June 16, 1931. J. E. ERICKSON 1,810,822

FUNNEL

Filed April 19, 1929

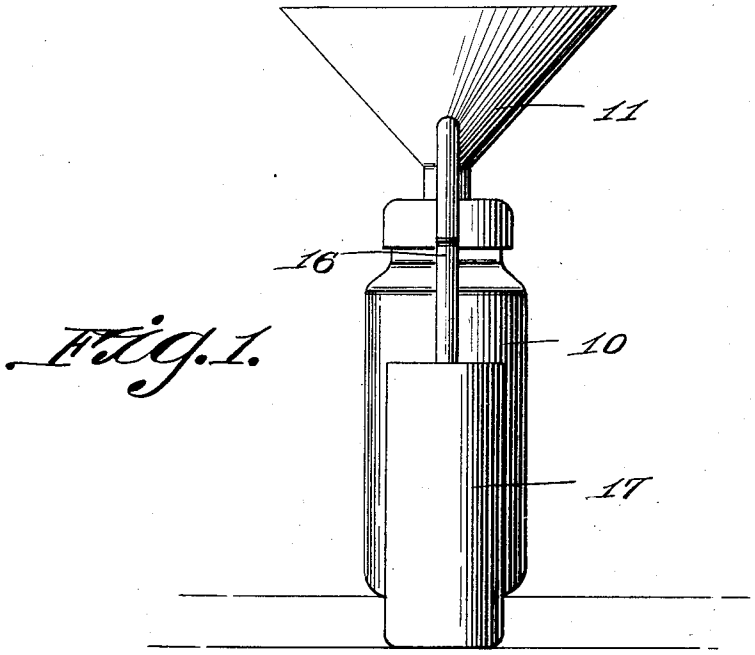


Fig. 1.

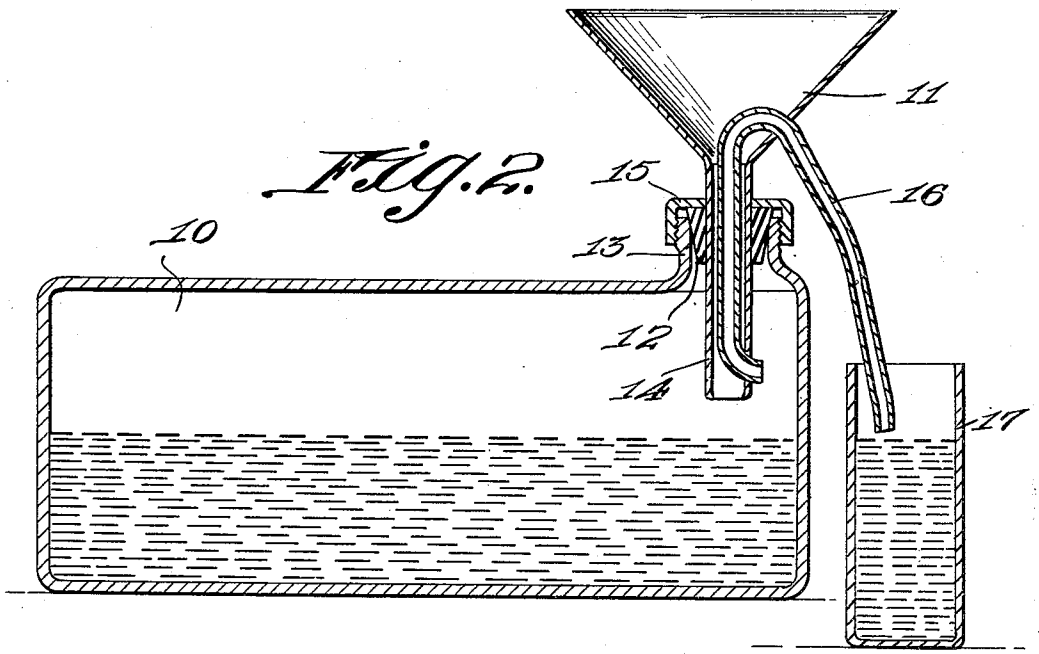


Fig. 2.

