

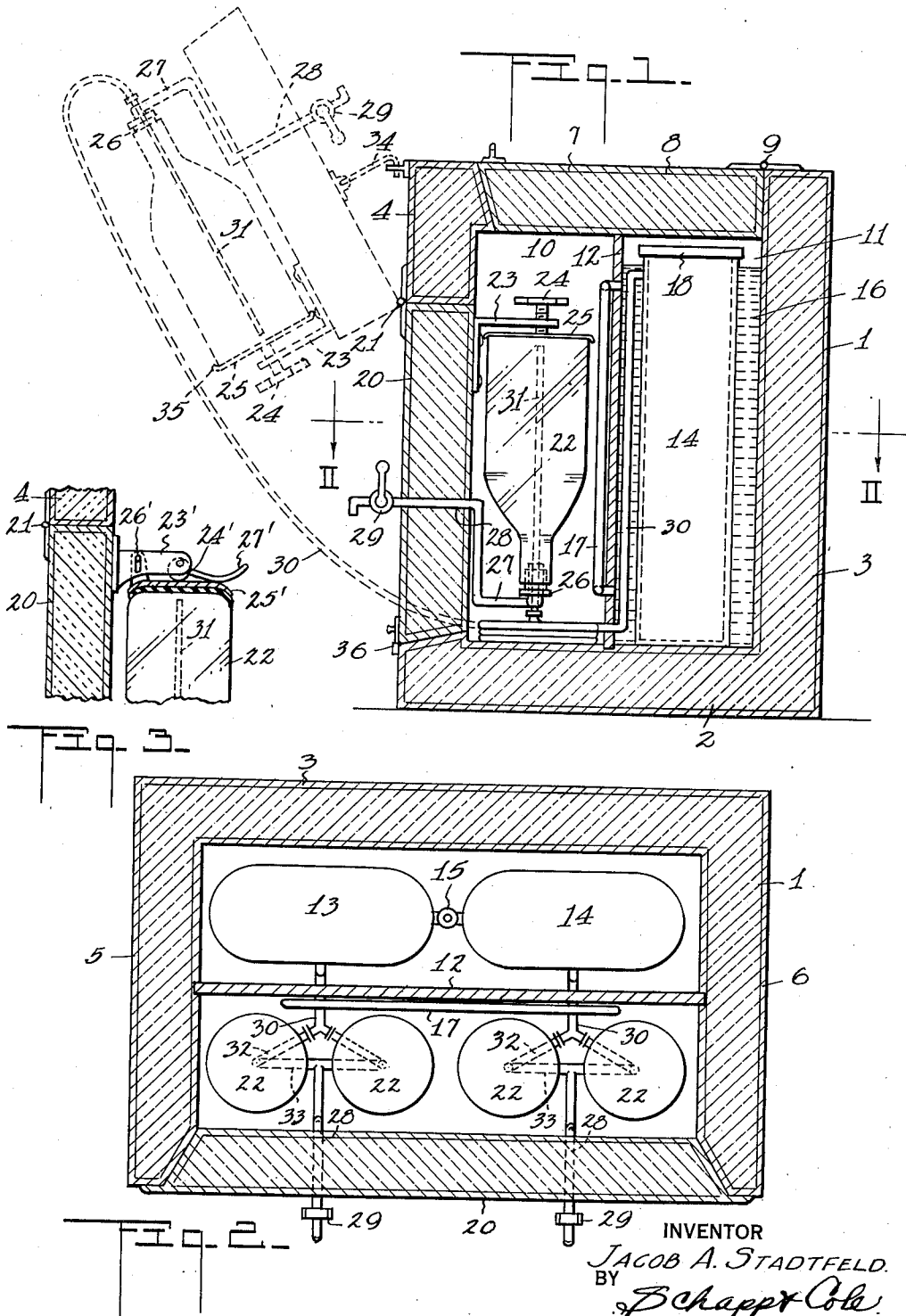
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DISPENSING DEVICE

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2,191,918

DISPENSING DEVICE

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4 Claims. (Cl. 225—1)

The present invention relates to improvements in liquid dispensing devices and has reference principally to means for dispensing liquid from bottles into glasses under desired conditions.

5 The invention is intended particularly for the dispensing of beer from comparatively large bottles, say one-half gallon or a full gallon in size, into individual glasses under conditions approximating the dispensing of beer from kegs or barrels.

