(No Model.)

R. RAHN.

FUNNEL.

No. 473,081. Patented Apr. 19, 1892.

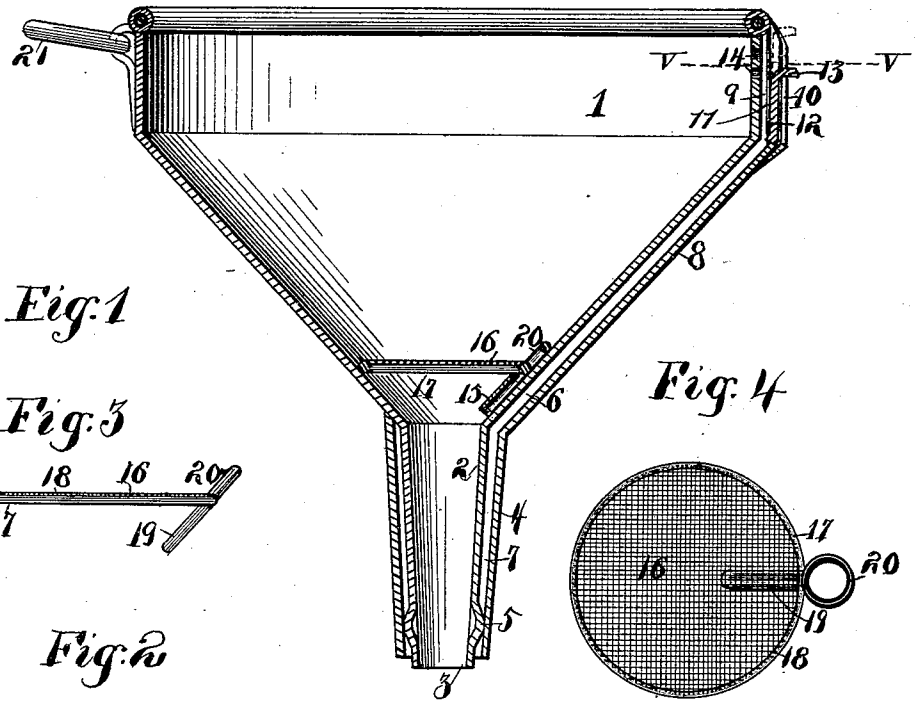


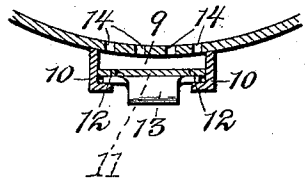
Fig. 1

Fig. 3

Fig. 2

Fig. 4

Fig. 5.



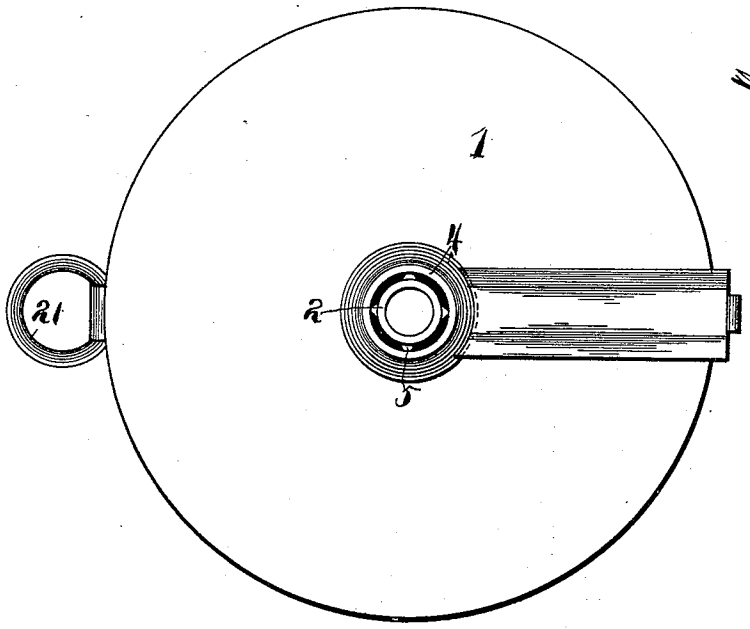
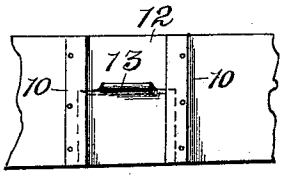


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

RUDOLPH RAHN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-FOURTH TO EMILE GISI, OF SAME PLACE.

FUNNEL.

SPECIFICATION forming part of Letters Patent No. 473,081, dated April 19, 1892.

Application filed November 2, 1891. Serial No. 410,576. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH RAHN, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Funnels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in funnels; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a vertical section of my complete invention. Fig. 2 is a bottom plan view thereof. Fig. 3 is a side elevation of the sieve which I employ in connection with my invention, and Fig. 4 is a top plan view of the same. Fig. 5 is a section on line V V, Fig. 1. Fig. 6 is a front elevation of the parts shown in Fig. 5.

