

Nov. 21, 1950

H. G. SNYDER
BOWLING ALLEY

2,531,168

Filed Oct. 23, 1946

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FIG. 1a

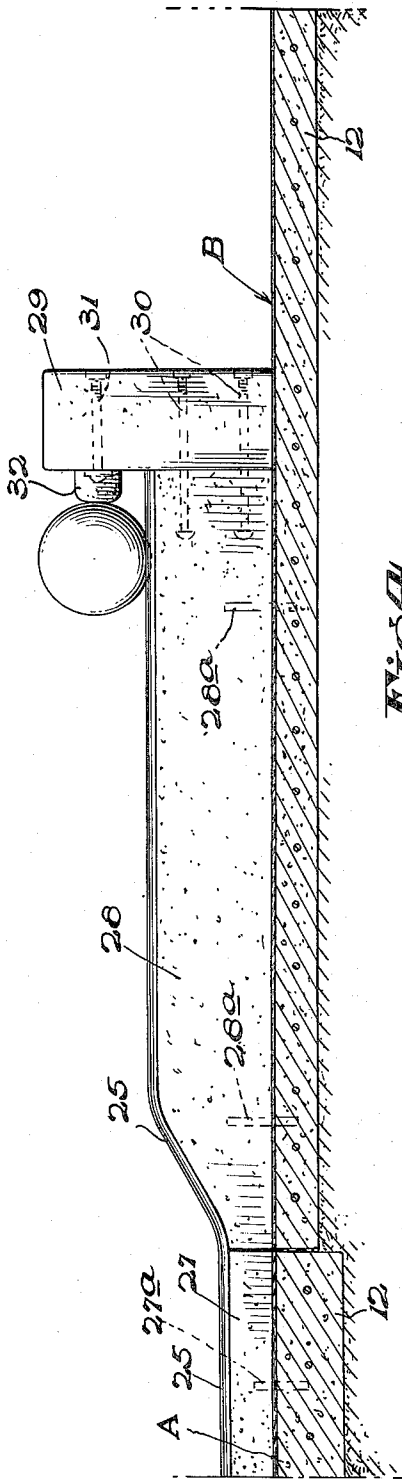
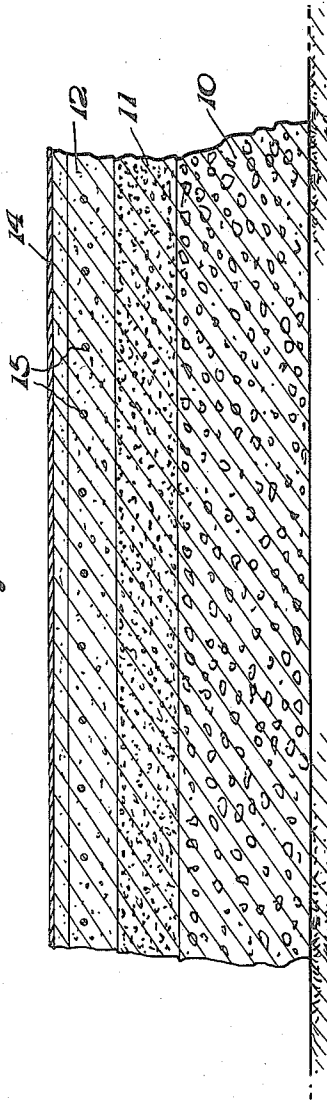


