C. R. BARNEY.

FUNNEL.

APPLICATION FILED OCT. 30, 1907.

918,814. **Patented Apr. 20, 1909.**

2 SHEETS—SHEET 1.

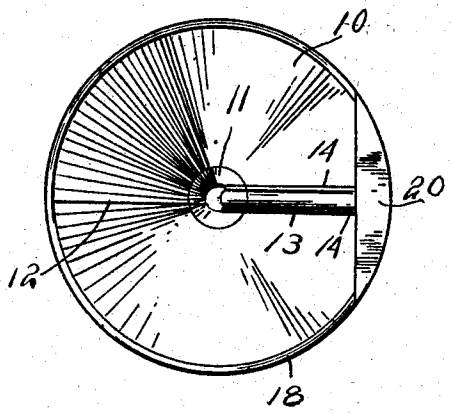


Fig. 1.

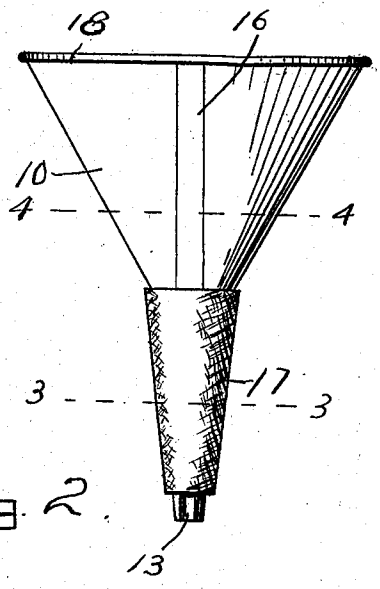


Fig. 2.

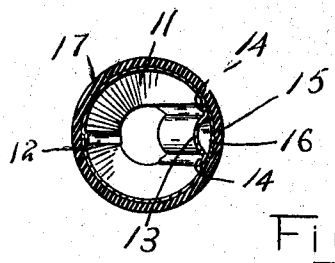
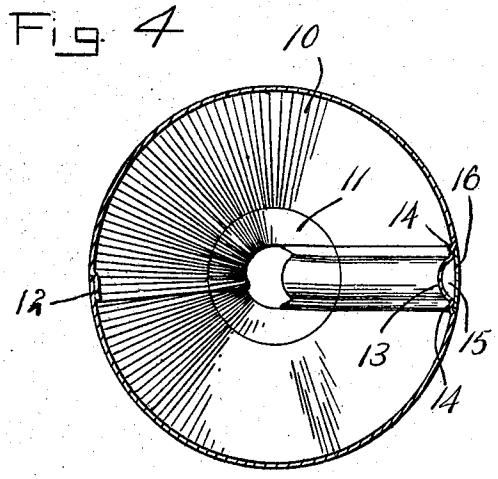


Fig. 3.

Fig. 4



Witnesses

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2 SHEETS—SHEET 2.

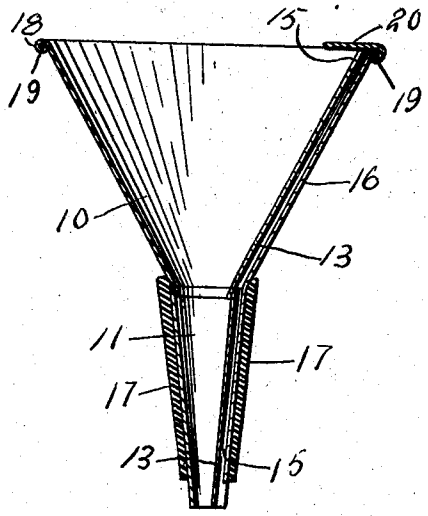


Fig. 5.

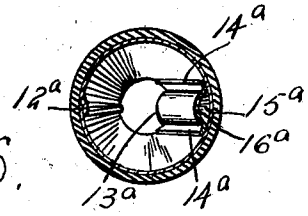


Fig. 6.

