

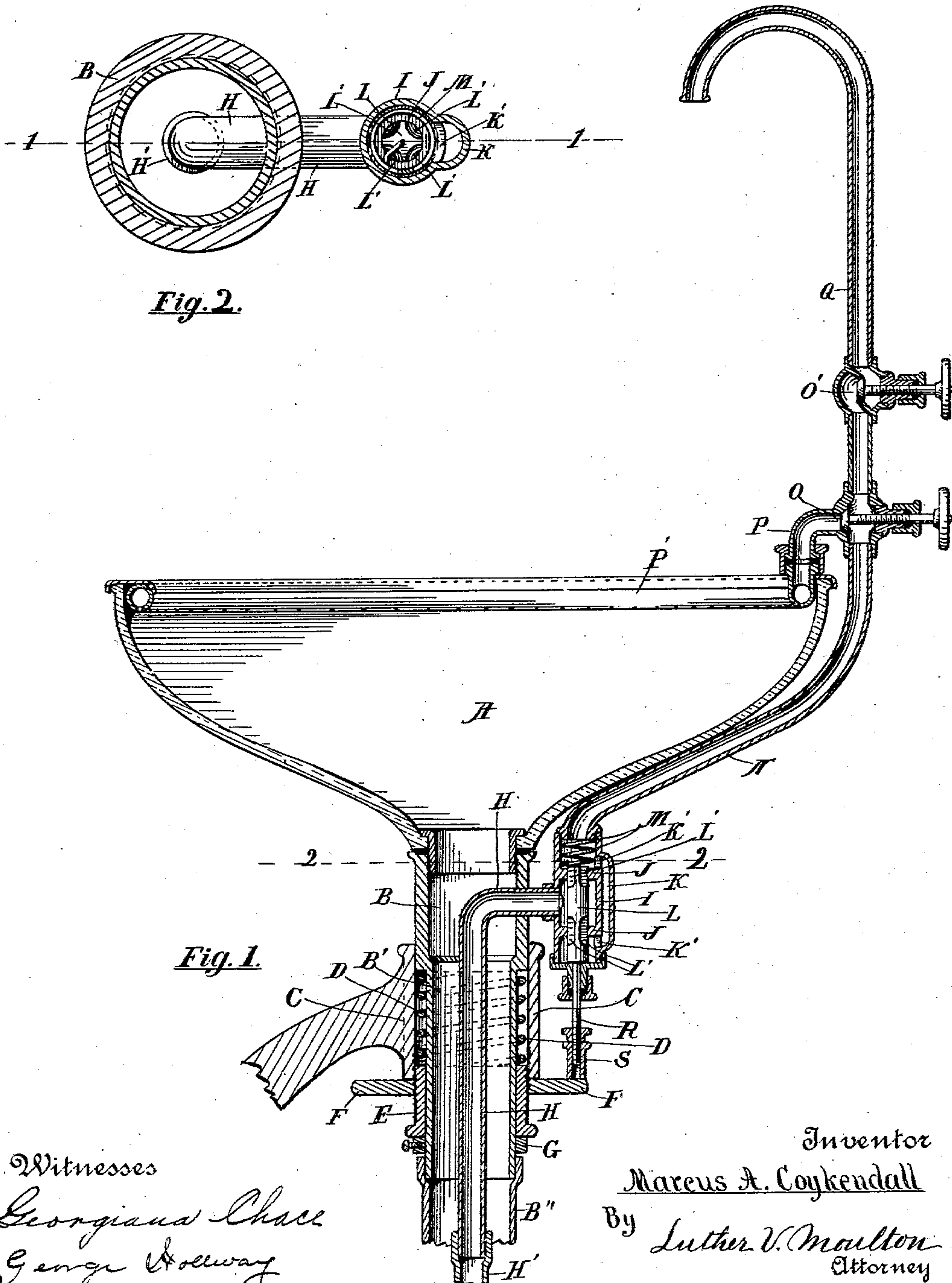
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M. A. COYKENDALL.
FLUSHING SPITTOON.

APPLICATION FILED APR. 24, 1903.

NO MODEL.



Witnesses
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MARCUS A. COYKENDALL, OF GRAND RAPIDS, MICHIGAN.

FLUSHING-SPITTOON.

