

W. B. CROWTHER.
Funnels.

No. 140,350.

Patented July 1, 1873.

FIG. 1.

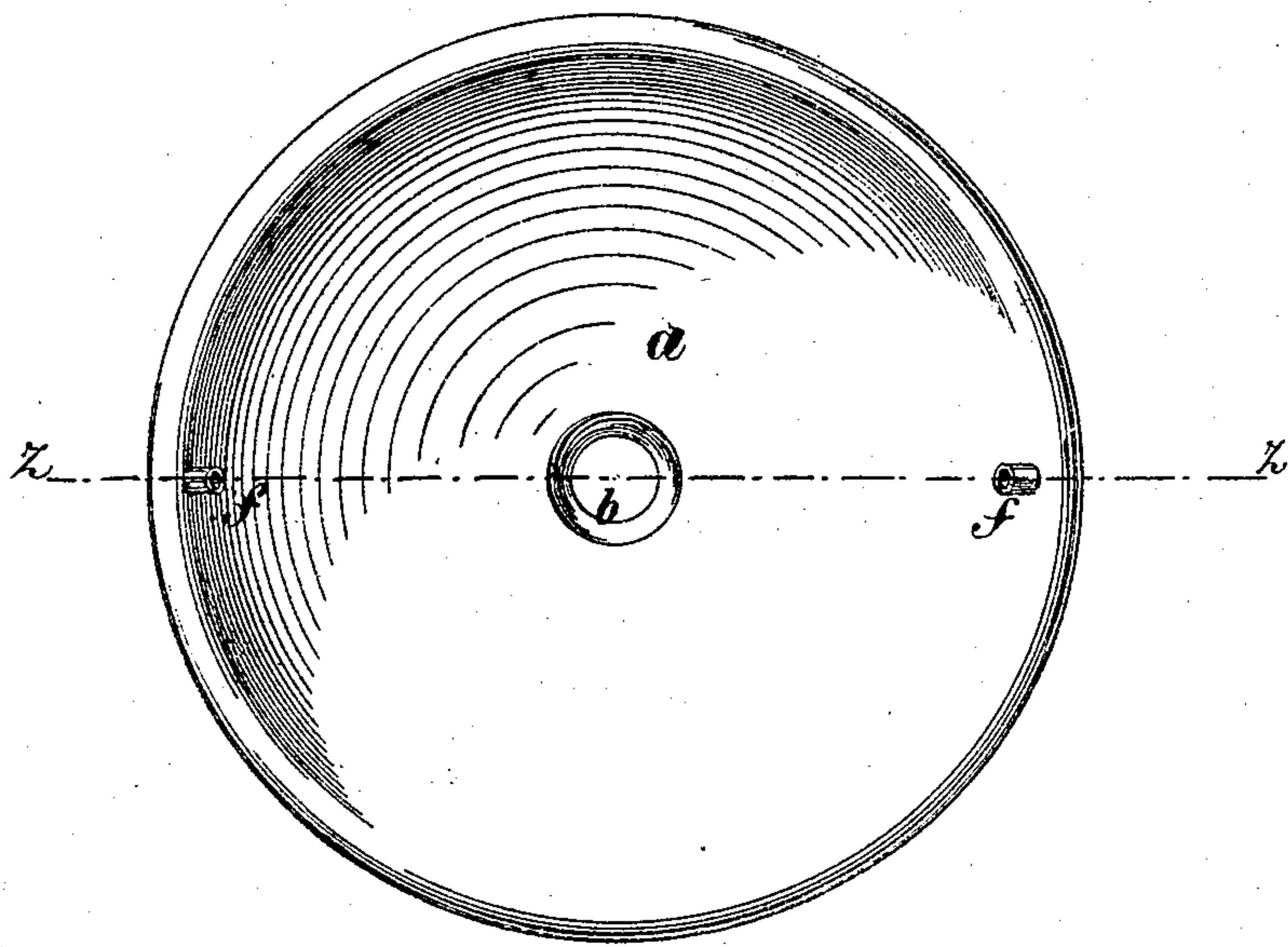
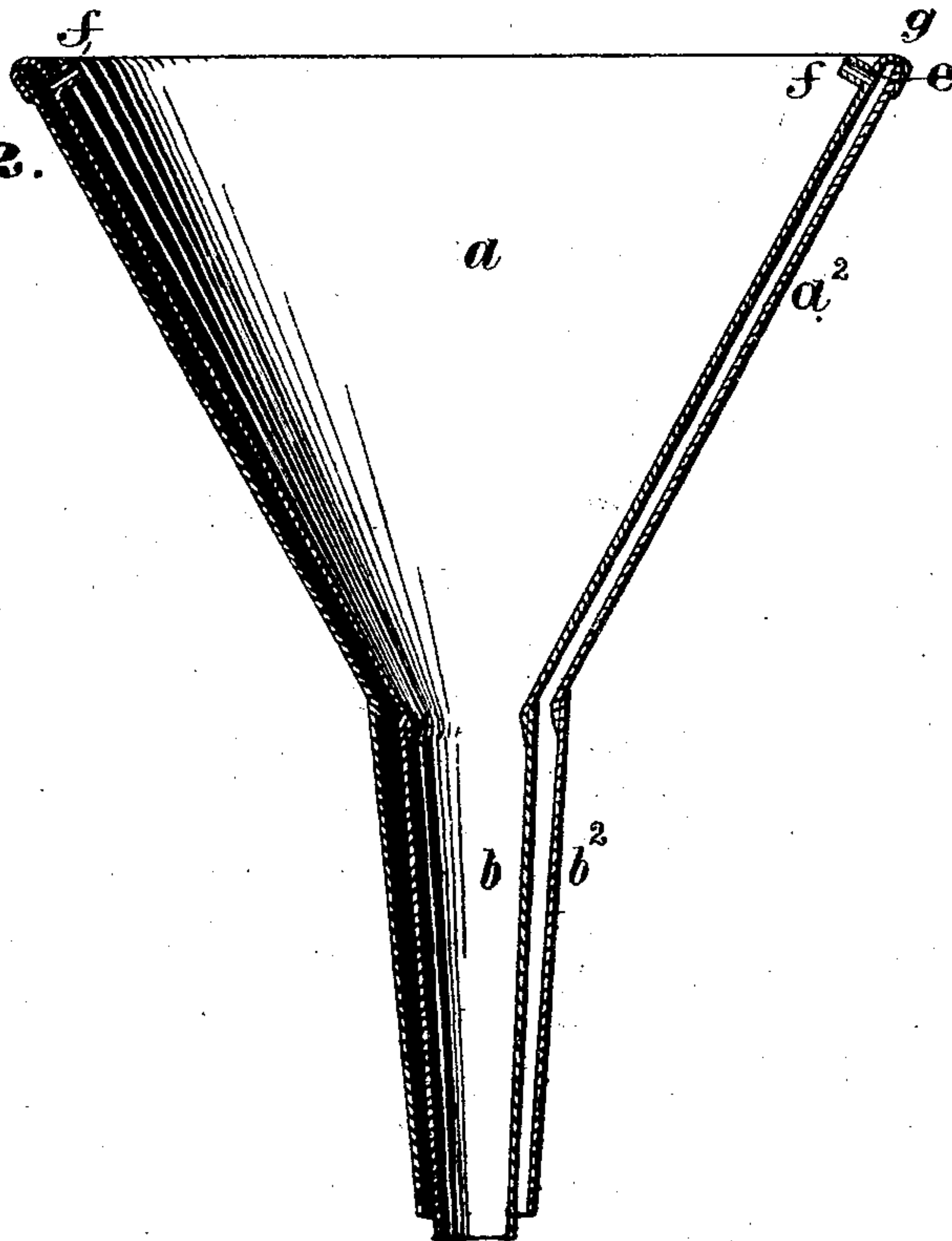