10 Kegs or barrels can be economically used for beer dispensing in larger sizes only, and the owner of a restaurant or tavern often finds himself in a position where, due to fluctuating demand, the beer in a keg or barrel, once opened, grows stale and goes to waste.

15 In the present invention it is proposed to place at the disposal of the restaurant owner or innkeeper containers of smaller dimensions which allow him to better gauge the supply to the existing demand and to still offer the advantages of taste and quality inherent in beer served from the barrel.

20 More particularly it is proposed to provide means for mounting a bottle of beer or other beverage in inverted position in a receptacle with a faucet connection on the outside of the receptacle allowing the beer to be withdrawn from the lower end of the bottle.

30 It is further proposed to provide means whereby a new bottle may be quickly substituted for an empty bottle without danger of spilling any of the contents thereof.

35 It is further proposed to provide means for maintaining a suitable low temperature in the receptacle.

40 Another purpose of the invention is to use dry ice as a cooling medium and at the same time to use carbon dioxide gas liberated by the gradual gasifying of the dry ice as a pressure means for expelling the beer from the bottle and as a means for carbonating the beer in the bottle.

45 And finally it is proposed to provide an installation whereby the faucet connection and the dry ice connection are established in a single operation and as a mere incident to the insertion of the bottle.

50 Further and other objects of the invention will appear as the specification proceeds.

The preferred form of my invention is illustrated in the accompanying drawing in which:

55 Figure 1 shows a vertical section through my apparatus with the bottle in final position and with a loading position indicated in dotted lines,

Figure 2 a horizontal section taken along line II—II of Figure 1, and

Figure 3 a modified bottle holder.

While I have shown only the preferred form of my invention, I wish to have it understood 5 that various changes or modifications may be made within the scope of the claims hereto attached without departing from the spirit of the invention.

10 In its preferred form my invention comprises a receptacle 1, preferably rectangular in form and comprising a bottom 2, a rear wall 3, a front wall 4, side walls 5 and 6 and a top 7 which latter is formed with a suitable door 8 hinged at 9 to give access to the interior from above. All walls 15 and doors are suitably insulated to reduce heat exchange between the inside of the receptacle and the outside.

20 The receptacle is preferably divided into two compartments 10 and 11 by means of a vertical partition 12 which may also be made of insulating material. The rear compartment 11 accommodates preferably two dry ice containers 13 and 14 which may be interconnected by a valved conduit 15.

25 A suitable liquid cooling medium, such as brine or low freezing oil indicated at 16 is made to circulate through a cooling coil 17 in the front compartment so as to keep the latter cool. The supply of dry ice may be renewed through caps 30 18 of suitable construction.

35 The front wall 4 of the receptacle has a door 20 mounted on a horizontal hinge 21 so as to be movable between vertical closing position indicated in full lines and substantially upright open 40 position indicated in dotted lines. The bottles 22, which in the example shown, are four in number, are attached to the inner face of the door so as to occupy an inverted position, with neck down, when the door is closed, and a substantially upright position when the door is 45 opened for exchange of bottles.

As seen in open position, the door is provided with a plurality of brackets 23, one for each bottle, near its hinged edge and each bracket has a screw 24 threaded therethrough which bears on a suitable platform or base 25 for adjustably sup- 50 porting the same.

55 In spaced relation to the base, so as to accommodate a bottle therebetween, is mounted a bottle stopper 26 which is supported in alined relation with the screw 24, on the end of a centrally disposed conduit 27 which latter has an intermediate section 28 supported in the door 55

and is provided, at its outer end, with a dispensing faucet 29.

The dispensing faucet is thus presented on the opposite face of the door from that of the bottle and occupies an inverted position when the door is open, as shown in dotted lines. The conduit extends through the stopper so that the liquid may flow therethrough when the bottle is inverted.

Flexible tubes 30 of small diameter connect the upper parts of the dry ice container with metallic tubes 31 extending centrally through the stoppers and the inner ends of the conduits into the bottles and within close proximity to the bottoms thereof.

While each bottle stopper may, of course, be individually connected to the conduit and the dry ice, I preferably arrange the stoppers in pairs, providing each conduit 27 with two branches, as at 33 and each tube 30 with similar branches indicated at 32.

