H. F. COOK & C. C. HILDRETH.

BOWLING ALLEY.

APPLICATION FILED OCT. 31, 1912.

1,077,807. Patented Nov. 4, 1913.

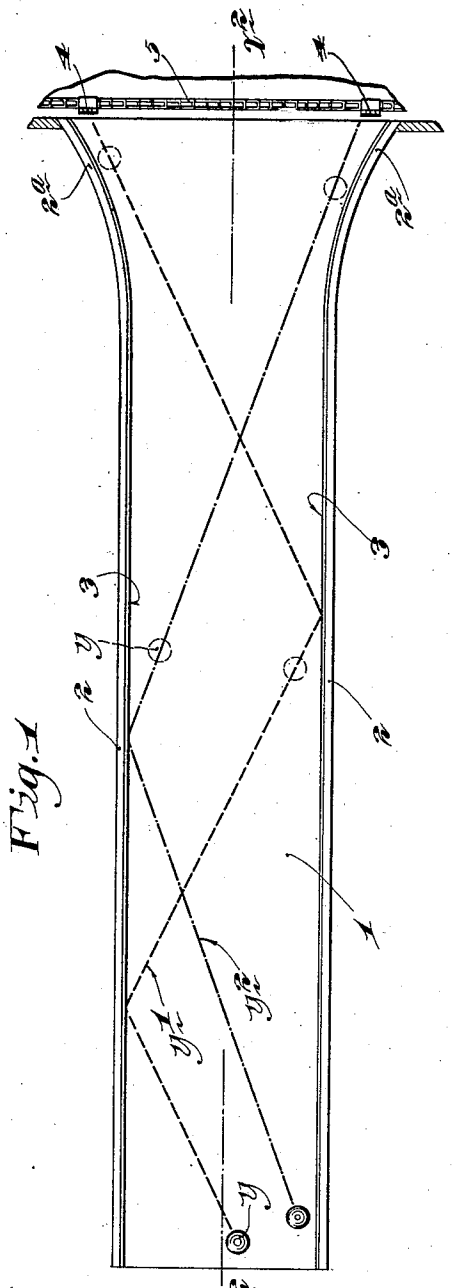


Fig. 1

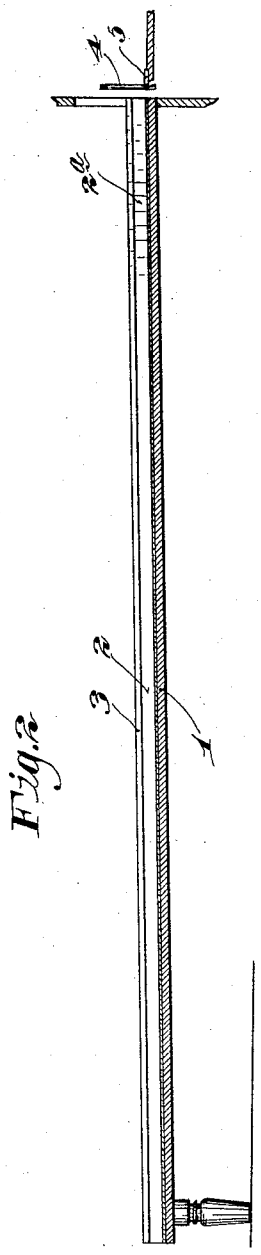


Fig. 2

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UNITED STATES PATENT OFFICE.

HERBERT F. COOK AND CARL C. HILDRETH, OF LAKE MILLS, IOWA.

BOWLING-ALLEY.

1,077,807. Specification of Letters Patent. Patented Nov. 4, 1913.

Application filed October 31, 1912. Serial No. 728,815.

To all whom it may concern:

Be it known that we, HERBERT F. COOK and CARL C. HILDRETH, citizens of the United States, residing at Lake Mills, in the county of Winnebago and State of Iowa, have invented certain new and useful Improvements in Bowling-Alleys; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to bowling alleys and more particularly to bowling alleys of the type disclosed and claimed in our prior Patent No. 976,738 of date November 22nd, 1910, entitled "Bowling apparatus." In the bowling apparatus, claimed in the said prior patent, movable targets are arranged to travel across the rear end of the alley, and these targets are adapted to be struck by a ball, rolling down the alley. This invention provides an improvement in the alley structure itself.

Bowling alleys of the character, above particularly referred to, are especially adapted to be used inside of buildings or suitable inclosures and frequently where the length of the alley must be made comparatively short.

As one feature of this invention, we incline the alley in a direction from its rear toward its front end, so that the ball will have to be rolled up hill. Thus, an increased resistance to the movement of the ball is provided for which, to a very considerable extent, gives the effect of a much longer alley. Bowling alleys of this character are usually made quite narrow and, in fact, it is desirable that the main body portions thereof should be quite narrow.

As another feature of this invention, we provide the alley at its rear end with diverging or flaring side rails, which increase the zone or distance through which the traveling targets may be struck by a "banking throw."

As another feature of the invention, we provide the side rails of the alley with elastic cushions, preferably, in the form of covered rubber strips. These cushioned rails make "banking throws," requiring great skill, possible on this alley.

In the accompanying drawings, which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a plan view showing the alley; and Fig. 2 is a vertical section, taken on the line x^2 x^2 of Fig. 1.

The numeral 1 indicates the floor or bottom of the alley which may be supported in any suitable way, and which inclines from its rear toward its front end; or, in other words, has a continuous rise from its front toward its rear end, as approximately shown in Fig. 2. The amount of inclination given to this alley will depend largely upon the extent to which it is shortened up, it being, of course, understood that to get the proper effect, the shorter the alley, the greater should be the pitch thereof. The side rails 2 of the alley at the rear ends thereof, are provided with curved rearwardly diverging or flaring sections 2^a. The entire inner faces of the rails 2—2^a are provided with elastic cushioning strips 3.

The numeral 4 indicates the traveling targets which, as shown, are carried by a belt or chain 5 and are arranged to move past the flaring rear end of the alley in position to be struck by a ball y rolled down the alley. In Fig. 1, the dotted lines, marked y^1 and y^2 indicate the travel of the ball under different "banking throws," and the rear ends of the said dotted line illustrate the extreme positions between which the target may be struck by a ball rolling on the alley. These dotted lines also show that the flaring end of the alley considerably increase the distance between extreme points where the target can be struck by "banking" shots. Also this flaring end of the alley makes very great skill possible in throwing the balls at the moving targets.

What we claim is:—

1. A bowling alley having side rails that flare or diverge at the rear end of the alley, and traveling targets arranged to move past the flaring rear end of said alley.

2. A bowling alley having side rails that are parallel throughout their main portions but flare at their rear ends, said alley being open at both ends and the said rails having elastic cushions applied to their inner edges, and targets arranged at the flaring rear end of said alley.

3. A bowling alley having side rails that are parallel throughout their main portions but flare at their rear ends, said alley being open at both ends and the said rails having elastic cushions applied to the inner edges of their parallel and flaring portions, and traveling targets arranged to move past the flaring rear end of said alley.

In testimony whereof we affix our signatures in presence of two witnesses.

HERBERT F. COOK.
CARL C. HILDRETH.

Witnesses:
J. R. CONLEY,
JOHN SMALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."