FIG. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM B. CROWTHER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FUNNELS.

Specification forming part of Letters Patent No. **140,350**, dated July 1, 1873; application filed April 22, 1873.

To all whom it may concern:

Be it known that I, WILLIAM B. CROWTHER, of the city and county of Philadelphia, State of Pennsylvania, have invented an Improved Liquid-Funnel, of which the following is a specification:

This invention relates to liquid-funnels provided with vents for the escape of air displaced in filling vessels. The invention consists in a double funnel with air-vent space between its walls, formed in a peculiar manner, and provided with inwardly-projecting nozzles or discharges, as hereinafter described.

Figure 1 is a plan view of the improved funnel. Fig. 2 is a longitudinal section of the same on the line $z z$, Fig. 1.

A conical cup, a , and a conical tube, b , are made and united to form a liquid-funnel of common shape. To provide for the escape of displaced air from the vessels being filled I employ a supplemental cup, a^2 , and tube b^2 , enveloping the funnel proper, so as to form a double funnel with a continuous air-space between its walls. The outer tube is made shorter than the inner one, and both the cup and tube are supported vertically and laterally, and a neat finish is made by a curved outwardly-projecting flange, g , at the upper edge of the inner cup a , embracing the outer cup and soldered thereto, as shown in Fig. 2. One or more perforations, e , in the inner cup, and inwardly-projecting nozzles f , discharge any liquid which may be forced up through the air-passages back into the funnel. Any waste of the liquid is thus avoided, and the outer surfaces of the funnel and vessel are protected from the wetting they otherwise receive

in the filling operation. The double funnel is smoother and stronger than the common single form, and furnishes a larger air-passage than is otherwise practicable; and by the improved construction it is adapted to be cheaply manufactured, and its parts are firmly supported without the aid of stays. The improved funnel may be made of lead-lined copper, tin, or other suitable sheet-metal.

The provision of funnels with air-vents is known to be old, and it is known that these vents have been formed or arranged within the funnels. The arrangement of a supplemental funnel within or around another to form an air-space is also known to be old, the said supplemental funnel being detachable and supported by ribs or stays and catches. In the first-named class of funnels it has not been found practicable to extend the tube to the top of the receptacle, and the latter could not therefore be filled. The latter class are costly, and are rendered inoperative by the misplacement of either part, and they also, necessarily, have vents a considerable distance below the top or on the outside.

The following is claimed as new, namely—

The improved funnel herein described, composed of cups $a a^2$ and tubes $b b^2$, united by a curved marginal flange, g , on the inner cup, embracing the upper edge of the outer cup, the inner cup being further provided with inwardly-projecting vents $e f$, (one or more,) for the purpose set forth.

WM. B. CROWTHER.

Witnesses:

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