FIG. 1b



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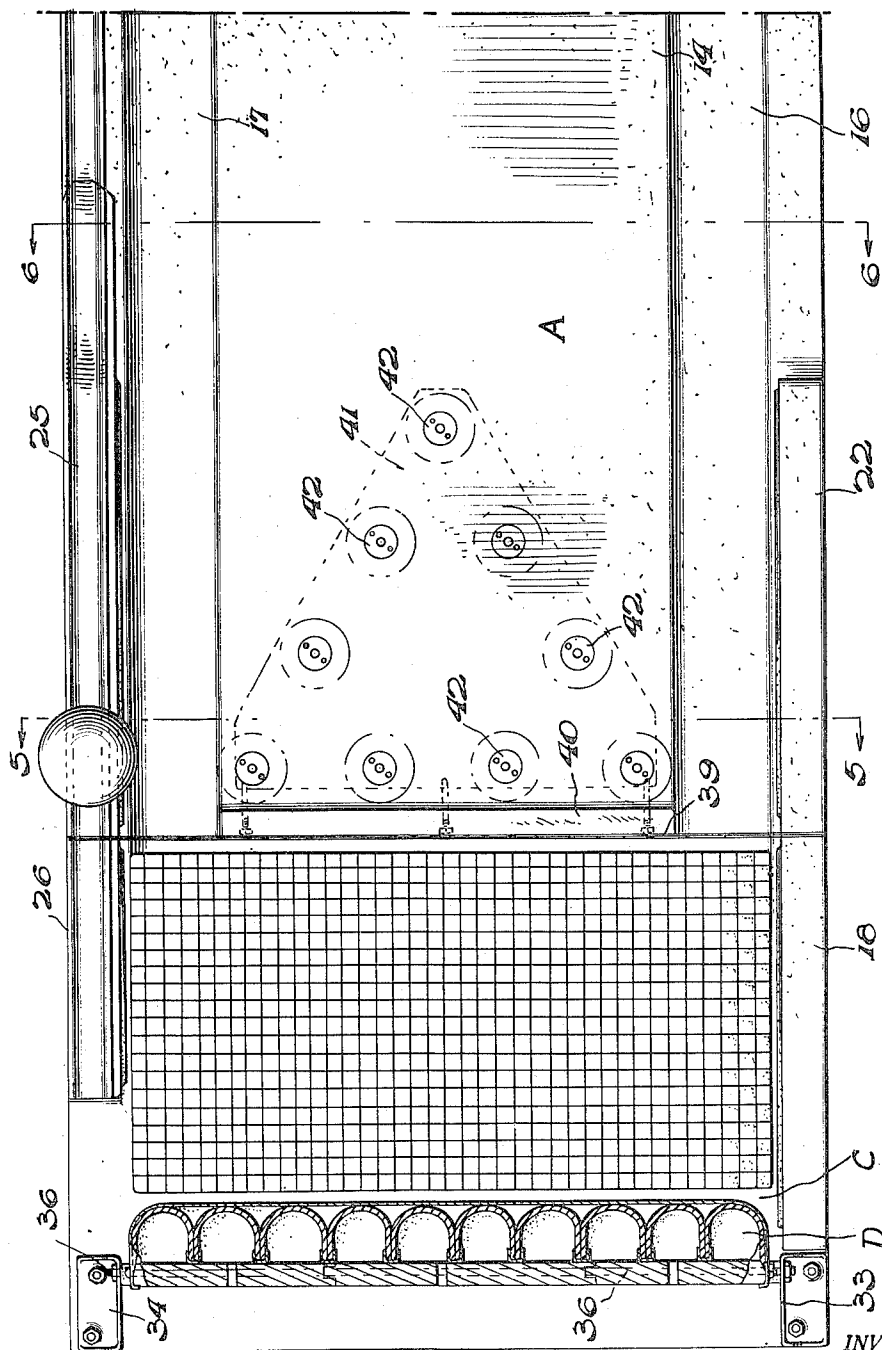


Fig. 2.

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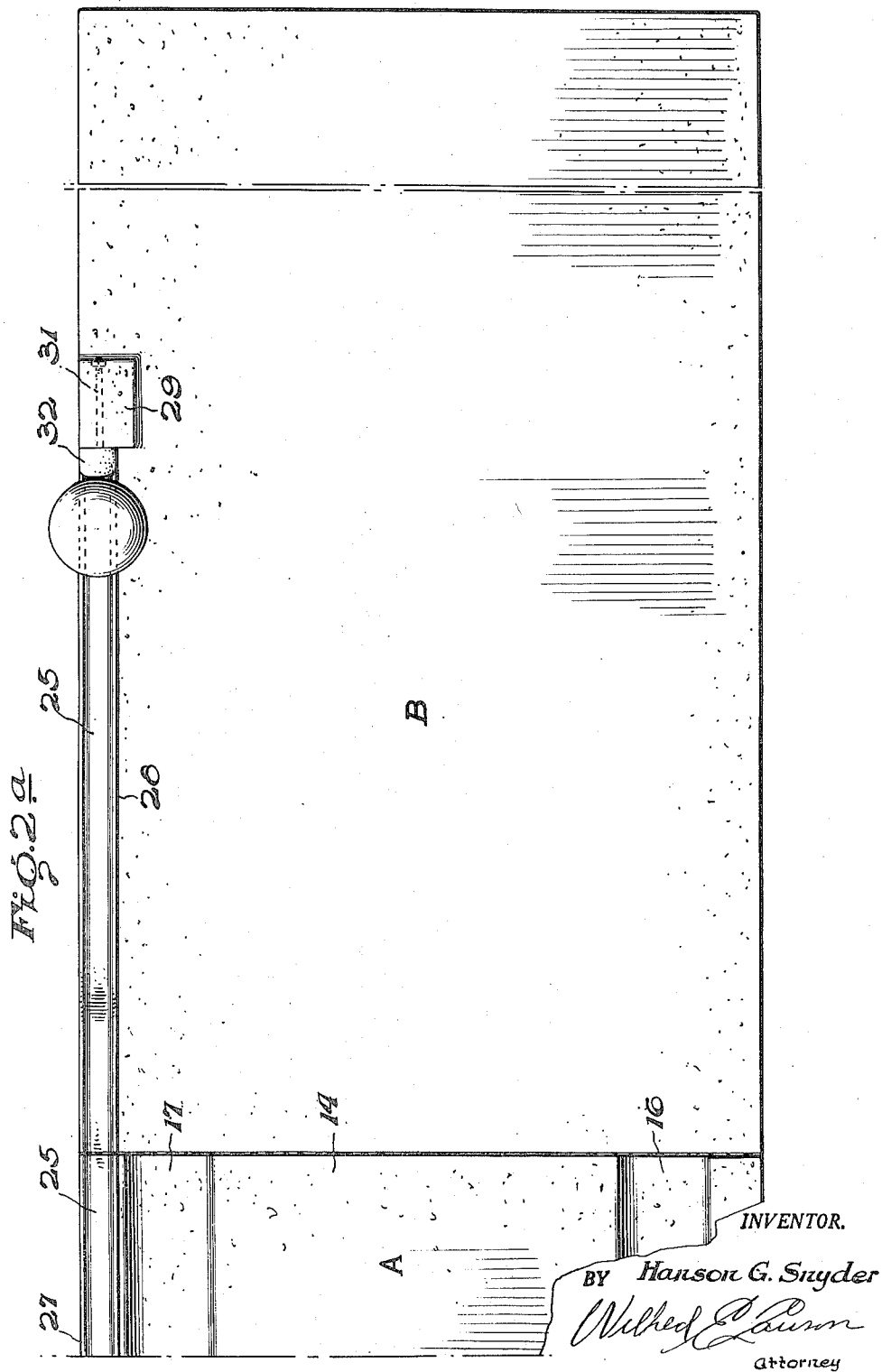
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UNITED STATES PATENT OFFICE

