

No. 764,422.

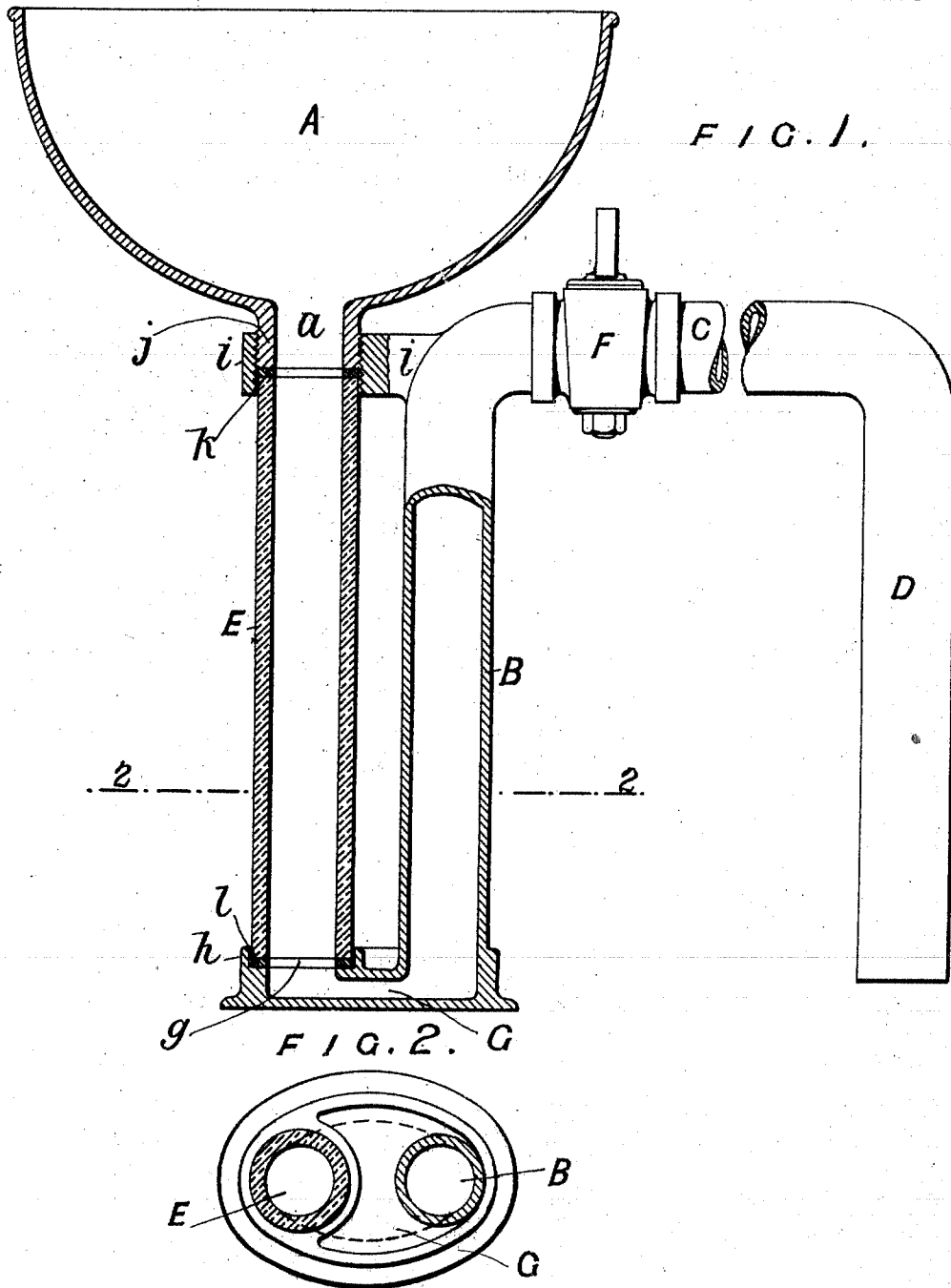
PATENTED JULY 5, 1904.

W. E. BURGESS.
FUNNEL.

APPLICATION FILED MAR. 4, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES :

W. M. Avery

A. H. Davis

INVENTOR

William Edward Burgess

BY

Mumford

ATTORNEYS.

No. 764,422.

