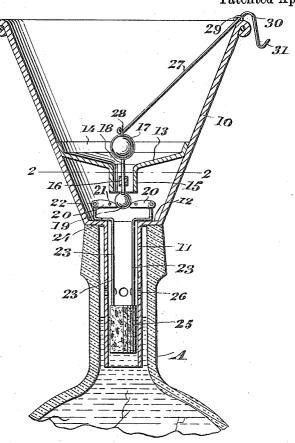
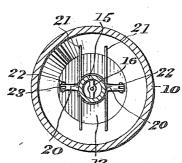
### G. O. SAUERMANN. AUTOMATIC FUNNEL. APPLICATION FILED NOV. 20, 1915.

1,263,810.

Patented Apr. 23, 1918.





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WITNESSES
Plonitwell
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# UNITED STATES PATENT OFFICE.

## GUSTAVE O. SAUERMANN, OF KENESAW, NEBRASKA.

## AUTOMATIC FUNNEL.

1,263,810.

Specification of Letters Patent.

Patented Apr. 23, 1918.

Application filed November 20, 1915. Serial No. 62,675.

To all whom it may concern:

Be it known that I, GUSTAVE O. SAUER-MANN, a citizen of the United States, residing at Kenesaw, in the county of Adams and State of Nebraska, have invented certain new and useful Improvements in Automatic Funnels, of which the following is a specification.

An object of my invention is to provide 10 a new and improved automatic funnel that consists of novel means to normally retain the closure valve in an open position, mechanism to cause the proper actuation of the retaining means in order to allow the 15 valve to move into a closed position at the time the level of the fluid in the container, in connection with which the device is being used, reaches a desired height, and means whereby the operator may retain the closure 20 valve in a seated position after it has been

released to automatically move into that position; thereby permitting the funnel to be moved from one container to another without creating liability of spilling the liquid 25 remaining therein.

My invention, has for another object, the provision of a device of the type in question that is extremely simple in construction, strong and durable, and highly practi-30 cal from both the standpoint of the manufacturer and the standpoint of the user; and which, it is believed, may be manufactured at a minimum cost.

Various other objects and advantages will 35 become apparent during the continuance of the following description.

These objects are accomplished by such means as are shown in their preferred form in the accompanying drawings, described 40 in the following specification and then more specifically pointed out in the appended

In the accompanying drawings wherein like characters designate like parts through-45 out the several views;

Figure 1 is a vertical sectional view of my invention showing the same as in its preferred embodiment; and in conjunction with a bottle neck of substantially the con-50 ventional form.

Fig. 2 is a horizontal sectional view taken

on line 2—2 of Fig. 1. In the drawings A designates a bottle neck of substantially the conventional form 55 in connection with which my invention is

shown. It is to be understood however that I do not limit myself in any manner to the use of my invention in connection with a container having a neck of this specific form, but desire to point out that my im- 60 proved funnel is readily applicable to the various forms of containers and the necks

thereof, which are now in use.

My improved funnel consists more essentially of a body structure 10 that is slightly 65 tapered toward its lower end, as are the majority of devices of this character, and which supports at its lower end a mouth or spout structure 11 through the medium of a transverse supporting shoulder 12. As is 70 clearly shown in Fig. 1, in the use of the funnel in connection with a container having a neck of the type shown, the shoulder 12 rests on the upper edge of the neck and thus properly supports the body of the fun- 75 nel at all times. This form of means for supporting the body of the funnel is especially desirable at the time the liquid is being poured into the funnel in that it eliminates the necessity of the operator 80 steadying the funnel with one hand.

In order to properly support the closure valve (which will be presently described), and at the same time provide for the uniform dispensing of the liquid from the body 85 of the funnel to the mouth or spout 11, I arrange within the body, preferably at a point slightly above the upper terminus of the mouth or spout, a centrally apertured disk 13 which has its circumferential edge 90 bent as at 14 to facilitate a more secure connection with the body of the funnel. Adjacent a central point, the frame 13 carries a depending outlet tube 15 to permit a flow of liquid from the body of the funnel to 95 the mouth or spout 11, which is provided, substantially intermediate its ends with a

bearing 16.