2,531,168

BOWLING ALLEY

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Application October 23, 1946, Serial No. 704,999

1 Claim. (Cl. 273—51)

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My present invention relates to bowling alleys and the like, and more particularly to outdoor bowling alleys.

Bowling has never been popular as an out of doors game. This has been chiefly due to the constructions of outdoor bowling alleys, which either deteriorate when exposed to outside weather conditions or if they are made of weather resistant materials, such alleys do not provide for satisfactory bowling. For example, heretofore to construct out of doors bowling alleys, a concrete, stone or slate surface of weather resisting properties has been found impractical for modern bowling; because when the ball is put into play and drops on to such hard rolling surface, the standard plastic bowling ball will bounce and chip, making accuracy more and more impossible with each use of the ball. Also, when a softer material, such as asphalt or an asphalt mix is used, a hot sun will soften the bowling deck or rolling surface and soon this surface becomes so marred and full of indentations from the bowling balls that accurate and scientific bowling on this material is impossible. Accordingly, it is an object of my invention to provide a novel weather resisting out of doors bowling alley, having a durable and rugged bowling surface which is comparable with the performance of a modern indoor bowling alley in every respect.

Another object is to provide a weatherproof playing surface suitable for a modern bowling ball, which surface is not only weatherproof but smooth, hard and polishable like the wooden surfaces of indoor alleys, and sufficiently shock absorbent and resilient to permit a standard plastic bowling ball to be used with the same satisfaction and accuracy as on a modern indoor bowling alley surface.

A further object is to provide a permanent, weatherproof structure for outdoor modern bowling comprised of an integrally constructed rolling bed, and a plurality of precast reinforced auxiliary members, such as a ball return track and the walls which define the sides of the pin pit.

A still further object is to provide in an out of doors weatherproof structure for a modern bowling alley, a novel drain system for efficiently carrying off water after rain storms.

In addition to the foregoing and other objects, an advantage of my invention which will appear from the following detailed description is the provision of a novel arrangement and equipment for quickly and accurately spotting pins. This arrangement forms the subject matter of my

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companion application Serial No. 705,000, filed concurrently herewith.

Reference will now be had to the accompanying drawings, wherein I have illustrated one practical embodiment of my invention.

Figure 1 is a partial longitudinal cross section view of my invention, along the center line of the bowling deck showing the ten pin end and pit construction.

Fig. 1a is a partial longitudinal cross section view showing the approach end of the bowling deck.

Fig. 2 is a top plan view of the bowling deck at the ten pin end and illustrates the pit and backstop cushion arrangement.

Figure 2a is a top plan view of the approach end of the bowling deck.

Figure 3 is a left side elevational view of the device at the ten pin end of the bowling deck.

Figure 4 is a fragmentary sectional detail of the several layers of materials which form the bowling deck.

Figure 5 is a transverse section taken along the line 5—5 of Figure 2.

Figure 6 is a transverse section taken along the line 6—6 of Figure 2.

