C. T. FELL.

FUNNEL.

APPLICATION FILED MAY 11, 1916.

1,268,947. Patented June 11, 1918.

Fig. 1.

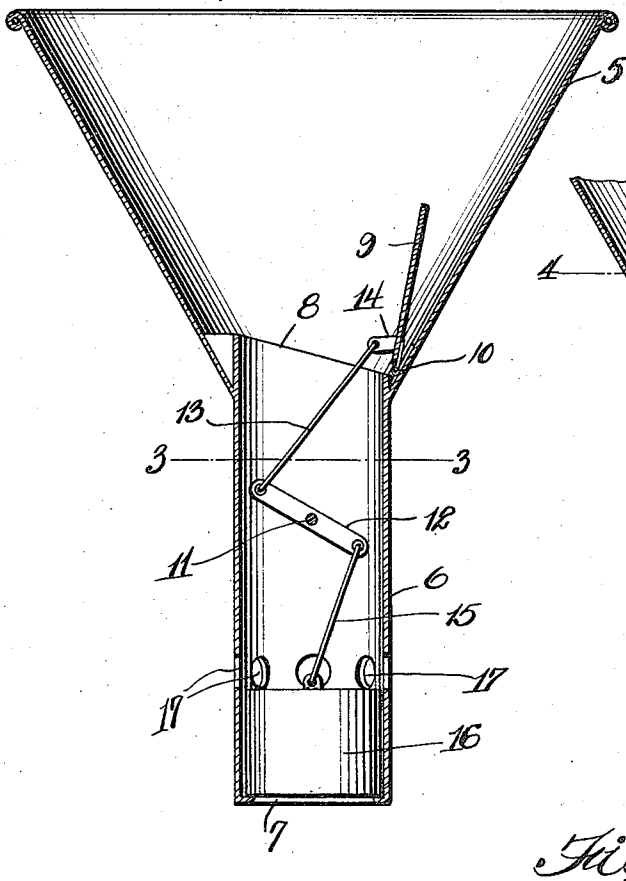


Fig. 2.

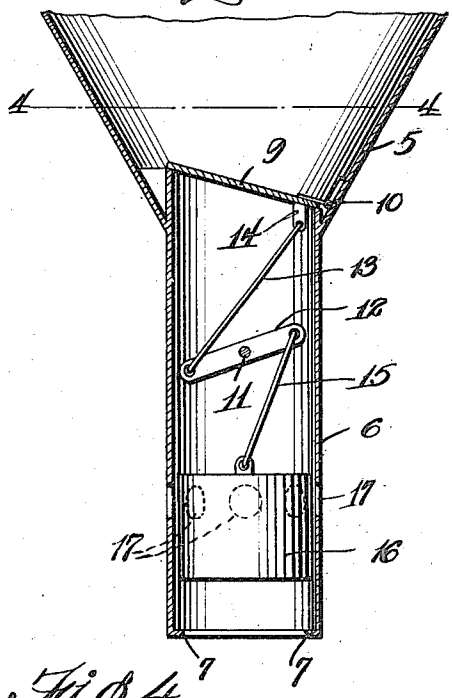


Fig. 3.

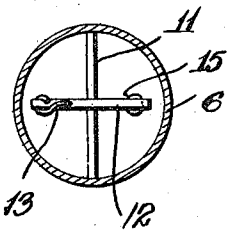
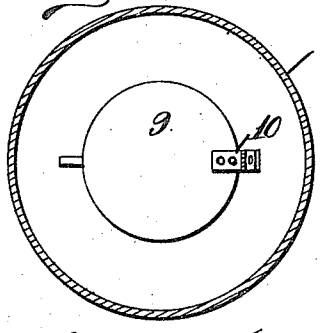


Fig. 4.



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WITNESSES

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FUNNEL.

1,268,947. Specification of Letters Patent. Patented June 11, 1918.

Application filed May 11, 1916. Serial No. 96,923.

To all whom it may concern:

Be it known that I, CLARENCE T. FELL, a subject of the King of Great Britain, residing at Winnipeg, in the Province of Manitoba and Dominion of Canada, have invented certain new and useful Improvements in Funnels, of which the following is a specification.

