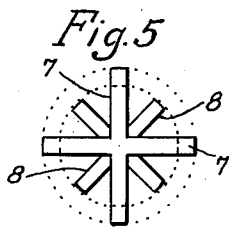
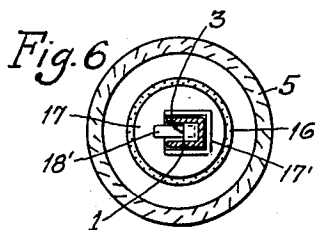
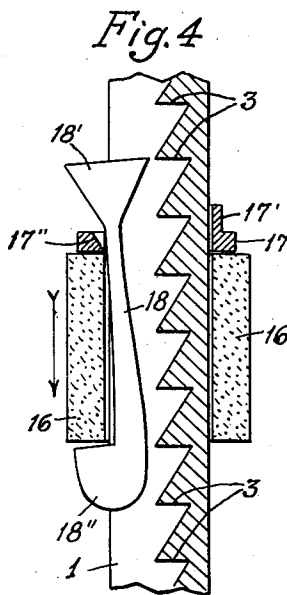
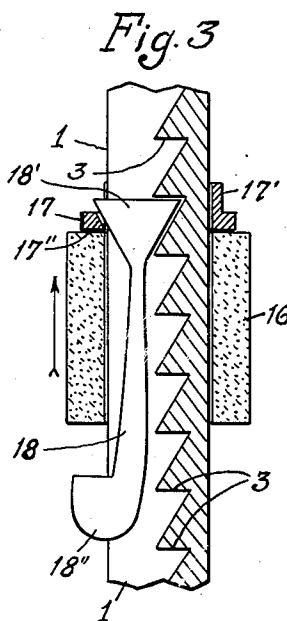
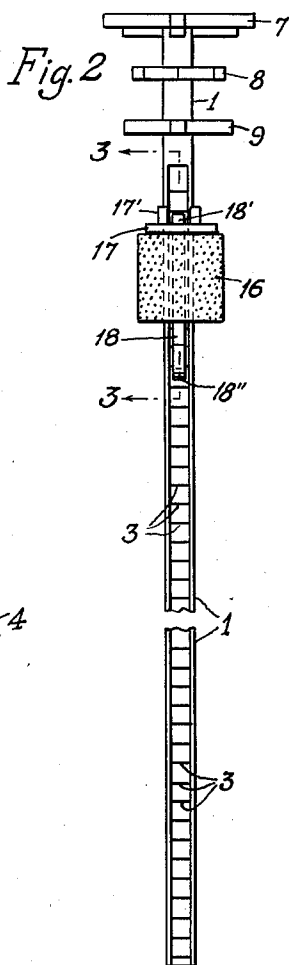
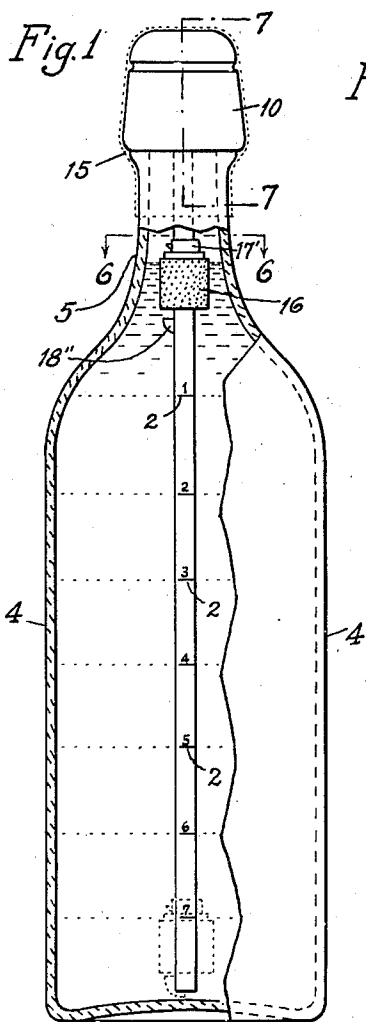


Aug. 18, 1942.

M. A. SERRA
INDICATING CONTAINER
Filed Nov. 12, 1941

2,293,475

2 Sheets-Sheet 1



INVENTOR.

