

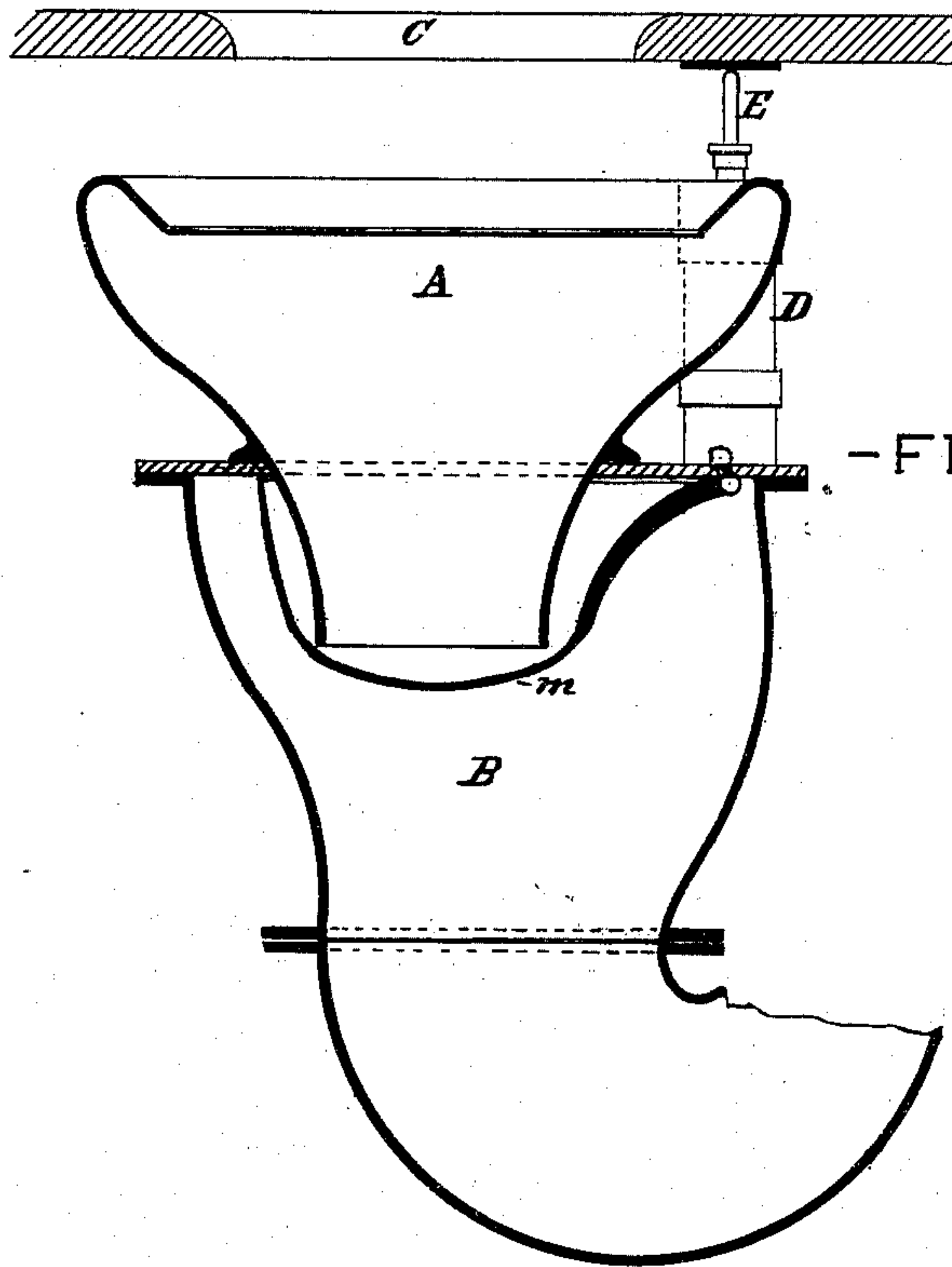
J. J. O'DONOHUE.

Automatically Cleansing Water-Closets.

