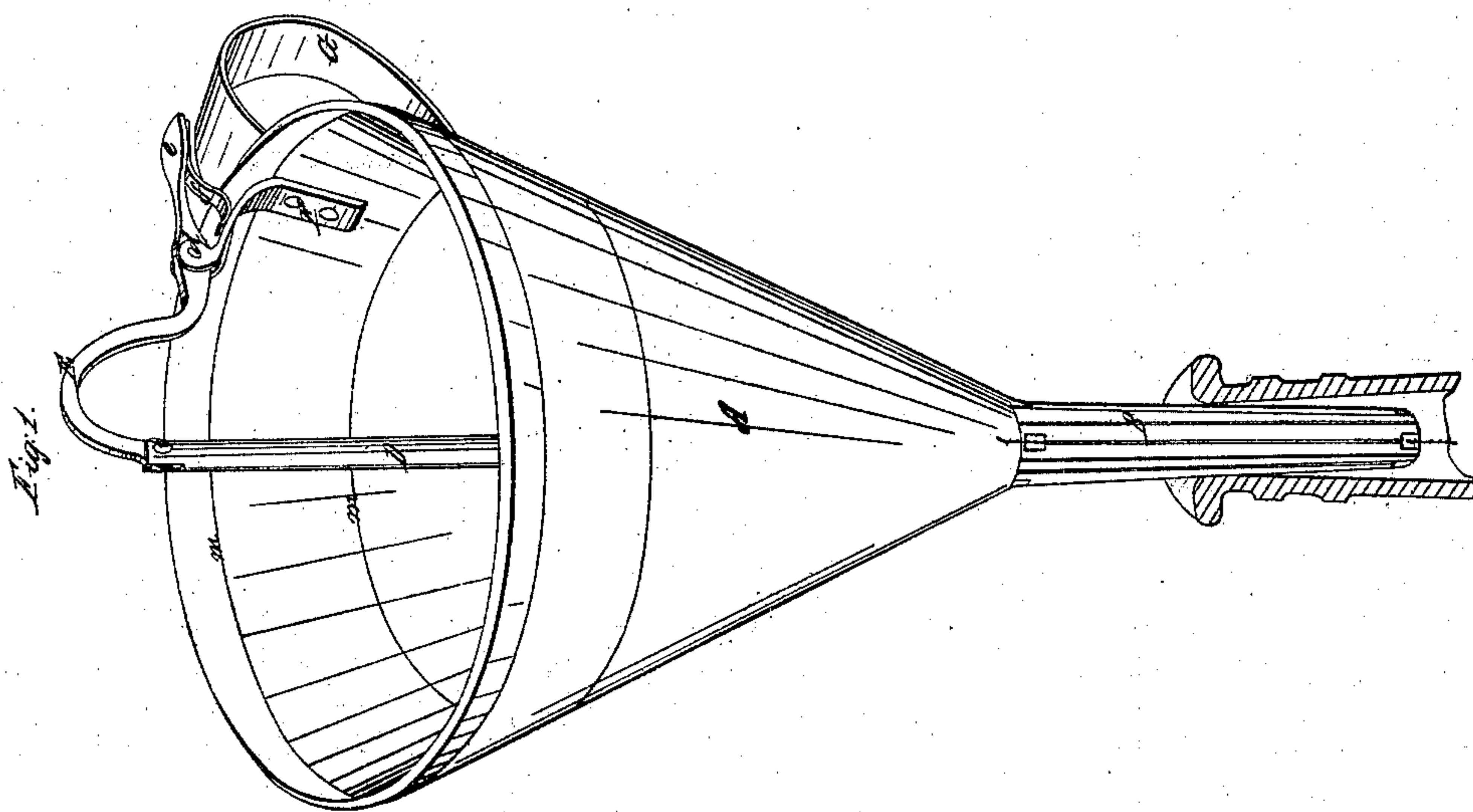
