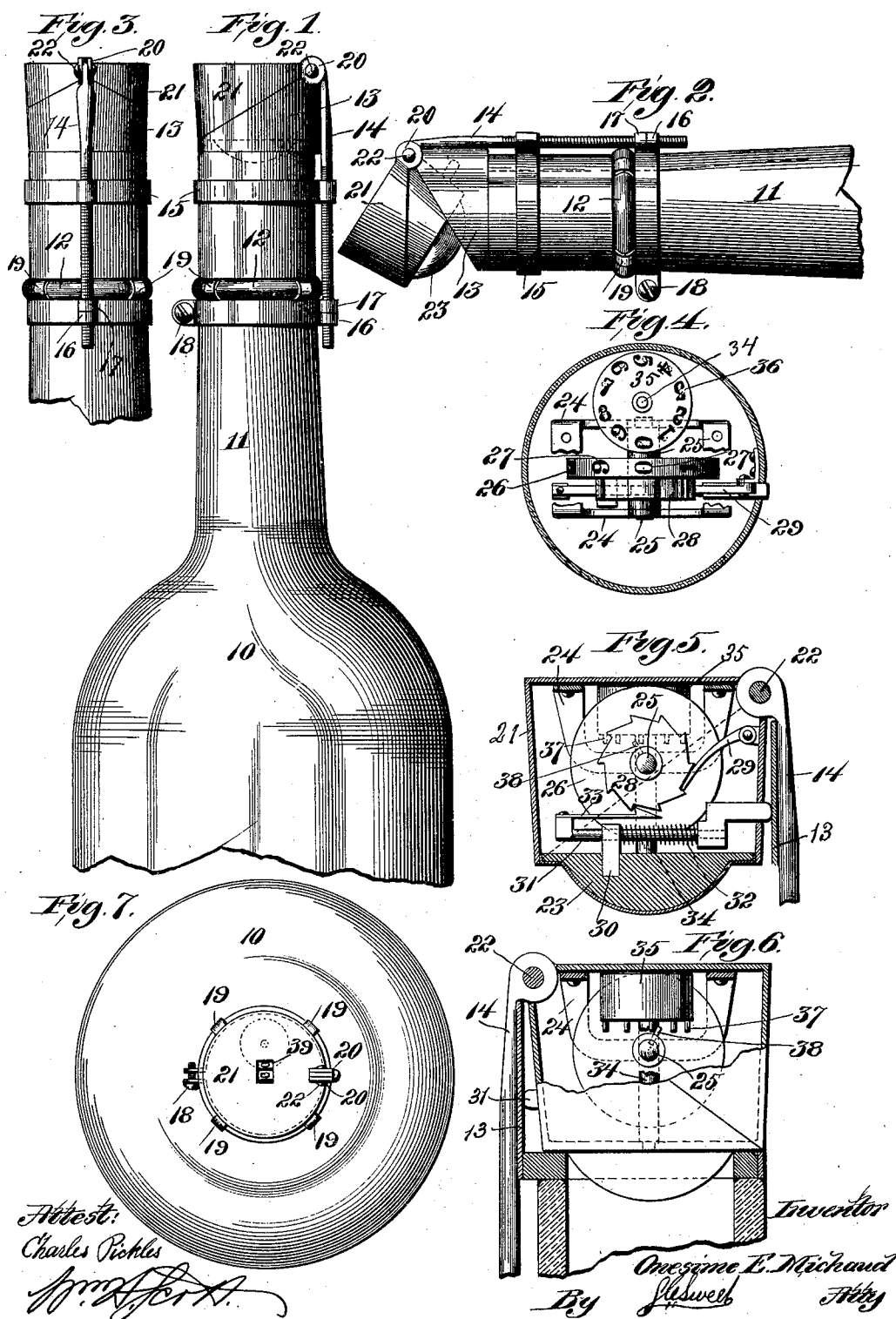


O. E. MICHAUD.
REGISTERING BOTTLE STOPPER.

Patented July 21, 1896.



UNITED STATES PATENT OFFICE.

ONESIME E. MICHAUD, OF ST. LOUIS, MISSOURI.

REGISTERING BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 564,410, dated July 21, 1896.

Application filed January 7, 1895. Serial No. 534,122. (No model.)

To all whom it may concern:

Be it known that I, ONESIME E. MICHAUD, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Registering Bottle-Stoppers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide means for registering the number of times a bottle or other containing vessel is tilted or turned from the vertical to approximately a horizontal plane to remove contents therefrom, thus counting and registering in the bottle the number of "drinks" or units of contents removed.

My invention consists in the construction, arrangement, and combination of parts hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of the upper portion of a bottle, showing my device applied thereto in a closed position. Fig. 2 is a side elevation of the neck of a bottle in a recumbent or horizontal position, showing my device applied thereto and open as required to pour the liquid therefrom. Fig. 3 is an elevation of the bottle-neck at right angles to Fig. 1. Fig. 4 is a plan of the device, the top plate of the stopper being removed. Fig. 5 is a sectional elevation of the device, taken on a line at right angles to the axis of the ratchet-wheel and along the outer edge of said wheel. Fig. 6 is an elevation of the device taken from the rear of Fig. 1, a portion of the thimble being broken away to reveal the interior construction. Fig. 7 is a plan view of the device shown in Fig. 1.