M. A. Serra

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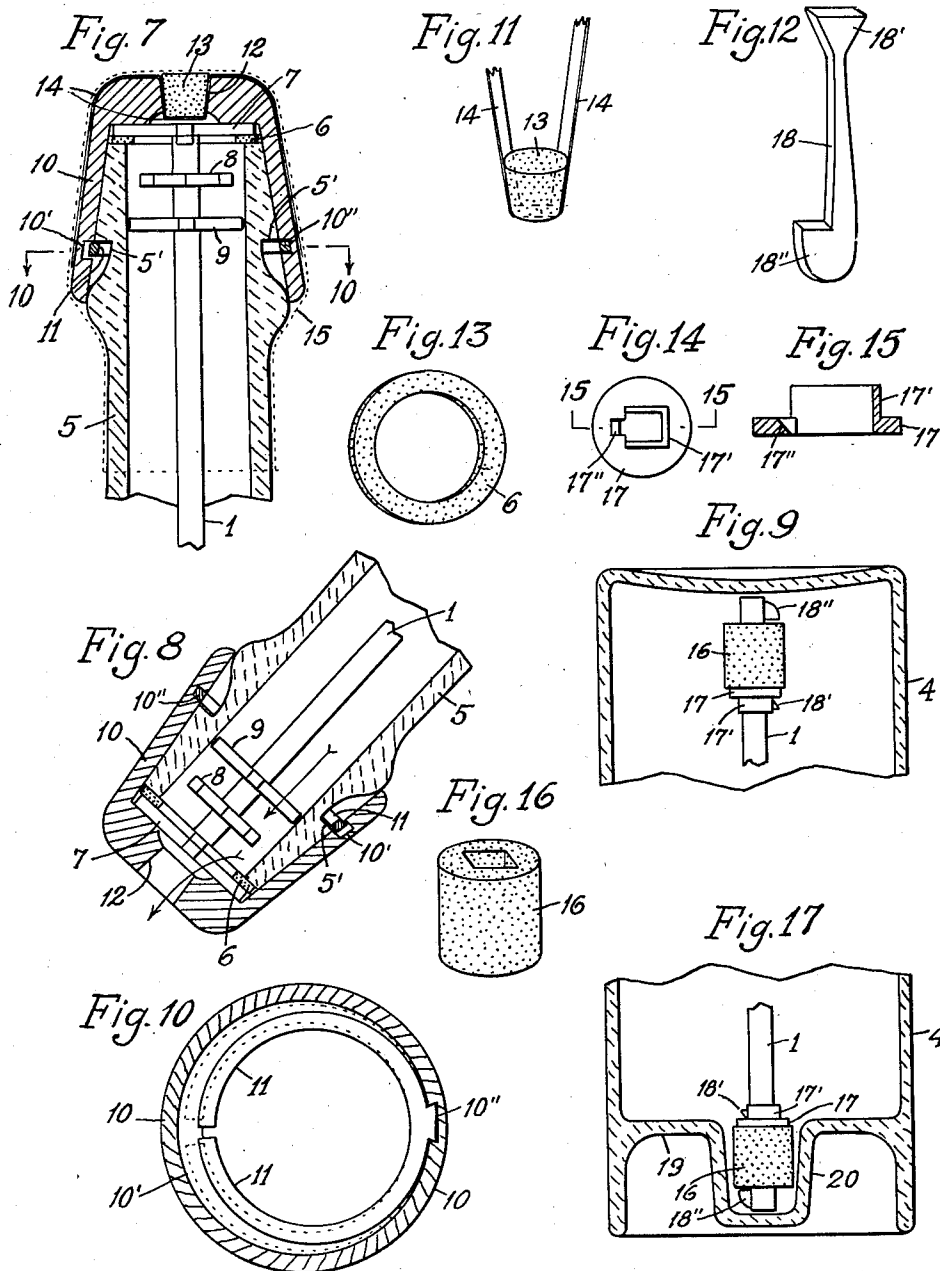
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,293,475

INDICATING CONTAINER

Manuël Aurelio Serra, Habana, Cuba

Application November 12, 1941, Serial No. 418,813
In Cuba May 14, 1941

3 Claims. (Cl. 215—8)

This invention refers to non-refillable containers, and, particularly, to bottles or jars intended to serve as containers for liquids, such as liquors and others, which must be protected from imitation by fraudulent refilling of the receptacle.