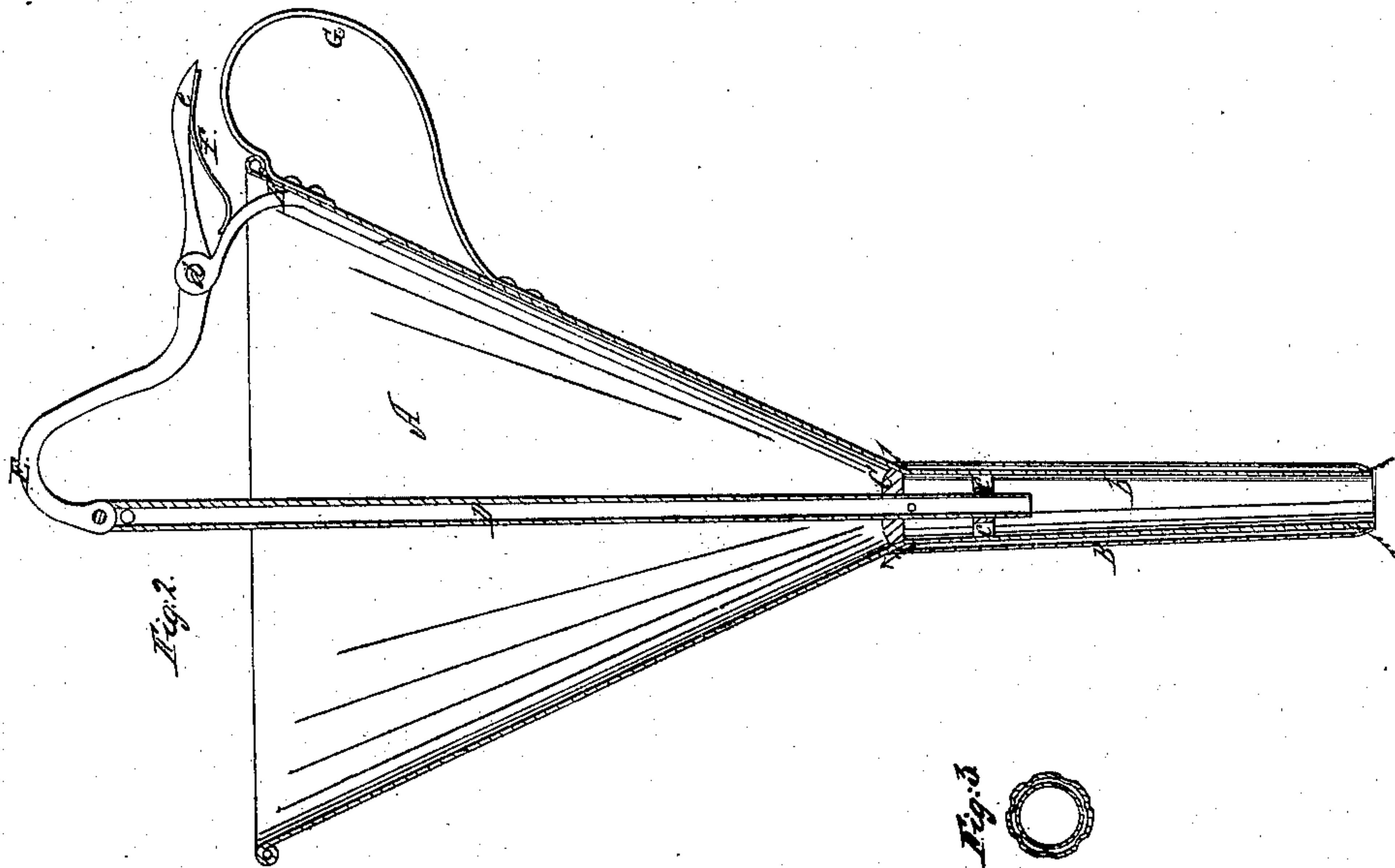