In the construction of the device as shown the numeral 10 designates a bottle having a neck 11 and an integral bead 12 on said neck. A thimble 13 is mounted on the upper end of the neck 11 and has soldered thereto and extending downward therefrom a screw-threaded rod 14, the central portion of which rod passes through a screw-seat formed in a col-

lar 15, embracing the neck of said bottle. The lower end of the rod 14 is seated in a screw-seat formed in a clamp member 16 and passes through an aperture formed in a clamp member 17, the opposite ends of which clamp members are connected by means of a tightening-screw 18, each of said members having lugs 19 engaging the web 12 on the neck of the bottle, the rod 14 serving as a hinge-pivot for said clamp members.

The upper end of the rod 14 is flattened and perforated and mates with ears 20 20, formed on a cap-piece or stopper 21, and a pin 22, transversely seated in the ears 20 and the rod 14, pivotally connects the same.

The cap-piece 21 has a bossed semispherical lower portion 23, which is filled with lead or similar ballasting material, the portion 23 seating in the neck 11 of the bottle and preventing the evaporation of the liquid therefrom. A bracket 24 is fixed to and depends from the top of the cap-piece 21, in which bracket is mounted a shaft 25, and a wheel 26 is mounted on the shaft 25 and provided with digits 27 on the periphery thereof. A ratchet-wheel 28 is mounted on the shaft 25 and fixed to the wheel 26, which ratchet-wheel is normally engaged by a spring-pressed pawl 29 and prevented thereby from rotation in a reversed direction. A post 30 is mounted in the bossed portion 23 of the cap-piece and provided with a transverse aperture in its upper end, in which is seated for reciprocation a rod 31, one end of which rod is bossed and mounted in an aperture in the side of the cap-piece 21 adjacent to the rod 14, the said bossed end of said rod 31 engaging the thimble 13 outside of the cap-piece. An expansive coil-spring 32 is mounted on the rod 31 and impinges at its respective ends against the post 30 and bossed portion of said rod.

A spring-pressed operating-pawl 33 is mounted on the end of the rod 31, opposite to the bossed portion thereof, which pawl is provided with a hook adapted for engagement with the ratchet-wheel 28.

Ten digits, from "0" to "9," are provided on the periphery of the wheel 26, and the wheel 28 is formed with a corresponding number of ratchet-teeth. A shaft 34 is vertically positioned in the cap-piece 21, on which shaft is mounted a registering dial or wheel 35, pro-

vided on its upper face with ten digits 36, and on its lower face with ten pins 37, the said pins being adapted for engagement by a pin 38, fixed in the shaft 25.

5 The parts being in the position shown in Figs. 1 and 5, and it being desired to remove liquid from the bottle, said bottle is oscillated into an approximately horizontal plane and the cap-piece 21 falls by gravity out of its
10 seat on the neck of the bottle and assumes a position shown in Fig. 2. During the movement of the cap-piece 21 and the consequent movement of the post 30, carried by said cap-piece, the rod 31 is held by the resilience of
15 the spring 32 in contact with the thimble 13, thus insuring the passage of one tooth of the ratchet-wheel 28 past the hooked end of the operating-pawl 33, as indicated by dotted lines in Fig. 5. The desired quantity of liquid being withdrawn from the bottle, said
20 bottle is repositioned in a vertical plane, and the cap-piece 21 automatically reseats in the neck of the bottle by reason of its gravity, and in so doing moves relative to the rod 31
25 and causes the engagement of the hooked end of the operating-pawl 33 with the ratchet-wheel 28 and the consequent rotation of said ratchet-wheel and the registering-wheel 26
30 against longitudinal movement by engagement with the thimble 13.

When the bottle has been oscillated ten times, the wheels 28 26 have performed one complete rotation, and the pin 38 on the shaft
35 25 engages with one of the pins 37 on the wheel 35 and rotates said wheel 35 one point, thus providing for a complete rotation of the wheel 35, coincident with ten rotations of the wheel 26.

40 By reference to Fig. 7 it will be observed that an aperture 39 is formed in the center

of the top of the cap-piece 21, through which aperture, which may be glazed, the digits respectively are visible.

What I claim is—

1. In a device of the class described the combination with a bottle of a thimble mounted on the neck of said bottle, a weighted stopper hinged to said thimble, a registering-dial mounted in said stopper and visible through
50 the top of said stopper, a ratchet-wheel engaging said dial and an operating-pawl mounted in said stopper and intermittently engaging said ratchet-wheel when said stopper is moving to its seat in said thimble and rotating
55 said ratchet-wheel.

2. The combination with a bottle of a thimble 13 seated on the neck of said bottle, a screw-threaded rod fixed to said thimble, a collar fixed to said rod and engaging the neck
60 of said bottle, clamps hinged to said rod and engaging the neck of said bottle, a cap-piece 21 hinged to said rod and having a weighted bossed portion 23 normally seated in the neck
65 of said bottle, a registering-dial 26 mounted for rotation in said cap-piece, a ratchet-wheel 28 fixed to said dial and held against reversed rotation by a detent 29, a rod 31 mounted in
70 said cap-piece and engaging at one end with said thimble, an operating-pawl 33 mounted on said rod 31 and engaging said ratchet-wheel, a registering-dial 35 mounted for rotation in said cap-piece, connections between said registering-dials, and means for viewing
75 said dials as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ONESIME E. MICHAUD.

Witnesses:

WM. H. SCOTT,
S. C. SWEET.