J. E. W. & C. E. RICHARDS.

FUNNEL.

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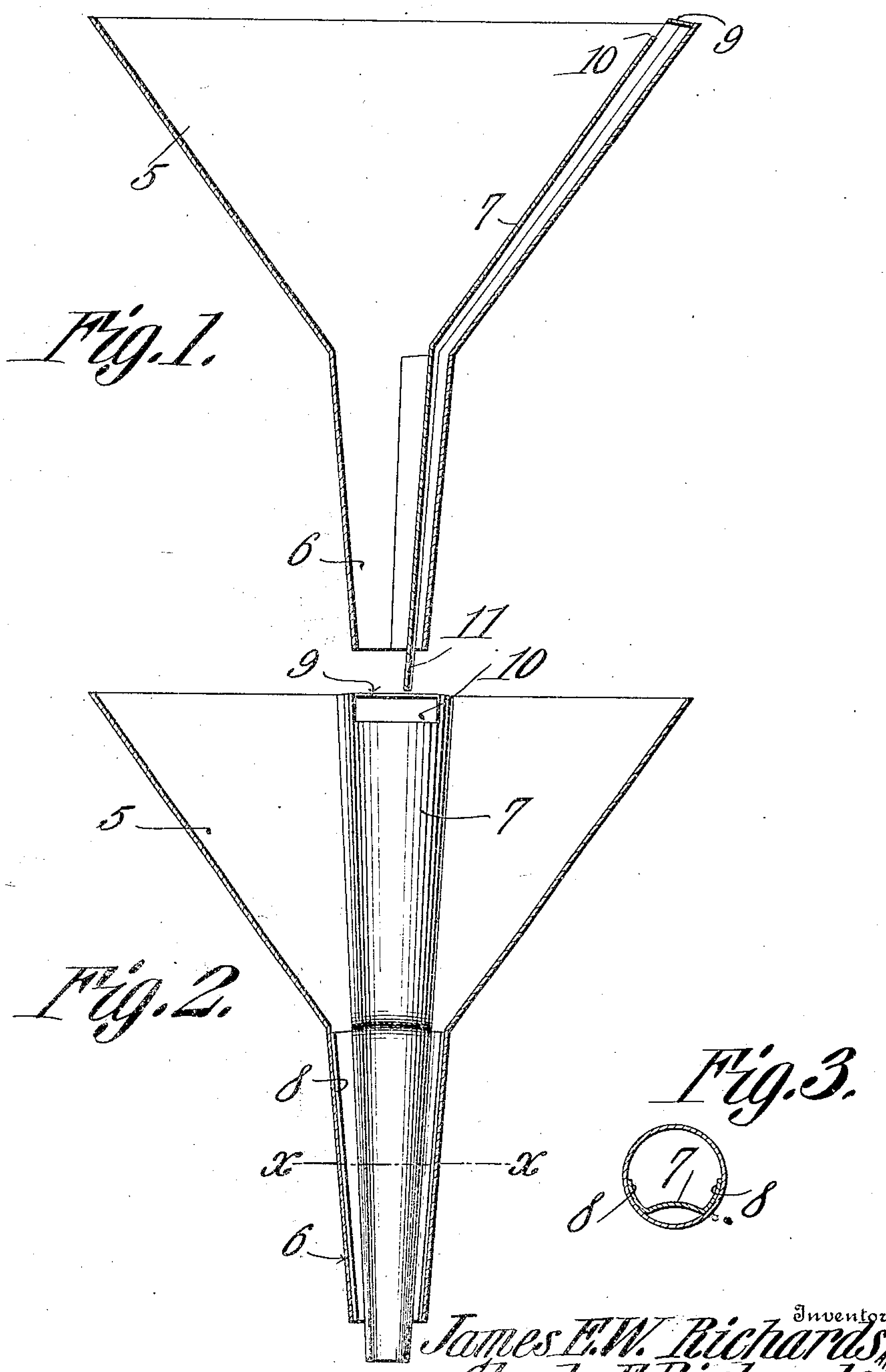
951,843. Patented Mar. 15, 1910.



Witnesses

[signature]

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UNITED STATES PATENT OFFICE.

JAMES E. W. RICHARDS AND CHARLES E. RICHARDS, OF ARAPAHOE, NEBRASKA.

FUNNEL.

951,843. Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed April 23, 1909. Serial No. 491,690.

To all whom it may concern:

Be it known that we, JAMES E. W. RICHARDS and CHARLES E. RICHARDS, citizens of the United States, residing at Arapahoe, in the county of Furnas, State of Nebraska, have invented a new and useful Funnel, of which the following is a specification.

It is the object of the present invention to provide an improved construction of funnel and more specifically to provide a funnel having a vent so arranged and constructed as to obviate interference of the liquid, passing through the funnel, with the air escaping from the vessel into which the liquid is being poured: Ordinarily, such funnels are constructed with their vent tubes or similar devices terminating at the lower end of their necks, but such a construction is undesirable inasmuch as the air escaping upwardly through the vent in the neck is liable to and as a matter of fact does interfere with the passage of the liquid through the neck and into the vessel into which it is being poured.