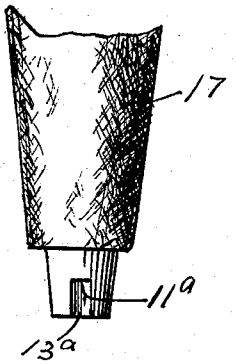


Fig. 7.

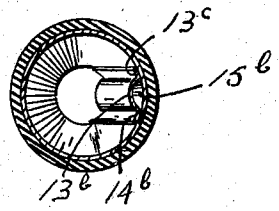


Fig. 8

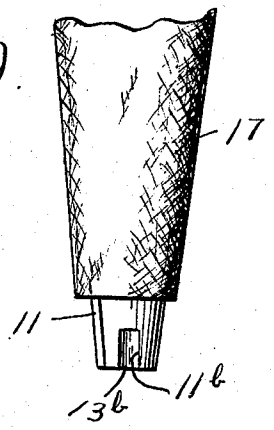


Fig. 9.

Witnesses

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UNITED STATES PATENT OFFICE.

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FUNNEL.

No. 918,814. Specification of Letters Patent. Patented April 20, 1909.

Application filed October 30, 1907. Serial No. 399,837.

To all whom it may concern:

Be it known that I, CHARLES R. BARNEY, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Funnels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in funnels, and it has more particular reference to a funnel constructed with the especial object of preventing overflowing of the liquid during the filling of a can, bottle, or other container.

In its broad conception, the invention represents a type of funnel which at one side thereof is provided with an air passage, by means of which the air egresses from the can, bottle, or other container, during the filling thereof, as it is displaced by the liquid poured in.

It is the primary object of the invention to provide a funnel having a novel construction, combination and arrangement of parts, calculated to most surely and efficaciously attain the function above noted.

It is a further object of the invention to provide a funnel of this type which shall be simple in its structural details, inexpensive to manufacture and practical and efficient in use.

The details of construction will appear in the course of the following description in which reference is had to the accompanying drawings, forming a part of this specification, like characters of reference designating similar parts, throughout the several views, wherein:—

Figure 1 is a top plan view of a funnel constructed in accordance with the present invention. Fig. 2 is an elevation thereof, looking at the side upon which the air passage is provided. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is an enlarged section on the line 4—4 of Fig. 2. Fig. 5 is a central longitudinal sectional view of the funnel showing the detailed construction of the air passage. Fig. 6 is a sectional view similar to Fig. 3, illustrating a modified embodiment of the invention. Fig. 7 is an elevation of the lower end of a funnel constructed with the modification shown in Fig. 6. Fig. 8 is a view similar to Fig. 3, illustrating a further modified embodiment of the invention. Fig. 9 is an elevation of the lower end of a funnel constructed in accordance with the modification shown in Fig. 8.

In the accompanying drawings, the numeral 10 designates the body of the funnel which has its lower end fitting in the upper end of the reduced neck 11, of tapered form, the body 10 and neck 11 being made from two sections of sheet metal soldered together at their joint and having their side edges united by seams 12. The body 10 and neck 11 are conjointly formed with a depression 13, which is stamped thereinto at one side thereof, and adjacent the depression 13, on each side thereof, are shallow depressions 14. The depression 13 terminates short of the upper end of and opens into the interior of the body 10 and forms the major wall portion of the air passage designated by the numeral 15. The remaining wall portion of said air passage is supplied by a strip 16 which is made in angularly disposed sections repectively coextensive with the vertical extent of the body and neck and soldered together, the strip 16 bridging the depression 13 and having its side portions seated and soldered in the depressions 14, the side portions of the strip 16 being exactly flush with the outside surface of the body 10 and the neck 11. Surrounding the neck 11, is a collar 17, which in shape, conforms exactly to the shape of said neck, but which together with the strip 16, terminates slightly short of the lower end of said neck. The collar 17 is made of air tight packing material, preferably rubber, in order that when the neck of the funnel is inserted into the mouth of a container, said collar 17 will pack the space between said neck and said mouth so as to render it impossible for air to escape from the bottle, except by way of the passage 15. The upper end of the body 10 is beaded as at 18 and within the beading 18 is a wire reinforcing ring 19.

