

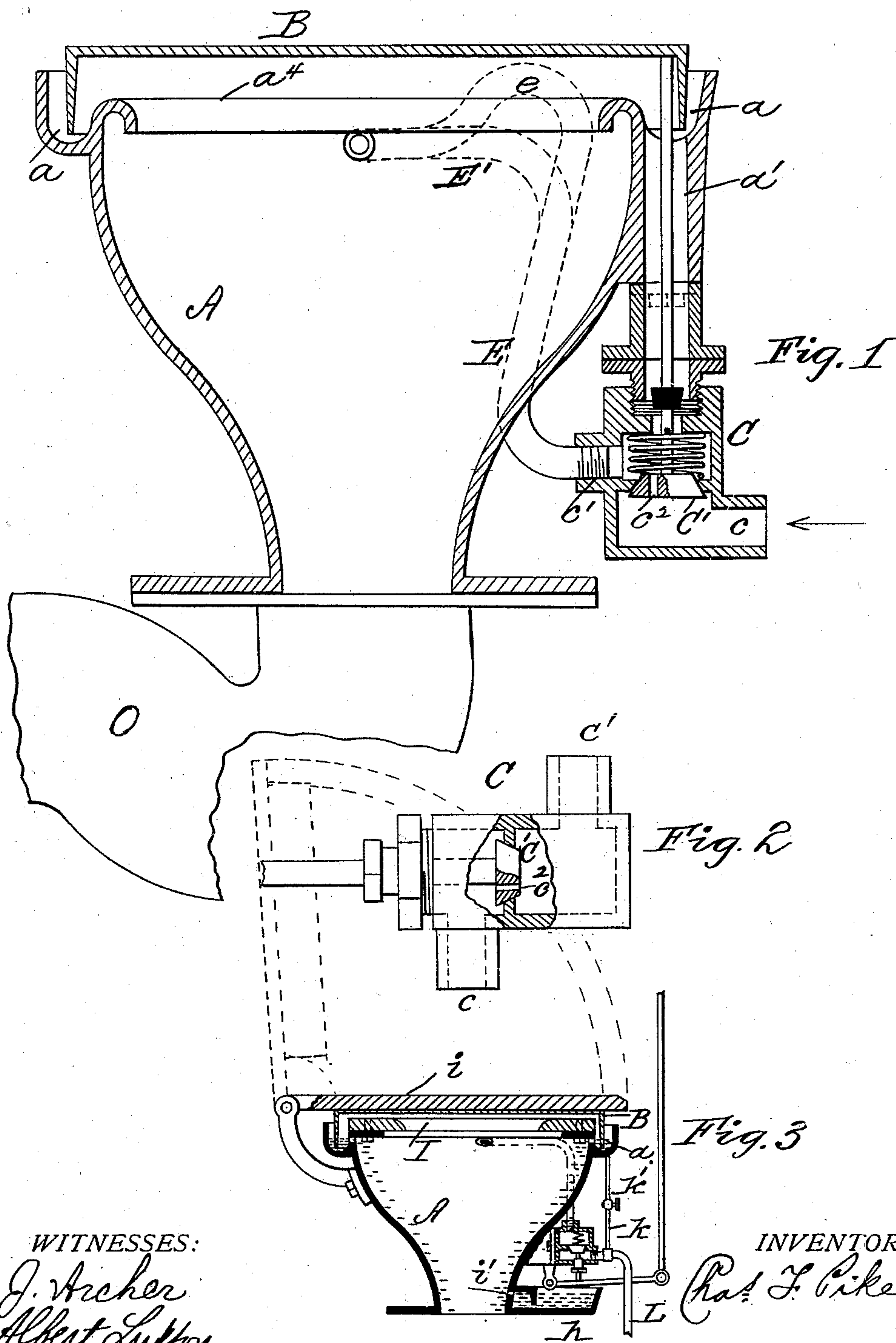
(No Model.)

2 Sheets—Sheet 1.

C. F. PIKE.
WATER CLOSET.

No. 270,113.

Patented Jan. 2, 1883.



