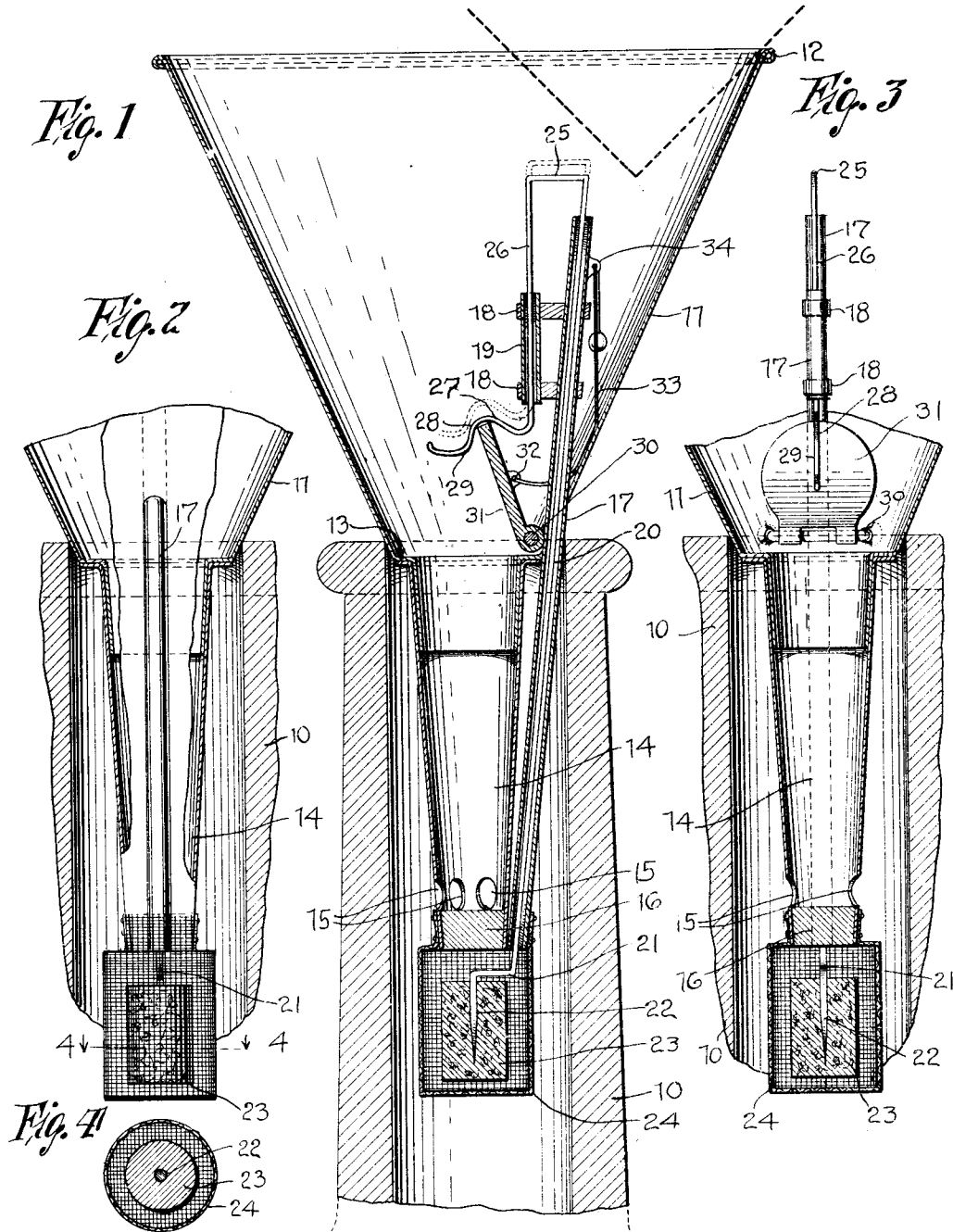


G. L. MILLER.
FUNNEL.
APPLICATION FILED NOV. 22, 1911.

1,031,567.

Patented July 2, 1912.



WITNESSES

Robert m. Sutphen.

L. N. Gullis

INVENTOR

GEORGE L. MILLER.

By *E. C. Froman* This Attorney.

UNITED STATES PATENT OFFICE.

GEORGE L. MILLER, OF HENRY COUNTY, NEAR COAL VALLEY, ILLINOIS.

FUNNEL.

1,031,567.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed November 22, 1911. Serial No. 661,778.

