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F. L. THOMPSON
BOTTLE REGISTER
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Fig 1

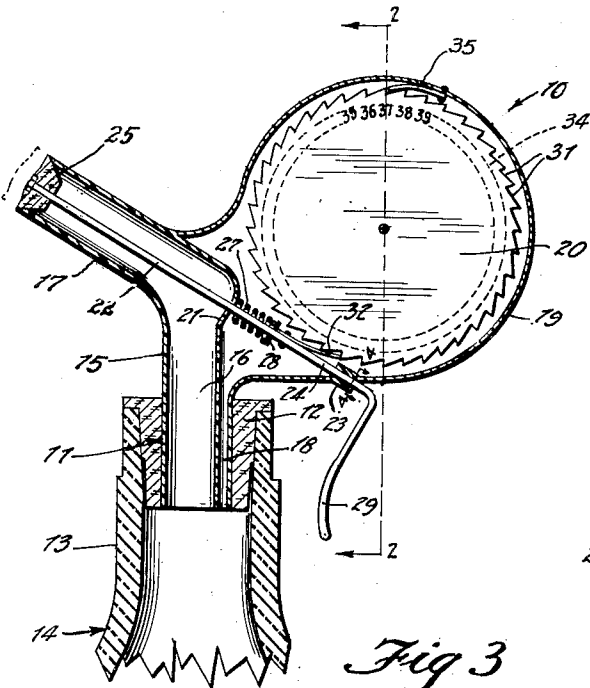


Fig 2

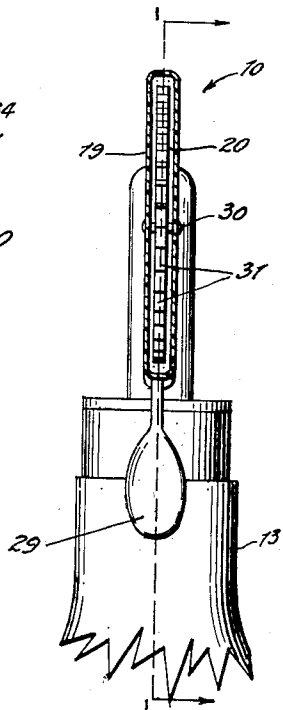


Fig 3

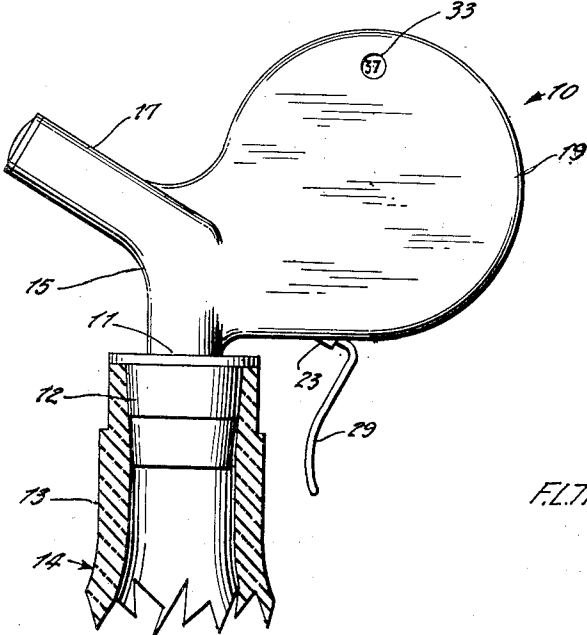


Fig 4



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UNITED STATES PATENT OFFICE

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BOTTLE REGISTER

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2 Claims. (Cl. 235—94)

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The present invention relates to improvements in bottle registers or devices to effect a registration for checking the number of times that a portion of a liquid contained in a bottle has been poured therefrom. Such a register or device is of particular value for use with bottles containing an expensive beverage such as a liquor.

Said registration device may include means for preventing the discharge of a beverage from the bottle unless a part of the registration device is operated manually to enable pouring of the beverage from the bottle. When the part thus operated is released, the register is operated one step and the bottle outlet is closed so that no more of the beverage can be poured until the bottle outlet is again opened. It will be understood that the device of the present invention may be used, to indicate the number of times that liquid is poured from a bottle without regard to the exact quantity poured.

An important object of the invention is to provide a novel and advantageous device of the general character specified.

Another object of the invention is to provide a novel and advantageous device of the general character specified wherein the outer end of the discharge passage is normally closed and may be opened manually as part of the registering operation.

A further object of the invention is to provide a device of the general character specified which is simple in construction and effective in operation, and can be manufactured economically.

A still further object of the invention is to provide a simple and compact device, of the general character specified, wherein upon operation of a controlling member, a normally closed outlet will be opened to permit pouring of liquid from the bottle to which it is attached and upon release of said control member, said outlet will again be closed and the register will be advanced one step.

Devices of this kind for registering the number of times liquid is poured from a bottle or the like furnish a check upon the persons dispensing the liquid and to a certain extent register the manipulation of bottled liquids or liquors that are sold in small quantities. The device of the present invention is of particular value in situations wherein a full bottle of liquor is gradually emptied in small quantities to a customary amount at each pouring. A full bottle is expected to produce an average number of drinks or portions of the liquid and to control the average amount of liquid discharged at each pouring.

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Other objects, features and advantages will appear upon consideration of the following detailed description and of the drawings in which:

Fig. 1 is a section taken along the line 1—1 of Fig. 2;

Fig. 2 is a section taken along the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of illustrated embodiment of the invention with the neck of an associated bottle shown in sections; and

Fig. 4 is a section taken along line 4—4 of Fig. 1.

