

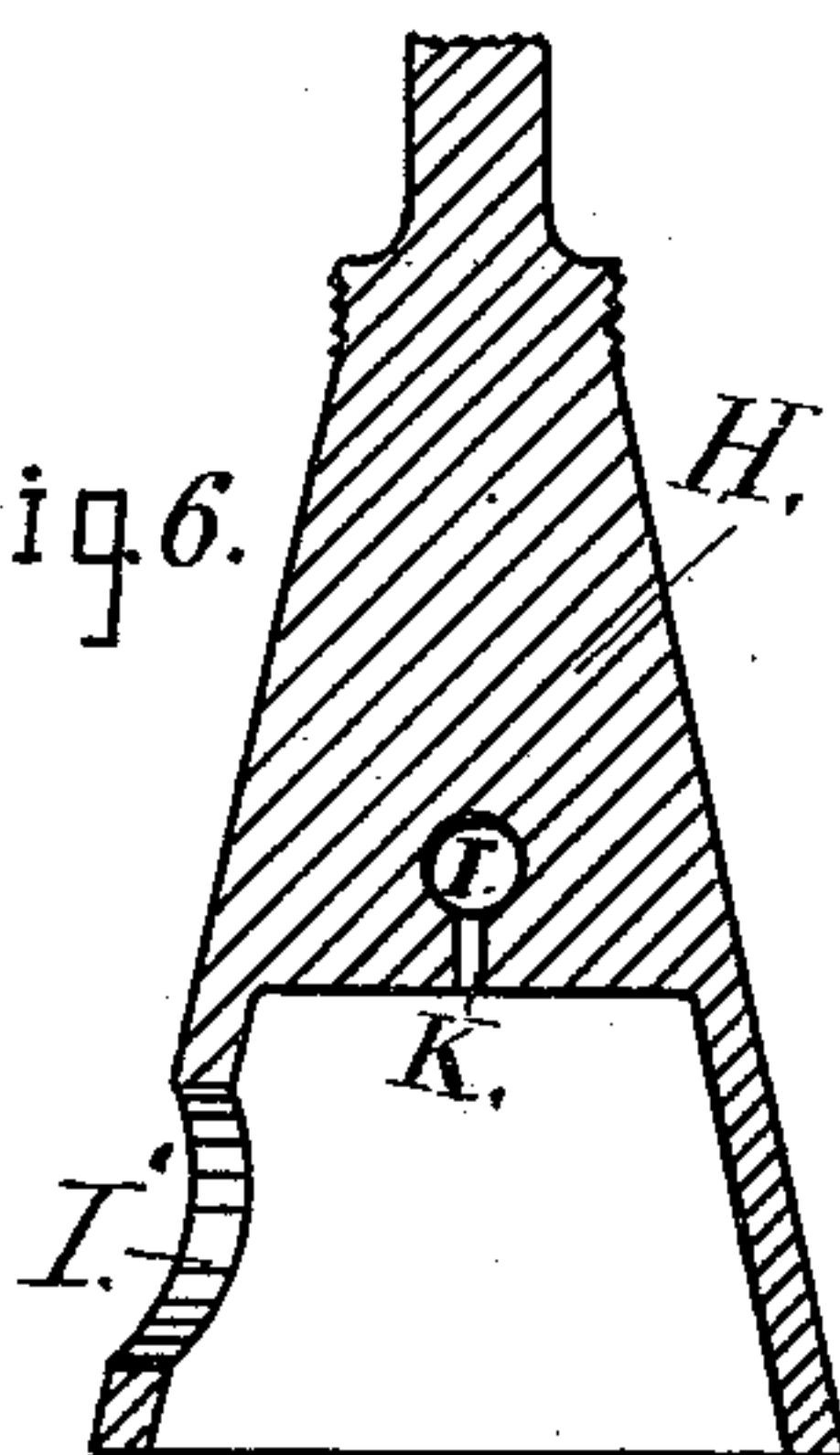
