(No Model.) 2 Sheets—Sheet 1.

C. XANDER & W. THOMAS.

FUNNEL.

No. 402,379. Patented Apr. 30, 1889.

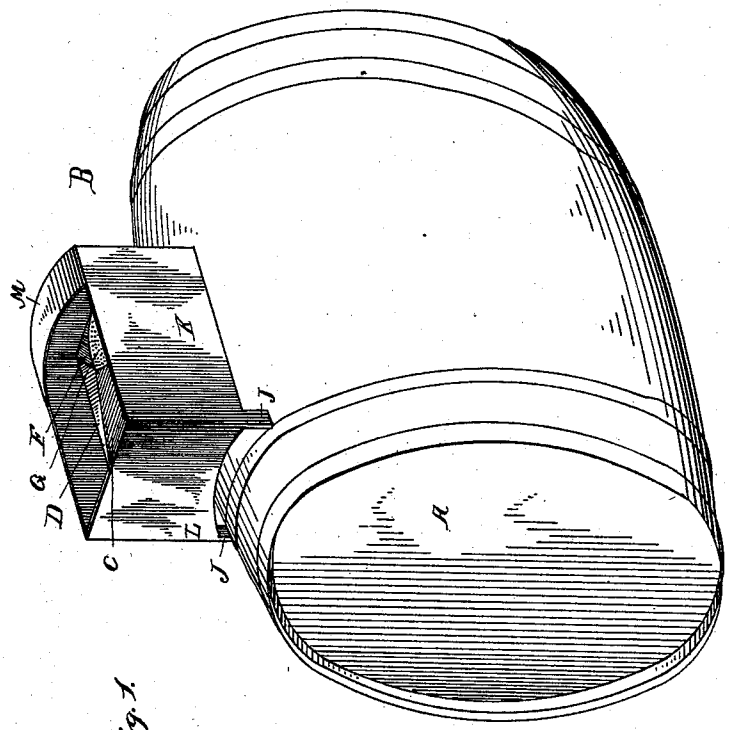


Fig. 1.

WITNESSES
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(No Model.) 2 Sheets—Sheet 2.

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FUNNEL.

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Fig. 2.

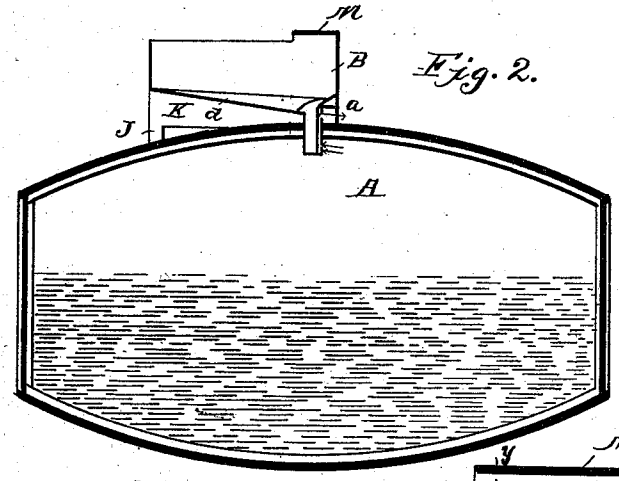


Fig. 3.

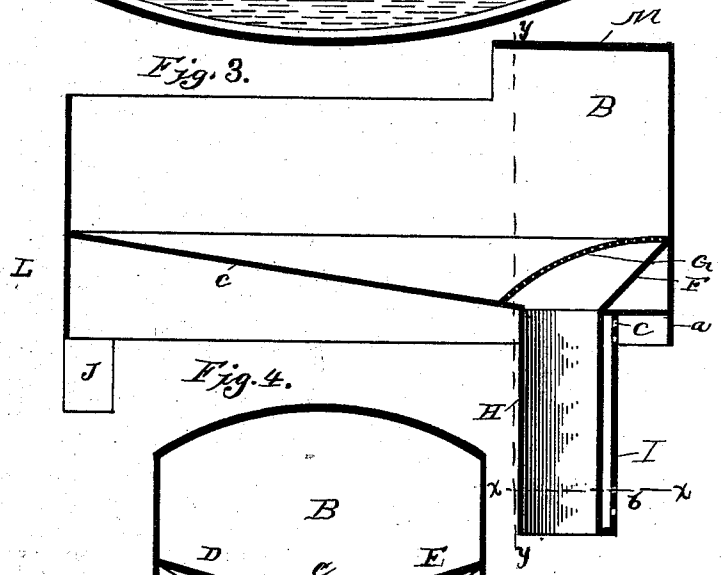


Fig. 4.