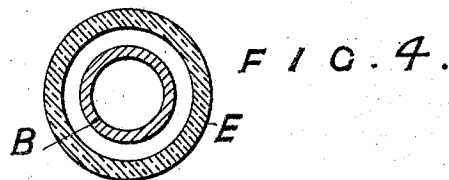
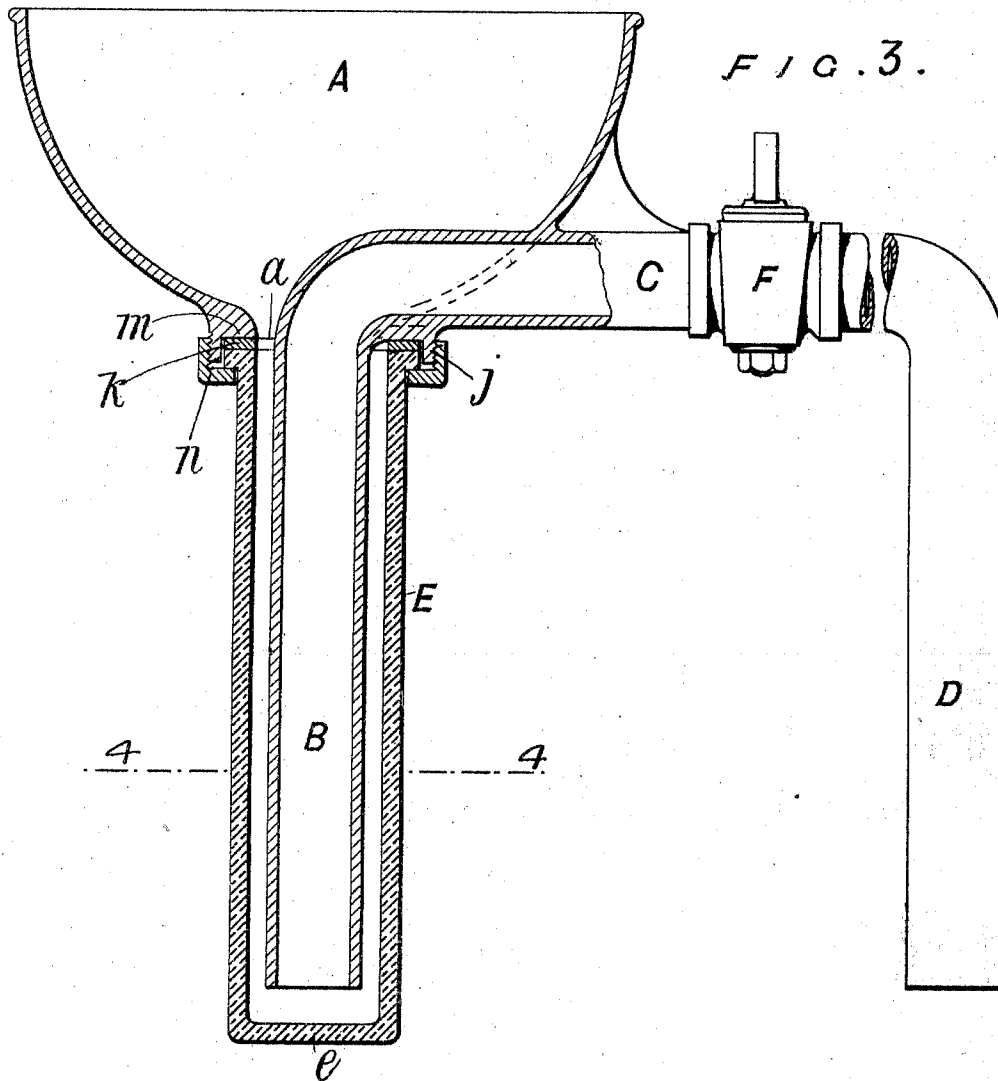
PATENTED JULY 5, 1904.

W. E. BURGESS.
FUNNEL.

APPLICATION FILED MAR. 4, 1904.

NO MODEL.

3 SHEETS—SHEET 2.



WITNESSES :

W. M. Avery

A. C. Davis

INVENTOR

William Edward Burgess

BY

Munn

ATTORNEYS.

No. 764,422.

