

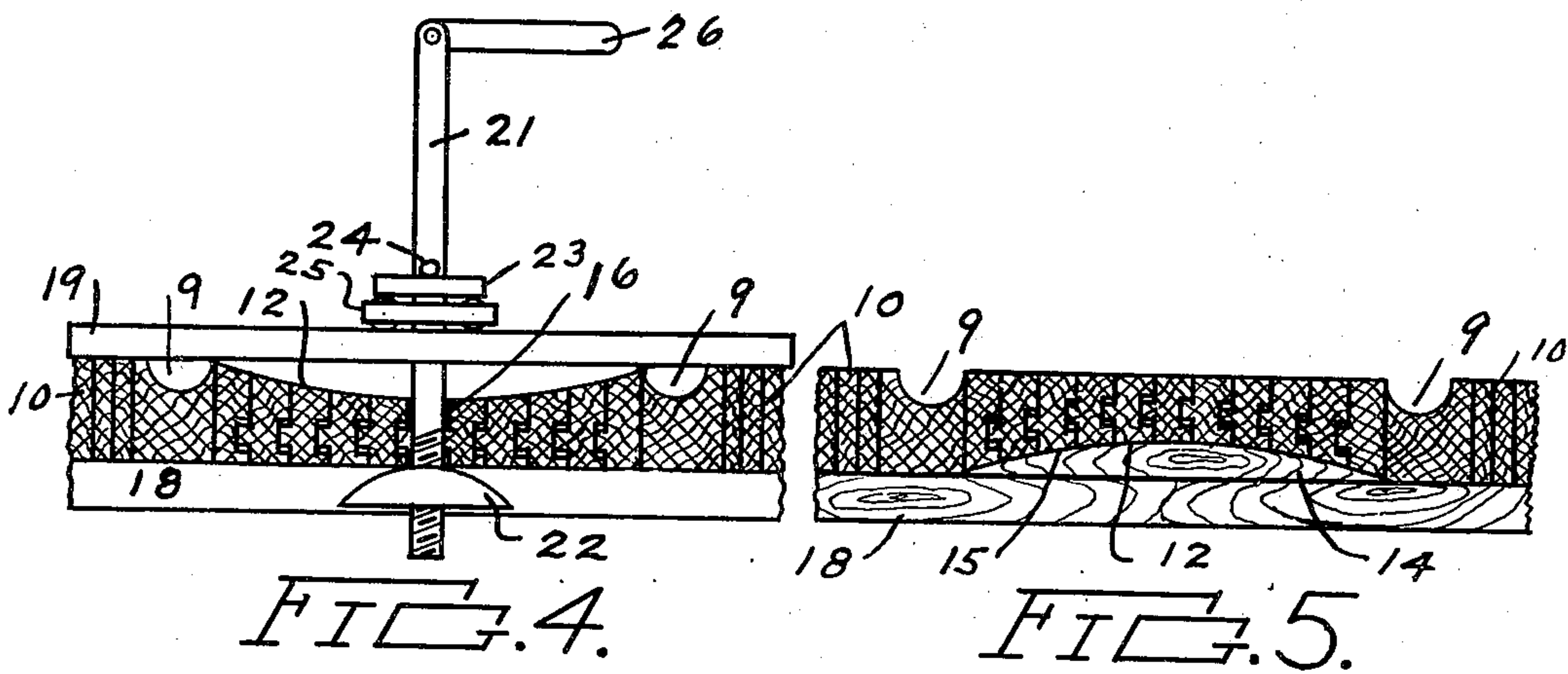
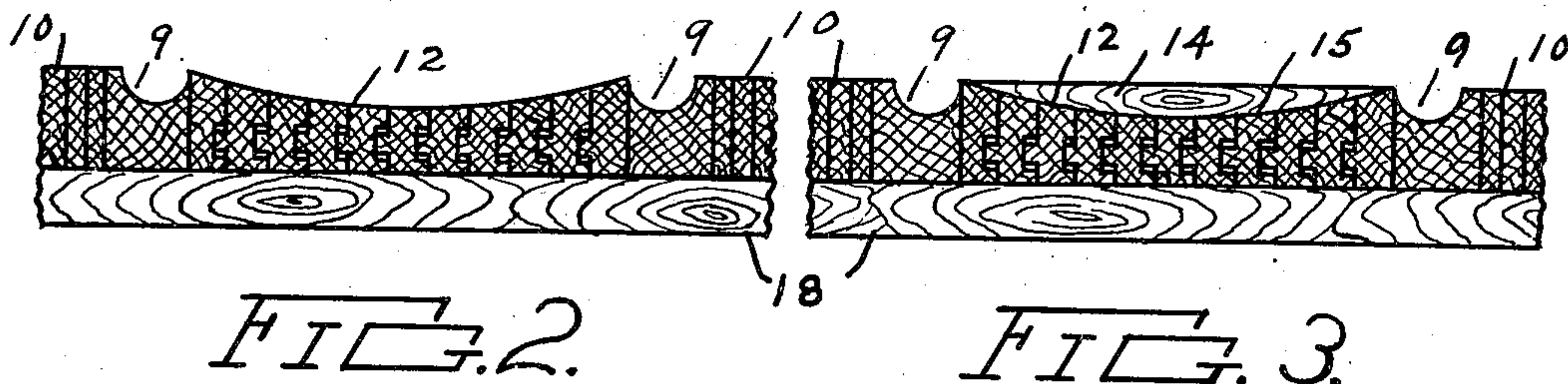
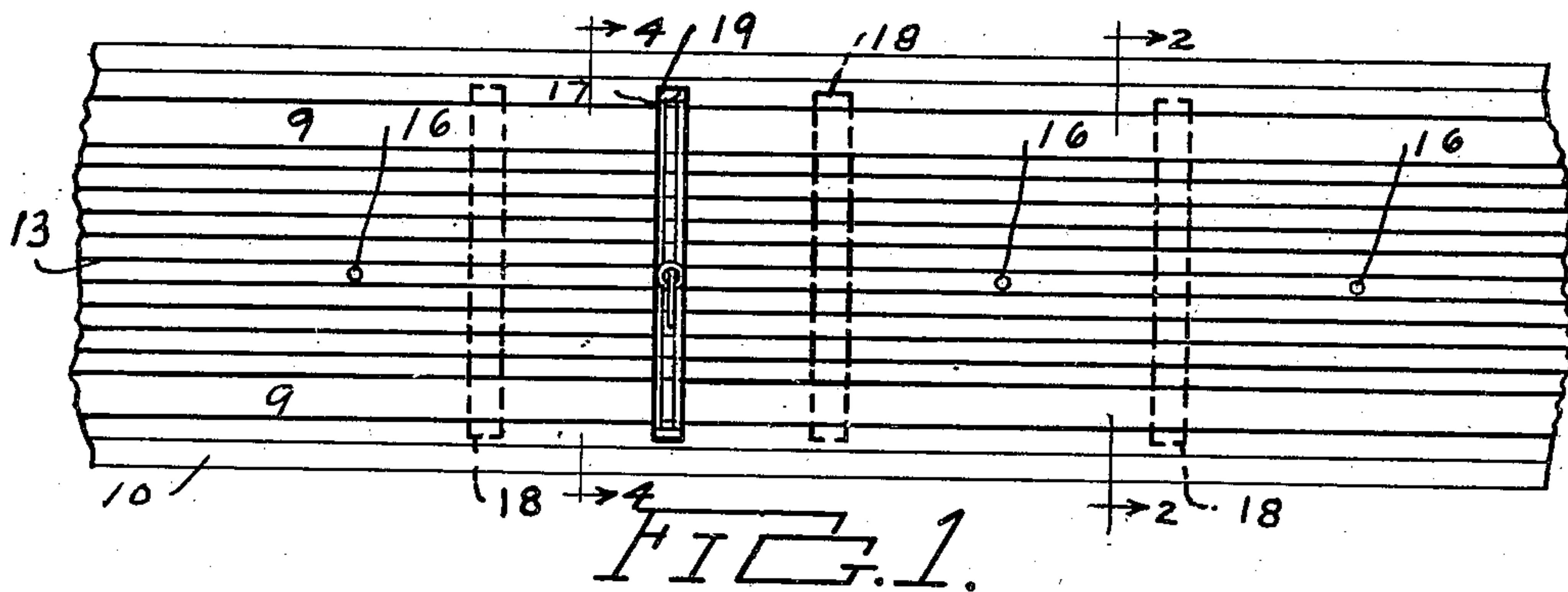
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METHOD FOR STRAIGHTENING BOWLING ALLEYS