SPECIFICATION forming part of Letters Patent No. 740,538, dated October 6, 1903.

Application filed April 24, 1903. Serial No. 154,141. (No model.)

To all whom it may concern:

Be it known that I, MARCUS A. COYKENDALL, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Flushing-Spittoons; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in flushing-spittoons; and its object is to provide means whereby in the event that the same should be filled with water from any cause the supply of water would be automatically cut off and overflow of the same prevented.

My device consists, essentially, of a flushing-spittoon mounted upon a yielding support, a valve interposed in the water-supply circuit for flushing the spittoon, and means for automatically closing the valve whenever from any cause a predetermined quantity of water accumulates in the bowl, as will hereinafter more fully appear by reference to the accompanying drawings, in which—

Figure 1 is a vertical section of a device embodying my invention, taken on the line 1 1 of Fig. 2; and Fig. 2, an enlarged horizontal section taken on the line 2 2 of Fig. 1.

Like letters refer to like parts in both of the figures.

A represents the bowl of the spittoon, having attached a drain-pipe B, provided with a reduced portion B', said drain-pipe forming the support for the bowl and vertically movable in any suitable support C. For the yielding support I prefer to use a spring D, surrounding the reduced portion B' of the drain-pipe and engaging a suitable shoulder on the said pipe, said spring being adapted to normally retain the bowl in an elevated position, as shown in the drawings. To adjust the tension of said spring, a vertically-adjustable sleeve E is provided, surrounding the reduced portion of the drain-pipe and having screw-threads engaging corresponding threads in the opening in the support C.

G is a detachable collar to limit the upward movement of the drain-pipe in the support.

F is a flange or ring surrounding the sleeve

E and preferably provided with screw-threads engaging the threads on the sleeve, whereby said flange may be used as a lock-nut to secure the sleeve E in place when adjusted by turning the said flange against the under side of the support C. This flange extends outward a sufficient distance to engage the lower end of a valve-rod R, having a longitudinally-adjustable portion S, whereby the rod may be properly adjusted to support the valve. The drain-pipe is both vertically movable and rotative in the support C and sleeve E. In the axis of the drain-pipe is a water-supply pipe H for flushing the bowl A, and the drain-pipe, together with this supply-pipe, is connected to any suitable drain and hydrant by means of separate and flexible hose B'' and H'. The pipe H at its upper end extends outward through the side of the drain-pipe B and has attached thereto at its outer end a valve-case I, surrounding a balanced valve L. This case is divided into three chambers by transverse partitions J, having central openings in which the valve L is movable. The upper chamber is connected to a suitable pipe N to convey water to the flush-pipe P', to which latter the water is admitted by a valve O and pipe connection P. The pipe N is also extended upward at Q for the purpose of drawing water for any convenient use and provided with a valve O' to control the flow of water. The middle chamber of the case I is connected to the pipe H and receives the water therefrom, and the end chambers of the case are connected by means of a by-pass K and ports K'. The portions of the valve which are opposite the partitions J when the valve is moved to closed position are adapted to fill the openings in said partitions, and thus retain the water in the middle chamber of the case, and the portions of the valve opposite said partitions when the valve is moved to open position, as shown, are recessed, as at L', to permit the water to flow through from the middle chamber to the end chambers. These chambers in the case surround the valve, and the recesses L' are on all sides of the valve. The pressure in the middle chamber is thus balanced in all directions, and the pressures in the end chambers are directly opposite and equalized through the by-pass.

The valve is thus perfectly balanced against both the forward and back pressures and moves freely under all conditions.

To open the valve L, a spring M is provided in the upper chamber, which engages the end of the said valve and the end of the pipe N and yieldingly holds the valve open. By properly adjusting the sleeve E the tension of the spring D will be such that whenever water for any reason accumulates in the bowl A its weight, added to that of the other parts supported by the spring D, will depress the said spring and move the bowl and parts attached thereto downward. The contact of the flange F with rod R will support the valve L, and as the surrounding case descends the openings in the partitions will be automatically closed and the flow of water to the bowl shut off. The flange T being circular, the bowl may be rotated about its axis and the end of the rod will traverse the flange and remain in contact therewith.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a bowl, a yielding support for the same, a pipe to supply water for flushing the bowl and a valve adapted to cut off the flow of water in said pipe and means for closing the valve by the downward movement of the bowl.