The door may be held in open position during the loading operation by any suitable means as by the hook 34.

The operation of my apparatus is as follows:

For loading, the door 20 is swung into open position as shown in the dotted lines in Figure 1. The screw 24 is loosened which causes the base 25 to recede. The bottle, which has been previously installed, is then withdrawn, by a slight tilting and downward movement which causes it to clear the base and which causes the neck to move downward along the tube 31, the latter being sufficiently bendable and flexible to allow the bottle neck to clear the base.

For insertion of a fresh bottle the original closure ordinarily provided is first removed and the open neck of the bottle is guided over the tube 31 toward the stopper, which is preferably frusto-conical in form, until it engages therewith, at which time the bottom of the bottle may be swung over the base, which latter is preferably shaped, by flanges 35 or otherwise, to center the bottle. Tightening of the screw now forces the base upward and tightens the engagement between the stopper and the bottle neck.

It will be noticed that this entire operation is carried out while the bottle occupies an upright position and without any danger of spilling the contents thereof.

After all the bottles, or any desired number, have thus been inserted, the door is swung downward into the full-line closed position of Figure 1. This operation inverts the bottles and the contents thereof may now be easily drained by opening the faucet 29.

At the same time carbon dioxide gas is delivered into the bottle above the liquid to keep the latter fresh and under pressure. The circulation of the brine or oil in the coil 17 tends to keep the front chamber cool. A latch 36 may be used for holding the door in closed position.

The two dry ice containers are interconnected by the valved conduit 15 which may be shut off when it is desired to fill one, upon opening the door 8 and removing the cap 18.

It is apparent that my device may be used for the dispensing of any other beverage or liquid as well as beer, and I do not wish to be limited in this respect.

This application embodies certain improvements over the device shown in co-pending application, Serial No. 165,069, filed September 22, 1937.

Referring now to Figure 3, it will be noted that

I have provided a bracket 23' on the inner face of the door 20. This bracket has secured thereto a platform 25' by means of a pin and slot connection 26'. For moving the platform upon the bottle 22, I make use of an eccentric 24', which has an operating handle 27' extending therefrom. It will be understood that the platform 25' is intended for forcing the bottle 22 upon a stopper (not shown) in the same manner as in Figure 1.

I claim:

1. In combination, a receptacle having a vertical wall and a door in the vertical wall swingable through substantially 180° on a horizontal axis so as to be movable between open and closed positions, a liquid-holding bottle having a discharge end, means for attaching the bottle to the inner face of the door in substantially upright position with the discharge end of the bottle presented upwardly while the door is open so as to cause the door to reverse the bottle into inverted position with the discharge end of the bottle disposed downwardly when the door is closed, a conduit extending from the discharge end of the bottle and having a faucet on the opposite side of the door.

2. In combination, a swingable door mounted on a horizontal axis for movement between two substantially vertical positions, whereby the faces of the door may be transposed and inverted, a bottle supporting base and a bottle stopper mounted upon one face of the door in spaced relation to each other for receiving a bottle therebetween, a bottle disposed between said base and stopper, and means for moving the base and the stopper relative to each other for urging the open end of the bottle upon the stopper, the mounting means for the stopper including a conduit extending through the door and having a faucet on the opposite side of the door.

3. In combination, a swingable door mounted on a horizontal axis for movement between two substantially vertical positions, whereby the faces of the door may be transposed and inverted, a bottle supporting base and a bottle stopper mounted upon one face of the door in spaced relation to each other for receiving a bottle therebetween, a bottle disposed between said base and stopper, and means for moving the base and the stopper relative to each other for urging the open end of the bottle upon the stopper, the mounting means for the stopper including a conduit extending through the door and having a faucet on the opposite side of the door, the faucet having a spout opening in the same direction as the bottle neck.

4. In combination, a receptacle having a door in a vertical wall thereof mounted for swinging movement on a horizontal axis between open and closed positions, a bottle stopper and a bottle supporting base mounted upon the inner face of the closed door so as to be presented on the outer face when the door is open and being spaced relative to each other for receiving a bottle therebetween and arranged to receive the bottle in substantially upright position when the door is open, a bottle disposed between said base and stopper, the stopper supporting means including a conduit extending through the door and having a faucet on the opposite face of the door, whereby the bottle is turned into inverted position for dispensing through the faucet when the door is closed.

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