W. VANDERMAN.
Trap for Basins.

No. 207,632. Patented Sept. 3, 1878.

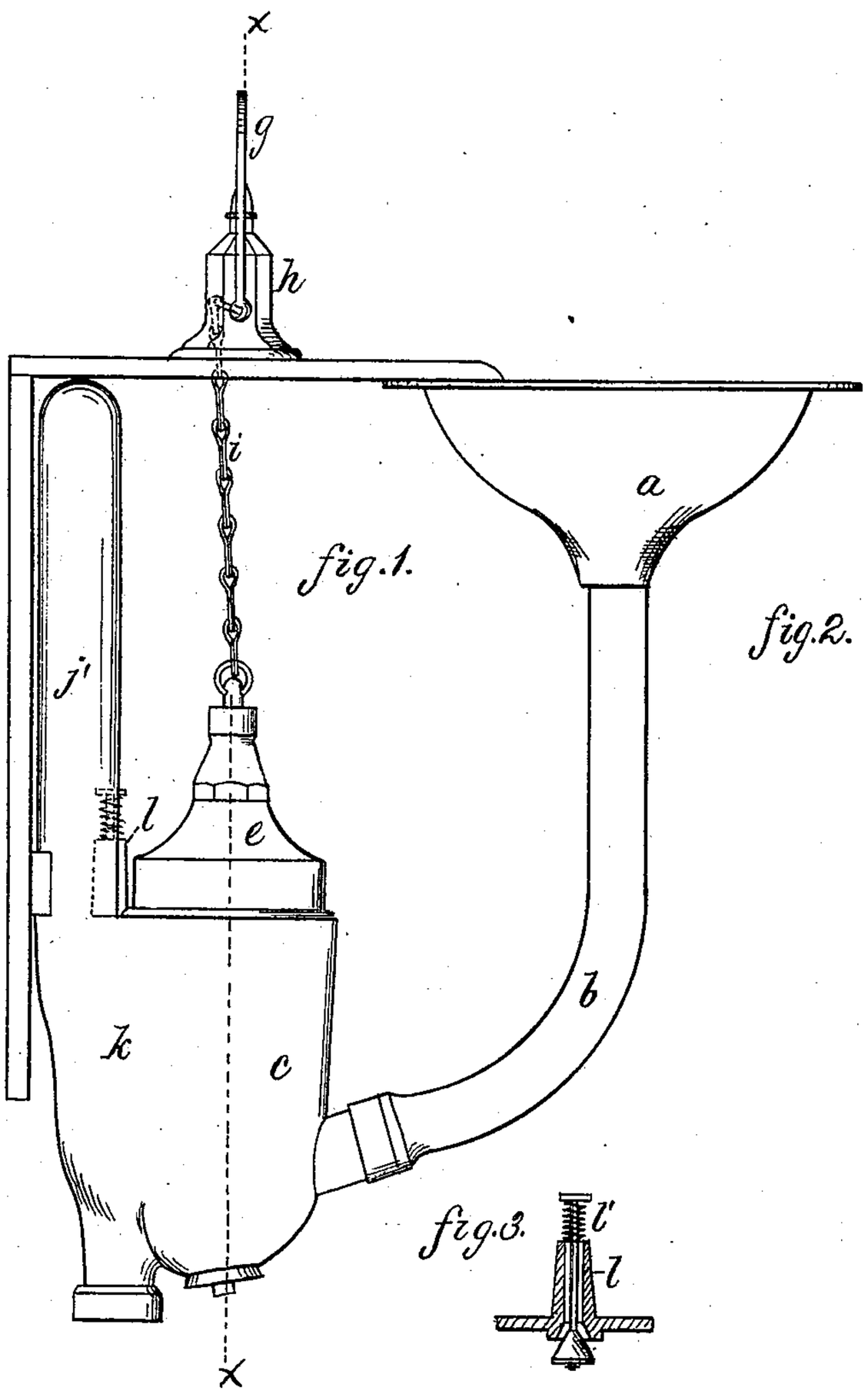

fig.1.

fig.3.

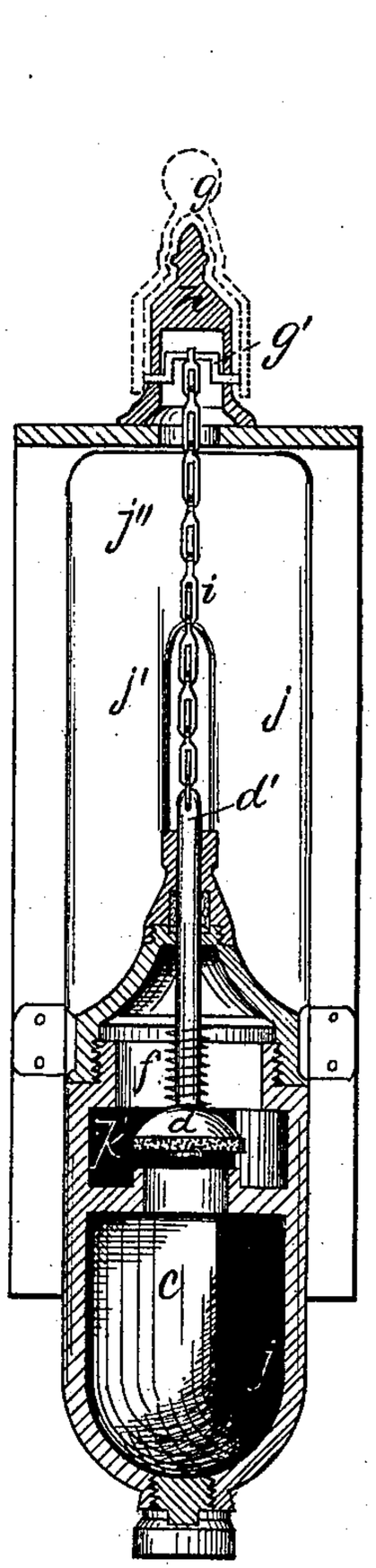

fig.2.

