July 5, 1927. 1,634,374

C. R. McDONALD ET AL

LIQUID DISPENSING APPARATUS

Filed Aug. 31, 1925 3 Sheets-Sheet 1

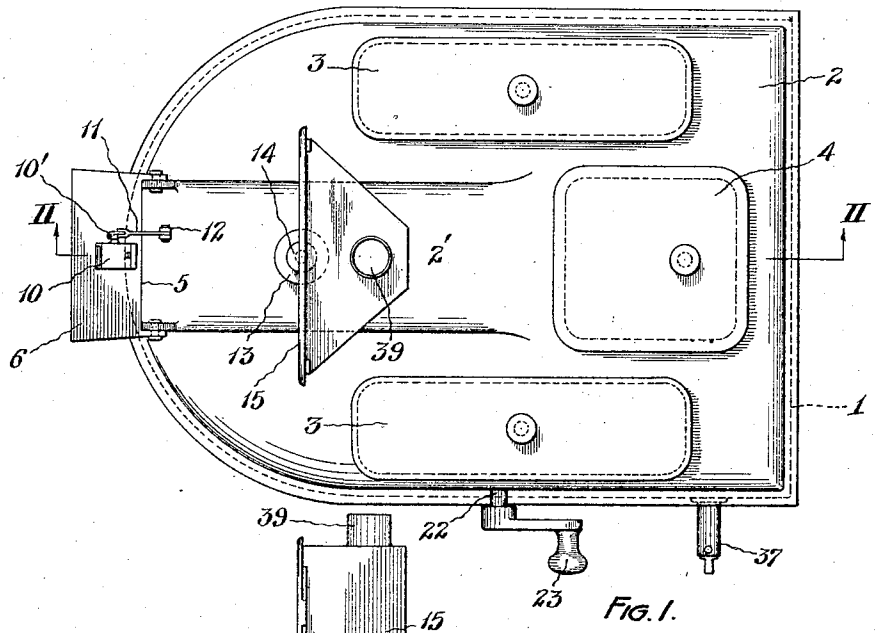


FIG. 1.

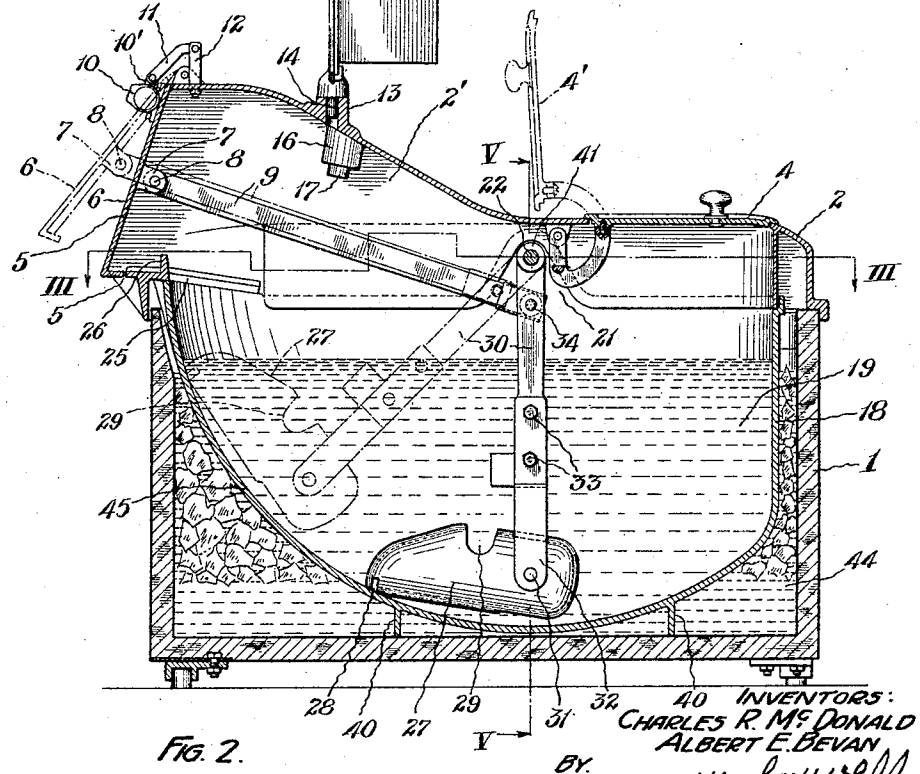


FIG. 2.