WITNESS:

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Patented June 16, 1931 1,810,822

UNITED STATES PATENT OFFICE

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FUNNEL

Application filed April 19, 1929. Serial No. 356,561.

This invention relates to filling devices for tanks, barrels and other forms of receptacles for storing liquid.

An object of the invention contemplates the provision and arrangement of means upon the funnel whereby liquid above a predetermined level will be diverted off to prevent spilling of the liquid upon the overflowing of the receptacle.

An additional object of the invention consists of a closure and support for the funnel to prevent air from escaping under displacement.

With the above and other objects in view, the invention further consists of the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is an elevation of my invention as applied and in use.

Figure 2 is a horizontal sectional view taken through a receptacle, the overflow device and container for catching the overflow.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates generally a tank or other storage receptacle employed as a reservoir, the contents of which is to be carried off by a pipe line or faucet, not shown, preferably located adjacent the bottom wall therefor. The invention contemplates the arrangement and provision of a funnel 11 having a packing or gasket 12, preferably composed of rubber or analogous material and of frusto-conical shape being arranged within the filling neck 13 for the tank.

The gasket or packing is centrally apertured to facilitate projection of the spout end 14 of the funnel therethrough in order that a positive seal will be established therebetween. The upper or base end of the substantially inverted frusto-conically shaped gasket or packing is engageable with the under side of a closure cap 15 carried upon the outer portion of the funnel neck immediately below the connection of the mouth therefor. The closure cap 15 is threadedly engaged with the filling neck 13 for the tank 10 to compress the gasket or packing 12 whereby the entire filling neck will be sealed.

An overflow pipe, designated as at 16, is shaped to dispose a portion thereof through the side wall of the mouth of the funnel whereby the adjacent portion of its length may be curved upon itself and centrally disposed within the neck 14. An offset, formed adjacent the innermost projecting end of the overflow pipe, is in turn passed through an opening in the side wall of the neck 14 immediately above the lower extremity thereof. The outermost end of the overflow pipe is projected downwardly outside of the funnel and tank 10 for final disposition within the mouth of a drip pan or overflow receptacle 17.

As generally known in the filling of containers with liquid that equal amounts of air must be displaced and such escape action generally takes place about and within the filling neck of the receptacle. In the present invention, the filling neck is sealed by the attachment of the filling device therewith save for the bores of the funnel spout and overflow pipe for the receptacle. During the filling of the tank 10, with the present invention employed, the head of liquid passing through the spout 14 for the funnel will restrict the escape of air therethrough whereby the air will be caused to find its way out of the tank through the bore of the overflow pipe 16.

When the liquid level in the tank 10 reaches a predetermined height, governed by the projection of the overflow pipe 16 therein, the air under compression by liquid displacement will force a head of liquid upwardly and through the overflow pipe 16 until the liquid level completely covers the lowermost offset end of the overflow pipe. The presence of the overflow liquid in the drip pan or overflow container 17 will signify that the tank 10 has been filled to a certain level.

The novel form of overflow device will prevent spilling or loss of liquids by overfilling and may be used to advantage upon various forms of containers especially where the nature of the liquid is dangerous and obnoxious.

The invention is susceptible of various changes in its form, proportions and minor details of construction, and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having thus described the invention, what is claimed is:—

An overfilling overflow device comprising a filling element having an enlarged entrance end, a tubular discharge portion for the filling element being of corresponding width throughout its length, a discharge tube projected through the enlarged entrance end of the filling neck and depending centrally of the longitudinal axis of the tubular discharge portion and having a bore equivalent to that of the latter, said tube having the innermost end thereof projected through the wall of the tubular discharge portion and at right angles to the bore thereof, and the outermost end of the discharge tube being disposed outwardly and beyond the entrance end of the device.

In testimony whereof I affix my signature.

JOHN E. ERICKSON.