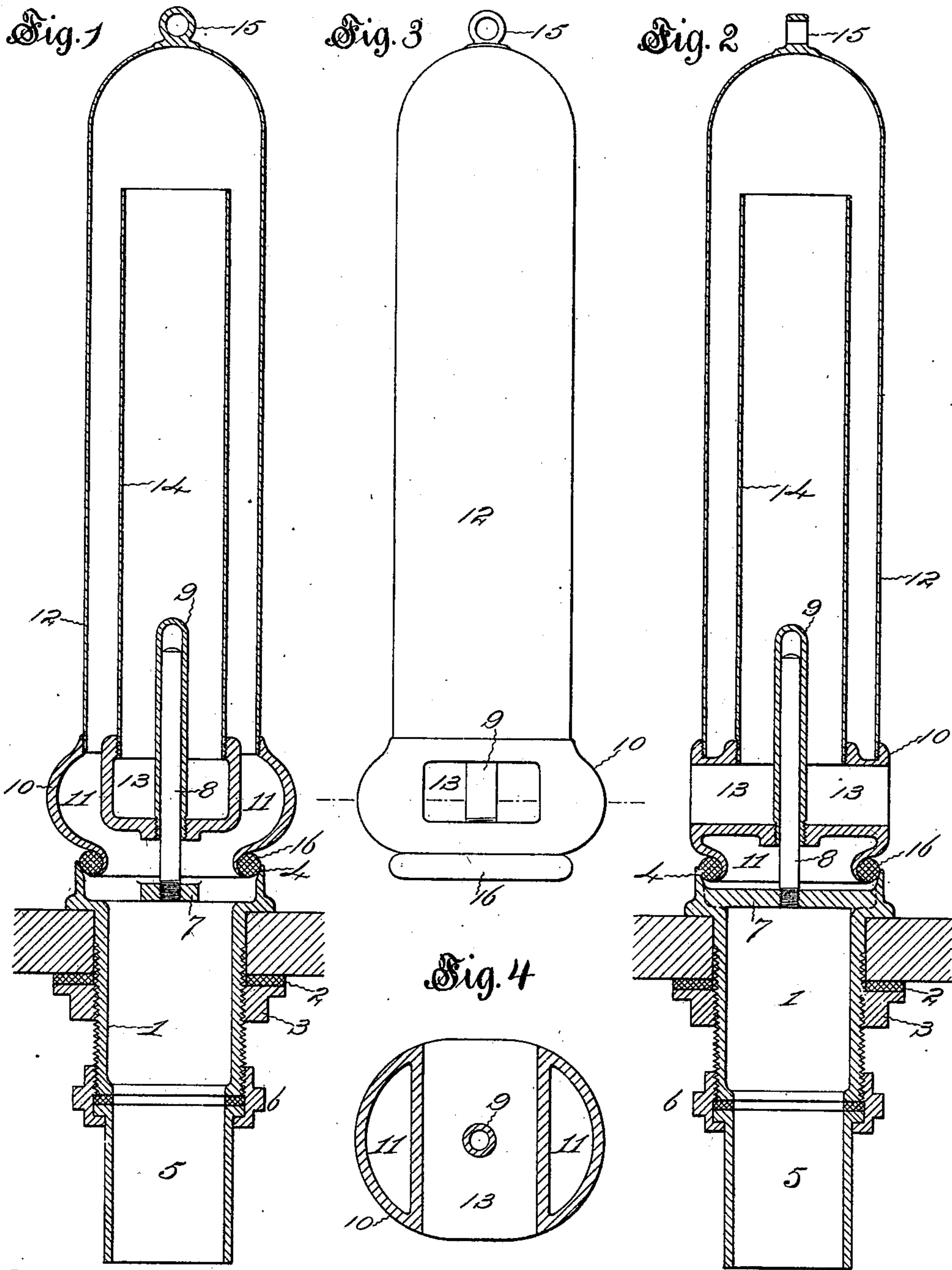


No. 665,395.