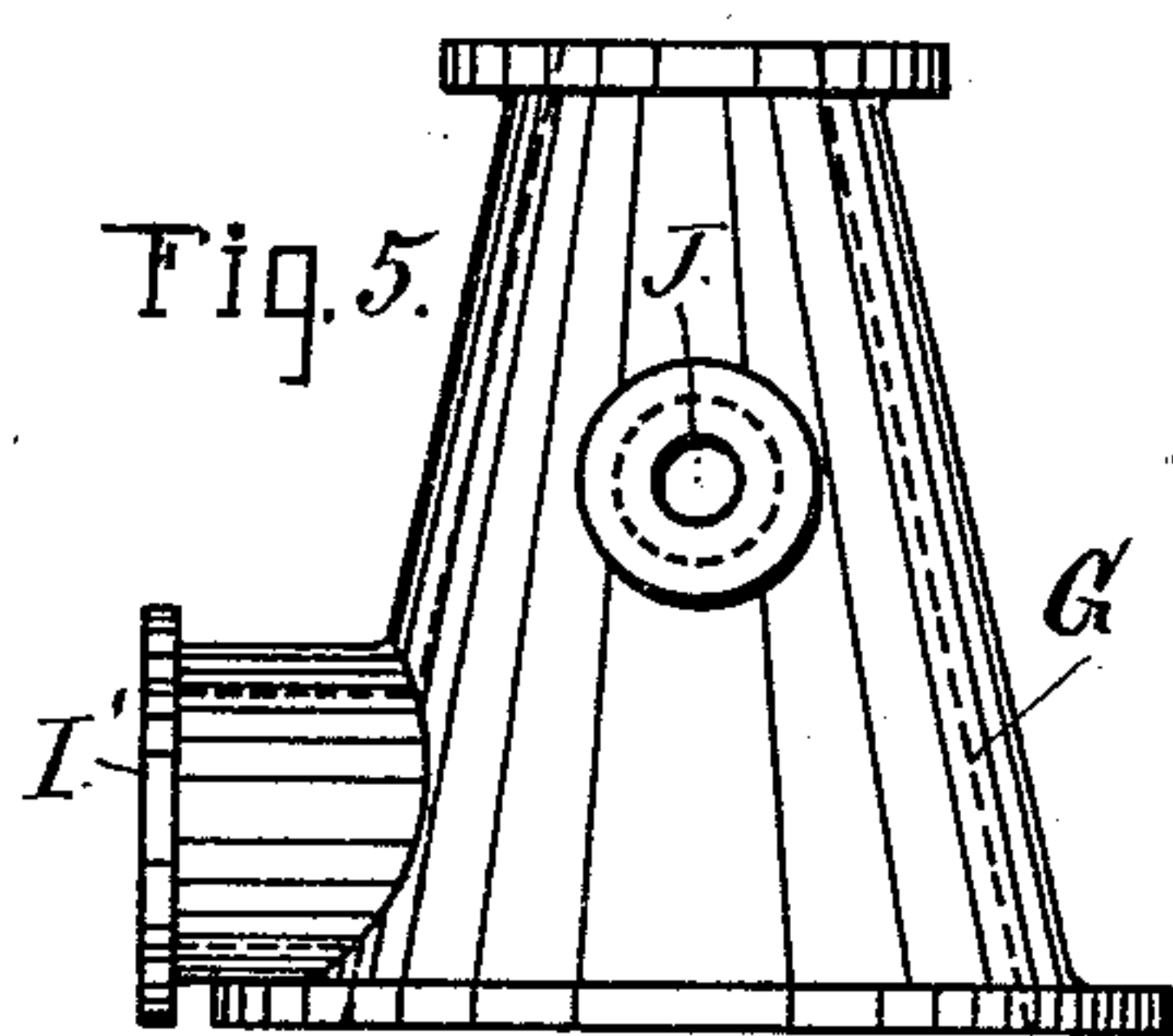
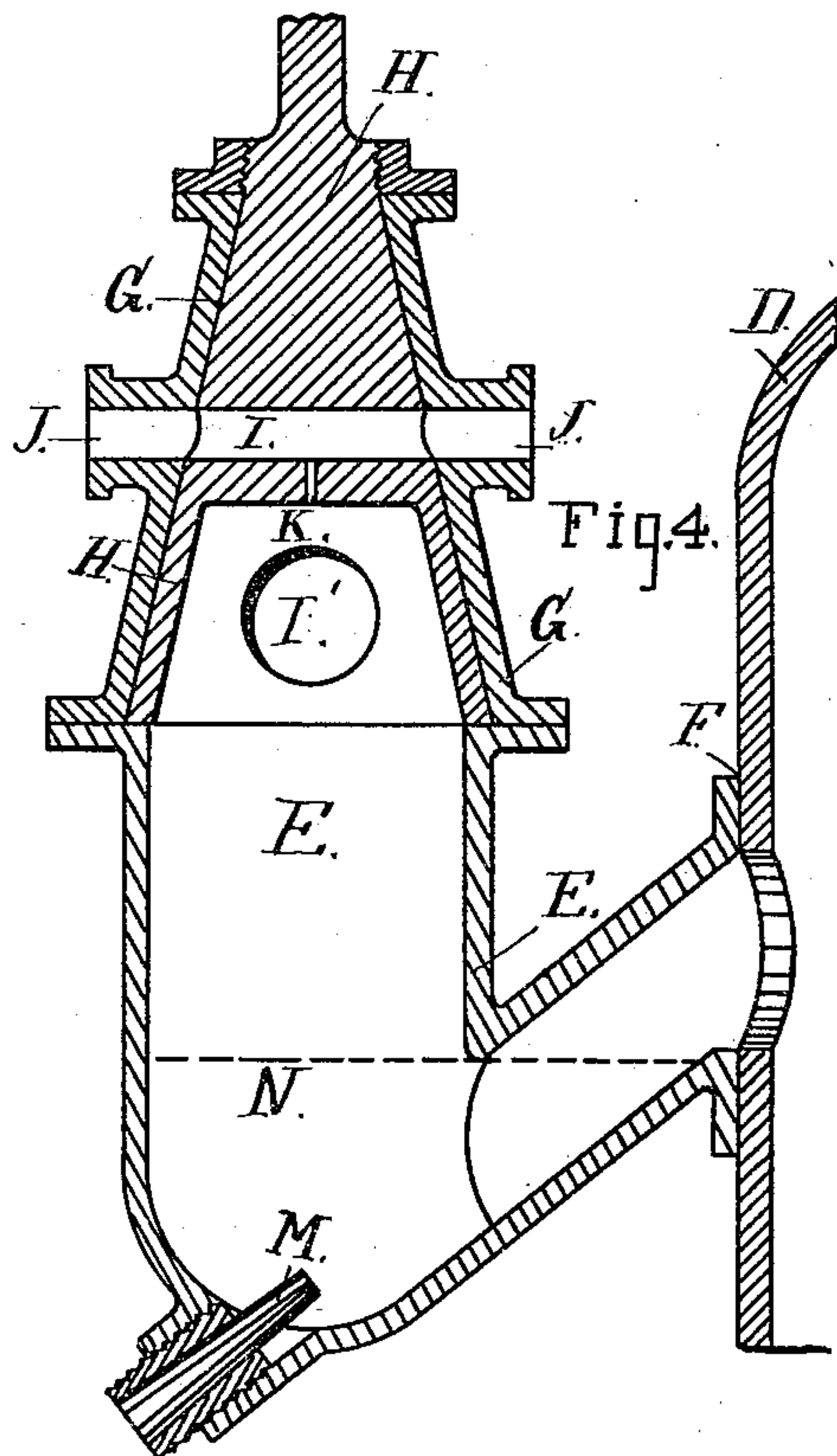