C. Schneider,
Funnel.

N^o 8,928.

Patented May 4, 1852.



UNITED STATES PATENT OFFICE.

CHRISTEN SCHNEIDER, OF WASHINGTON, DISTRICT OF COLUMBIA.

FUNNEL.

Specification of Letters Patent No. 8,928, dated May 4, 1852.

To all whom it may concern:

Be it known that I, CHRISTEN SCHNEIDER, of the city of Washington and District of Columbia, have invented a Measuring and Ventilating Funnel, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings of the same, making part of this specification, in which—

Figure 1 is a view in perspective, Fig. 2 is a vertical section, and Fig. 3 is a horizontal section.

The object of my invention is to facilitate the transferring of liquids in measured quantities from one vessel to another, and it consists of a graduated measuring vessel with a discharge tube at its bottom fitted with a valve that can be opened and closed at will, so as to hold the liquid and let it out in any given measured proportion, as may be desired; the discharge tube having two separate channels, one to convey the liquid down into the receiving vessel, and the other to allow the air displaced by the descending liquid to pass off without obstructing the descent of the liquid. A single instrument thus constructed answers the purpose of a funnel and several measures of different sizes.

In the present instance I have represented a measure in the form of an inverted frustum of a hollow cone (A) with a discharge tube (B) extending from its bottom or small end. The tube is double and the inner (b) and outer (B) parts of it are concentric and separated by an annular space which has openings outward at its upper and lower extremities to form a free passage through it. The outer part (b') of the tube may be fluted as shown in Fig. 3; the inner part should be smooth; and as a stem valve is in this case represented, a cross bar (c) should be secured in the tube with a hole in it to guide the lower end of the stem. The seat of the valve (C), which is of the conical variety, is at the junction of the tube (B) with the bottom of the measure (A); the stem D of the valve is hollow, and extends upward above the top of the measure, and its upper end is jointed to a thumb lever E which turns on a pivot *d* in a bracket F secured to the upper edge of the vessel, the under side of the thumb piece (e) of the lever is fitted with a spring (f) which constantly tends to press it upward.

The outside of the measure has a handle

G fitted to its upper edge, beneath the thumb piece (e) of the lever (E) so that while the fingers are grasping the handle to support the instrument, the thumb may be applied to the lever to depress it for the purpose of lifting the valve to permit the discharge of the liquid.

The inside of the vessel is graduated by a series of lines (*m*) one above another; each line is at the height at which the surface of the measure of liquid which it denotes, would stand if poured into the vessel. In the drawing the vessel is represented with a scale of two divisions, the upper line denoting a pint and the lower half a pint. Any number of divisions and subdivisions may however be made that may be desired or required.

If it should be preferred, the scale of measures may be graduated upon the valve stem instead of on the sides of the vessel, or it may be graduated upon both.

The form and material of the instrument may be greatly varied without affecting the principle on which it is constructed, but for general purposes the form I have represented I believe to be the best. So also any kind of valve may be used that is deemed suitable for the purpose and it may be arranged and operated in any convenient way, the present being merely intended as an example of a convenient arrangement.

To use this combined measure and funnel the exact quantity of liquid it is desired to transfer from one vessel into another may be poured into it or a promiscuous quantity may be poured into it and the exact measure noted. In the first case it will be merely necessary to insert the tube into the neck of a bottle, which for the purpose of illustration we will suppose the receiving vessel in this case to be, and then to depress the thumb piece (e) of the lever E to raise the valve C when the liquid will descend into the bottle while the air within the bottle which the liquid displaces will pass up through the annular channel as indicated by the red arrows. When the bottle is filled above the lower end of the tube so as to close the entrance into the annular air passage the narrow spaces formed by flutes on the outside of the tube will afford sufficient room between the tube and neck of the bottle for the escape of the small remaining quantity of air.

When it is required to transfer into a bot-

tle a given measure from a large quantity
contained in the funnel, the latter quantity
must be noted and after entering the tube
B into the neck of the bottle, the valve
5 must be opened by pressing down the thumb
piece (e) of the lever E until the surface of
the liquid has settled in the vessel a dis-
tance equal to the quantity required to be
discharged, when the pressure is removed
10 from the thumb piece and the spring throws
it up instantly to close the valve; the tube
may now be withdrawn from the bottle and
inserted into another and the remainder of
the liquid, or any portion thereof may in
15 like manner be measured into the second
bottle. In this way by once filling the
measure several smaller bottles, or other ves-
sels may have equal or varying quantities of
the liquid measured into them. When a
20 part only of the contents of the funnel are
discharged, if the air could not find free ad-
mission to the upper end of the tube (B),
the pressure of the atmosphere would be

very apt to cause the liquid in the act of
running through the tube at the instant the 25
valve closed to hang and this would not
merely prevent the transference of an exact
measure of the liquid into the receiving ves-
sel, but it would also be the cause of con-
siderable waste, as the jarring of the tube 30
in the act of removing it from the neck of
a bottle would frequently cause the liquid
to be suddenly and unexpectedly discharged.
The ventilation through the hollow stem of
the valve prevents this difficulty. 35

What I claim as my invention and desire
to secure by Letters Patent is the measur-
ing funnel constructed substantially as
herein set forth, with an interior ventilating
tube to admit air beneath the valve. 40

In testimony whereof I have hereunto
subscribed name.

CHRISTEN SCHNEIDER.

Witnesses:

P. H. WATSON,
E. S. RENWICK.