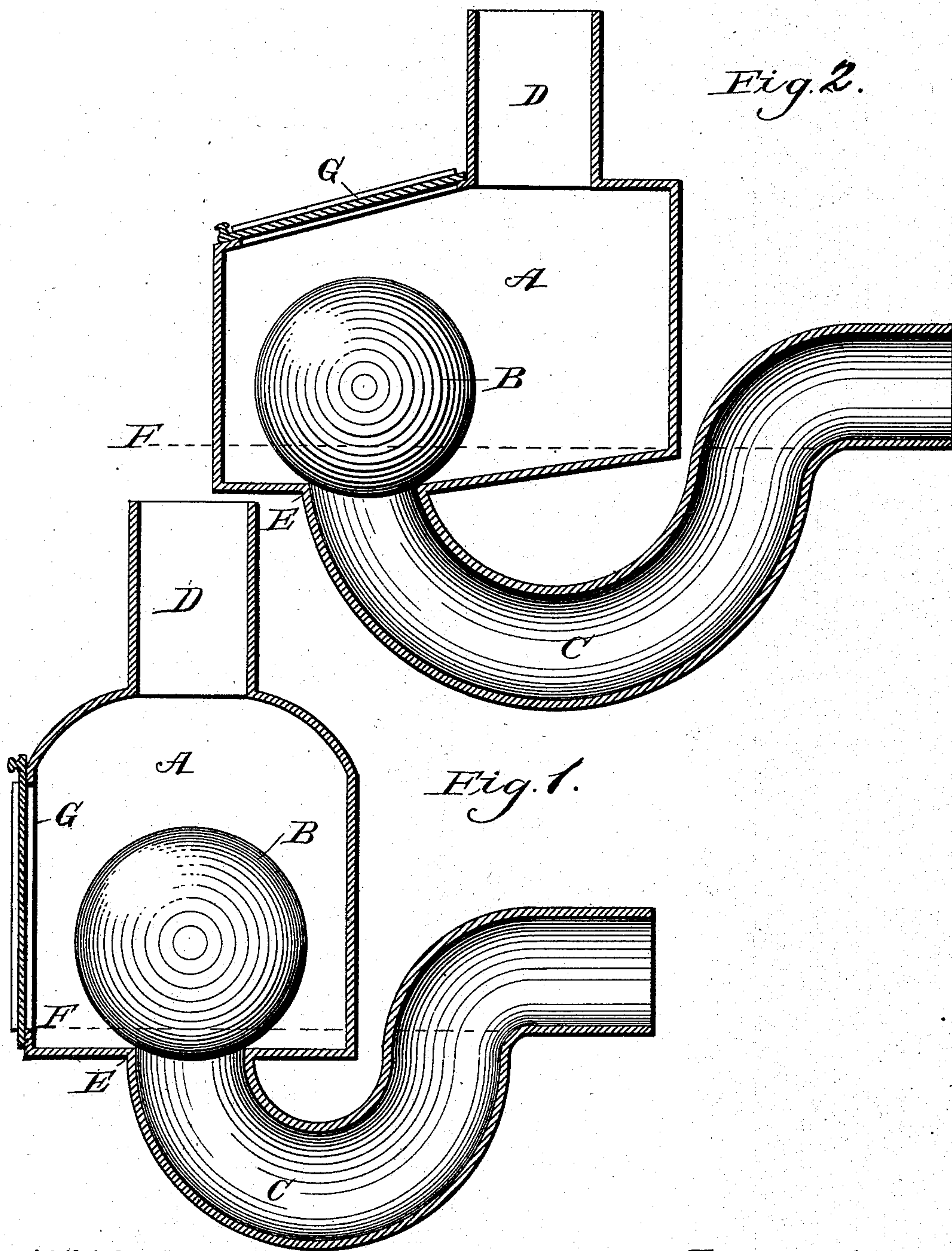


(No Model.)

C. H. RHETT.
TWO SEAL SEWER GAS TRAP.

No. 413,307.

Patented Oct. 22, 1889.



Witnesses:
Albert Rhett
James E. Searley

Inventor:
Charles H. Rhett

UNITED STATES PATENT OFFICE.

