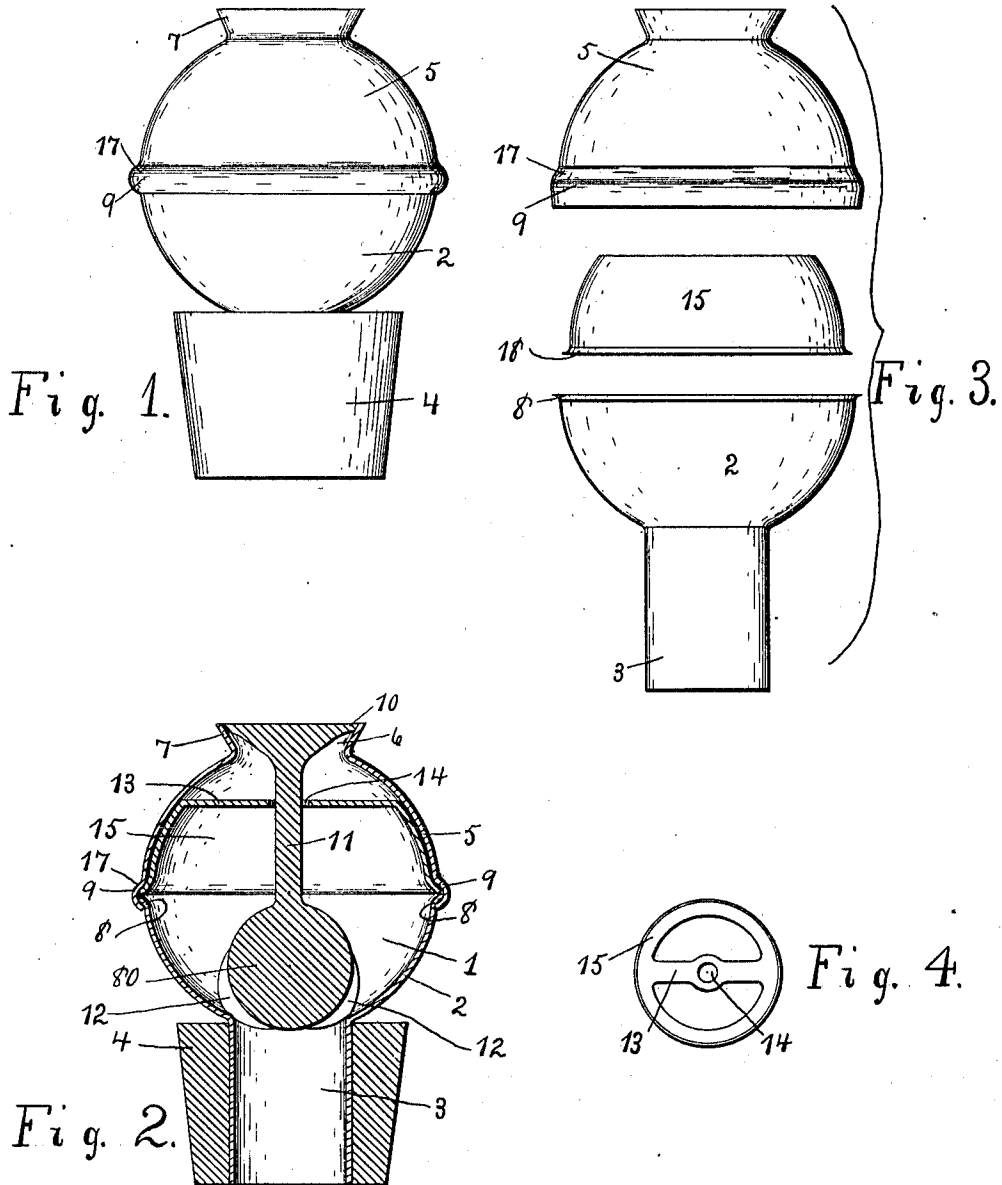


C. A. NATT.
BOTTLE STOPPER.
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1,039,176.

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Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES A. NATT, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO NORMAN E. MACAWAN, OF ROCHESTER, NEW YORK.

BOTTLE-STOPPER.

1,039,176.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. NATT, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Bottle-Stoppers, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

The present invention relates to bottle stoppers and more particularly to the type in which the stopper is provided with a discharge that is controlled by a valve which opens to discharge the contents of a bottle to which the stopper is applied, and closes when the bottle is uprighted, keeping dust and other extraneous matter from the contents of the bottle.

An object of this invention is to form inexpensively the main portions of the stopper from sheet metal and connect its parts in such a manner that the use of solder is unnecessary.

Another object is to provide for securing a guide member for the valve within the stopper in such a manner that it will be held firmly in position against displacement without the use of solder or the like.