In use, the neck 11 is inserted in the mouth of the container as far as possible, the collar 17 affording an air tight joint as above set forth. As the liquid flows into the container from the funnel, the air displaced thereby egresses through the passage 15. In order that no liquid may be displaced with the air, the collar 17 and strip 16 terminate short of

the bottom of the neck as above intimated. When the bottle has been filled, as far as possible, the entering liquid acts as a hydraulic ram and forces some of the liquid in the bottle up through the passage 15. The liquid thus forced through said passage flows from the open upper end thereof back into the body 10, it being understood that the air passage has its open upper end terminating short of the upper end of the body 10. It frequently happens that at the completion of the filling operation, the liquid is forced up the passage 15 with such force, that it spurts over the edge of the funnel and for the purpose of preventing the liquid from falling outside of the funnel, a deflector sheet 20 is secured to the top edge of the body 10, above the passage 15. When the bottle has been filled in the manner described, the liquid left in the funnel is poured therefrom, without removing the funnel from the container. Owing to the fact that the entrance of air into the container is practically impossible, the said container may be held in an inclined position for a reasonable length of time, sufficient to pour the surplus liquid from the body 10.

In the modified embodiment of the invention illustrated in Figs. 6 and 7, the funnel and neck are, as in the preferred form, made from two sections of metal soldered together and having their side edges united by a soldered seam 12^a. The air passage, designated 15^a, is afforded by means of a strip 16^a, similar in construction to the strip 16, arranged on the inner side of the funnel and neck, and having a depression 13^a stamped thereinto, on each side of which are side portions 14^a, soldered to the inner face of the funnel and neck. The depression 13^a, together with the confronting portion of the body and neck, affords the air passage. The strip 16^a extends to the lower edge of the neck, and the latter, below the packing collar, is recessed as at 11^a, in order that the air passage below said collar, may not be complete, it being understood that the recess 11^a, registers with the depression 15^a. The purpose of this arrangement is to prevent liquid from being prematurely forced with the air through the passage 16^a, such function being in the preferred embodiment of the invention, attained by making the strip 16 terminate short of the lower end of the neck.

In the embodiment of the invention illustrated in Figs. 8 and 9, the air passage is formed by stamping a depression 13^b adjacent one edge of the body and neck, by forming a depression 14^b adjacent the inner side of the depression 13^b, by providing a projecting edge portion 13^c, at the outer side of the depression 13^b and by lapping the other edge portion of the body and neck over the depression 13^b, the extreme side portion of the overlapping part being disposed and soldered in the depression 14^b and likewise being soldered to the portion 13^c. The overlapping edge portion and the depression 13^b, thus coact to afford the air passage 15^b. The overlapping portion is formed in its lower edge below the packing collar with a recess 11^b, which registers with the depression 13^b and by virtue of which, the air passage is not completely closed at the extreme lower end of the neck.

What I claim is:

A funnel comprising a body having a tapered discharge spout depending therefrom and with a longitudinal recess in the lower end and opening downwardly and laterally, a channel shaped member disposed within the body against one side and against one side of the discharge spout and terminating at the lower end thereof and inclosing the recess and with a lateral opening at the upper end adjacent to the upper end of the body, said channel shaped member terminating at its upper end in the plane of the upper edge of said funnel, and a flat segmental plate held upon the upper rim of the funnel to form a guard and extend over the upper end of the channel member.

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

CHAS. R. BARNEY.

Witnesses:

ZACH. L. CARTWELL,

ROBERT E. BARBEE.