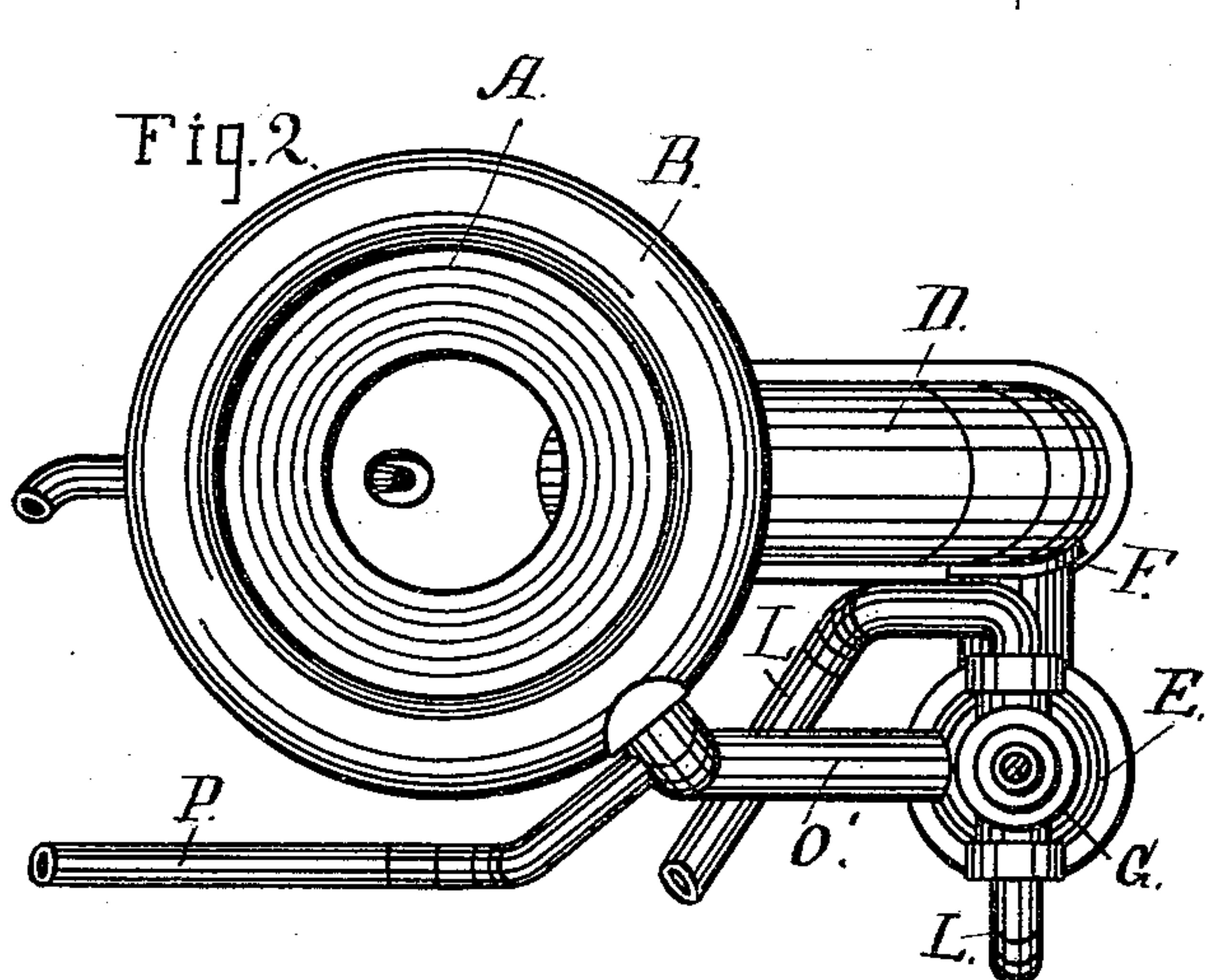