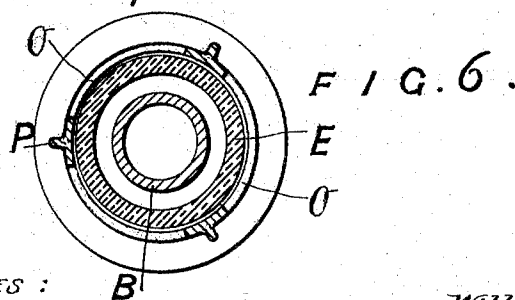
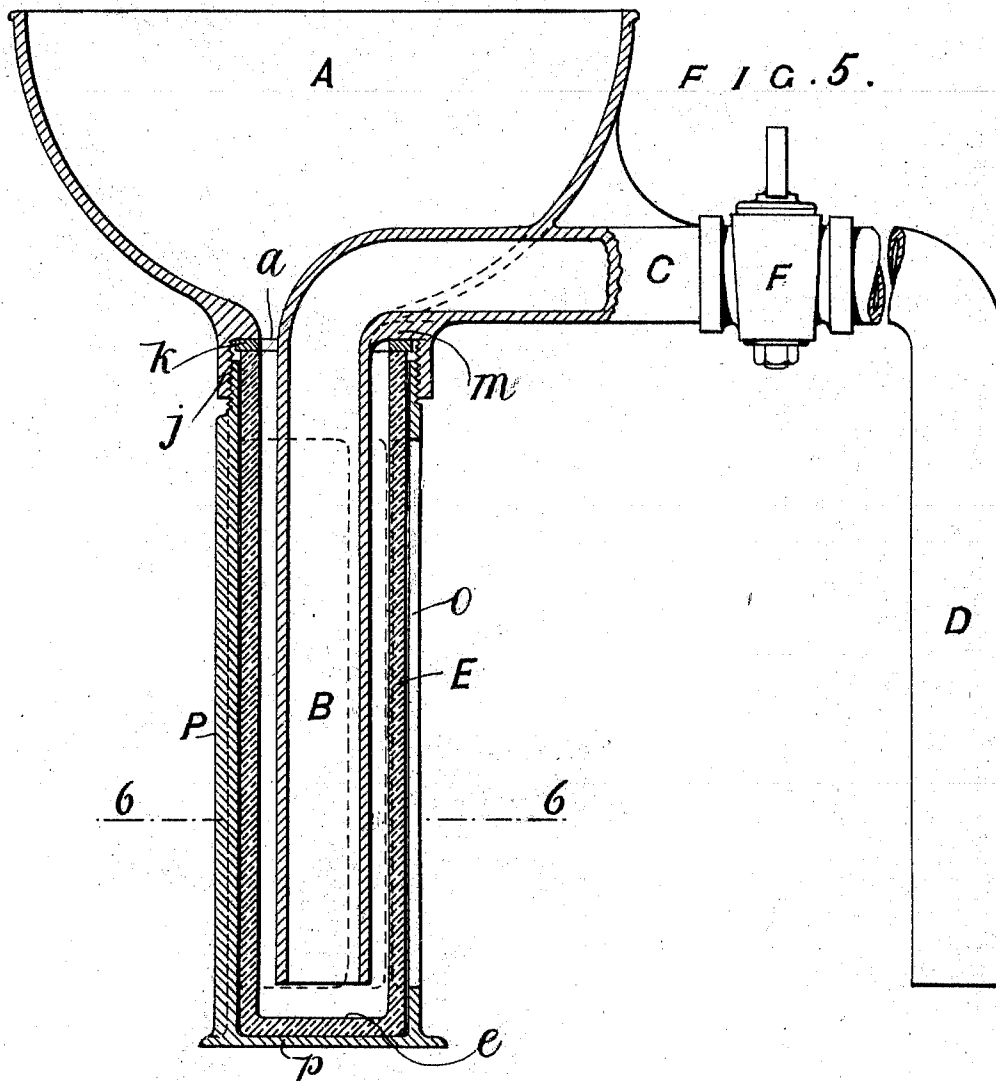
PATENTED JULY 5, 1904.

W. E. BURGESS.
FUNNEL.

APPLICATION FILED MAR. 4, 1904.

NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES :

W. M. Avery

A. H. Davis

INVENTOR

William Edward Burgess

BY

Mumme

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM EDWARD BURGESS, OF ABERBEEG, ENGLAND.

FUNNEL.

SPECIFICATION forming part of Letters Patent No. 764,422, dated July 5, 1904.