CHARLES H. RHETT, OF BALTIMORE, MARYLAND.

TWO-SEAL SEWER-GAS TRAP.

SPECIFICATION forming part of Letters Patent No. 413,307, dated October 22, 1889.

Application filed January 22, 1889. Serial No. 297,217. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. RHETT, of the city of Baltimore and State of Maryland, have invented certain Improvements in Two-Seal Sewer-Gas Traps, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to improvements in sewer and other traps, particularly to such as have ball-valves.

The object of my invention is to improve their construction, so as to secure to them a sound seal against gases and reflux liquids.

My improvement consists of a metallic chamber, of suitable shape, having an inlet and an outlet orifice in the top and the bottom, and provided with a gravitating ball-valve, having its normal seating upon the outlet-orifice, but capable of floating also, and designed to close both orifices, as the operations of the trap may require. Attached to the lower orifice is a curved pipe having a liquid seal carried upward to a bend a little above the level of the base of the chamber, defining the water-level in such a manner as to inundate its bottom and extend the liquid seal into it. It is not intended that its depth should be sufficient to float the valve, nor to interfere with its close seating, but merely to afford it a support, when required, to float on a discharge of liquid occurring, and to protect it against the suction of an empty outlet-orifice. Thus, while the chamber is water-holding to the extent described, the larger portion of it is practically dry, and only the lower side of the valve is immersed. It is important that the valve-seating, particularly of the outlet-orifice, should be rigid and not raised to extend into the chamber, as that interferes with the rapidity of the venting and causes the accumulation of sediment. The valve should be twice or more in diameter than this orifice, to render its resistance sure against the constantly-recurring suction caused in it by the liquid outflow. The orifices are not necessarily in alignment with each other; but when placed out of line the floor and the roof of the chamber should be

made sloping to insure the valve finding its seatings.

In the accompanying drawings in section, referred to as a part of my specification, Figure 1 represents my trap with the orifices in alignment, and Fig. 2 represents it with the orifices out of alignment with each other.

In the drawings, A is the valve-chamber.

B is the valve.

C is the curved pipe.

D is the inlet-orifice.

E is the outlet-orifice.

F is the water-line.

G is the opening for placing the valve and cleaning the trap.

The operation of my invention under the foregoing conditions is easily understood.

The advantages of my construction consist partly in the independent yet co-operative dual character of the seals—by valve or by water—where siphonage is rendered impossible, because it would only draw the valve B closer to its seat, and where if the water seal is lost by evaporation the valve seal would be maintained by its gravitation alone. Here, also, the pressure of the valve B against the orifice D checks regurgitation; but the device by which the floor of the valve-chamber is inundated, so as to give support to the valve and to diminish the suction, removes the great difficulty of venting liquid into a vertical outlet through an orifice normally occupied by a gravitating valve.

I do not confine myself to the exclusive use of the curved pipe to establish the liquid seal in the chamber, but will adopt any other convenient construction for that purpose.

Having thus described my invention, I claim Letters Patent for—

1. A sewer-gas trap consisting of a chamber having an inlet-orifice at the top and an outlet-orifice at the bottom, a trap connected with the outlet-orifice having its outlet above the floor of the chamber, but below the main portion of the trap, and a buoyant and gravitating valve having sufficient weight to seat against the outlet-orifice when the chamber is full only to the level of the outlet of the trap and sufficient buoyancy to move from its seat when additional liquid enters the chamber, substantially as described.

2. In combination with a sewer-gas trap consisting of a chamber having an inlet-orifice at the top and an outlet-orifice at the bottom, and a trap connected with the outlet-
5 orifice having its outlet above the floor of the chamber, but below the main portion of the trap, a buoyant and gravitating valve of more than double the diameter of the outlet-orifice upon which it is seated, whereby the valve,
10 closing the outlet by its gravitation, is ena-

bled to float when liquid is discharged into the chamber, whether the said outlet be empty or filled with liquid, substantially as described.

In testimony of which I have hereunto 15 signed my name.

CHARLES H. RHETT.

Witnesses:

JNO. T. MADDOX,
ALBERT RHETT.