INVENTORS:
CHARLES R. McDONALD
ALBERT E. BEVAN
BY
George W. Sawyell
ATTORNEY

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C. R. McDONALD ET AL

LIQUID DISPENSING APPARATUS

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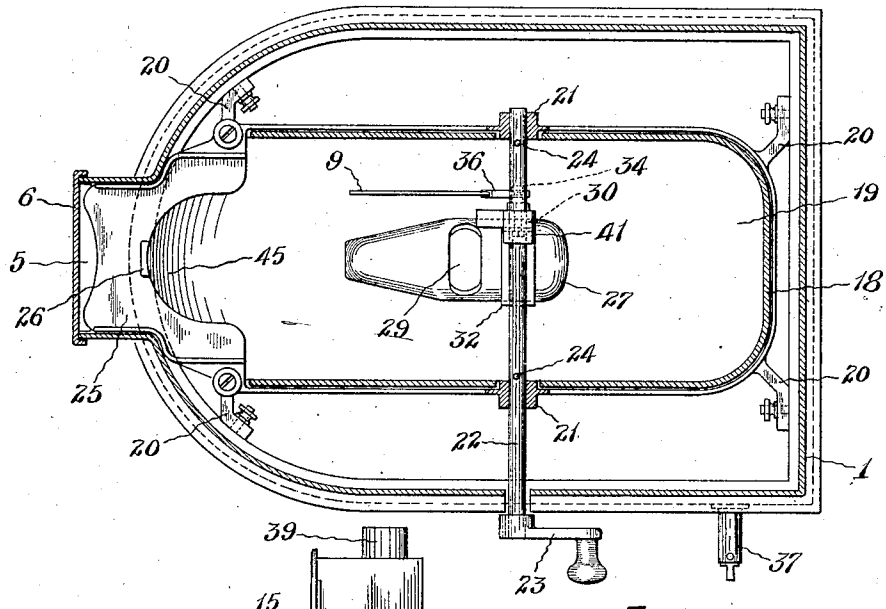


FIG. 3

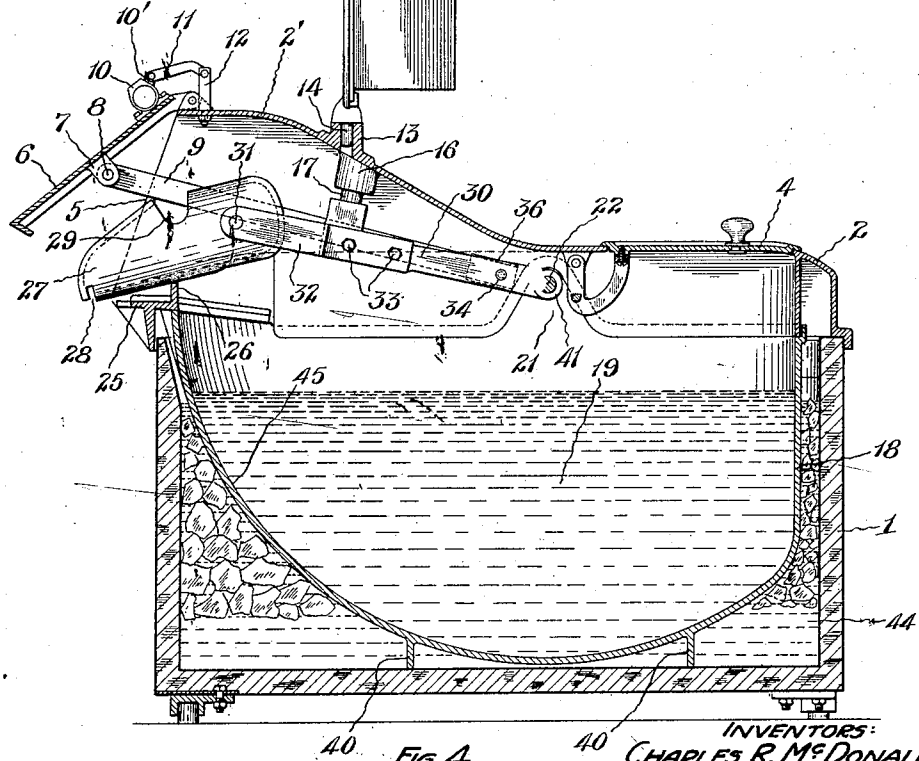


FIG. 4.