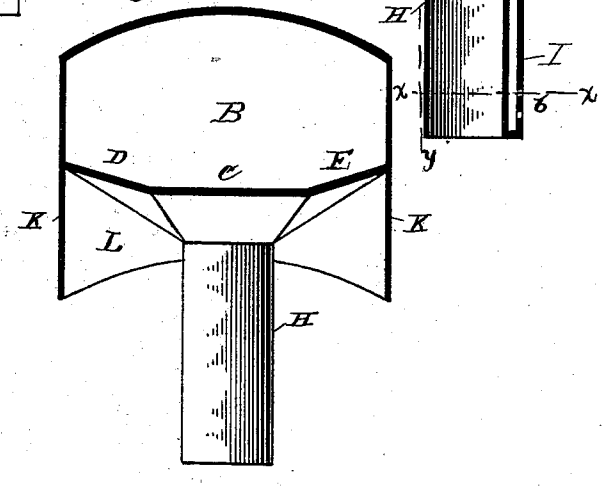
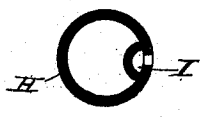


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHRISTIAN XANDER AND WILLIAM THOMAS, OF WASHINGTON, DISTRICT OF COLUMBIA.

FUNNEL.

SPECIFICATION forming part of Letters Patent No. 402,379, dated April 30, 1889.

Application filed June 14, 1888. Serial No. 277,119. (No model.)

To all whom it may concern:

Be it known that we, CHRISTIAN XANDER and WILLIAM THOMAS, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Vessels or Funnels for Filling Barrels; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention has relation to vessels or funnels for filling barrels.

Heretofore funnels have been made round, or the shape of an inverted cone, gradually enlarging from its small point to its mouth. The objections to this class of funnels for filling barrels are, first, they wabble about in the bung-hole and frequently tilt to one side, spilling the liquid, and thus causing waste. Another objection is that they cannot be made sufficiently large to hold large quantities of liquid without danger of spilling, so that much valuable time is lost in holding the bucket full of liquid until it slowly passes through the funnel; neither can the round conical-shaped funnel be used to hold the weight of an emptying-bucket without danger of tilting it over or spilling the contents; nor is it well adapted to give full vent to the escaping air necessary in filling large barrels in a rapid manner. To overcome these objections and to facilitate the transfer of liquid rapidly from one barrel to another are the objects of our invention; and also to produce a vessel that will be safe and steady, and which is designed to hold a bucket full of liquid to be run into the barrel while the attendant is drawing off another, thus saving time and preventing waste.

To these ends our invention consists in constructing a vessel or box of any suitable material in such manner that its contents will readily flow into a barrel, cask, or the like, said vessel to have inclined bottom, but horizontal on its top, whereby when the liquid is poured into it it will not overflow in any direction, the vessel being so constructed as to set firmly on the barrel, and in further details of construction, as will be hereinafter described, and pointed out in the claims.

In the drawings the same letters will indicate like parts throughout all the figures.

Figure 1 is an illustration in perspective of a barrel with my invention attached. Fig. 2 shows a longitudinal vertical section of a barrel with the filling-vessel in position in the act of operation. Fig. 3 is an enlarged view in longitudinal section. Fig. 4 is a cross-section taken on the line *y y* of Fig. 3; and Fig. 5 is a transverse section on the line *x x* of Fig. 3, showing the vent-tube for the escape of air from the barrel when being filled.