I further provide a ball valve 17 that carries a depending guide rod 18 to be jour- 100 naled through the bearing 16, while the guide rod 18, in turn carries a second and smaller ball 19 at its lower end. The valve 17 is preferably made of a diameter whereby it is capable of closing the outlet 15 at 105 certain times to prevent the further dispensing of the liquid contained in the body of the funnel, while the other ball 19 may be formed of a diameter materially less than the diameter of the outlet so as to not in any 110

way obstruct or impede the flow of liquid from the outlet to the mouth or spout 11.

Consistent with the foregoing, I have devised improved means for normally retain-5 ing the valve 17 in a raised position in order to allow the dispensing of liquid from the body of the funnel through the mouth or spout 11 to the respective container, and to this end I provide a pair of detents 20 each 10 of which is pivotally supported within the body of the funnel, slightly below the lower terminus of the outlet 15, through the medium of the transverse supporting rods 21. One end of each of the detents has pivotal 15 connection, as at 22, with one of the supporting rods 23, the latter being bent to form a horizontal element 24 to normally rest on the shoulder 12 of the funnel, while they further support a float 25 adjacent their

2. lower ends as clearly shown in Fig. 1. The weight of the rods 23 and the float 25 will normally retain the detents 20 in the position shown in Fig. 1 so that their inner ends will engage and support the ball 19 and thus

25 retain the valve 17 in an open position with respect to the outlet 15. On the other hand should the float 25 be moved upwardly, such as caused by the rising of the level of the fluid in the neck of the container in connec-

30 tion with which the funnel is used, the detents 20 will be made to rock upon their respective pivots, the rods 21, in order to permit the ball 19 to move downwardly and thus cause the proper seating of the valve 17.

In order to partly deflect the fluid passing downwardly through the mouth or spout structure 11 and to somewhat nullify the pressure of that fluid upon the float 25, I provide the mouth or spout structure with

40 a series of transverse openings 26 through which a portion of this fluid may pass. These openings are preferably arranged in the mouth or spout structure at a point appreciably above the float as clearly shown in

After the level of the fluid in the container in connection with which the funnel is used reaches a desired height and the valve 17 has been permitted to move to a 50 closed position it is of course desirable to provide means for retaining the valve in this position in order that the funnel may be removed from the container without the liability of the valve again moving into an 55 open position. To this end I provide an actuating rod 27 one end of which is movably connected to the valve 17 as at 28, while its other end projects through a guide member 29 adjacent the upper edge of the funnel 60 body and bent as at 30 to form a suitable

finger-engaging portion 31. It is contemplated to arrange the finger-engaging por-tion of the rod 27 in proximity to the handle of the funnel in order that the operator may actuate the same with ease. By exert- 65 ing a slight downward pressure on the finger-engaging portion of the rod, the latter will be moved in a like direction and thus securely retain the valve 17 in place.

From the foregoing it is believed that the 70 advantages and novel features of my invention will be readily understood and therefore further detailed description is deemed un-

necessary.

In reducing my invention to practice I 75 find that the form referred to herein as the most practical and preferred embodiment is the most efficient, but realizing that certain conditions will necessarily vary in concurrence with the adoption of my device, I de- 80 sire to emphasize the fact that various minor changes in the details of construction and in the proportion of parts may be resorted to when required without sacrificing any of the advantages of my invention as 85 defined in the appended claims.

Having thus fully described my inven-

tion, what I claim as new and desire to se-

cure by Letters Patent is:

1. A funnel, comprising the usual body 90 and spout, there being an inner shoulder between the body and spout, a valve within the body for normally shutting off the flow of liquid therethrough, a detent for holding the valve unseated under normal conditions, 95 a float disposed within the spout, and connecting means between the float and detent and having an offset portion to engage the said inner shoulder to normally hold the parts in predetermined position.

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2. A funnel, comprising the usual body and spout, a disk within the lower portion of the body and having a centrally disposed opening, a tube depending from the disk in line with the openings thereof, a guide with- 105 in the tube, a valve for closing the opening of the disk, a stem depending from the valve and co-acting with the guide, opposed detents for engaging the stem and normally holding the valve unscated, a float, and con- 110 necting means between the detents and float and normally engaging a part of the funnel to hold the parts in given position.

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

#### GUSTAVE O. SAUERMANN.

Witnesses:

EARLE BOWERS, H. M. Russell.