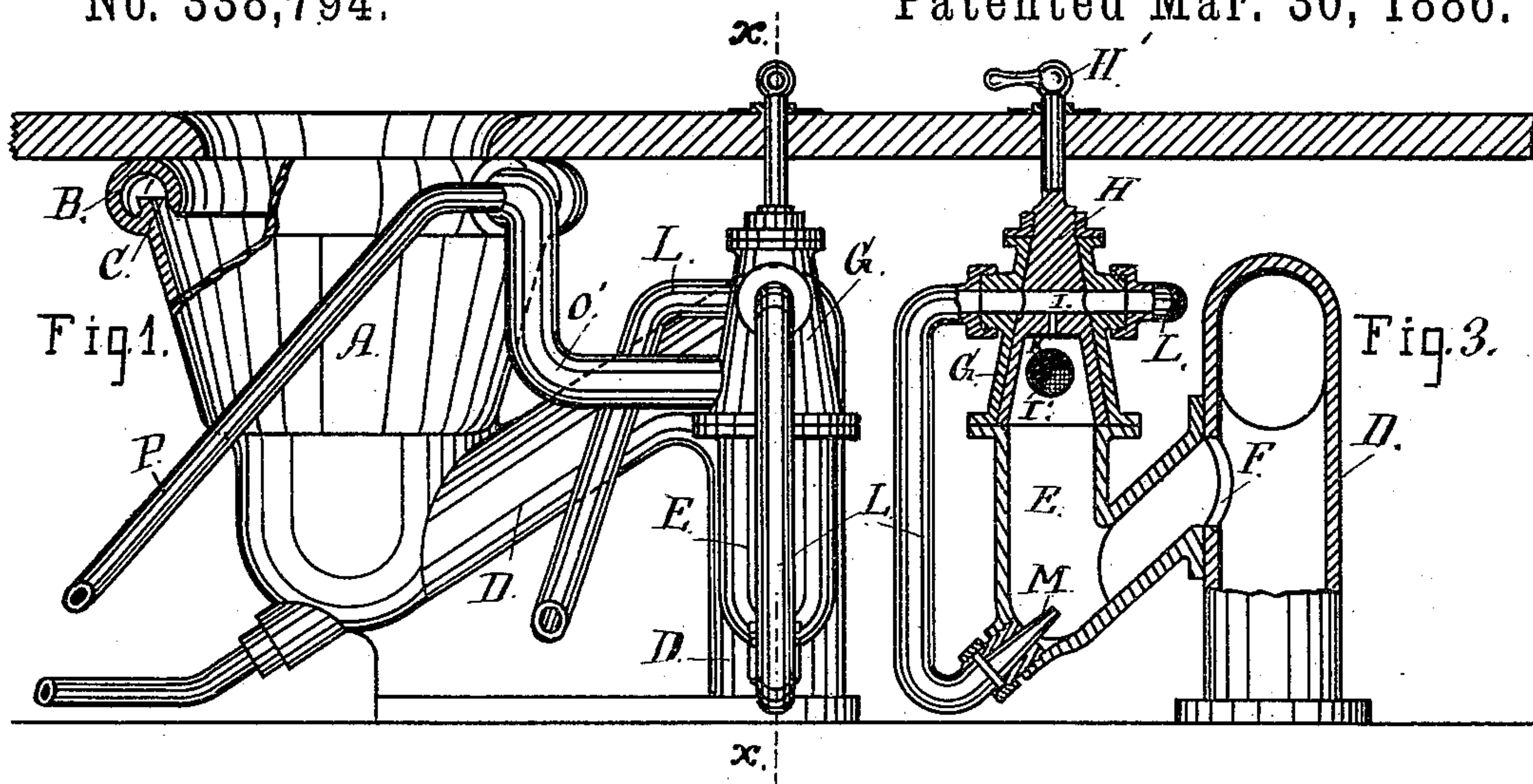
(No Model.)