The object of my invention is to construct a funnel that will discharge the air contained in a bottle or receptacle to which the funnel is attached, and thereby allow the space contained in said bottle or receptacle to be displaced by the liquid, the construction of which I will hereinafter more fully describe.

My invention also consists in providing said funnel within the region of its mouth with a detachable sieve for preventing foreign substances, dirt, or other accumulation from passing through the mouth of the said funnel and into the bottle or receptacle with the liquid.

Referring to the drawings, 1 represents a conical vessel—that is, one having entrance—within which the liquid is placed before being discharged into the bottle or receptacle, and 2 is a tapering tube, which is attached to the converging portion of said vessel, which forms a mouth 3, through which the liquid is discharged. Around the tube 2 is a second tube 4, which forms an annular space between said tube 4 and tube 2, within which space the air issuing from the bottle or receptacle is adapted to pass.

In order to hold the tube 2 in its proper position and relation to the exterior tube 4, the said inner tube is provided with projections 5, which are interposed between the said inner and exterior tube. Leading from the exterior tube 4 is a passage 6, which is in communication with the passage 7, formed by the interior and exterior tubes 2 and 4.

The passage above described or that shown at 6 is only of such a size as to answer the purpose for which it is designed—that is, to carry off the air or liquid, as the case may be—the construction of which is shown in Figs. 1 and 2 of the drawings. The walls or casing 8, which constitute and form the passage 6, is secured to the conical vessel in any mechanical way, but preferably by soldering. The upper end of the passage 6 leads to a vertical passage 9, which is formed by walls 10 and also by the side of the vessel 1.

11 represents an opening which is formed in the vertical walls of the passage 9 and to which walls strips 12 are secured to the interior sides of the said walls 10, which form guides within which a sliding door 13 moves, and which door is adapted to close the opening 11, thereby preventing the liquid from passing out of said opening or space when the bottle or receptacle is filled. Adjacent to the space 9 or passage and through the vertical wall of the vessel 1 are formed any number of openings or perforations 14, through which the air in some instances may pass; or should the bottle or receptacle overflow with the liquid the same would pass through said openings 14 and back into the funnel 1.

From the foregoing description it will be seen that it is only necessary to open the slide-door 13 when it is desired to clean the passage 6 and its adjacent passage—namely, 7—in order to move dirt or other accumulations that may lodge in said passages.

To the interior surface of the conical vessel 1 and adjacent to the mouth 3 of the funnel is secured a vertical cleat or socket-piece 15, which holds the removable screen 16, the construction of which will be hereinafter described.

The screen 16 is constructed in the form of a circle and is composed of a circular bar of metal or wire 17 of such a size as to fit that portion of the vessel to which it is adapted to come in contact with. To the ring 17 and to the top surface thereof is secured a wire screen 18, which is soldered to said ring, or may be secured thereto in any other mechanical man-

ner. Attached to the under surface of the ring 17 and depending therefrom at an angle is a finger or bar 19 of sufficient size as to easily pass into the cleat 15, carried by the vessel 1, whereby the screen is held securely in position within the vessel 1, and at the same time can be easily removed therefrom. To the upper surface of the ring 17 is attached a ring 20, by which means the screen is manipulated.

To one side and to the exterior surface of the vessel 1 is secured a ring 21, by means of which the funnel may be handled or hung.

From the foregoing description it will be seen that should the bottle or receptacle overflow when liquid is passed therein through the funnel the said liquid will also pass up the passages 7 and 6 to the openings 14, where the liquid will again be passed into the vessel 1. However, it is to be observed that when the liquid first passes into the bottle or receptacle from the funnel air will pass from said bottle or receptacle through the passages 7 and 6 through openings 14.

Having fully described my invention, what I claim is—

1. A funnel having a tube provided with projections around its lower end, an outer tube surrounding the mouth portion of the former or inner tube, thereby forming a space between said mouth and outer tube, and a passage leading therefrom and opening into the body portion of the funnel, substantially as set forth.

2. A funnel provided with a vertical cleat or socket-piece on its inner side, in combination with a removable screen located in the funnel, a finger or bar projecting downwardly from the screen and received by said cleat or socket-piece, and a manipulating device at the top of the screen, whereby the finger or bar may be withdrawn from the cleat or socket-piece, substantially as set forth.

3. A funnel comprising a vessel 1, provided with holes 14, through which air or liquid is adapted to pass, a mouth, such as 3, a tube 4, surrounding said mouth and forming a space 7, an outer wall 8, applied to the funnel, forming a space 6, leading to and connected to space 7, and a sliding door 13, adapted to close an opening formed in the passage 6 opposite the holes 14, substantially as set forth.

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

RUDOLPH RAHN.

Witnesses:

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ALFRED A. EICKS.