Oct. 8, 1963 A. T. RIEDI 3,105,987

BOWLING LANE DRESSING APPLICATOR

Filed April 25, 1961

FIG.1

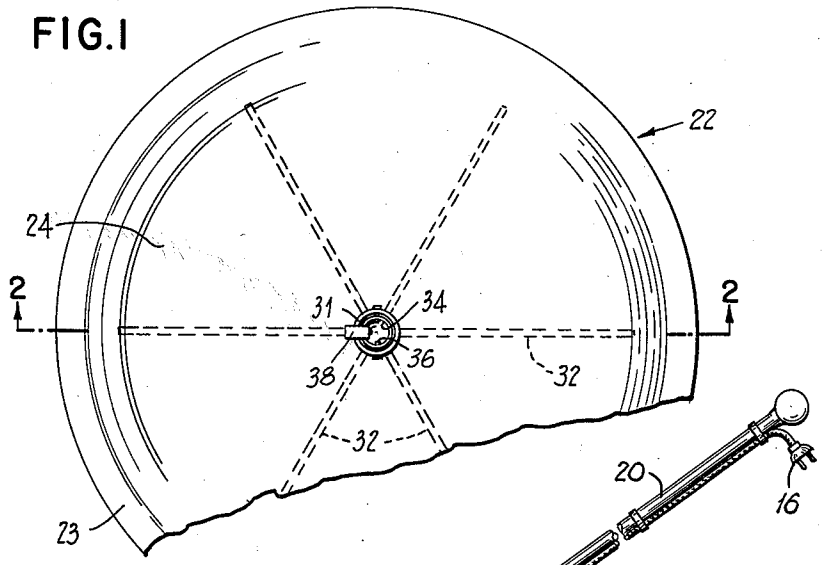


FIG.2

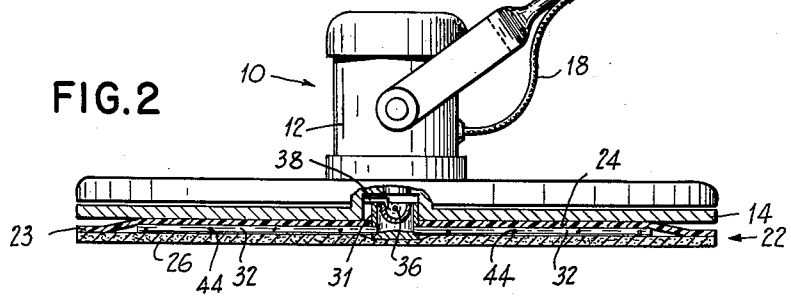


FIG.3

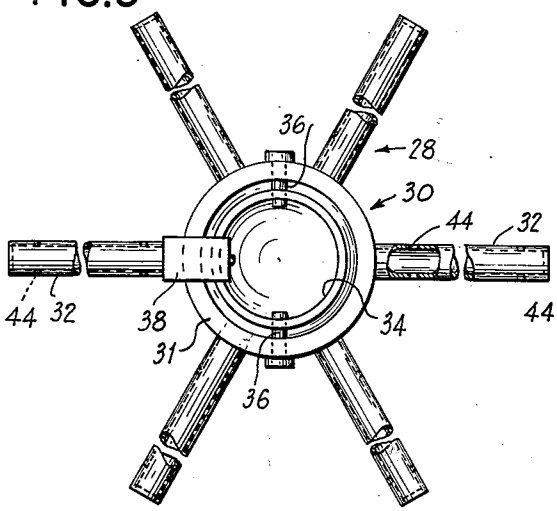
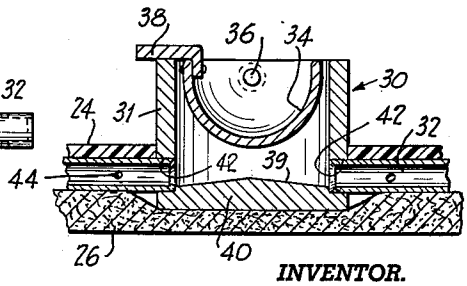


FIG.4



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BOWLING LANE DRESSING APPLICATOR

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This invention relates to the art of bowling, and more particularly to improvements in mechanism for maintaining bowling lanes in the best possible playing condition.

In bowling centers it is highly desirable that the bowling lanes be kept in the best possible condition, not only because it reduces costs, but also for the reason that well kept alleys contribute to a bowler's obtaining good scores, and add greatly to the pleasure he gets out of the game.