Referring to the drawings, a registering device 10 includes a tubular part 11 preferably mounted in a stopper or cork 12 adapted to fit into the neck 13 of a bottle 14 or the like. Liquid or a beverage in the bottle may be poured from the bottle through a spout 15 including a duct 16 at one side of the interior of tubular part 11 and, at the outer end of said duct 16, a straight cylindrical branch 17 extending laterally and outwardly in a convenient direction for pouring liquid therefrom. At the side of duct 16, opposite branch 17, there is a duct 18 which connects with the interior of a casing 19 containing a rotary registering member or wheel 20.

At the inner end of spout branch 17 there is a wall 21 substantially perpendicular to the axis of branch 17 and provided at its center with a bearing opening to receive an axial plunger or rod 22. This rod 22 extends downwardly and away from wall 21 until it passes through a bearing 23 in the casing 19. For a reason to be brought out hereinafter, it is important to prevent turning of rod 22 about its axis. To this end, the interior of the bearing 23 may be of square cross section Fig. 4 to receive a part 24 of rod 22 which is of square cross section. At the outer end of rod or plunger 22, there is a valve or valve member 25 which is normally held yieldably against the outer end of the spout or branch 17 thereof to provide a seal against discharge of the liquid. To this end the plunger 22 is urged inwardly by spring means, preferably in the form of a helical spring 27 interposed between wall 21 and a stop 28 on said plunger 22. Obviously rod 22 constitutes a valve stem.

To shift the valve device 25 to open position, the plunger 22 may be provided at its rear end with a laterally extending finger 29 substantially perpendicular to the plunger proper. By pressing on finger 29, the rod 22 may be moved to open valve 25, the movement of which is limited in a suitable manner as by engagement of finger 29 against the outer end of bearing 22. It should

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be noted that the position of valve 25 at the outer end of the spout would render it difficult to pour unsuitable liquor into the bottle. The return movements of rod 22 produced by spring 27 are utilized to produce step-by-step movements of said rotary member 20 supported between opposite sides of said casing by pivotal means 30.

Said rotary member 20 is illustrated as provided at its circumference with ratchet teeth 31 engageable by a pawl 32 on rod 22, said pawl being preferably in the form of a leaf spring attached to said rod. The reason for holding said rod 22 against turning around its axis becomes evident, in that if such an arrangement were not made, the pawl 32 would not in general remain in position to engage teeth 31 to shift the ratchet wheel or member 20.

The rod 22 and pawl 32 are in substantially the same plane as wheel 20, thus making it possible to have the opposite walls of casing 19 substantially flat and close together. This arrangement also makes it easy to provide a port or peep hole 33 through which one can read a number of a series arranged in a circle or annulus 34 on one face of wheel 20 and adjacent its periphery. Said numbers are of course spaced at distances corresponding to the distances between the tips of teeth 31.

Inasmuch as the register wheel or member is turned in counter-clockwise direction (Fig. 1) by pawl 32, the numbers arranged in annulus 34 must be arranged in clockwise order. A pawl 35 may be provided to prevent backward movement of member 20 when pawl 32 is drawn back across teeth 31.

Said peep hole or port 33 also serves to complete a connection from the open air through the casing 19 and duct 18 to the interior of the bottle 14, thus assuring free flow of liquid when poured from the bottle 14 after opening valve 25.

The registering obtained by means of said device 10 may be supplemented by keeping a separate record on a sheet provided with a plurality of columns—one column being reserved for the name of the brand of liquor, a second column to receive indications recording the condition at the time of starting to dispense drinks, a third column to receive indications showing the final condition of the register at the end of the dispensing period and a fourth column to receive the indications of the number of portions or drinks dispensed from the bottles during the sale period of the day.

By virtue of the arrangement and shape of the parts, it is possible, to construct a very compact device wherein the walls at the opposite sides of rotary member 20 are flat and close together. Such flat walls can be used, if desired, for advertising purposes.

It should be understood that various changes

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can be made and that certain parts may be used without others, without departing from the true scope and spirit of the invention.

What is claimed is:

1. A registering device for application to the neck of a bottle, comprising a spout with an inlet portion and a laterally inclined straight outlet portion, said inlet portion being coaxial with a bottle neck to which it is applied, a valve movable axially of said outlet portion to open and close the outer end of said outlet, a register comprising a ratchet wheel and a casing therefor at the opposite side of said inlet portion from said outlet portion, a plunger connected to said valve to reciprocate the same, said plunger passing through the register casing, and means including a leaf spring pawl connected to said plunger and pressing against said ratchet wheel to operate the same upon movement of said plunger in one direction, and a spring engaging said spout and said plunger to close said valve.

2. A registering device adapted for application to the neck of a bottle, comprising a spout with an inlet portion coaxial with said neck when said device is applied thereto and adapted to receive liquid from the bottle and a laterally and forwardly inclined straight outlet portion of which the outer end constitutes a valve seat, a valve to cooperate with said seat, a valve stem in said outlet portion and connected to said valve to open and close the same, said valve stem extending through the rear wall of said inlet portion, spring means urging said stem rearwardly to close the valve, a rearwardly directed pawl on said stem at the rear of said spout, and a rotary member at the rear of said inlet passage in the plane of said valve stem and pawl and having ratchet teeth on its periphery for engagement by said pawl on rearward movement of said valve stem to produce step by step movement of said rotary member, and numbers arranged in a circle on said rotary member at intervals corresponding to the spacing of said teeth.

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