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W. T. TALIAFERRO.

FUNNEL.

APPLICATION FILED JAN. 24, 1905.

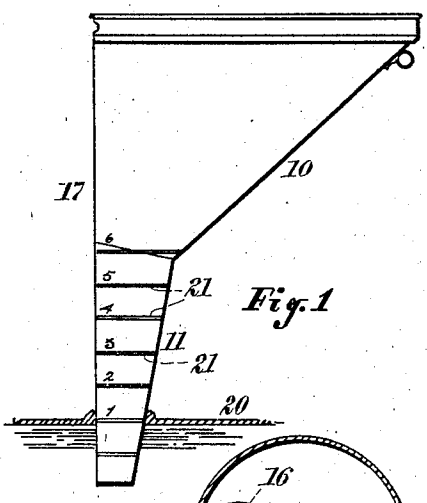


Fig. 1

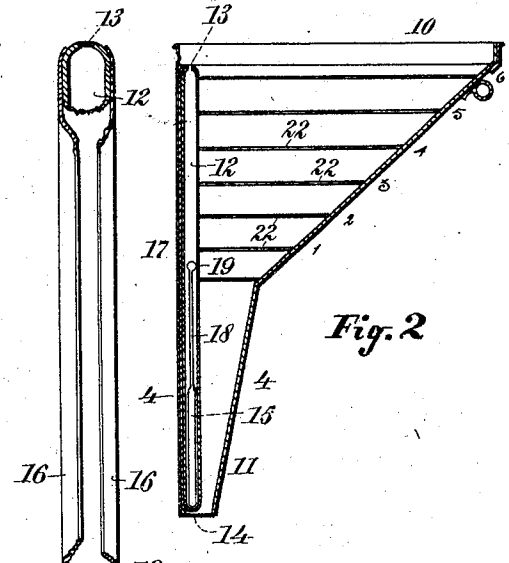


Fig. 2

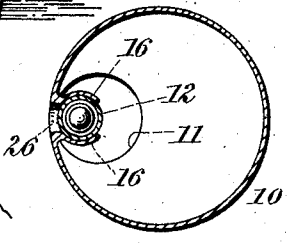


Fig. 6

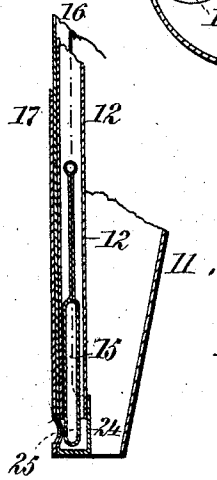


Fig. 3

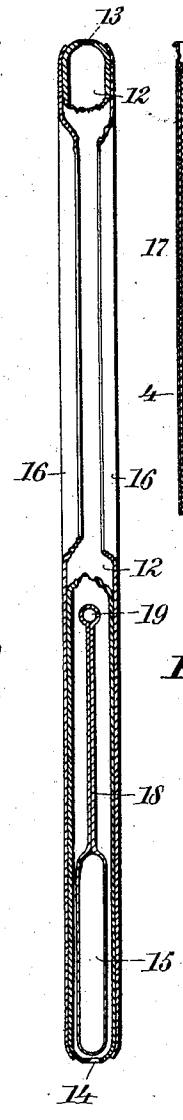


Fig. 5

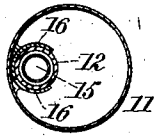


Fig. 4

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UNITED STATES PATENT OFFICE.

WHITMELL T. TALIAFERRO, OF NEW YORK, N. Y.

FUNNEL.

SPECIFICATION forming part of Letters Patent No. 790,463, dated May 23, 1905.

Application filed January 24, 1905. Serial No. 242,579.

To all whom it may concern:

Be it known that I, WHITMELL T. TALIAFERRO, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Funnels, of which the following is a specification.

The invention relates to improvements in funnels; and it consists in the novel features, arrangement, and combinations of parts hereinafter described, and particularly pointed out in the claims.

The object of the invention is to provide a novel and efficient funnel equipped with means for indicating when the desired quantity of liquid has passed through the funnel and into the vessel being filled.

A further object of the invention is to provide a funnel by which a vessel may be filled entirely up to its full capacity without danger of the liquid overflowing, the funnel of my invention indicating the fact that the vessel has been filled.