INVENTORS:
CHARLES R. McDONALD
ALBERT F. BEVAN
BY
George W. Saywell
ATTORNEY

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C. R. McDONALD ET AL

LIQUID DISPENSING APPARATUS

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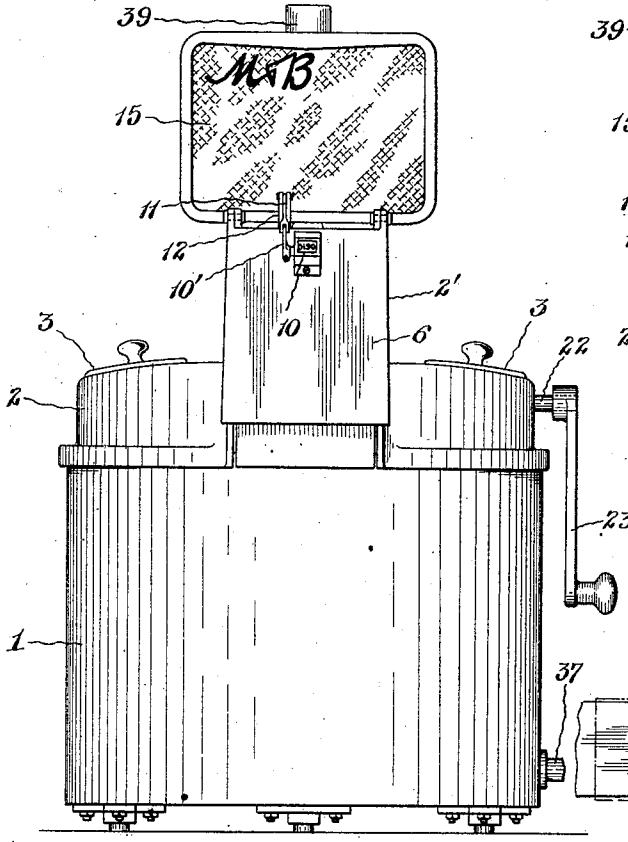


FIG. 6.

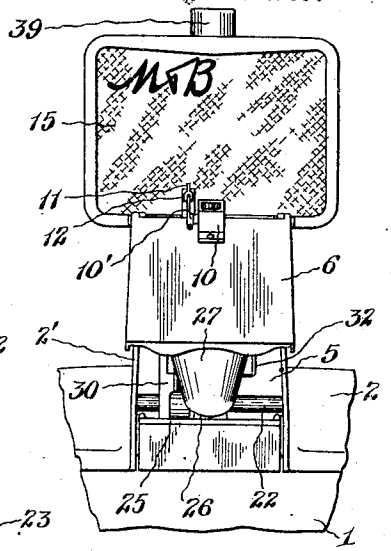


FIG. 7.

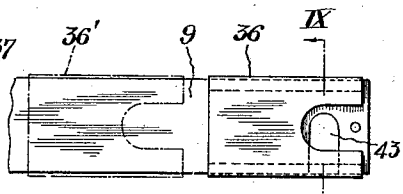


FIG. 8.