2. The combination of a bowl, a pipe attached to the bowl for flushing the same, a balanced valve inserted in circuit with the pipe, a vertically-yielding support for the bowl, and an unyielding support for the valve, whereby the valve is closed when the bowl descends.

3. The combination of a bowl, a pipe attached to the bowl for flushing the same, a valve-case in circuit with the pipe, a vertically-movable valve in the case, a drain-pipe attached to the bowl and vertically movable in a support, a spring supporting the drain-pipe and yieldingly supporting the bowl, and an unyielding support for the valve.

4. The combination of a bowl, a drain-pipe having a reduced portion and vertically movable in a support, a spring surrounding the drain-pipe and supporting the same, an adjustable sleeve in the support and supporting the spring, a pipe to conduct water to the bowl, a valve-case in the circuit of the pipe, a vertically-movable valve in the case, and having a stem extending downward therefrom, and an unyielding support engaging the valve-stem.

5. The combination of a bowl mounted upon a vertically-yielding support, a pipe to supply water for flushing the bowl and vertically movable therewith, a valve-case in the circuit of the pipe, partitions dividing the valve-case into three parts and having openings for the valve, a valve adapted to close said openings and longitudinally movable therein, and also having recesses to permit water to flow through said openings, a by-pass and ports

connecting the end portions of the case, a stem connected to the valve to move the same and a support to engage the stem and support the valve, and a spring engaging the valve to open the same.

6. The combination of a bowl, a drain-pipe attached to the bowl and vertically movable in a support, a spring yieldingly supporting the drain-pipe, means for adjusting the spring, a supply-pipe in the axis of the drain-pipe and extending through the side thereof, a valve-case attached to the end of the supply-pipe, a balanced valve in the case, a downwardly-extended stem on the valve, a flange engaging the stem and attached to the support, a spring engaging the valve to open the same, and a pipe extending upward from the valve-case and connected to a flushing-pipe in the bowl.

7. The combination of a bowl, a vertically-yielding support for the bowl, means for adjusting said support, a valve-case attached to the bowl and movable therewith, partitions dividing the case into three chambers and having central openings, a valve longitudinally movable in said openings and adapted to close the same, and having recesses opposite said partitions when the valve is open, a by-pass and ports connecting the end chambers of the case, a supply-pipe connected to the middle chamber of the case, a pipe inserted in the end of the case and extending upward therefrom, a flushing-pipe in the bowl and connected to the said last-named pipe, a spring engaging the valve to open the same, a stem on the valve and having an adjustable end, and an unyielding support engaging the valve-stem.

8. In combination with a supply-pipe of a flushing-spittoon, a cylindrical valve-case divided into three parts by partitions having central openings, a cylindrical valve of less diameter than the interior of the case, and longitudinally movable in said openings, and having recesses to permit fluid to pass from the central portion of the case to the ends of the case when the valve is open, and a by-pass and ports connecting the ends of the case.

9. The combination of a case, partitions in the case dividing the same into three chambers and having openings for the valve, a valve longitudinally movable in said openings and having portions adapted to close said openings and recesses to permit fluid to flow through said openings, a by-pass and ports connecting the end chambers, means for connecting a pipe to the upper end chamber, means for connecting a pipe to the middle chamber, and means for operating the valve.

10. The combination of a bowl, a drain-pipe attached to the bowl and having a reduced lower portion, a support in which the drain-pipe is vertically movable, a spring surrounding said pipe, and yieldingly supporting the same, a sleeve surrounding said pipe and adjustable in the support, means for supplying

water to flush the bowl, a valve to cut off the supply of water, and means for closing the valve by the downward movement of the bowl.

- 5 11. The combination of a bowl, a support for the bowl having a reduced lower portion, a spring surrounding and supporting the same, an adjustable sleeve engaging the spring, a fixed support surrounding the spring and
10 sleeve, and having screw-threads engaging corresponding threads in the sleeve, a flange on the sleeve and having screw-threads en-

gaging the threads on the sleeve, means for flushing the bowl, a valve-case in circuit with said means and movable with the bowl, a 15 valve supported in the case, and a stem on the valve and engaging the flange to support the valve.

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

MARCUS A. COYKENDALL.

Witnesses:

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GEORGIANA CHACE.