In carrying out my invention I form the body and discharge-spout of the funnel of sheet metal or other suitable material and impart to the funnel at one side a straight edge, at which I provide a vertical glass tube having openings at both ends and containing a glass float, the said tube extending substantially throughout the entire depth of the funnel and being held in position by clamping members, which will engage the tube at opposite sides and leave a vertical portion of the tube exposed for visual inspection, so that the user of the funnel may at any time conveniently observe the position of the float within said tube. I also provide the spout and body of the funnel with index lines or characters to aid in filling the receptacle up to the desired level and to accurately indicate to the user when the proper quantity of liquid has entered the vessel.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a funnel constructed in accordance with and embodying the invention, the discharge-spout of the funnel being shown as inserted into the open mouth of a vessel which has been filled, said vessel being broken away and the part thereof shown being represented in section. Fig. 2 is a central vertical longitudinal section through the funnel. Fig. 3 is a like section through a portion of the funnel and indicates a modified construction of the lower end thereof. Fig. 4 is a horizontal section, somewhat enlarged, through the discharge-spout of the funnel at a point slightly above the lower end of same. Fig. 5 is an enlarged detached view of the glass tube with the float therein and the clamping members for securing said tube, the float being shown in vertical section and the glass tube and clamping members being shown as partly broken away and partly in section; and Fig. 6 is a horizontal section through the funnel at a point above the discharge-spout of same and indicates a modified arrangement of the clamping members whereby vertical sections of the glass tube are exposed both within and without the funnel.

In the drawings, 10 designates the body of the funnel; 11, the discharge-spout of same; 12, the glass tube having openings 13 14, respectively, at its upper and lower ends; 15, the glass float within said tube 12, and 16 the clamping members which engage said tube at its opposite sides and maintain the same in position, the said clamping members 16 being secured to or formed with the inner side of the vertical edge 17 of the funnel.

The body 10 of the funnel extends laterally to one side of the vertical plane of the spout 11, thereby forming at one side of the funnel the vertical straight edge 17, and within the funnel along this vertical portion thereof are secured the sheet-metal clamping members 16, which have a spring action toward each other and are formed on curved outlines in cross-section, whereby said members 16 are enabled to clamp against and firmly hold the glass tube 12, which is inserted between them. The clamping members 16 may be formed from a split tube, as shown in Fig. 4, or the said members may be otherwise formed, as may be desired; but however formed said members will expose a vertical section of the glass

tube 12, so that the position of the float within said tube may be readily observed. The tube 12 is a plain straight tube whose walls at the ends of the tube curve inwardly, so that the ends of the tube are rounded, and in these rounded ends are the apertures 13 14. The ends of the clamping members 16 lap over upon the rounded ends of the glass tube 12, and thus aid in preventing said tube from moving vertically from between said members 16. The float 15 is inserted within the tube 12 prior to the closing inwardly of the walls at the end of the tube, and said float is larger in diameter than the apertures 13 14, whereby the said float is prevented from escaping from the tube and is caged within the latter. The aperture 14 admits the liquid to the tube 12 for positioning the float 15, and the aperture 13 constitutes an air-vent. The float 15 has an enlarged body, from which the neck 18 extends upwardly and is surmounted by a bulb 19, as more clearly shown in Fig. 5, this bulb 19 constituting the upper end of the float and being the part which the user of the funnel will observe in determining the level of the liquid within the vessel, which in Fig. 1 is indicated at the numeral 20. I employ a glass tube 12 and a glass float 15, so that there may be no friction between the surfaces of the float and the tube and so that float may be observed in its movement along said tube.