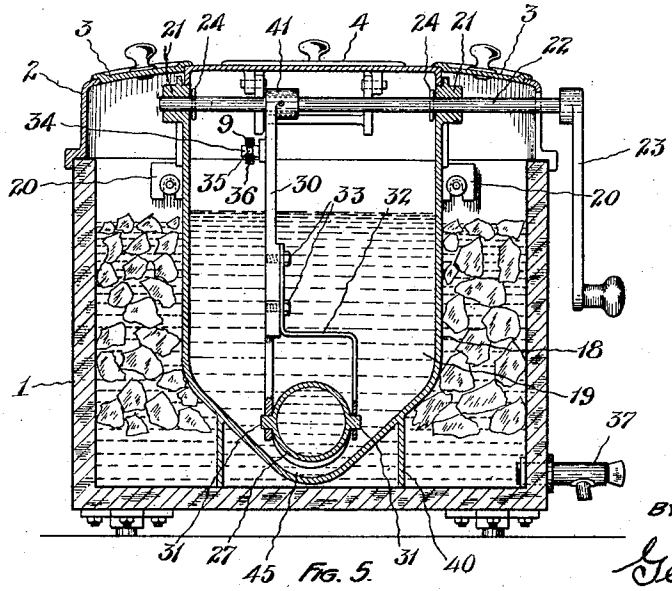


FIG. 5.

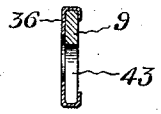


FIG. 9.

INVENTORS:
CHARLES R. McDONALD
ALBERT E. BEVAN

BY.

George W. Saywell
ATTORNEY

Patented July 5, 1927. 1,634,374

UNITED STATES PATENT OFFICE.

CHARLES R. McDONALD AND ALBERT E. BEVAN, OF AKRON, OHIO.

LIQUID-DISPENSING APPARATUS.

Application filed August 31, 1925. Serial No. 53,450.

Our invention relates to liquid dispensing apparatus, and particularly to improvements in apparatus of this character designed for the retail dispensing of soft drinks in restaurants, soft drink parlors, fairs, dance halls, etc. The objects of the invention are to provide apparatus of this character which may be economically built, easily and accurately operated, which will withstand rapid and hard usage, which shall dispense at each operation substantially the same amount of liquid, in which the liquid may be kept cool and refreshing, and which shall be satisfactorily sanitary.

The annexed drawings and the following description set forth in detail certain means embodying our invention, such means constituting, however, but one of the various forms in which the principle of the invention may be applied.

In said annexed drawings:

Figure 1 represents a top plan view of our improved liquid-dispensing apparatus;

Figure 2 represents a vertical section, taken in the plane indicated by the line II—II, Figure 1, and showing, in full lines, the dispensing bucket and connected parts in normal position, and, in dot-and-dash lines, showing these elements in the positions which they severally occupy when the bucket has been moved substantially halfway upwardly to its dumping position. An open position of a door covering a liquid filling opening is also shown in dot-and-dash lines in this figure.

Figure 3 represents a plan section, taken in the plane indicated by the line III—III, Figure 2;

Figure 4 represents a view similar to Figure 2 in which the dispensing bucket and the parts operating therewith are shown in dumping position;

Figure 5 represents a vertical cross section, taken in the plane indicated by the line V—V, Figure 2;

Figure 6 represents a front elevation, with the bucket and connected parts in normal position;

Figure 7 represents a fragmentary front elevation, with the bucket and connected parts in dumping position;

Figure 8 represents a side elevation of the crank end of the connecting rod; two positions of certain means for locking the joint between the connecting rod and the bucket support are also shown in this view, and

Figure 9 represents a cross section, taken in the plane indicated by the line IX—IX, Figure 8.

Referring to the annexed drawings in which the same ordinals indicate the same respective elements in the several views, we indicate an insulated casing or frame by the ordinal 1 having a top 2 provided with covers 3 for openings through which ice may be dumped around a liquid receptacle 18 adapted to hold the liquid which shall be dispensed, said receptacle being mounted in the frame 1 by means of legs 40 and brackets 20 and being provided with a hinged door 4 covering an opening through which the liquid to be dispensed may be poured to fill the receptacle 18. A portion 2′ of the cover 2 is extended upwardly from the frame 1 and upon the front side of the frame adjacently below the forward edge of this top portion 2′ is formed a casing opening 5 for which there is a hinged cover 6. This cover 6 also forms a door covering a discharge opening from the liquid receptacle 18. A bracket 7 is secured to the under side of the cover 6, and pivoted by means of a pin 8 to this bracket 7 is the forward end of a connecting rod 9, hereinafter more fully described.