This invention relates generally to funnels, and particularly to funnels of that character wherein an automatic cut-off mechanism is employed.

The invention resides in providing a valve in the ordinary funnel at the juncture of the neck with the bowl portion thereof, which valve is controlled by the operation of a float arranged within the neck portion near the bottom thereof. The float is so arranged within the neck portion as to be disposed in the path of movement of liquid down into the neck, so that the weight of the liquid is utilized in maintaining the valve in open position. Immediately upon the liquid level in the receptacle being filled reaching a predetermined point, the float moves upwardly, whereupon the valve is moved to closed position, precluding further passage of liquid through the funnel.

The invention will be best understood by reference to the accompanying drawings, wherein:

Figure 1 is a sectional view taken through a funnel constructed in accordance with my invention.

Fig. 2 is a similar view showing the movable parts in changed position to prevent further flow of liquid from the funnel to the vessel or container.

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1, and,

Fig. 4 is a similar view taken on line 4—4 of Fig. 2.

In the drawings, a conventional form of funnel is shown, and wherein the flared or mouth portion is indicated at 5, the reduced or neck portion 6 communicating at its upper end with the lower portion of the mouth 5. The lower open end of the neck 6 is provided with an inwardly projecting annular flange 7, and the upper end of the neck portion extends slightly above the bottom of the mouth portion 5 as shown, and is cut away angularly as at 8.

The mechanism associated with a funnel of the above-described construction comprises a valve head or plate 9 hinged at one edge as at 10 to the interior of the mouth or flared portion 5 and adjacent the lower end thereof. This plate may be formed of relatively thin, light material, and is of such dimensions as to entirely close the upper open end of the neck 6 when swung upon its hinge 10 to rest upon inclined face 8. Pivoted intermediate its ends upon a fixed member 11 within the neck 6, and preferably intermediate the ends thereof, is a rock arm 12. This arm is connected at one end by a link 13 with a downwardly projecting ear 14 upon the lower face of the valve plate or head 9, the said ear being preferably positioned adjacent the hinge 10. The opposite end of the rock arm 12 is connected by a link 15 with a float 16 slidably mounted within the neck 6 to the funnel. The construction is such that when the float 16 is in its lowermost position, or resting upon the annular flange 7, the links and rock arm 12 will swing the valve plate or head 9 into open position, as shown clearly in Fig. 1. When in this position liquid may be poured into the funnel and will pass into the neck thereof, being delivered from the funnel neck to the receptacle with which the funnel is used through the ports or openings 17 arranged in the neck portion slightly above the uppermost portion of the float when the latter is at the limit of its downward movement. When the receptacle or container is filled and the liquid level therein rises to the lower end of the neck 6 of the funnel, the float member 16 will be caused to move upwardly in the funnel neck to close the ports 17, and to rock the arm 12 upon its pivot to close the valve plate 9. It is thus seen that further delivery of fluid to the receptacle is prevented. The weight of fluid delivered to the flared mouth after the mechanism has closed the valve, will firmly bind the plate 9 upon its seat 8, and the funnel cannot be further used until the flared or mouth portion has been emptied. By arranging the ear 14 adjacent the hinged edge of the valve plate 9 it is apparent that a relatively great throw to the said plate will be delivered upon movement of the float 16.

While the above is a disclosure of the preferred embodiment of the invention I am aware that the same is susceptible of various changes in the minor details of construction and arrangement of parts, and I reserve to myself the right to make such changes as

may be deemed practicable without departing from the spirit of the invention or exceeding scope of the claim.

I claim:

In a device of the class described, a funnel having the usual bowl and neck portions, a flange extending into the neck portion at the lower end thereof, a float slidably arranged in said neck in the path of liquid passing downwardly through the same and normally resting upon said flange, the said neck being provided with a plurality of openings spaced from the lower end of the said neck a distance equal to the height of said float and through which liquid is adapted to pass from the interior to the exterior of the funnel, a valve at the juncture of the neck and bowl portions, and means connecting the said valve and float for closing the said valve when the float moves upwardly in the neck and for opening the valve when the said float moves downwardly.

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

CLARENCE T. FELL.

Witnesses:

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G. S. PEW.

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