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METHOD FOR STRAIGHTENING BOWLING ALLEYS

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3 Claims. (Cl. 273—51)

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This invention relates to bowling alley equipment and more particularly to the construction and repair or reconstruction of alley floors for bowling.

The great objection to the usual present methods of repairing worn bowling alley floors consists in the great cost involved and the amount of time taken, during which the specific alleys being repaired, cannot be used by the paying public and are therefore nonincome producing.

It is an object of this invention to provide a new and improved method of reconstruction and repair of bowling alley floors that will avoid one or more of the disadvantages and limitations of the prior art.

A further object of the present invention is to provide a new and improved method of reconstruction and repair of bowling alley floors that will be economical and relatively expeditious to employ.

For a better understanding of this invention and other objects thereof, reference is made to the appended drawings and following description, wherein a particular form of the invention is outlined by way of example, while the scope of the invention is emphasized in the claims.

Referring to the drawings:

Figure 1 is a partial plan view of a bowling alley embodying this invention,

Figure 2 is a sectional view taken along line 2—2 of Figure 1,

Figure 3 is a sectional view similar to Figure 2 showing narrow templet strips fitted to the contour of the surface of the bowling alley,

Figure 4 is a sectional view taken along line 4—4 of Figure 1, showing the clamp positioned in the alley floor at the start of the raising operation, and

Figure 5 shows the bowling alley floor raised and supported on the narrow templet strip.

Similar reference characters refer to similar parts throughout the drawings.

When the face of the floor of a bowling alley becomes worn its contour is that of a concave gulley 12 which is usually termed a belly groove. In eliminating this gulley 12, the usual method is to tear up the boards that compose the conventional maple flooring 13 by cutting the same completely through about 3 inches behind the foul line, followed by the removal of the approach. The removal of the original flooring is a somewhat tedious job and generally ruins such flooring for bowling purposes. A replacement with new flooring requires considerable care and material. This requires mitering of the flooring

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and lapping of the joint followed by sanding and general finishing with the application of shellac or other suitable coating to complete the work.

The labor of tearing out of the original flooring together, the financial loss during repairs, with the replacement costs of new material make such projects very expensive, and raises the question as to whether it is profitable or desirable to do it, before a decision can be made determining whether to do or avoid the work.

In the new method detailed in this specification, the original flooring 13 of the alley is not cut. However the outer edge boarding 10 on one side of a gutter 9 is lifted up out of the way for about eight inches in width or about four boards to provide access underneath the alley proper. Then a series of narrow gulley members of wood 14 are shaved off on one face 15 to conform accurately with the face of the gulley 12. These gulley members are termed wedges and their lengths are approximately the same as the width of the alley. The opposite face of the wedge is straight. The alley is drilled with holes 16 located between levelling strips 18 and along the center line of the alley. The alley flooring is normally supported on levelling strips 13 running transversely under the alley and leaving spaces at intervals underneath. These spaces are accessible to after the gutter boarding 10 is removed. The operator removes the strips of wood 14 from the gulley and for the time being lays them aside. He then applies a through clamp consisting of channels 19 which are long enough to span the alley. These channels are spaced and arranged in pairs held together at their ends by plates 17 forming a central space through which a bolt 21 passes and threads into a rounded levelling knob 22 whose underside is flat. The bolt is provided with a ball-bearing washer 23 which is held against upward movement by a pin 24 inserted in the bolt 21. The bolt is fitted with a ratchet handle 26 to rotate the bolt 21 on a roller bearing 25 which eases the friction between the roller bearing 25 and the washer 23. The bolt passes through the hold 16 in the alley floor, as indicated in Figure 4. The knob 22 is then screwed on the end of the bolt and drawn upwardly against the underside of the alley flooring. This causes it to belly upwardly so the flat underside of the alley is forced upwardly and bends the floor sufficiently to reverse the position of the gulley from the top to the bottom as shown in Figure 5. After which the curved face of the wedge strip 14 is fitted into the reversed gulley and made to contact the underside of the floor-

ing with the straight side of the wedge strip 14 placed on the upper face of the levelling strip 18. The bolt is reversed, to unscrew it and during its rotation it allows the alley flooring to rest closely on the wedge strip 14, and as a result the former belly groove will be transferred to the under surface, and the bowling face of the alley will assume approximately a straight surface. The holes 16 are then plugged. The flooring 18 is then replaced and the alley is made ready for use.

The wedges are relatively cheap, as they are easy to make and apply. Their placement enables the original alley floor woodwork to be re-used without removal, and the system may be used on the same flooring many times to keep the face of the alley straight.

The amount of finishing required for bringing the raised original surfaces into service is relatively small, compared with that required if the gulley had to be eliminated and replaced by an entirely new floor which would have to be sanded to bring it back to proper level of the alley. Thirty hours are required for the conventional way of refinishing an alley whereas the method outlined in this invention requires only four hours. It also saves considerably in the amount of the material required.