WITNESSES:

J. Vicker
Albert Lupton

INVENTOR

Chas. F. Pike

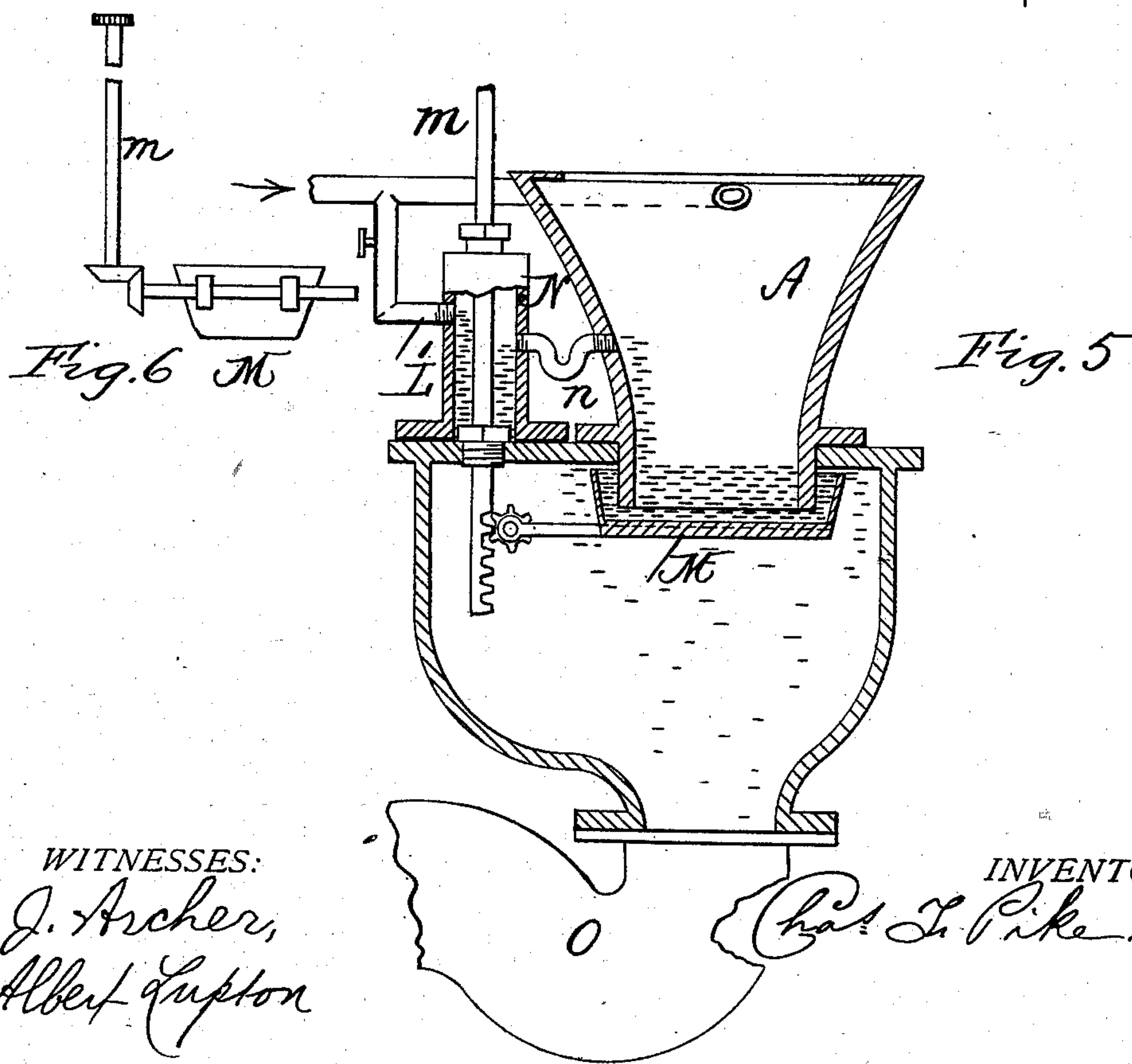
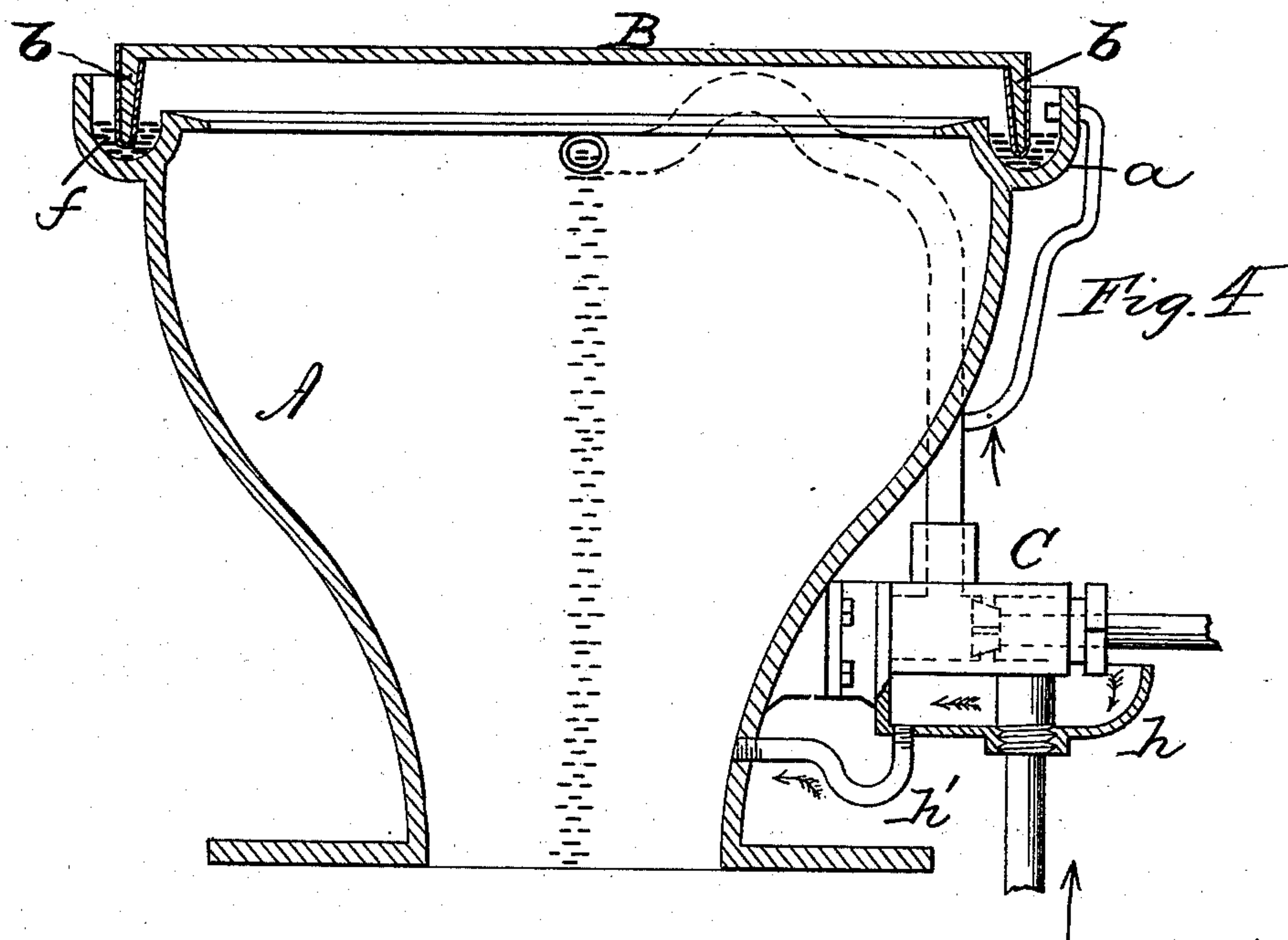
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2 Sheets—Sheet 2.