Application filed March 4, 1904. Serial No. 196,631. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDWARD BURGESS, accountant, a subject of the King of Great Britain, residing at Dan-y-graig, Aberbeeg, in the county of Monmouth, England, have invented an Improved Funnel for Filling Liquids into Vessels, of which the following is a specification.

My invention relates to an improved funnel for filling vessels with liquid, and has for its object to provide means whereby during the filling operation the level of the liquid in the vessel being filled may be ascertained, the said level being exhibited externally of the vessel, so that the invention is of special utility in connection with the filling of casks and other vessels constructed of opaque materials.

The invention consists, essentially, in the combination, with a pouring-funnel, of a siphon-pipe whereof one limb is adapted to dip into the vessel to be filled and an upright pipe connecting the lower end of the other limb of the siphon with the exit-opening of the funnel, the said upright connecting-pipe being formed wholly or partially of transparent material and the arrangement being such that once that limb of the siphon which dips into the vessel has become immersed in the liquid contained in the latter then at any subsequent stage of the filling operation on the liquid poured into the funnel being allowed to come to rest the level attained by the liquid in the vessel will be exhibited by reason of the liquid in the transparent connecting-pipe standing at the same level.

Reference is to be had to the accompanying drawings, forming part of this specification, wherein—

Figures 1, 3, and 5 are sectional elevations of three slightly-modified forms of the invention, Figs. 2, 4, and 6 being sections on lines 2 2, Fig. 1, 4 4, Fig. 3, and 6 6, Fig. 5, respectively.

In the drawings, A is the pouring-funnel proper, and B C D the siphon-pipe, whereof the limbs B and D are preferably of equal length, the middle portion C being approximately horizontal and of sufficient length to enable the outer limb D to reach over and dip

into the cask or other vessel to be filled. The horizontal or summit portion C of the siphon-pipe is arranged at or about the level of the bottom of the funnel A, with which the lower end of the inner limb B of the siphon-pipe is connected by means of an upright pipe E, formed wholly or throughout the greater part of its length of glass or other suitable transparent material. More particularly, in the arrangements shown in Figs. 3 to 6 the exterior of the siphon-limb B may be brightly or otherwise colored for the purpose of rendering the level of the liquid in the transparent pipe E more clearly visible.

F is a tap or stop cock, which may be interposed in the siphon-pipe, preferably in the portion C thereof, as shown.

The several parts of the apparatus may be connected together in various ways. In the arrangement shown in Figs. 1 and 2 the pipes B and E are external to one another, the inner limb B of the siphon having integral with it a chamber or passage G, which extends laterally from the lower end of the pipe B and is provided with an upwardly-extending socket *h*, surrounding an aperture *g* and adapted to receive the lower end of the pipe E. From the upper end of the pipe B extends a lateral arm *i*, having an aperture situated vertically over and in axial alinement with the aperture *g* and tapped to screw upon a threaded portion of a downwardly-extending nipple or nozzle *j* on the funnel A, this nozzle surrounding the exit-opening *a* of the funnel. The pipe E is of such length as to extend from the socket *h* partly through the aperture in the arm *i*, so that when pipe E is passed through this aperture and rests in socket *h* it will be held in position between this socket and the lower end of the nozzle *j* by rotating the siphon so as to screw the arm *i* upon the nozzle, washers *k l* being interposed between the ends of the pipe E and the end of the nozzle *j* and bottom of the socket *h*, respectively, so as to form tight joints. Uninterrupted communication is maintained between the funnel A and the limb B of the siphon by way of the transparent pipe E and chamber G. The bottom of the chamber G

may be extended to form a base adapted to support the apparatus, and the transparent pipe E may be protected against injury—as, for example, by being sheathed in a tube of metal or other material perforated to afford a view of the contents.

In the arrangement shown in Figs. 3 and 4 the transparent pipe E incloses the limb B of the siphon, the lower end of the pipe E being closed, as at *e*, and the approximately horizontal member C of the siphon extending through the side wall of the funnel A, so that the inner limb B dips downward through the bottom aperture *a* of the funnel into the pipe E, so as to nearly reach the bottom thereof. The upper end of the pipe E is caused to make joint through the medium of a washer *k* with a socket formed in the nozzle *j* by the engagement with a flange *m* on the end of pipe E of a union-nut *n*, screwing on the threaded portion of the nozzle *j*. In this case the pipe E and the aperture *a* of the funnel are made of such diameter as to leave an annular space between them and the pipe B sufficient for the passage of the liquid from the funnel A to the interior of pipe B.