In the drawings:

Fig. 1 is a vertical elevation, partly in section, of a bottle provided with the appliance which is the subject-matter of this invention;

Fig. 2 is a partial side view, in detail, of the aforesaid appliance;

Fig. 3 is a vertical section, to an enlarged scale, taken along the line 3—3 of Fig. 2;

Fig. 4 shows a section, similar to that shown in Fig. 3, of the device in an operative position;

Fig. 5 is a top plan view of the device which is shown in Fig. 2;

Fig. 6 is a horizontal detailed section taken along the line 6—6 of Fig. 1;

Fig. 7 is a partial vertical section, in detail and on an enlarged scale, taken along the line 7—7 of Fig. 1;

Fig. 8 shows a section, similar to that shown in Fig. 7, but with the device in an operative position;

Fig. 9 is a view of the lower or bottom portion of a bottle, inverted, showing the position of the device which is the subject-matter of this invention, when the bottle or container has been totally emptied;

Fig. 10 is a horizontal, detailed, section taken along the line 10—10 of Fig. 7;

Fig. 11 is a detailed view, in perspective, of the stopper of the bottle already illustrated;

Fig. 12 is a detailed perspective view of the escape and retention member which is incorporated in the device;

Fig. 13 is a detailed perspective view of one of the component parts of the device;

Fig. 14 is an upper, detailed plan view of the retaining disc cooperating with the member shown in Fig. 12;

Fig. 15 is a detailed vertical sectional view taken along the line 15—15 of Fig. 14;

Fig. 16 is a detailed perspective view of the float-block forming part of the device; and,

Fig. 17 is a detailed sectional view of a modified form of the bottle bottom to be used in connection with the device which is the subject-matter hereof.

With reference to the abovementioned drawings: numeral 1 designates a rectangular bar, the back face of which is smooth and bears a graduated scale 2; and the front face of which is channeled and provided with escapement teeth or a

rack 3, as clearly shown in Figs. 3 and 4. At the upper extremity of the bar 1 a cross-piece 7 is mounted which rests against a ring gasket 6 of suitable material fitting into the inner lip of the neck 5 of the bottle 4. Thus the bar 1 is centrally located and suspended within the bottle and extends quite close to the bottom thereof. In spaced relation to the cross-piece 7 and similarly secured to the upper part of the bar 1, there are two other cross-pieces, 8 and 9, of a smaller diameter than the cross piece 7 and having radially extending arms situated as shown in Fig. 5, so that they are staggered in vertical relation with respect to the arms of cross-piece 7, giving the effect of a lattice.

The bottle mouth is covered by a closure 10 which is provided near the lower inside edge of its skirt, with an annular recess 10', and an assembly gap 10'', all as may be seen by reference to Fig. 10, for the purpose of receiving a split snap ring 11 which expands within the recessed portion 5' of neck 5 of bottle 4.

Closure 10 has a spill opening 12 fitted with a stopper 13 provided with a seal 14 which serves as a stopper remover, as shown in detail in Fig. 11.

Closure 10 is covered by a foil 15 of lead or other suitable material.

At whatever may be the liquid level within the bottle, a hollow block 16 (Fig. 16 surrounds bar 1. This block is made of a material capable of floating, and upon it rests a disc 17. As shown in detail in Figs. 14 and 15, said disc 17 has an angular opening 17' and on its inside face a bevelled seat 17'' serving to receive the upper, enlarged, inverted pyramid head 18' of a latch 18, the lower end 18'' whereof is hooked and serves the dual purpose of a stop and a counterweight, all as will be explained more fully later. The upper end 18' lodges between the teeth 3 of the bar 1, in the position illustrated in Fig. 3.

Assuming the parts to be in the position shown in Figs. 1, 2 and 3, or be it, as shown in Fig. 1, with the bottle 4 filled with its liquid contents and the top 18' of member 18 resting on the bevelled face 17'' of disc 17 and latched in between two of the teeth 3 of bar 1.

