smaller balls (say from five inches in diameter down to the smallest size used, inclusive,) do not any of them always travel up on these curved rails, and land properly on the "terminal;" and that the smallest, of this smaller series, never roll home onto the terminal. And, as it is desirable to have this genus of returnway capable of always properly returning, from the pit-end of the alley onto the terminal, all of the smaller series of balls: so that one and the same "loop-the-loop" return may be utilized when the game of "duck-pin," for instance, is to be played, as well as when the alley is used for playing the game of "ten-pins"—with the larger series of the whole set of balls with which an alley may be equipped—I have devised and successfully put into practical operation, in conjunction with a

"loop-the-loop" return, a supplemental device; which may be easily attached to, or combined with the players' end portion of the returnway, when the game of duck-pins is to be played, that will insure the rolling upwardly and forwardly (from its overhanging part) onto the rear end of the "terminal" of all of the balls of the series used for such game; and which, when the alley is to be used for playing ten-pins can be easily and quickly detached, or removed, from the returnway, to permit the use thereon of all the balls of the larger series. And my invention may be said to consist in a device readily attachable to and detachable from the usual "loop-the-loop" genus or type of returnway, by the alley keeper, or attendant, and with out the use of any tools—to either attach it to or detach it from the returnway—which, when assembled with the returnway, will insure the proper homing, onto the rear end of the "terminal," of all the balls of the smaller series.

To enable those skilled in the art to make and use such an attachment, for a "loop-the-loop" returnway, I will now proceed to more fully describe my invention, by reference to the accompanying drawing, which forms part of this specification; and illustrates an attachment device adapted to carry into effect my said invention.

In the drawings Figure 1 is a side view of a portion of a "loop-the-loop" returnway, showing only the players' end of the return, with one of my attachment devices combined therewith, as represented by the dotted lines in this view. Fig. 2 is a top view of the same, but with the attachment device drawn in full lines—the same as the parts of the "loop-the-loop" return itself. Fig. 3 is a vertical section taken in a plane indicated by the dotted line 3—3 at Fig. 1. And Fig. 4 is a side view of the attachment device detached from the returnway; or in a condition of disuse.

In the several figures the same part, wherever it is shown, will be found bearing the same reference letter.

A, A, are the rails constituting the usual ball-track, (the players' end portion thereof) on which the balls are sent home, or roll home, from the pit-end of the alley; and that are curved upwardly and forwardly, forming a segmental track as usual, and as shown at A' and A², so as to discharge the

homed balls onto the rear end portion of the "terminal" or ball receiving rack C; after the peculiar fashion of a "loop-the-loop" return; and the curved rearmost portions of which are, sustained in position, as usual, by the newel post, or supporting standard B. The rails C. C. of the "terminal" are supported, near their rearmost ends by the usual metallic stand C', (see Figs. 2 and 3) and have their upper, ball-bearing surfaces beveled, in the ordinary manner, as best seen at Fig. 3; and slightly curved upwardly at their rearmost extremities, as shown at C².

The attachment device, which constitutes the subject matter of my invention, and which I have shown attached to the returnway, at Figs. 1 and 2 (it being shown in dotted lines at Fig. 1 and in full lines at Fig. 2) is—as I have so far made and used it—composed of a single piece of stuff (wood) of a thickness such as to fill in or easily fit in the space between the adjacent vertical sides, or surfaces, of the two track rails A. A', as clearly shown at Figs. 2 and 3, in the relative position to said rail, in side view, shown by the dotted lines at Fig. 1. And the configuration of this device or part D is such (see Figs. 1 and 4) that, when it is assembled with the returnway as shown, the rearmost part d' of its edge (see Figs. 1 and 4) will fit to and bear against the newel post, or standard B; while, at two points, in its lower or bottom edge, it will rest on and be sustained by the alley floor, as clearly shown. This will be best seen at Fig. 1 and at Fig. 4, in which last named figure, I have shown the floor line by a dotted line x-y. And I have here also illustrated how the rearmost edge part d' of the attachment comes to a bearing against the newel post, by a vertical dotted line B. B. The device D has its ball-bearing edge or surface d made angularly dishing, as clearly shown, forming a supplemental track to insure the proper retention on it and guidance of the balls which roll thereon as they travel homeward on this attachment device; rolling first (as they leave the ball track A. A.) onto its lowermost forward portion, thence onto the curved, ascending part D², and finally, by their impetus, traveling in contact with the terminal-overhanging part, until, on reaching nearly (or quite) the forward extremity of the part D² they pass therefrom downwardly (by gravity) onto the rearmost receiving-ends C² of the "terminal." Whence they roll gently forward (in about the same manner as do the larger balls used in the absence of the attachment device) on said "terminal."

a' is a block, or cleat fastened to the floor,

at the proper point, and located immediately of the ball track rails A. A., which engages the shoulder or notched out part of the lower edge of the device D; as best seen at Figs. 1 and 4. And to assemble the attachment device with the returnway, it is simply inserted, rearwardly and downwardly, in between the track-rails A. A. until the rearmost vertical part d' of its edge is forced into contact with the newel post B; and the shoulder at d² (see Fig. 4) engages snugly with the cleat or floor block a', in which position it will be retained securely enough for use. Of course, to remove the device it is only necessary to first lift up its forward end from or away from the floor until the shoulder at d² shall be clear of the cleat a', and then pull the device out from, between the track-rails in a direction the reverse of that in which it was put in to assemble it with the returnway.

I have found that, in actual practice, (having used the device in connection with a "loop-the-loop" returnway of the usual standard manufacture) my invention is most satisfactorily operative for the purpose designed. And it will be understood, of course, that in practicing it, the attachment device need not necessarily be made of wood, and precisely of the form shown; and that other means than that I have herein shown, for effecting its securement in place for use, while at the same time permitting its ready detachment from the returnway may be adopted without departing from the spirit or substance of my invention.

What I claim as new and desire to secure by Letters Patent is—

1. In a ball returnway mechanism the combination with a receiving rack; and a return chute lower than said rack terminating in a segmental track overhanging said rack; of a separate track segment of greater curvature adapted to be removably supported in conjunction with said return chute, and overhang said rack.

2. An attachment for the loop-the-loop type of ball returnway,—which has a receiving rack and a segmental track overhanging said rack,—said attachment comprising a member provided with a supplemental ball track having an inclined portion, and a curved portion of greater curvature than the segmental portion of the main track, to overhang the said receiving rack, and adapted to be held in position to home the smaller series of alley balls.

In witness whereof I have hereunto set my hand this 28th day of March, 1910.

PARIS J. RIDDELL.

In the presence of—

EDWARD F. BAYER,
J. N. MCINTIRE.