W. SMITH.

EFFLUVIA EJECTOR FOR WATER CLOSETS.

No. 338,794.

Patented Mar. 30, 1886.



Witnesses:

*Wm. Mayer*  
*Chas. F. Smith*

Inventor:

*William Smith*  
*Edm. Smith*

By

Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF SAN FRANCISCO, CALIFORNIA.

## EFFLUVIA-EJECTOR FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 338,794, dated March 30, 1886.

Application filed August 14, 1885. Serial No. 174,452. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SMITH, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Effluvia-Ejector for Water-Closets, of which the following is a specification.

My invention relates to an attachment for withdrawing and expelling the effluvia from water-closets, so arranged that the effluvia is sucked or drawn into an intermediate receiver attached to the said closet, and expelled from thence to the soil-pipe; and my invention relates more particularly to certain improvements upon effluvia-ejectors for which Letters Patent of the United States were granted to me on the 15th day of May, 1877.

In the drawings hereto annexed, and which form a part of this specification, Figure 1 is a side elevation of a water-closet with my effluvia-ejector connected thereunto. Fig. 2 is a plan view of the same. Fig. 3 is a view in section taken through the line *x x*, Fig. 1. Fig. 4 is a detail view in section, also taken through the line *x x*, Fig. 1. Figs. 5 and 6 are views in detail.