The door 6 supports a register 10 hingedly connected with one end of a link 11 whose other end is pivoted in the top of a vertical post 12 mounted upon the cover member 2′. A standard 14 mounted in a boss 13 formed upon the cover 2′ supports an electrically illuminated sign 15 formed with a light socket 39. The standard 14 also extends into a boss 16 formed upon the under side of the cover member 2′ and rests upon a shock absorbing plug 17 secured in the boss 16.

The liquid receptacle 18 is formed with a well 19 in the bottom of which the bucket or scoop normally rests, as plainly shown in Figure 5. Laterally extending bosses 21 formed upon the two sides of the receptacle 18 form bearings for a shaft 22 held in position by pins 24, this shaft intersecting the main casing 1 at one side and being formed with an operating handle 23. A hub member 41 of a depending arm 30 is pinned to the shaft 22 and forms a support for a bucket 27, as shown in Figure 5. This bucket

27 is formed with a pair of opposed laterally extending trunnions 31 journalled in bearings formed adjacent the bottom end of the arm 30 and in an angular detachable arm 32 secured adjacent its upper end by bolts 33 to the depending arm 30, as shown in Figure 5. The construction of the bucket 27 is shown in Figure 2 and it is evident that the capacity of the bucket is determined by the position and character of the filling hole 29. By means of the detachable angular arm 32, forming one of the supports for the bucket 27, buckets having different capacities by reason of the different positions and characters of the filling holes 29 can be interchangeably used in the same supports 30 and 32 by means of taking off the arm 32, removing a bucket of one capacity and replacing it with a bucket of another capacity. Extended laterally from the arm 30 and adjacent the upper end of the latter is a short rod section 34 formed with a peripheral groove 35. The connecting rod 9 is hook-shaped at its rear end, as plainly shown by the ordinal 43, Figure 8, and this hooked end is adapted to engage the groove 35 of the rod section 34 thereby to connect the rod 9 to the depending bucket support 30. In order that the joint between the rod 9 and the rod section 34 may be effectively locked and yet allow for the ready attachment and removal of the rod 9, we provide a sliding key 36, plainly shown in Figures 8 and 9, which can be readily moved upon the rod 9 to the position shown in dot-and-dash lines, Figure 8, for allowing the removal of the rod 9 from the groove 35, and which can be moved into the full line position, shown in Figure 8, to allow for the locking of the rod 9 and the rod section 34. Adjacent the lower end of the discharge opening 5 a plate 25, of the design plainly shown in Figure 3, is secured to the casing 1 by brackets 20, this plate 25 being formed with an upwardly extending flange 26 forming an edge upon which the bucket 27 is tilted, when the bucket is raised to the position plainly shown in Figure 4. The weight of the bucket 27 and the door 6 and the connected members will move these elements, under the influence of gravity, to the respective positions shown in full lines in Figure 2. The distance from the flange 26 to the rod section 34 is such, compared to the length of the depending support 30 and its points of attachment 31 to the bucket 27, that when the bucket 27 is raised to a position adjacent the discharge opening 5, the rear end of the bucket will be lifted above the flange 26 to discharge the contained liquid through the mouth 28, as plainly shown in Figure 4.

Means are plainly shown in Figures 2 and 5 providing for the hinging of the door 4 covering the receptacle filler opening and for the fixing of said door 4 vertically in an open position. Means 37 are shown in Figures 1 and 3 providing for the draining of the ice compartment 44.

It is apparent from the foregoing description and the accompanying drawings that the actuation of the operating handle 23 forwardly from the position shown in Figure 5 will lift the bucket 27 from the position shown in full lines in Figure 2 to the position shown in dot-and-dash lines in said Figure 2, the discharge end of the bucket travelling along the guide 45 formed by the lower trough shaped portion of the receptacle 18, and then lift the bucket to the dumping position shown in Figure 4, the cover 6 having been lifted at the same time by the connecting rod 9 to the position shown in Figure 4. In the meantime the pivoted link 11 acting upon the arm 10′ of the register 10 has recorded the operation. Either a release of the handle 23 or a movement of the same in the opposite direction will cause the several elements to reassume their normal positions shown in Figure 2.