This method of raising or jacking up the flooring of a bowling alley has been found to be practical and effective. The apparent limited size of the knob 22 as compared with the width of the alley in the drawings, has been found not to render it inoperative. The flooring of the alley, as conventionally made, permits the boards or pieces that are interlocked in it, having sufficient flexibility under the jack-like action of the bolt 21 and knob 22, to move together like an integral member until they are brought to a halt by the flat underside of the channels 19. The curved upper surface of the knob distributes the stresses over the underside of the alley so the timber pieces 13 can adjust themselves individually to the movement when they are being jacked upwardly. When the individual boards contact the channels they are stopped and made to align themselves in a straight upper line surface. The tongue and grooves of the boards suffer some distortion during the process but not enough to be materially harmful to the alley, and even if the flooring should be injured slightly and not produce an alley as perfect as the original one, the fact that the wedge strips 14 support the flooring, keeps it in a practical condition that meets the requirements of the game. In actual service, the gulley formed from hard usage is not usually as great as that shown in the drawings, so the stresses involved are not as great as the observer might first think. But there is a gulley and this has to be overcome or the game played on the particular alley will be erratic and objectionable. By the method described, the boards forming the alley floor can be raised and adjusted to present a straight upper surface and have been found in actual instances to conform as described in this application and to be satisfactory to use. Sometimes some of the boards may have their upper edges slightly out of alignment when the jacking up has been completed. In such a case, the operator overcomes any ridges existing by planing and/or sanding them off. The holes 16 required for the insertion and use of the bolts 26 are plugged up after the work of jacking up and raising followed by the fitting and shoring. This is of course done before the final finish is put on the flooring.

While but one general form of the invention is shown in the drawings and described in the specification, it is not desired to limit this application for patent to this particular form or in any other way otherwise than limited by the scope of the claims, as it is appreciated that other forms of construction could be made that would use the same principles and come within the scope of the appended claims.

Having thus described the invention, what is claimed is:

1. A method for the repair of a gulleyed alley of a bowling structure having the boards of its flooring positioned on spaced levelling strips transversely arranged thereunder to support it in a predetermined plane and having its upper surface level, including the removal of structure at the sides of the flooring to attain access to the said strips and the underside of said boards, shaping gulley members to conform on one side to the worn side of the bowling alley, then making a series of spaced holes along the approximate middle line of the alley, then placing clamp bolts through said holes with levelling knob members screwable thereon for engagement of a predetermined area on the underside of said flooring, then placing cross members over the face of the flooring so as to span across same transversely, then placing washer elements on the bolts restricted from moving beyond a predetermined point thereon and arranged to brace against said cross members until the screwing of the bolts will clamp the flooring between said cross members and the levelling knob members and bring its boards up to the level of the bottom surface of said cross-members to eliminate the gulley, and the underside of the boards made to conform with the gulley contour in reverse, then positioning said gulley members against the gulley contour formed on the underside of the flooring to support the boards when said gulley members are placed on the levelling strips, and then finishing off said upper surface of said boards until the surface is accurately aligned for use for bowling.

2. A method for the repair of a gulleyed alley of a bowling structure having the boards of its flooring positioned on spaced levelling strips transversely arranged thereunder to support it in a predetermined plane and having its upper surface level, including the removal of structure at the sides of the flooring to attain access to the said strips and the underside of said boards, shaping gulley members to conform on one side to the worn side of the bowling alley, then making a series of spaced holes along the approximate middle line of the alley, then placing clamp bolts through said holes with levelling knob members screwable thereon for engagement of a predetermined area on the underside of said flooring, then placing cross members over the face of the flooring so as to span across same transversely, then placing washer elements on the bolts restricted from moving beyond a predetermined point thereon and arranged to brace against said cross members until the screwing of the bolts will clamp the flooring between said cross members and the levelling knob members and bring its boards up to the level of the bottom surface of said cross-members to eliminate the gulley, and the underside of the boards made to conform with the gulley contour in reverse, then positioning said gulley members against the gulley contour formed on the underside of the flooring to support the boards when said gulley members

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are placed on the levelling strips, then finishing off said upper surface of said boards until the surface is accurately aligned for use for bowling, said levelling knob members having their surfaces which contact the underside of the boards formed arcuately to more readily follow up the movement of the boards during their movement to fill up the gulley on the upper surface and form the reverse of the gulley on the underside of the flooring.

3. The method of repairing a gulleyed bowling

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alley consisting in placing a movable abutment below the floor of the alley, in providing a connection to the abutment extending through and above the alley floor, in extending crosswise of the alley floor a rest for the connection, and in using this rest to exert a pulling force on the abutment through the connection to raise the floor to its original horizontal position.

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No references cited.