

P. ANDERSON.
FUNNEL.

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979,819.

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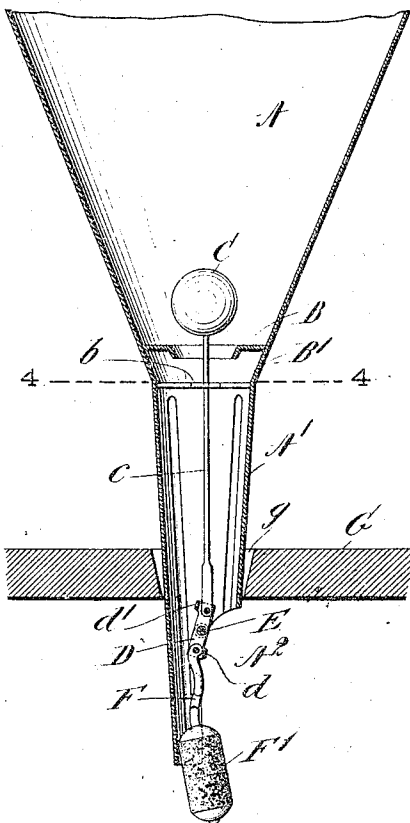


FIG. 1.

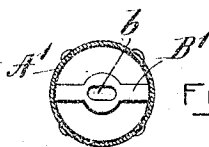


FIG. 4.

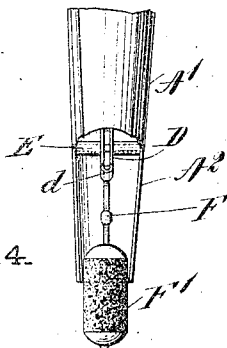


FIG. 3.

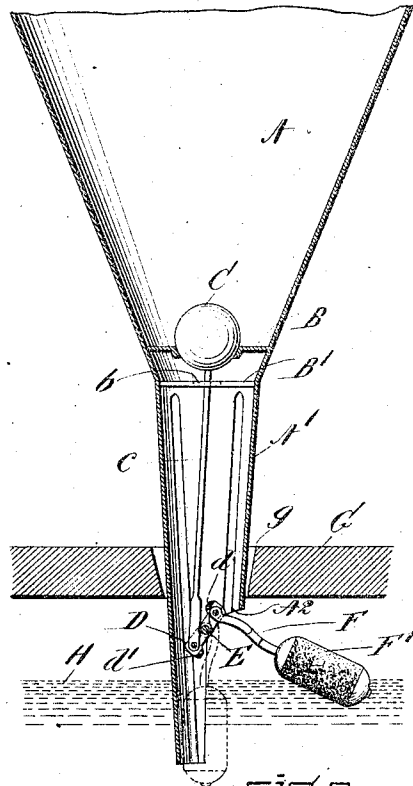


FIG. 2.

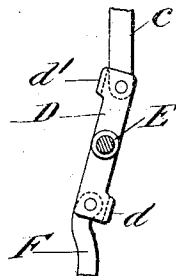


FIG. 5.

WITNESSES=

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UNITED STATES PATENT OFFICE.

PAHR ANDERSON, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR TO DOVER STAMPING & MANUFACTURING COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

FUNNEL.

979,819.

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To all whom it may concern:

Be it known that I, PAHR ANDERSON, of Cambridge, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Funnels, of which the following is a specification.

My invention relates to a funnel for filling a tank or other receptacle having a valve which closes to indicate when the tank is full as well as to retain any surplus liquid in the funnel when it is thereafter removed from the tank, and the embodiment of it shown in the drawings is especially intended for use in filling gasoline tanks for automobiles. It comprises a funnel having a valve which is closed by a float operated by the rising level of the liquid in the tank and in its preferred form is constructed as below described.

In the drawings there is shown in Figure 1 a vertical section of the lower part of the funnel with its throat, the valve being open. Fig. 2 is a similar view showing the position of the parts when the float has been lifted and has closed the valve, also showing in dotted lines the position of the float as the funnel is drawn out from the tank. Fig. 3 is an elevation taken at right angles to the view in Fig. 1. Fig. 4 is a section on line 4—4 of Fig. 1, and Fig. 5 is an enlarged view of the trip lever.

A is the funnel, the lower portion only of which is shown; the lower end of said funnel being provided with the usual throat A¹ which, however is preferably cut away at one side as shown at A².

B is a valve seat.

C is the valve which as shown is a ball and which in its preferred form is constructed of metal so as to have some appreciable weight.

c is a valve rod which extends down through an opening b in the cross bar B¹ which serves to keep it approximately centered.

D is a lever which is pivoted upon a rod E mounted across the throat of the funnel. This lever as shown comprises two members joined together at one end by the part d and at the other end by the part d², these parts being located on opposite sides of the members of the lever, the part d¹ being adapted to act as a stop to limit the move-

ment of the valve rod c which is pivoted to that end of the lever D. The float arm F is pivoted to the other end of the lever D and the part d serves as a stop to limit the movement of the float arm F. The float arm carries a float F¹ at its lower end.

When this funnel is to be used the parts are set in the position shown in Fig. 1, that is to say, the valve is raised by hand or otherwise, thus extending the lever D into the position shown in Fig. 1 where it will be noted it is slightly overbalanced by the weight of the valve C and its rod c, the lower end of the rod resting against the stop d¹ so as to prevent the valve from dropping. The float F¹ depends from the other end of the lever D. The funnel is then placed in the opening g in the tank or can G and the process of filling is then carried on in the usual way. When the level of the liquid in the can reaches the float F¹ the float begins to rise with it as shown in Fig. 2 where H indicates the level of the liquid. As the float rises however it engages the stop d on the lever D and thereby turns the lever D so as to throw the pivot d¹ from its position in Fig. 1 to the left of the axis E of the lever D. There being nothing then to support the valve C it closes quickly by its own weight so that the parts assume the position shown in Fig. 2, the funnel at this moment being perhaps partly filled with liquid. No liquid can escape however between the valve and its seat and the user seeing that the valve is closed and also, where the parts are made of metal hearing the closing of the valve, lifts the funnel out from the tank during which operation the float assumes the position shown in dotted lines in Fig. 2 so that it will be drawn out from the tank with the funnel. As the float F¹ is light in comparison with the weight of the valve C the lever D remains in the position shown in Fig. 2 until the parts are re-set in the position shown in Fig. 1 to empty the funnel or for use again.

The above is the simplest form of my invention now known to me but I do not mean to confine my invention to this form of embodiment, my invention consisting broadly in the use of a trip lever connected both to a valve and a float whereby under ordinary conditions the valve will be held open and only allowed to close automatically when the float is lifted.

What I claim as my invention is:

1. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a trip lever pivotally mounted in said throat, one end of said trip lever being pivotally connected to said valve and a float pivotally connected to the other end of said trip lever.

2. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one end of said trip lever being pivotally attached to said valve rod and a float pivotally connected to the other end of said trip lever.

3. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one

end of said trip lever being pivotally attached to said valve rod and a float pivotally connected to the other end of said trip lever and having a limited movement with relation thereto.

4. The funnel above described having a throat provided with a valve seat, a valve to close against said seat, a valve rod, a trip lever pivotally mounted in said throat, one end of said trip lever pivotally connected to said valve rod and having a limited movement with relation thereto, and a float pivotally connected to the other end of said trip lever and having a limited movement with relation to said trip lever.

PAHR ANDERSON.

Witnesses:

M. E. FLAHERTY,
GEORGE O. G. COALE.