Patented Jan. 8, 1901.

C. BIRKERY.
TANK OUTLET VALVE.,
(Application filed May 24, 1899.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

CORNELIUS BIRKERY, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE
BIRKERY MANUFACTURING COMPANY, OF SAME PLACE.

TANK OUTLET-VALVE.

SPECIFICATION forming part of Letters Patent No. 665,395, dated January 8, 1901.

Application filed May 24, 1899. Serial No. 718,050. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS BIRKERY, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tank Outlet-Valves, of which the following is a specification.

This invention relates to a siphon outlet-valve for water-closet flush-tanks.

The object of this invention is the production of a valve of this nature having but few parts, which is simple to manufacture and durable in use, and that is of such size and arrangement that it may be used in a small tank, in which it may be conveniently placed in position to operate easily and noiselessly.

Figure 1 of the accompanying drawings represents a vertical section of the valve. Fig. 2 represents a vertical section of the same, taken on a plane at right angles to the section of Fig. 1. Fig. 3 is an elevation of the upper part of the valve, and Fig. 4 is a horizontal section taken on the plane indicated by the dotted line of Fig. 3.

The embodiment of the invention illustrated by the drawings has a common outlet-sleeve 1, that is adapted to be held in the opening through the bottom of a tank by a packing 2 and nut 3, so that its upper end, which forms the valve-seat 4, will extend upwardly into the tank. A pipe-nipple 5 is usually attached to the lower end of the sleeve by a union 6. A bar 7 is shown as extending across the upper part of the opening through the sleeve, and projecting upwardly from this is a post 8. Over this post is loosely placed a tube 9, that is secured to the base 10 of the upper part of the valve. This base is usually cast to shape in a single piece of brass or other suitable valve metal. The chamber 11 in the base opens upwardly and downwardly, and secured to the base, so as to open into the chamber, is a tube 12, of brass or copper, that has its upper end closed. The base is formed so that a passage 13 extends through it, and secured to the base, so as to open into this passage, is a tube 14, of brass or copper, that has its upper end open. An eye 15 is secured to the upper end of the

outer tube for the convenient attachment of the valve-lifting lever. In a groove around the lower end of the base a packing-ring 16 is placed. When the upper part of the valve is in its lowest position, this packing-ring fits the seat at the upper end of the sleeve, and when the upper part of the valve is lifted the packing-ring is drawn away from the seat. The upper part of the valve is guided in its movement up and down by the post projecting from the bar that extends across the sleeve into the guiding-tube secured to the base inside of the inner water-tube.

The tubes and base, with the packing-ring, are lifted by the usual lever, so as to allow a flow of water between the packing-ring and the seat. When the flow of water has commenced, the tubes and base are allowed to drop, so the packing-ring will close the opening through the outlet-sleeve. The flow of water, however, by this time is of sufficient volume to draw water from the inner tube and cause a siphon which will continue a flow of water up the smaller tube in the center and down the larger tube around the inner tube until the level of the water in the tank is lower than the top of the opening through the base to the inner tube.

Water passes up through the inner tube of this valve in a compact body in such manner that air is not drawn in to the detriment of the suction action and to cause noise. This valve has a comparatively large straight outlet for the downward flow of water for flushing a closet, which conduces to the efficiency of the suction action and insures a clean closet. There is but one packing in the construction illustrated, and this is a ring that may be quickly renewed at any time. There are but few parts. There is nothing to get out of repair, and this valve occupies but a very little space in a tank.

I claim as my invention—

A siphon-valve having a vertically-moving base with a chamber that opens upwardly and downwardly, and a horizontal passage through the base from side to side that opens upwardly at the center of the base, a single inner tube with an open upper and an open

lower end secured to the base about the
opening from the passage, a single outer tube
with a closed upper end and open lower end
secured to the base about the upper opening
5 from the chamber in the base, a valve-seat, a
post extending upwardly from the valve-seat
and a tube secured to the base for receiving

the post and guiding the base and the tubes
in their vertical movement, substantially as
specified.

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