What we claim is:-

1. In liquid-dispensing apparatus, the combination of a liquid receptacle formed with a discharge opening; a movable door for said opening; a bucket; a movable support for said bucket; a link pivotally connected to said support and pivotally connected to said door; means for tilting the bucket to discharge through said opening; and means for actuating said bucket support to lift the bucket into juxtaposition with said tilting means and to open the discharge-opening door.

2. In liquid dispensing apparatus, the combination of a liquid receptacle formed with a discharge opening; a hinged door for said opening; a registering meter mounted upon said door; means for actuating the meter when said door is moved; a bucket; a depending support for said bucket; a link pivotally connected to said support at one end and pivotally connected to said door at the other end; and means for actuating said bucket support, a path of travel being provided for the bucket from its normal filling position to a dumping position adjacent the bottom of said discharge opening.

3. In liquid-dispensing apparatus, the combination of a frame; a liquid receptacle mounted therein and formed with a discharge opening; a bucket; a shaft mounted in said frame, extended laterally from the latter, and formed with an operating handle; a depending support secured at its upper end to said shaft, the bucket being pivotally mounted in the lower end of said support; a movable cover for said discharge opening; means forming a path of travel for the bucket to and from said discharge opening; means for tilting the bucket to discharge

through said opening, when the bucket is lifted, said tilting means realigning the bucket as the latter is lowered; a pin laterally extended from said bucket support; and a link pivotally connected at one end to said cover and pivotally connected at the other end to said pin, whereby the turning of said handle in one direction will actuate said support to open said cover and lift said bucket to discharge through said opening, and the release of the handle will cause said bucket, said cover and said support, under the influence of gravity, to reassume their respective normal positions.

4. In liquid dispensing apparatus, the combination of a frame; a liquid receptacle mounted therein and formed with a discharge opening; a bucket; a shaft mounted in said frame, extended laterally from the latter, and formed with an operating handle; a bucket support depending from said shaft; a movable cover for said discharge opening; means forming a path of travel for the bucket to and from said discharge opening; means for tilting the bucket to discharge through said opening, when the bucket is lifted, said tilting means realigning the bucket as the latter is lowered; a link pivotally connected at one end to said cover and pivotally and detachably connected at the other end to said bucket support, whereby the turning of said handle in one direction will actuate said support to open said cover and lift said bucket to discharge through said opening, and the moving of the handle in the other direction will cause said bucket, said cover and said support to reassume their respective normal positions; and movable means for locking and unlocking the joint between said link and said bucket support.

5. In liquid dispensing apparatus, the combination of a liquid receptacle formed with a discharge opening; a bucket; a shaft mounted in said receptacle and formed with an operating handle; a depending bucket support secured to said shaft; a hinged cover for said discharge opening; means forming a path of travel for the bucket to and from said discharge opening; means for tilting the bucket to discharge through said opening, when the bucket is lifted, said tilting means realigning the bucket as the latter is lowered; a pin extended from said bucket support; and a link pivotally connected at one end to said cover and pivotally connected at the other end to said pin, whereby the turning of said handle in one direction will actuate said support to open said cover and lift said bucket to discharge through said opening, and the turning of the handle in the other direction will cause said bucket, said cover and said support to reassume their respective normal positions.

6. In liquid-dispensing apparatus, the combination of a liquid receptacle formed with a discharge opening; a bucket; a shaft mounted in said receptacle and formed with an operating handle; a depending bucket support secured to said shaft; a hinged cover for said discharge opening; means forming a path of travel for the bucket to and from said discharge opening; means for tilting the bucket to discharge through said opening, when the bucket is lifted, said tilting means realigning the bucket as the latter is lowered; a pin extended from said bucket support; a connecting rod pivotally connected at one end to said cover and pivotally and detachably connected at the other end to said pin, whereby the turning of said handle in one direction will actuate said support to open said cover and lift said bucket to discharge through said opening, and the turning of the handle in the other direction will cause said bucket, said cover and said support to reassume their respective normal positions; and a sliding key mounted upon the bucket support end of said connecting rod and adapted to lock and unlock the joint between the latter and said bucket support.

Signed by us this 12 day of August, 1925.

CHARLES R. McDONALD.
ALBERT E. BEVAN.