To these and other ends the invention consists in certain parts and combinations of parts all of which will be hereinafter described, the novel features being pointed out in the appended claims.

In the drawings, Figure 1 is an enlarged side view of a bottle stopper constructed in accordance with this invention; Fig. 2 is an enlarged vertical or axial section; Fig. 3 shows in enlarged side elevation the casing members separated with the guide member located between them; and Fig. 4 is a detail top view of the guide member.

In carrying out the invention there is employed a casing having a chamber 1. The casing preferably is formed of two members each stamped from a single blank of sheet metal. One casing member embodies a semispherical portion 2 having an inlet or tubular portion 3 drawn therefrom, the latter being surrounded by an externally tapered sleeve 4 of cork or other suitable material to fit within the mouth of a bottle. The other casing member has a semispherical portion 5 united to the spherical portion 2 and provided with a discharge opening 6, the latter being surrounded preferably by a flaring flange 7 serving as a valve seat. The

seam between the casing members preferably is permanent and is formed by an outwardly turned or flaring flange 8 on one of the members received within and surrounded by an enlarged portion 9 on the other member.

The discharge is preferably closed by an inverted cone shaped valve 10 which is held to the seat 7 by a weight 80, the latter being connected to the valve by a stem 11 and having ribs 12 on its under side to seat in the upper end of the tubular portion 3 when the valve 10 is closed. It is apparent that if the bottle, in which the stopper fits, be tilted to discharge its contents, the weight will move in the chamber of the casing and displace the valve from its seat and that when the bottle is uprighted the weight will draw the valve to the seat.

To the end that the valve will move upwardly out of the path of the outflowing liquid, a guide member coöperates with the stem 11 between the weight and the valve. The guide member, in this instance, comprises a guide or bar 13 having a perforation or opening 14 on which the stem loosely works, said guide being rigidly secured at its ends to a ring member 15 which may be in the form of a ring segment of a sphere so as to conform to the inner wall of the spherical chamber about the seam. Preferably the guide bar and the ring member are formed from a flat piece of material pressed into cup shape and perforated to form the bar 13, so that the bar lies in the plane of one edge of the ring.

The guide member may be secured to the walls of the chamber without the use of solder and to this end may have portions lying between the two members of the casing in engagement with the annular shoulder 17 on one member and the flange 8 on the other member, such portions of the guide member being in this instance in the form of an outwardly turned annular flange 18 on that edge or ring 15 opposite the bar 13, so that the seam between the casing members is also utilized for holding the guide member against movement.

The operation of the device has been set forth in detail in the foregoing description but it may be, at this point, stated that the tilting of the bottle, in which the stopper is arranged, causes the valve 10 to leave its seat and move upwardly, permitting the

pouring of the contents of the bottle, and that when the bottle is uprighed the weight 80 draws the valve to its seat. When the valve 10 coöperates with its seat 7 the lugs 5 12 seat in the upper end of the tube 3 so that any liquid within chamber 1 may run back into the bottle. When the valve is tilted these lugs coöperate with the bottom wall of chamber 1 and kick or project the 10 valve from its seat so that there will be no binding action between the valve and its seat and the valve stem and its guide.

The construction herein described permits the stopper to be made inexpensively 15 from aluminum a result which is very desirable, as nickel, iron and other metals are quickly discolored by whiskies and similar liquids. At the present time it is not practical to solder aluminum on a commercial 20 scale and this device entirely dispenses with the use of solder in its manufacture.

What I claim as my invention or desire to secure by Letters Patent, is—

1. A bottle stopper comprising a pair of 25 members coöperating to provide a chamber, one of said members being provided with a discharge and the other being provided with an inlet, a valve for the discharge, a weighted stem on the valve, and a guide member 30 coöperating with the stem and having portions extending downwardly therefrom and held between and engaged by the two chamber forming members.

2. A bottle stopper comprising a pair of

members coöperating to provide a chamber, 35 one of said members being provided with a discharge and the other being provided with an inlet, a valve for said discharge, a weighted stem connected to the valve, and a 40 guide member including a ring engaged and held by both chamber forming members, and a guide carried by said ring above the connection between the members.

3. A bottle stopper comprising a pair of 45 members coöperating to provide a chamber, one of said members being provided with a discharge and the other being provided with an inlet, a valve for said discharge, a weighted stem connected to the valve, and a 50 guide member including a guide and a ring supporting said guide and having a flange at its lower end arranged between and engaged by the two chamber-forming members and also having a portion conforming to and tightly fitting to the inner 55 face of the chamber above the flange.

4. A bottle stopper comprising a spherical chamber having a discharge at its top, a valve for said discharge, a weighted stem secured to said valve, a ring segment of a 60 sphere having its entire outer face tightly fitting the inner walls of said chamber, and a guide rigidly secured to said ring segment and coöperating with the valve stem.

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Witnesses:

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