To all whom it may concern:

Be it known that I, GEORGE L. MILLER, a citizen of the United States, residing in the county of Henry, near Coal Valley, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Funnels, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to funnels such as are used in filling bottles, casks, and the like.

The principal object of this invention is to improve the general construction of that type of funnel wherein the liquid contents of the funnel body will be closed off from the delivery tube of the funnel when the liquid in the receiving vessel is raised to a predetermined point.

With the above and other objects in view, the invention consists of certain novel details of construction, and combinations and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a vertical median section through a funnel constructed in accordance with this invention. Fig. 2 is a side elevation, partly in section of the lower portion of such a funnel. Fig. 3 is a vertical detail section at right angles to Fig. 2. Fig. 4 is a section on the line 4-4, Fig. 2.

The funnel herein shown is represented as being engaged in the neck of a bottle 10 and consists of an inverted frusto-conical body portion 11 provided at its upper end with the usual base 12. By funnel body as used hereinafter is to be understood the main frusto-conical portion since the delivery spout and body may be made of a single piece of spun metal or may be made as now to be described. The end of the funnel is provided with a shoulder 13 from which depends a delivery spout 14 having a series of escape openings 15 formed annularly around its lower end and this lower end just below these openings is provided with a closure 16 in the form of a cork or other plug. Extending through the wall of the funnel 11 is a tube 17 the upper end whereof terminates above the normal fluid level of the funnel body and the lower end of this tube extends downward and terminates at the lower end of the delivery tube

14 on the exterior thereof. Carried by the tube 17 are brackets 18 wherein is supported a guide 19. Extending through the tube 17 and guide 19 is a rod or wire which consists of a straight portion 20 alined with the tube 17. The lower end of this portion 20 is bent inward as at 21 and terminates in a downwardly extending prong or spur 22 whereon is carried a float 23 which is protected from contact with the bottle neck by means of a screen 24. The upper end of the wire 20 is bent also inward as at 25 and then downward through the guide 19 as at 26. Below the guide 19 the wire is reversely curved, being first bent upwardly as at 27 and then downwardly as at 28. From the end of the curve 28 the wire extends at an angle as at 29. Secured to the lower end of the funnel 11 is a bar 30 whereon is hinged a flap valve 31 adapted to seat upon the shoulder 13 and thereby close the upper end of the delivery tube 14. This valve is provided with an eye 32 whereto is fastened a cord 33 which passes through an eye 34 carried by the upper end of the tube 17.

The flap valve 31 and curved portion 28 of the wire are in such relation that when the wire drops down in the tube this curved portion 28 will engage the free edge of the flap valve and hold the same in raised position as shown in Fig. 1. When however, the fluid in the bottle or other receptacle rises sufficiently to leave the float 23 the wire will also be raised and caused to assume the dotted lined position shown in Fig. 1 thus releasing the flap valve 31 and allowing the same to close. In this manner the fluid contained in the body of the funnel will be closed off from the delivery spout and further flow prevented. When it is again desired to deliver fluid from the funnel a slight pull on the string or cord 33 will raise the flat valve and as the edge of this valve contacts with the portion 29 of the wire the wire will be lifted until the edge of the valve can be caught by the portion 28 of said wire and held in its raised position. There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

Having thus described my invention, what is claimed as new, is:—

1. In a funnel of the class described, a body portion having a flange around the bottom thereof, a delivery spout extending

from said body portion, a tube extending upward along the side of said delivery spout and through the wall of the body, a wire extending through the tube and having its upper end bent downward and forming a pawl, a flap valve hinged within said funnel body and adapted to seat on said flange, said pawl being arranged to engage the free edge of said flap valve whereby when the wire is lifted the valve is released from the pawl.

2. A funnel of the class described comprising an inverted frusto-conical body portion, having an inwardly extending annular flange at its lower end, a delivery spout extending downward from said lower end and provided with lateral outlet openings and a closed lower extremity, a tube extending along the side of said delivery spout and passing through the wall of the body portion, a guide secured adjacent the last men-

tioned tube within the top of the funnel, a wire having a portion extending through the tube, said wire being rebent at its upper end and extending through the guide, said wire being further reversely bent to form a pawl below the guide, the other end of said wire being provided with a spur opposite from the body and alined with the axis of the funnel, a flap valve hinged within the body at the lower end thereof and adapted for engagement by the pawl, a float carried by the spur, and means to lift the flap valve when the same is closed.

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

GEORGE L. MILLER.

Witnesses:

HENRY H. JEBENS,
LILA BUCK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."