In the accompanying drawings, Figure 1 is a vertical sectional view through a funnel constructed in accordance with the present invention, the section being taken in a plane passing through the vent of the funnel. Fig. 2 is a view similar to Fig. 1 but taken in a plane at right angles to the plane of Fig. 1 and showing the air vent tube in elevation, and Fig. 3 is a horizontal sectional view through the neck of the funnel.

In the drawings, the body of the funnel is indicated by the numeral 5 and the neck thereof by the numeral 6, both the body and the neck being of frusto-conical shape as is clearly shown in Figs. 1 and 2 of the drawings, as is common in funnels of the ordinary type.

As heretofore stated, and as will be observed from an inspection of the several views of the drawings, the exterior surface of both the body and the neck of the funnel is plane or in other words unbroken, so that the neck of the funnel, owing to its shape, is adapted to be fitted snugly into the neck of a bottle or other vessel into which liquid is to be poured. While this feature is common in nearly all ordinary funnels, the advantages thereof as related to the present invention are other than those which ordinarily accrue from such construction.

As heretofore stated, the funnel embodying the present invention embodies a vent tube for the escape of air from the vessel into which the liquid is being poured, and this tube is formed by securing, by soldering or otherwise, to the inner surface of the body 5 and neck 6 of the funnel, a strip of sheet metal or other material of which the funnel itself may be made, which strip is indicated by the numeral 7 and is convexed transversely throughout its length as is clearly shown in all of the figures of the drawing, it being soldered at its edges to the interior surface of the body 5 and also to the interior surface of the neck 6 although it is preferable that flanges 8 be provided along those edges of the strip which are secured to the said interior surface of the neck, these flanges being soldered or secured in any other suitable manner to the said surface of the neck. It will be observed from an inspection of the drawings and principally Fig. 3 thereof that the strip, owing to its transverse curvature, forms, in conjunction with the said surface of the body 5 and neck 6, a tube or vent tube as it will be termed in the claim.

It is preferable in constructing the funnel embodying the present invention, that the upper end of the vent tube just described, be closed and to this end, the strip comprising the tube, in part, is provided or has secured thereto at the said upper end a small sheet or flange of the material of which the tube and funnel is made, indicated by the numeral 9, this sheet or flange being secured also to the inner surface of the body 5 of the funnel at the extreme upper end thereof. In order however that the air which escapes from the vessel by way of the tube may have ready exit, the tube at its said upper end and immediately below the strip or flange formed or secured thereto, is provided with a slot 10 which extends transversely thereof and through which the air may escape. At its lower end, the strip 7 projects downwardly below the lower end of the neck 6 of the funnel to an appreciable degree, still retaining its convexity and it is this projection of the strip below the lower end of the neck of the funnel that prevents interference of the outrushing air with the fluid passing through the neck of the funnel, as heretofore stated in the statement of the advantages of the invention, it being understood that ordinarily such funnels are constructed with the lower end of the vent terminating at the lower end of the neck of the funnel.

From the foregoing description of the invention, it will be understood that any liquid introduced into the funnel will flow through the neck 6 thereof into the receptacle into which the said neck is inserted and that the air contained in the said receptacle or vessel will escape therefrom by way of the air vent tube heretofore described, and it will be further understood that the downwardly projecting lower end portion of this tube or rather the strip forming a portion thereof, effectually prevents interference of the outrushing air with the inflowing liquid, and that consequently the liquid will flow more freely through the funnel than would be the case were the vent terminated in a plane with the lower end of the neck of the funnel. It will further be understood that inasmuch as the neck of the funnel is frusto-conical in form and has its outer surface practically unbroken, it may be fitted snugly within the mouth or neck of a bottle or other suitable vessel to be filled and that also inasmuch as the air vent tube is located at one side only of the funnel and is provided with the downwardly projecting shield portion, which is indicated in the drawings by the numeral 11, should the bottle or other vessel become filled to overflowing, some of the liquid contained therein may be readily poured therefrom through the funnel and without removing the funnel and wasting any of the liquid and this may be accomplished merely by tilting the vessel so as to bring the air vent tube uppermost.

What is claimed is:—

A funnel having a strip secured upon the inner surface thereof and extending downwardly and below the lower end of the neck thereof and coöperating with the said inner surface of the wall of the funnel to afford a vent, the upper end of the vent tube thus formed being closed and the strip being slotted substantially throughout its width, the lower end of the strip being convexed and extended below the lower end of the neck of the funnel with its concave or open side presented away from the axis of the funnel.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

JAMES E. W. RICHARDS.
CHARLES E. RICHARDS.

Witnesses:
W. H. Bomrell, Jr.,
John H. Mooney.