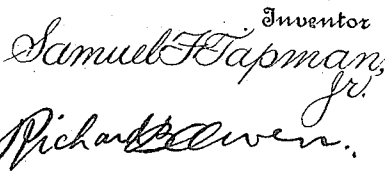


FUNNEL.

Patented Feb. 4, 1919.



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FUNNEL.

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To all whom it may concern:

Be it known that I, SAMUEL F. TAPMAN, Jr., a citizen of the United States, residing at Jamaica, in the county of Queens and State of New York, have invented certain new and useful Improvements in Funnels, of which the following is a specification.

This invention relates to funnels, and has for its object to provide means for closing the outlet opening of the same when the liquid in the receptacle being filled reaches a certain height, thus obviating any likelihood of the same being overfilled.

Another object of this invention is the production of a funnel having a float positioned adjacent the outlet opening, the same adapted to close the outlet opening when the liquid in the receptacle being filled reaches a certain height and also to provide novel means whereby the float is kept in close proximity with the outlet opening but to allow the same to move so as to close the outlet.

A still further object of this invention resides in the production of a funnel of the kind heretofore described, that is simple in construction, efficient in operation, consists of the minimum number of parts, and therefore can be manufactured at the minimum cost.

With these and other objects in view, this invention consists of certain novel constructions, combinations and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawing:—

Figure 1 is a vertical section of the improved funnel shown mounted on a bottle.

Fig. 2 is a top plan view of a portion of a bridge used with this invention showing the novel means for retaining the valve rod in a certain position.

Referring to the parts by reference numerals, 10 denotes the body of the funnel provided with the ordinary outlet or discharge spout 11, that at the lower extremity thereof is slightly outwardly flared as at 12. At the upper edge of the body 10 of the funnel, the same is rolled as at 13, so as to provide a rounded face at its upper edge. Adjacent the juncture of the body 10 of the funnel with the spout or discharge 11 is a bracket 14 that includes a centrally dis-

posed eye, through which is slidably passed a valve rod 15 having at the lower extremity thereof a float and valve designated by the numeral 16, the same consisting of a cylindrical body portion 17 and an inverted conical-shaped valve portion 18 that is adapted to be brought into engagement with the lower end of the discharge 11 of the funnel, and inasmuch as the end as indicated at 12 is slightly flared outwardly, a fluid tight closure is made when the valve portion 18 is positioned in engagement with the slightly outwardly flared edge 12 of the discharge 11. Means is provided with this invention to hold the float and valve 16 in the position as shown, the said means comprising a bridge 19 that spans the body of the funnel, and has the ends thereof bent as at 20 so as to conform to the contour of the upper edge of the funnel and terminate in portions 21 that engage the outer face of the body 10 of the funnel and extend parallel therewith, thus providing means whereby rivets or other means can be passed, if so desired, to permanently attach the bridge 19 to the funnel. An opening is formed intermediate the length of the bridge, and when the same is positioned as shown, the said opening is in alinement with the longitudinal axis of the discharge or spout 11 of the funnel, and adjacent the openings positioned on either side of the same on the upper face of the bridge 19 are spring members 22, each having an angularly extending foot 23 that is positioned on the upper face of the bridge 19, and has the means 24 passing therethrough to securely hold the same in engagement therewith. Adjacent the upper end of the spring members 22, the same are bent as at 25, so as to provide a slightly reduced space adjacent the upper end thereof. The valve and float rod 15 passes through the opening formed intermediate the length of the bridge 19, and is provided with a head 26 at its upper extremity, and wound about said rod adjacent its upper end is a coil spring 27 that is in engagement with the underface of the head 26 and the upper face of the bridge 19.

It will be seen that the valve and float 16 is capable of movement in the funnel and is also positively guided, inasmuch as the rod 15 that is attached to the said valve and

float 16 pass through the eye formed in the bracket 14 and the opening formed in the bridge 19.

The operation of this device is as follows:
5 The funnel is placed or mounted upon a bottle, as is shown in Fig. 1 and the funnel float is placed in the position as shown in Fig. 1 by placing the head 26 formed on the valve rod 15 beneath the reduced space
10 caused by the inwardly directed curved portions adjacent the upper ends of the spring members 22, thus, inasmuch as the spring members 22 are of a stronger nature, compress the coil spring 27, and thereby holds
15 the valve portion 18 of the member 16 out of engagement with the end 12 of the discharge opening 11. When the liquid reaches a certain height in the receptacle being filled, the same will move the float upwardly, and
20 inasmuch as the pressure on the float will overcome the resistance of the spring members 22, the head 26 will be removed from engagement therewith and the coil spring 27 expanded, and thereby bring the valve
25 portion 18 in liquid tight engagement with the end 12 of the spout 11.

It is obvious that minor changes may be

made in the form and construction of this invention without departing from the material parts thereof. It is therefore not
30 wished to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope claimed.

I claim:

35 A funnel comprising a body having an outlet spout, a float valve, a valve rod having a head at one end thereof, a bridge spanning said body having an opening intermediate its length, said valve rod passing
40 through said opening, a coil spring carried by said rod between the head and bridge for normally holding the same in a raised position, spring members positioned on opposite
45 sides of the said head having their free extremities bent to engage the said head for holding the valve in an open position.

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

SAMUEL F. TAPMAN, JR.

Witnesses:

LEON THOMPSON,
LILLIAN SMITH TAPMAN.

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