The arrangement shown in Figs. 5 and 6 is somewhat similar to that last described; but in the present form of the apparatus a protective casing is provided for the transparent pipe E, the said casing also serving, if desired, as a means of securing the pipe E to the funnel A and as a stand for the apparatus. The protective casing consists of a metal or other tube P, adapted to fit over the pipe E and having longitudinal slots, as at *o*, extending throughout the greater part of its length, so as to enable the contents of the pipe E to be easily viewed. The upper end of the tube P is threaded to screw into a correspondingly-threaded socket in the nozzle *j*, and the lower end of the tube is closed, as at *p*, or otherwise adapted to bear against the closed lower end *e* of the pipe E, so that by screwing the tube P into the socket in the nozzle *j* the upper end of the pipe E is caused to make joint with this socket, as before, through the medium of a washer *k*. It will be obvious that the tube P might be secured to the nozzle *j* by means of a bayonet-joint instead of by screwing, as shown. The bottom of the tube P may be extended to form a base adapted to support the apparatus.

The action of the apparatus is as follows: The tap F being open, the outer limb D of the siphon-pipe is inserted in the cask or other vessel to be filled, and liquid is poured into the funnel A until approximately the quantity desired has been introduced. The liquid on being allowed to come to rest will stand in the transparent pipe E at a level corresponding to that of the liquid in the cask or vessel, provided that the outer limb D of the siphon already inserted in the cask or vessel has be-

come immersed in the liquid contained therein, so that the level of the liquid in the cask or vessel being filled may be ascertained without the necessity of withdrawing the funnel and using a gaging or sounding rod, as usual heretofore.

I claim—

1. The combination with a funnel for use in filling vessels with liquid, of a siphon whereof one limb is adapted to dip into the vessel to be filled and an upright transparent pipe connecting the lower end of the other limb of the siphon with the exit-opening of the funnel, substantially as and for the purpose specified.

2. The combination with a funnel, of a siphon, and an upright transparent pipe, the lower end of the transparent pipe being socketed in the return end of one limb of the siphon, and the upper end of the said transparent pipe being jointed to the exit-opening of the funnel by means of a ring integral with the siphon and forming a socket for the upper end of the transparent pipe, the said ring being adapted to screw upon the lower end of the funnel so as to cause a tight joint to be made on the one hand between the said funnel and the upper end of the transparent pipe and on the other hand between the lower end of the transparent pipe and the socket in which it is received, substantially as specified.

3. The combination with a funnel, of an upright transparent pipe closed at its lower end and jointed at its open upper end to the exit-opening of the funnel, and a siphon integral with the funnel and having one of its limbs extending through the exit-opening of the funnel and dipping into the transparent pipe, the diameter of the said transparent pipe and of the exit-opening of the funnel being such as to leave a space around the said siphon-limb, substantially as specified.

4. The combination with a funnel of an upright transparent pipe closed at its lower end and jointed at its open upper end to the exit-opening of the funnel, a siphon integral with the funnel and having one of its limbs extending through the exit-opening of the funnel and dipping into the transparent pipe and a protective casing for said transparent pipe, adapted to permit the contents of the transparent pipe to be viewed, bearing against the lower end of the transparent pipe and making a screwed union with the bottom of the funnel, substantially as specified.

5. In a device for use in filling vessels with liquid, the combination of a funnel, a siphon whereof one limb is adapted to dip into the vessel to be filled, an upright transparent pipe connecting the lower end of the other limb of the siphon with the exit-opening of the funnel, and a stop-valve on the said siphon-pipe, substantially as specified.

6. A device for use in filling vessels with

liquid, consisting in the combination of a funnel, a siphon-pipe whereof one limb is adapted to dip into the vessel to be filled, and an upright transparent pipe connecting the lower
5 end of the other limb of the siphon with the exit-opening of the funnel, the last-mentioned siphon-limb being so colored as to

render more clearly visible the level attained by liquid in the said transparent pipe, as described.

WILLIAM EDWARD BURGESS.

Witnesses:

EDWIN G. COOPER,

ROBERT WILLIAM RIDGWAY.