I provide along the exterior surface of the spout 11 a series of spaced annular lines or ridges 21, which may be marked, if desired, with numbers or other indicating characters, and along the inner surface of the body of the funnel I provide a corresponding series of lines or ridges 22, which may be correspondingly marked by numerals or other indicating characters, if desired, and these indicating-lines 21 22 serve to aid the user of the funnel in ascertaining when the proper quantity of liquid has entered the vessel. The funnels will necessarily be employed in connection with vessels whose mouths will vary in size, and hence in the employment of the funnel the spout 11 thereof will not always be at the same depth within the vessels, by reason of which it is necessary that the user of the funnel should be able to know in the varying positions of the float due to the varying depths the spout may be introduced into the vessel when the vessel has become full, and it is for this reason that I provide the indicating-lines 21 upon the spout and the complemental lines 22 within the receiver or body of the funnel. In the position of the funnel shown in Fig. 1 the lower end of the spout up to the line 1 extends into the vessel 20, and under this condition the vessel will be indicated as full when the upper end of the float is in alinement with the line 1 of the series of lines 22. In the employment of the funnel with a vessel having a larger mouth than that shown in Fig. 1 the spout 11 might enter the vessel up to the line 4 of the series 21, and under such condition the float would ascend to the line 4 of the series 22 at the time the vessel becomes full. The funnel of my invention is thus applicable of use in connection with vessels having mouths varying in size and receiving to varying depths the spout 11 and still accurately indicate to the user of the funnel when the vessel is full, it only being necessary for the user to observe the depth to which the spout 11 may be inserted into the vessel and then see that no more liquid is poured into the vessel after the float ascends to the proper indicating-line 22 within the body of the funnel. The lines 21 22 may be as long or short as may be desired; but it is better that they be of sufficient length to be very conveniently observed.

In Fig. 3 I illustrate a modified construction of the lower end of the spout 11 in that I provide in said spout a cap 24 to receive the lower open end of the glass tube 12, this cap 24 being open, as at 25, at the side of its lower end to admit the liquid for elevating the float 15. The cap 24 aids in holding the lower end of the tube 12 and constitutes a continuation of said tube to the lower end of the spout 11.

In Fig. 6 I illustrate a further modification of the structure in that I form the clamping members 16 integrally with the body of the funnel, whereby the glass tube 12 may be exposed to view both from the inner and outer sides of said body, the formation of the members 16 in the manner indicated in Fig. 6 leaving a slot 26 in the outer wall of the funnel in line with said tube.

I regard the exposure of the glass tube 12 at both the inner and outer sides of the funnel to be of very great advantage, not only because of the convenience of being able to observe the float from either of two directions or of having one person watch the float while another is pouring into the funnel, but by reason of the fact that in such construction the light may pass through and illumine the glass tube and render the float readily observable, which is of importance at all times, and especially when using the funnel in a not very well lighted place or when a dark liquid is being poured into the funnel.

For some special uses I propose to make the entire funnel of glass.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A funnel having a body and spout, said body being set off laterally of the vertical plane of said spout whereby the funnel is given a straight edge at one side, and the material forming said body having an opening in said side, combined with a vertical tube along said straight edge and extending from said spout upwardly along said body and over said opening therein and being transparent where it may be observed within said body and from without the same at said opening, and the float

within said tube, said tube having an air-vent and an opening at its lower end and being exposed to view within said body and also, through said opening, from the outer side of same; substantially as and for the purposes set forth.

2. A funnel having a body and spout, said body being set laterally of the vertical plane of said spout, whereby the funnel is given a straight edge at one side, combined with a vertical glass tube within the funnel along said straight edge and having an air-vent in its upper part and an opening at its lower end, the float within said tube, and the clamping members secured to the funnel and engaging and holding said tube, the side of the latter being exposed; substantially as set forth.

3. A funnel having a body and spout, said body being set off laterally of the vertical plane of said spout whereby the funnel is given a straight edge at one side, combined with a vertical glass tube along said straight edge and extending from said spout upwardly along said body, and the glass float within said tube, said tube having an air-vent in its upper part and an opening at its lower end, and also having its side exposed so that the position of the float therein may be observed; substantially as set forth.

4. A funnel having a body and spout, said spout having indicating-marks denoting the extent of its insertion into the mouth of a vessel, and said body being provided with complemental indicating-marks to aid in denoting when the vessel, under the varying depths of the insertion of the spout into the same, has become full, combined with a vertical tube extending from the lower end of said spout upwardly along said body, and a float within said tube, said tube being vented and open at its lower end and adapted to expose the float when the latter ascends therein to positions along said body indicating-marks; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 23d day of January, A. D. 1905.

WHITMELL T. TALIAFERRO.

Witnesses:
CHAS. C. GILL,
ARTHUR MARION.