The liquid is removed by withdrawing the stopper 13 by pulling on the seal 14 and placing the bottle in the position shown in Fig. 8. When the bottle has its vertical position, the liquid, which has descended, shall cause the descent of floating block 16, and with it shall also fall the seating disc 17, which will act to disconnect, momentarily, the escape and retention member 18'

which is part of the latch 18, as shown in Fig. 4, and the said member 13 shall be retained or latched by its extremity 18'' against the lower face of block 16 until, by gravity, it again be seated on bevelled seat 17'' and lodged between another pair of teeth lower down on the bar 1, thus recovering the position illustrated in Fig. 3.

Thus, as liquid is drawn from the bottle, float 15 and its cooperating members will gradually descend; and since there is no way to cause the upward movement of the block from the outside; said block will, at all times, indicate the exact level of the liquid which initially filled the bottle. Hence, any fraudulent refilling would be instantly detected, as the float would be caught and held at a level lower than that of the liquid, showing at a glance both the fraud and the amount thereof.

When totally depleted, the parts assume the position shown in Fig. 9.

As the bottle or container shall be provided with a safety closure, of any suitable type, a preferred form of which is shown in the drawings, it will be impossible to withdraw the device incorporating the float from the inside of the bottle or container, as to do so it would first be necessary to break the closure 10, which is affixed to the bottle-neck by snap ring 11.

The graduated scale 2 serves to show the volume of the liquid portions successively withdrawn from the bottle.

Fig. 17 shows a modified form of the bottle bottom, for the purpose of providing a suitable lodgement for the float-block 16 when it reaches the lowermost extremity of its course, when the bottle is empty. In this figure, 19 is a deep concavity surrounded by the edge or border of the bottom, and in the center of said concavity is a well, 20, serving to receive float-block 16.

The invention is not to be limited to what is shown in the drawings but further modifications may be made as fall within the scope of the appended claims.

I claim:

1. In non-refillable containers, a bar with a graduated face and the opposite face channelled, escapement teeth along the length of said channelling, means for holding said bar in a suspended position inside of the container, a block of floatable material surrounding said bar and free to descend thereon; an escape and retention member slidable within the floating block, the upper part of said member being engageable between any two teeth of the said bar; and a supporting disc upon the floatable block, with a seating recess for the escape and retention member, serving to hold it in its engaged position between any two teeth in dependence upon the position of the floatable

block in the container, said disc being movable with the block, said escapement and retention member being released during descent of said block relative to said escapement and retention member and reengaged with said teeth when the block assumes a lower position incident to the lowering of the liquid level.

2. In non-refillable containers, a mouth and a neck portion, a closure covering the mouth and extending downwardly over a part of the neck portion, expansible means between the neck and the closure to hold the closure in place, a bar having a vertical channelling thereon, a plurality of escapement teeth in the channelling; means for holding said bar in fixed relationship within the center of the container; a block of floatable material slidably mounted around the said bar; a latch member between the floatable block and the bar having an expanded upper portion engageable between any two teeth of the bar and a hook-shaped lower portion serving as a retainer and also as a counterweight, and a ring bearing upon the upper face of the floatable block and provided with a bevelled border on its inner face the bevelled border serving to seat the expanded upper portion of the latch member located between the bar and the block.

3. In non-refillable containers, a safety closure covering the mouth of the container, extending downwardly over a part of the neck portion and having an annular groove on the internal face thereof, an expansive ring mounted in the groove between the closure and the neck portion to retain said closure in place, a channelled bar extending almost to the bottom of the container, escape and retention teeth disposed on said bar; a gasket lodged on the upper border of the neck of the container, a cross-piece resting on said gasket and secured to the upper extremity of the said bar; a plurality of additional cross-pieces, in spaced relation to the first mentioned cross-piece, secured to the bar at the neck portion of the container, each cross-piece having radially extending arms, the arms of one cross-piece being alternately spaced with respect to the arms of the adjacent cross-piece; a block of floatable material slidably mounted around the said bar; a latch member between the floatable block and the bar, a pawl on the upper portion of said member engageable between any two teeth of the bar, a retaining hook and a counterweight on the lower portion of the member, and a ring, resting on the upper part of the float-block, and having a bevelled recess on its interior face, the bevelled recess serving as a seat for the head of the latch member operating between the block and the bar.

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