Proprietors of bowling centers constantly are on the alert to prevent criticism from their patrons. They, therefore, endeavor to see that at all times the lanes and their approaches are in good condition so that when a bowler rolls his ball he will slide properly on the lane's approach, and that there will be no accumulations of dirt, or ball tracks on the lane which would prevent the proper rolling of the ball against the standing pins.

It is also important to provide means for keeping balls clean and free from rings caused by adherence of improperly applied bowling lane conditioning and finishing materials.

The present invention contemplates the provision of a device which is so constructed that the proper amount of bowling lane conditioner or dressing can be applied at all times and in that way the alleys so treated are maintained in best operating condition and balls rolled therealong will be free from unwanted accumulations of dirt, wax or lacquer, and improperly applied conditioner or finish.

It is an object of the invention to provide a novel bowling lane conditioner or finish applying device having means for so applying conditioner or finish that a minimum quantity can be applied to a lane in a substantially uniform manner.

It is a further object of the invention to provide a novel bowling lane dressing applying machine wherein means are provided of insuring that bowling lanes on which a machine embodying my invention is used will also be maintained in the best possible condition.

The invention also comprises the provision of a novel bowling lane dressing applying machine having novel means in the form of radiating perforated arms for insuring that a bowling lane when treated with a minimum of dressing or conditioning fluid will have the dressing or fluid applied to its entire surface in a uniform film wherein a very minimum of dressing is applied to each lane treated to maintain the lane in best possible bowling condition and insure that balls rolled therealong will be free from dirt and rings of dressing which is generally the case when dressing is improperly applied, or applied to a lane in excess quantity.

The invention also consists in the provision of a novel rotary bowling lane conditioner applying device having means for measuring an exact quantity of material to be applied to each lane to be treated so that a minimum of material performs a maximum of service in the maintenance of each lane treated.

With these and other objects not specifically mentioned in view, the invention consists of certain constructions and combinations which will be hereinafter fully described and then specifically set forth in the appended claims.

Apparatus according to the invention will now be described with reference to the accompanying drawings, which are:

FIGURE 1 is a partial top plan view of an applicator embodying the invention.

FIGURE 2 is a sectional view taken on line 2—2 in FIG. 1, with a suitable driving device shown in operative relationship therewith.

FIGURE 3 is a plan view of the fluid distributing system used with the applicator, and

FIGURE 4 is a sectional view of a detail of the invention.

Referring to the drawings which disclose a preferred form of the invention selected for illustration, 10 designates a suitable conventional rotary type of bowling lane maintenance machine having a motor 12 which drives a disc 14. Power to operate motor 12 is obtained from a conventional outlet (not shown), through plug 16 attached to cord 18 in turn connected to motor 12. Handle 20 swivelly connected to the housing of motor 12 is provided for guiding device 10 upon a bowling lane (not shown), as desired.

Cooperating with driving disk 14 is an applicator 22 which comprises a buffer driving disk or pad 24 to which buffing pad 26 is attached. Driving disk or pad 24 can be attached firmly to disc 14 by means of adhesive, or by some suitable type of mechanical device, such as snap fasteners. I have found, however, as shown in FIGURE 2, that the weight of machine 10 is such that when disk 14 rests upon driving disk or pad 24, there is provided sufficient frictional contact so that applicator 22 is held in operative position without the need of actually attaching it to disk 14.

Buffer driving disk or pad 24 may be formed from any suitable material. I have found that satisfactory results can be secured by using a resilient, fluid resistant material, such as rubber, which will effect a driving grip when positioned in contact with driving disk 14. Buffer pad 26 is made of a suitable material such as felt, burlap, turkish toweling or any other material, which will absorb, hold and applying bowling lane conditioning liquid dressing or finish. A finish which I have found to give satisfactory results is one sold by American Machine & Foundry Company, New York, N.Y., under the designation "Magic Triangle" Bowling Lane Conditioner. This conditioner or dressing provides bowling lanes with a protective coating that gives proper conditions for good bowling and bowling balls rolled on lanes so treated stay clean and ring-free.

Buffer dressing disk or pad 24 is cemented, buttoned, snapped or held to buffer pad 26 when in the operative relationship shown.

An important feature of applicator 22 is the system provided for distributing the conditioning liquid. In the form illustrated, this system is designated generally at 28, and comprises a central sump 30 from which radiate a plurality of elongated tubular arms 32. As shown in the drawings, the center of sump 30, which is shown as cylindrical, is aligned with the center of rotation of applicator 22 thereby insuring that the distribution of conditioning liquid or fluid will, due to centrifugal action, be uniform over the surface of a lane being dressed.