Witnesses:
R F Gaylord
Lewis Sperry

Inventor:
Wm Vanderman
By Wm & Simonds
Atty

UNITED STATES PATENT OFFICE.

WILLIAM VANDERMAN, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN TRAPS FOR BASINS.

Specification forming part of Letters Patent No. **207,632,** dated September 3, 1878; application filed July 29, 1878.

To all whom it may concern:

Be it known that I, WILLIAM VANDERMAN, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to a Basin Waste and Trap, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a side view of the basin waste and trap. Fig. 2 is sectional view on plane *x x*, valve open. Fig. 3 is a detail view of the air-valve hereinafter spoken of.

The letter *a* denotes the basin, which obviously may be the bowl of a wash-basin, or of a water-closet, or other receptacle for water or the like. The letter *b* denotes a waste-water pipe leading into the chamber *c*, which has at the top the valve *d*, attached to the valve-rod *d'*, reaching to the outer air through a stuffing-box on the cover *e*. This valve *d* is pressed to its seat by the spring *f*, and is raised from its seat, when desired, by throwing down—*i. e.*, to a horizontal position—the lever *g*, which is pivoted in the hollow standard *h*, and carries at the pivot-line the crank *g'*, from which the chain runs to the valve-rod *d'*. By throwing the lever *g* down till it lies slightly below a horizontal, the crank *g'* is thrown past its vertical center, and the lever will voluntarily remain down and the valve *d* remain open. From the chamber *c* runs a return stand-pipe, *j j'*, communicating on its return downward with the chamber *k*, which is or is not in communication with the chamber *c*, according to the open or shut position of the valve *d*. The return stand-pipe *j* is provided at the top with the chamber *j''*, the shape of which is not material so long as its cross-section is such that it will always contain a body of air, even though the return stand-pipe be conveying away its full capacity of water. In common phrase, this chamber is larger than the rest of the pipe. On the top of the chamber *k* is a small valve, *l*, for admitting air under certain circumstances. It opens inward, and is pressed to its seat by the spring *l'*.

The operation of the mechanism is as follows:

First, suppose the valve *d* to be closed. Then, on letting water into the basin *a*, it will fill the pipe *b*, the chamber *c*, and that leg of the return stand-pipe *j* which communicates directly with the chamber *c*, and the waste will run off through the other leg, *j'*, the water meanwhile partially filling the basin *a*, the leg *j* being made just long enough to cause the water to partially, and to a desired point, fill the basin before it wastes.

It will be observed that this arrangement insures that no harm will be done by leaving open the cock or faucet which feeds water to the basin *a*.

It will be further observed that the air-chamber *j''* prevents the accidental siphoning of the water from this trap, for a trap it virtually is.

Second, suppose the valve *d* to be now opened. The water will be emptied from the basin; but the chamber *c* will remain filled, and the water will stand in the pipe *b* to the level of the top of the chamber *c*. The waste-water now escapes through the chamber *k* into the waste-pipe or leg *j'*. A trap is still maintained by the water in the chamber *c* and in the pipe *b*.

The function of the air-valve *l* is this: When, by a rush of water in an adjoining and connecting pipe, there would be a tendency to siphon the water out of the trap, this valve, being properly weighted—*i. e.*, made to open at a certain pressure or inward suction—opens under the suction and admits air, so that the suction does not avail to draw water out of the trap. This arrangement is applicable to all traps.

It will be observed that the pipe *b* enters the bottom of the chamber *c*. This is an important feature of my invention, for, in case the valve *l* were not used, or should become inoperative, and a rush of water in an adjoining pipe should tend to siphon out the water in the trap, the water would rush toward the pipe *j* and cause a little air to enter in the chamber *c*, and, rushing across to the pipe *j*, would stop the action of the siphon and allow the water to fall back and cover the entrance of the pipe *b* to the chamber *c*, thus preserving a perfect trap.

I claim as my invention—

1. A trap, *b c j j'*, provided with an air-chamber, *j''*, at the top of pipe *j*, of larger capacity

than the pipe *j*, all substantially as described, and for the purpose set forth.

2. In a basin-overflow, the combination of the basin *a*, the trap *b c j j'*, provided with an air-chamber, *j''*, at the top of the pipe *j*, of larger capacity than the pipe *j*, all substantially as described, and for the purpose set forth.

3. In combination, the basin *a*, pipe *b*, chamber *c*, provided with valve *d*, and return standpipe *j j'*, provided with air-chamber *j''*, all substantially as described, and for the purposes set forth.

4. In combination, the valve *d*, including valve-rod and chain, the hollow standard *h*, and the lever *g*, carrying the crank *g'* within the standard, all substantially as described.

WILLIAM VANDERMAN.

Witnesses:
JOHN WARD,
ROBT. F. GAYLORD.