A is the barrel; B, the filling-vessel or funnel. C is the inclined bottom; D E, the inclined bottom sides, and F the rear inclined plate. G is the screen, the perforation exceeding in the aggregate the area of the funnel-nozzle.

H is the funnel-nozzle, which extends into the bung-hole of the barrel, and I is the vent-tube provided with induction and eduction ports. This tube is entirely independent of the filling-nozzle, and by its construction the usual air-bubble is entirely prevented, and by which the liquid is permitted to have free access into the barrel. The vessel is provided with legs or other support J, by which it is made to set in a horizontal position on the barrel. The sides K of the vessel are parallel and extend below the bottom thereof. These sides serve as strengthening-pieces. The ends L of the vessel B are concave, so as to fit the contour of the barrel, and the ends *a* serve as supports, the same as the legs do for the front ends. Thus the vessel or funnel sets firmly on the barrel without wabbling or shaking, and is made sufficiently strong to bear without injury weight equal to five gallons of liquid.

The rear end of the vessel is provided with a crown or cap piece, M, which extends well over the screen and nozzle, so that the liquid, if poured in rapidly, cannot dash over, thereby preventing a great waste.

The operation of the invention is as follows: The vessel being placed on the barrel, with the nozzle of the funnel in the bung-hole, the liquid is poured into the vessel. The liquid now runs through the strainer, which traps any foreign matter, sedimentary de-

posits, or the like. As the liquid fills into the barrel, the displaced air escapes through the ports *b c*, and the bottom having an inclination from all sides toward the funnel-nozzle no liquid remains in the vessel. The bottom being formed of angular pieces, each piece being set at an angle against the other, adds materially to the strength of the vessel and greatly enhances its durability.

The vessels may be used in various industries as well as for the transfer of liquid from one barrel into another, of which may be mentioned druggists' mineral oils, in the mixing of paints, separating the pulp from cider, grape, or the like. It is admirably adapted for any such uses.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. As a new article of manufacture, a vessel for filling barrels, tanks, or the like, comprising a tank, constructed substantially as set forth and to rest upon the exterior of the barrel, provided with a downwardly-inclined bottom, and a funnel-nozzle extending from the lowest portion of said bottom, substantially as described.

2. A vessel for filling barrels or the like, comprising a tank, constructed substantially as set forth and provided with downwardly-extending sides or legs to hold the same in position upon the exterior of the vessel to be filled, and a funnel-nozzle extending downwardly from the bottom of said tank, substantially as described.

3. As a new article of manufacture, a vessel for filling barrels or the like, comprising a tank, constructed substantially as set forth, to rest upon the exterior of the barrel, a funnel-nozzle extending downwardly from the bottom of said tank, and a hood partially closing the top of the tank at end, constructed and arranged substantially as described.

4. A barrel-funnel comprising a tank, constructed substantially as set forth, to rest upon the exterior of the barrel, a nozzle extending downwardly from the bottom of the tank, said bottom slanting downwardly to the mouth of the nozzle from all sides, a screen permanently secured over the mouth of said nozzle, and a vent-tube for the nozzle, substantially as described.

5. The combination, in a vessel having sides and ends, of the inclined bottom terminating in a funnel-nozzle provided with an air-eduction tube, and the screen, and concave ends, substantially as described.

6. The combination, in a vessel for filling barrels, having sides and ends to fit the contour of the barrel, and provided with an angularly-inclined bottom, of a screen and funnel-nozzle, the latter having a vent-tube, substantially as described.

7. The combination, in a vessel for filling barrels and the like, provided with two parallel sides and concave ends, the former being provided with legs, whereby the vessel is kept in a horizontal position, of the angularly-inclined bottom and a funnel-nozzle, as set forth.

8. The combination, in a vessel for filling barrels, having sides and ends, as described, and a funnel-nozzle, of the hood or crown M, constructed and arranged substantially as described.

9. The combination, in a vessel for filling barrels, as described, of the inclined bottom, a funnel-nozzle, and a screen, air-eduction tube, and hood M, all operating together as set forth.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

CHRISTIAN XANDER.
WILLIAM THOMAS.

Witnesses:
OWEN E. DUFFY,
E. C. DUFFY.