Referring to FIGURES 2, 3 and 4, it will be seen that a conditioning liquid measuring cup 34 is pivotally mounted on pins 36 supported in opposed portions of the wall of sump 30. Cup 34 is provided with a lift or handle 38 suitably attached to one side or formed as an integral part thereof. This handle permits tilting of cup 34 to employ a measured quantity of fluid into sump 30, and also as a weight to bias cup 34 into fluid holding position where handle 38 rests on top of wall 31 of sump 30 (FIGURE 4).

The bottom of sump 30 is formed with a downwardly tapered base 40 and preferably constitutes an integral part thereof. Holes 42 drilled or formed in some other suitable manner in wall 31, and into the outer portion of

tapered base 40 provide seats for fluid distributing tubes or arms 32, which are pressed fitted into holes 42. As indicated in FIGURES 2, 3 and 4, each tube 32 has several holes 44 drilled or punched therein so as to provide apertures through which fluid may spill out and flow uniformly through buffer pad 26 under centrifugal force during operation of machine 10.

Sump 30, tubes 32, cup 34 and pivots 36 may be formed of any suitable material, metal or plastic. I have found that polyethylene gives satisfactory results and is relatively inexpensive, although other plastics could be used.

Cup 34 in which the dressing or lane conditioner is poured, is designed such as to measure the required amount of dressing to be used on each lane. In the construction shown in the drawings the design of cup 34 is such as to release ⅛ liquid ounce into the distributing tubes 32. Normally, under usual operating conditions this quantity is sufficient dressing for one lane. However, under some conditions it may be necessary to use more dressing and there can be poured into cup 34 and added ⅛ ounce, so that ¼ ounce of dressing is delivered into tubes 32.

In operation the required measured quantity of dressing or lane conditioning fluid is poured into cup 34. Handle 38 is lifted to tilt cup 34 and dump the measured quantity of fluid into sump 30 whence it flows freely down the inclined surface 39 of base 40 through holes 42 into tubes 28. Applicator 22 then is coupled to disk 14 in the manner described. Motor 12 is started and the operation engages handle 20 and guides machine 10 over a lane to be conditioned. The conjoint effect of gravity and centrifugal force due to the rotation of applicator 22 insures a uniform application of fluid on the surface being dressed.

While reference has been made to dressing bowling lanes, it will be appreciated that a device embodying the invention may be used in dressing and treating many other surfaces.

What I claim is:

1. A device for applying a conditioning dressing fluid to the surface of a selected area comprising a power head including an electric motor and means for moving said device over said area, means for supplying dressing fluid, a conditioning fluid member driven by said motor, said member including an upper disk, a conditioner applicator connected to said disk, and a plurality of pervious tubes

communicating with a means for supplying dressing fluid, said tubes being located between said upper disk and said conditioner applicator for supplying conditioning dressing fluid to said applicator for application thereby to said surface.

2. A device for applying a fluid conditioner to the surface of a selected area comprising a mobile power head including an electric motor, a driving disk attached to the shaft of said motor, an applicator pad operatively associated with said disk, means for supplying a predetermined quantity of conditioner fluid to said pad, and means for actuating said motor whereby when said device is moved over said selected area, conditioner fluid is applied uniformly thereto, said means for supplying said predetermined quantity of conditioner fluid including a plurality of radially disposed perforated supply conduits located between said disk and said pad for supplying said pad with said conditioner fluid.

3. A device for applying a conditioning dressing fluid to the surface of a selected area comprising a power head including an electrical motor and means for moving said device over said area, a driving disk attached to the shaft of said motor, and a conditioning dressing fluid member operatively associated with said disk, said member including an upper disk adjacent said driving disk, a lower absorbent pad connected to said upper disk, and a plurality of means located between said upper disk and lower pad for supplying conditioning dressing fluid to said lower pad.

4. The device defined in claim 3 wherein said member includes a centrally located sump for holding conditioning fluid, and said last-named means comprise radially extending perforated tubes having their innermost ends connected to said sump to receive fluid therefrom.

5. The device defined in claim 4 including a measuring cup, means pivotally mounting said cup to receive a quantity of conditioning fluid, and means for effecting the delivery of fluid in said cup into said sump.

6. The device defined in claim 4 wherein said sump is provided with a conical base, and openings in said sump adjacent the periphery of said base seating said innermost ends of said tubes.

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