C. F. PIKE.
WATER CLOSET.

No. 270,113.

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WITNESSES:
J. Archer,
Albert Lupton

INVENTOR,

Chas. F. Pike.

UNITED STATES PATENT OFFICE.

CHARLES F. PIKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY
MESNE ASSIGNMENTS, TO THE NATIONAL ANTI SEWER GAS COMPANY,
OF NEW JERSEY.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 270,113, dated January 2, 1883.

Application filed October 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. PIKE, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figures 1, 3, 4, and 5 represent vertical sections of water-closets embodying my improvement. Fig. 2 represents an elevation, partly in section, of an ordinary water-cock for a water-closet adapted for use to subserve the purpose of my invention. Fig. 6 is a detail elevation of pan-operating mechanism.

My invention has for its object to provide a water-closet which will absolutely prevent the passage through it of sewer-gas and odors generated by the fecal matter remaining in the trap, thereby obtaining a water-closet which is, as near as may be, perfectly inodorous.

My invention accordingly consists of a water-closet provided with a running-water seal or a seal the water of which is constantly being changed or kept fresh. Said seal may be effected in various ways, depending upon the style of the water-closet used.

In the accompanying drawings I have illustrated a number of different kinds of water-closet bowls provided with means for effecting a running-water seal therefor, and which I shall now proceed to describe.