Similar letters of reference are used to indicate like parts throughout the several views.

A represents the bowl of a water-closet, having a circular hollow rim, B, provided with a slit or slot, C, upon the lower inner side thereof, through which the water is received into the bowl for flushing the closet. The usual soil-pipe, D, is connected to the closet, and extends upward in the form of a dome leading downward into the sewer. To one side of this dome is connected an exhaust-chamber, E, the dome being tapped at F for this purpose. A casing, G, is bolted to the flanges of the exhaust-chamber, within which is placed a valve or plug, H, in which a passage or port, I, is made in line with the ports J J of the casing. The plug or valve is chambered below the ports of the casing, and a vent, K', connects with the passage J. The valve or plug H is made conical in form, as shown, so as to fit closely within the shell or casing, and it is provided with a suitable stem, which extends up through the seat, to which the handle H' is connected for operating it. A water-pipe, L, connects with the ports J J of the casing, one of which passes downward and enters the ex-

haust-chamber near its lower end, and to this end is coupled a nipple or nozzle, M, so that when in position a jet of water is introduced through it into the exhaust-chamber. This nozzle points toward the opening in the soil-pipe or dome in the lower end of the exhaust-chamber, and a trap, N, is formed by the water from the nozzle, so that foul air from the soil-pipe will not return when the ejector is not in operation. (Shown at Fig. 4.)

An opening, I', is made in the valve-casing, to which is coupled an exhaust-pipe, O', leading into the hollow slitted rim B of the water-closet above the bowl. Near the point where this exhaust-pipe enters the bowl or hollow slitted rim I connect a water-supply pipe, P, from which water is received with which to flush the closet.

The operation of my improved effluvia-ejector will be as follows, to wit: When the closet is in use, the valve H is first turned in its shell or casing, which permits the water from the pipe L to enter the exhaust-chamber through the nozzle M, which first expels the water in the trap and then exhausts the air and creates a vacuum in the chamber E, which causes the effluvia or foul air in the bowl or closet to be drawn through the exhaust or foul-air pipe, which enters the chamber through the medium of the opening I' in the hollow part of the valve, into the chamber E, when the jet of water from the nozzle will drive or force the effluvia out into the conduit or lower arm of the dome or soil-pipe. The slitted or slotted rim is of an enlarged construction, so that when the seat of the closet is occupied the suction from the ejector device will draw into the rim the foul air in the basin or bowl, and little, if any, will escape into the apartment in which the closet is located. During the time, however, of operating the ejector the closet is not to be flushed, or otherwise the valve of the ejector is not to be operated simultaneously with flushing device or pull-handle that communicates with the valve that admits water to the bowl.

Thus it will be seen that the ejector is connected to the water-closet proper only through the medium of the exhaust-pipe O', and that only one connection is made for flushing the basin or bowl and exhausting the effluvia therefrom. When the machine is at rest, the



water from the pipe L, after the valve is closed, will subside into the trap N and seal the chamber E from the soil-pipe.

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

1. In an effluvia attachment for water-closets, the receiver or exhaust-chamber E, fashioned with a trap, N, in the bottom thereof, and provided with a water-service pipe operated by a valve or plug above the said exhaust-chamber and entering the lower portion of the same, substantially in the manner and for the purpose shown and described.

2. In combination with a water-closet, the effluvia-ejector herein described, consisting of an exhaust-chamber having a plug or valve located above it, and a water-service pipe entering at the lower end of the chamber and

provided with a nozzle, together with an exhaust-pipe entering the casing above the chamber and connecting with the bowl of the water-closet in the manner as set forth and specified.

3. In a water-closet, the effluvia-exhaust pipe O' and the water-pipe P, for flushing the closet, forming a junction with each other at the points shown, whereby the pipes for flushing the closet and exhausting the foul air are combined in one and the same, and form only one connection with the bowl or basin, as set forth and specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

WILLIAM SMITH. [L. S.]

Witnesses:

C. W. M. SMITH,  
JAMES L. KING.