Referring in detail to the drawings and particularly Figs. 1 and 1a, my novel bowling alley comprises a bowling deck A, an approach deck or surface B, a pit C and a back stop D.

The bowling deck and approach deck may be constructed in the same manner and of the same material, and accordingly a description in detail of the bowling deck only is necessary. This bowling deck (see Figures 4, 5 and 6) comprises a ground trench T of the required depth, width, and length, into which is placed, first, a foundation layer of gravel or crushed stone 10, next a layer of cinders 11, then, a layer of reinforced concrete 12, and, lastly, a top surface layer of laminated plastic compound 14; although, if preferred, the foundation may be laid upon the ground direct. The concrete 12 is leveled substantially at the ground line and is reinforced with steel cross bars 15 and the plastic compound for the top layer 14 may be made of any of several synthetic resin compounds, such as phenolic, vinyl, acrylic, cellulose acetate, butyrate resin or the like. These plastic compounds may be in laminated sheets and bonded together with suitable adhesives, and are chosen as they are weatherproof, impervious to water and are shock absorbing.

On each side of the plastic covered bowling deck A are ball troughs 16 and 17. These ball

troughs are preferably formed or cast in the concrete layer 12 and terminate in the pit C at the end of the deck, and may be covered with a layer of plastic compound like deck A.

The pit C may be concrete and has its bottom surface covered with a fabricated rubber mat. On one side of the pit bottom is mounted a pre-cast concrete side wall 18, having an inner surface coating of rubber or plastic compound. The wall 18 has downwardly extending bars 20, which extend into openings along the edge face of the pit to thereby vertically support the side wall. End to end with the side wall 18 is another pre-cast side wall 22 which is similarly mounted on bars 24. On the opposite side of the pit C is mounted another side wall 26, which is abutted against the end of an elevated wall section 28' that is positioned on the bowling deck A at the rear end of a side wall 27 into which it merges; the walls 26 and 28' being of equal height and supporting the elevated rear end portion of the ball return track 25. The wall 25 terminates short of a back-stop D, extending across the rear end of the pit C, to provide an entrance and exit to and from the pit. From the merging end of the wall 28', the side wall 27 continues at a substantially uniform height toward the front end of the bowling deck A, from where it slopes upward to a higher level to form wall 28. The wall 28 has a top level surface for the end of the ball return track 25 and has secured to its end an upright block 29, by embedded bolts 30. The block 29 has secured to it, by a bolt 31, over the end of the track 25, a rubber ball stop 32. On each side of the pit surface are mounted vertical steel supports 33 and 34, each having an aligned opening in its top end 35 to secure therein an elongated rod 36 to which is pivoted the fabricated rubber back stop D. Each wall 26, 27 and 28 is secured to the bowling deck by vertical bars 26a, 27a, and 28a, respectively.

Directly in front of the pit C is a ledge 39 formed by the end of the concrete layer 12. This ledge 39 supports a wooden beam 40 to which is bolted a pin supporting plate 41; however, as this is the subject matter of another patent application, no detailed description of this renewable wooden block and the novel pin plate and pin pedestal spot mounts is given herein. As generally shown the pedestal spot mounts 42 are exposed through the top plastic layer of the bowling deck.

Thus I have provided an outdoor weatherproof structure for bowling, which makes it possible to bowl out of doors as satisfactorily and accurately as on an indoor alley. Also, my improved permanent structure is more rugged and durable, equally as desirable to bowl upon as an indoor

structure, and while described as an outdoor structure can be used for indoor bowling if desired.

While only one embodiment of my invention is illustrated, further modification will be apparent to those skilled in the art and it is desired, therefore, that the invention be limited only by the prior art and the scope of the appended claim.

What is claimed is:

10 An outdoor bowling alley, including a ground trench of required depth, width and length, comprising a foundation formed of a bottom layer of gravel or the like leveled within the trench, a leveled layer of cinders superimposed upon the layer of gravel, a leveled layer of reinforced concrete superimposed upon the layer of cinders, the top surface of the concrete being substantially level with the ground surface, gutters formed in the top surface of the concrete and inwardly of the opposite side edges thereof, a laminated plastic layer bonded to the top surface of said foundation between said gutters, a wall rising from the top surface of said foundation at the outer side of one of said gutters, a pit formed at the rear end of said foundation by a reduction in the thickness of the concrete layer, the height of said side wall being increased at the opposite ends thereof, a second side wall rising from the rear end of said foundation opposite the rear end of said one side wall, another side wall rising from said pit in line with said second wall, the last named side walls being of equal height and correspondingly with respect to the height of the rear end of said one side wall, a transverse wall of a slightly greater height than that of the last named said walls at the rear end of said pit, said one side wall terminating short of said transverse wall to provide an entrance to said pit between the same, and a ball return track mounted upon and coextensive with said one side wall.

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