In Fig. 1 the bowl A is represented as being devoid of a pan, having in lieu thereof a cap, B, which enters a groove, *a*, in the upper edge of said bowl. From said groove depends a conduit, *a'*, to the end of which is secured the water-cock C. *c* represents the inlet-orifice thereof, and *c'* the outlet, to which is connected the flushing-pipe E. The valve C' of said cock is perforated, as shown at *c*², the effect whereof is that water passing into inlet-orifice *c* flows through perforation *c*², and then rises in conduit *a'* until it reaches groove *a*, fills the same, and then overflows edge or wall *a*⁴, and drops into the bowl A, from which it passes to the trap. The cap B dipping into the running water in groove *a*, a

seal is thereby formed for bowl A, the water of which is constantly being changed. Where water is used for the sealing-fluid in groove *a* the flushing-pipe E must be continued up until the bend *e* of the same reaches the desired height to be given to the sealing-water in groove *a*. Otherwise the water would not rise in conduit *a'* and groove *a* to such height; but if said conduit be dispensed with, and mercury or similar material be employed to effect the seal in groove *a*, then the flushing-pipe will be arranged as shown at E', in which case the running water will pass from cock C to flushing-pipe E', and thence to bowl A and trap. Such arrangement provides a running-water seal for the trap only.

Fig. 2 shows the ordinary form of water-closet cock, perforated in order to obtain the running or constantly-changing water-seal, and Fig. 4 shows such cock attached to bowl A. The latter is represented as provided with a mercury-seal at *f*, its cap B having its flange *b* lined both externally and internally with porcelain or other similar material to prevent dampness from oxidizing the iron of said flange. The cock C is provided with a drip-cup, *h*, which is connected to bowl A by small trap *h'*, whereby the drip from said cock is conducted into said bowl without permitting gas or odor from the latter passing into the apartment wherein said closet is located.

In Fig. 3 I have shown my improved seal applied to that class of water-closets wherein the seat I is attached directly to bowl A, and the hinged lid *i* is provided with the sealing-cap B, screwed or otherwise suitably secured thereto. *h* is the drip-pan for the cock, and which also forms a trap for opening *i'*, leading from said pan to the bowl A. In this case the running seal for groove *a* and bowl A is provided for by means of a branch pipe, *k*, leading from water-supply pipe L. Said branch is valved, as shown at *k'*, the regulation of which adjusts the amount of water continuously admitted to groove *a* and thence to bowl A.

In Fig. 5 I have shown the running seal applied to a water-closet bowl provided with a pan, M, operated by means of a rack and pinion, as shown; or, if desired, said pan may be

manipulated by means of the bevel-wheel gearing shown in Fig. 6, in which case the pull-and-push rod *m* is rotated instead of being moved upwardly and then downwardly, as is ordinarily the case. The water from the supply-pipe *L'*, when the construction shown in Fig. 5 is employed, first enters the push-rod chamber or tube *N*. The water rises therein until it finds its exit therefrom through the trap *n*, connecting the tube *N* and bowl *A*. After passing through trap-pipe *n* it enters bowl *A* and pan *M*, forming a seal therefor, as shown in said Fig. 5. When such water has accumulated in the pan to such an extent that it overflows therefrom it falls into and passes out through the trap *O* to the soil-pipe. In the construction shown in Fig. 1 the water, when it overflows the edge *a*⁴ of groove *a*, falls into the trap *O* below the bowl. Such water, constantly flowing into said groove *a*, seals the flange of cap *B* and prevents the escape of sewer-gas from the bowl. The same effect takes place when the pan *M* is used, only in this case the lower edge or rim of the bowl *A* is sealed by the water contained in said pan, as plainly shown in Fig. 5. Hence the cap *B* and the pan *M*, when used in conjunction with the bowl *A* and running-water supply, serve to effect a like result—viz., the formation of a seal for said bowl for preventing the passage of sewer-gas therethrough. The pipe *M* in Fig. 5 is designed to be provided with a cock, *C*, having perforated valve, as above described, for regulating the supply of water for chamber *N* and bowl *A*.

I have shown the running-water seal applied to water-closets, for which I have already applied for Letters Patent of the United States;

but in said applications I have disclaimed such subject-matter in favor of the present application.

In Figs. 1, 3, and 4 I have shown the water-closet bowl having the cap on its top edge, while in Fig. 5 I have shown the bottom edge of said bowl covered by the pan. Hence said cap and pan form a cover for the edges of the water-closet bowl, so that the running-water seal may be placed at the top of the bowl, or, if desired, may be located at the bottom of said bowl.

What I claim as my invention is—

1. In combination with a water-closet bowl, a cap or cover, a water-supply pipe, and a valve therefor, constructed and arranged substantially as shown and described, whereby a stream or a flow of water is caused to continuously pass through the water-supply pipe to form a running-water seal between said bowl and the cap or cover, substantially as set forth.

2. A water-closet bowl provided with a sealing-groove and a cap or cover designed and adapted to enter said groove, in combination with a water-supply pipe furnished with a cock, constructed and arranged substantially as shown and described, whereby a stream of water will continuously pass through said pipe and into and out of said sealing-groove, as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of August, 1881.

CHAS. F. PIKE.

Witnesses:

CHAS. F. VAN HORN,
ALBERT LUPTON.