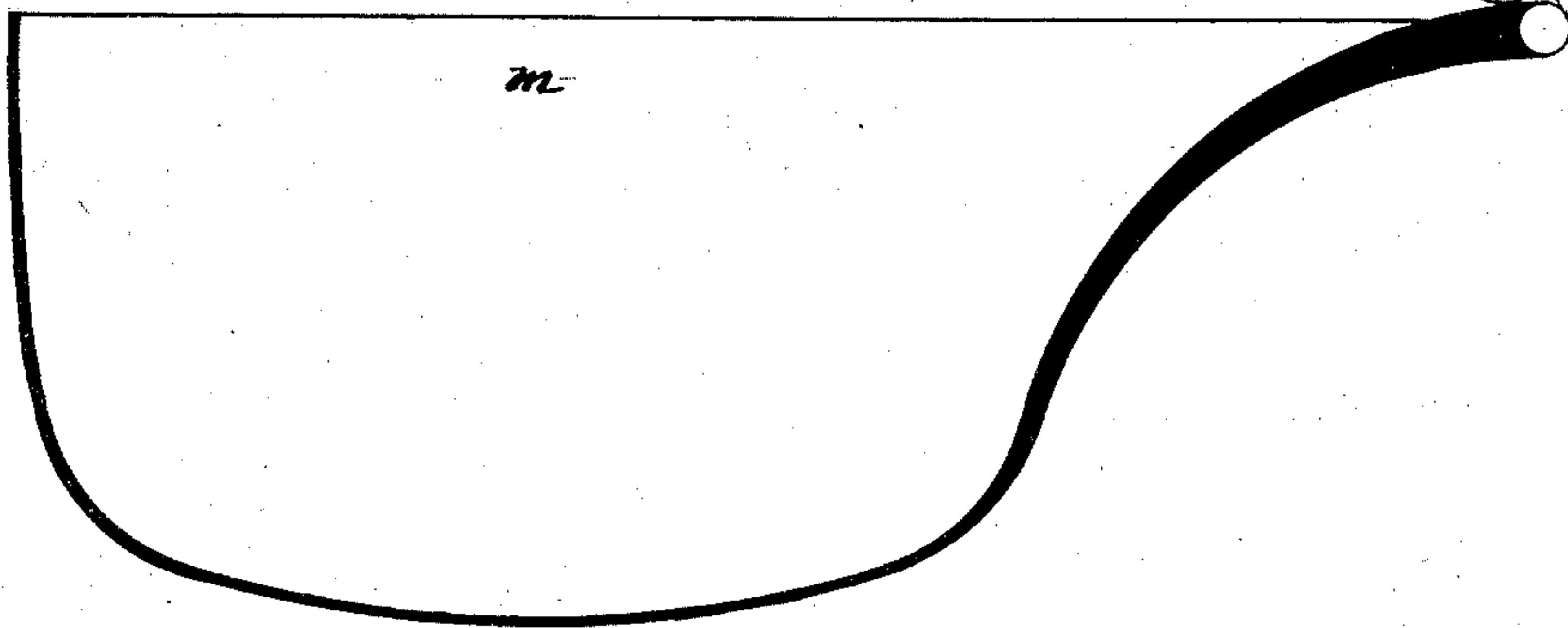
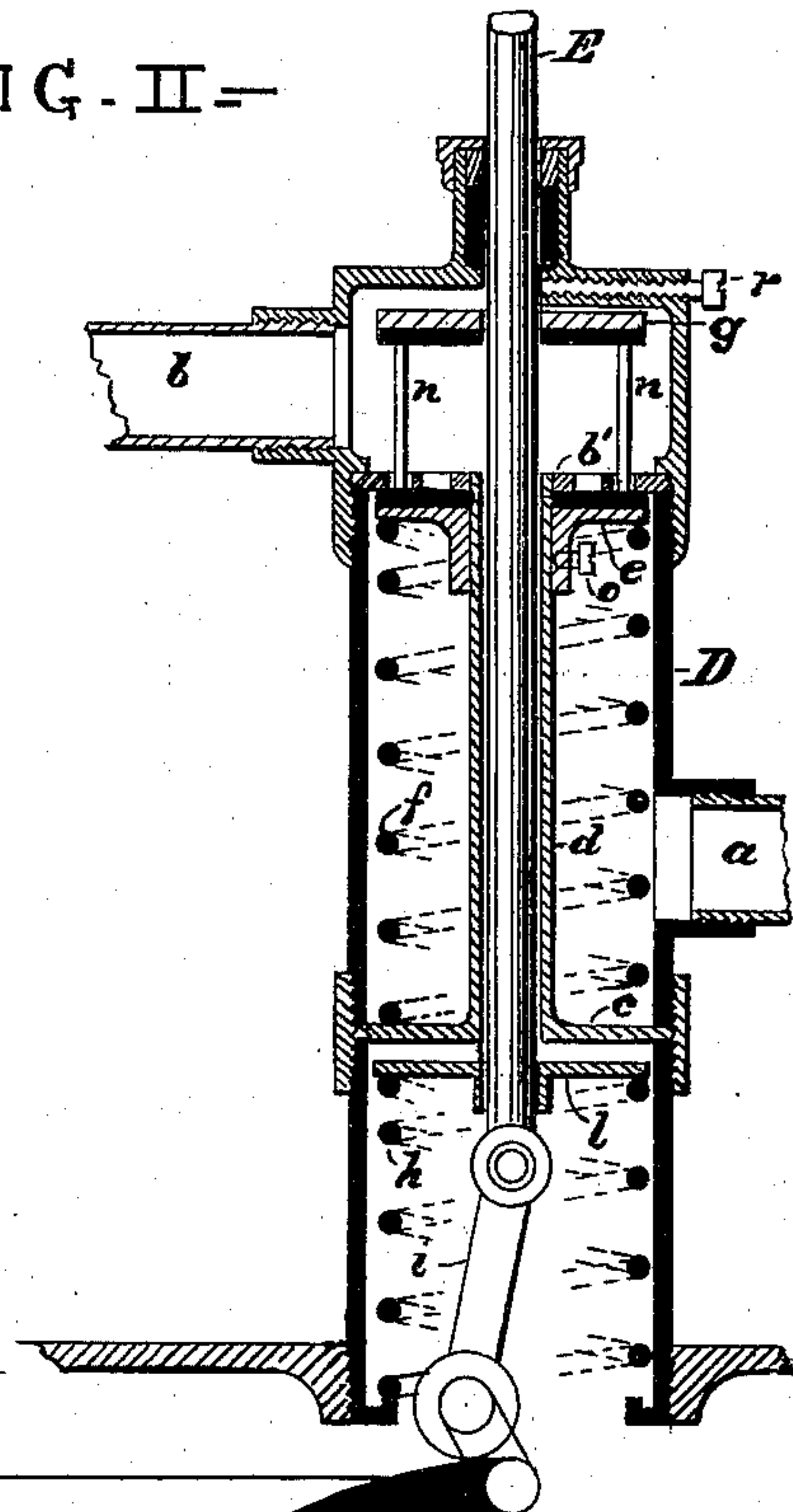
No. 165,174.

Patented July 6, 1875.

— FIG. I. —



— FIG. II. —



— WITNESSES —

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UNITED STATES PATENT OFFICE.

JOSEPH J. O'DONOHUE, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN AUTOMATICALLY-CLEANSING WATER-CLOSETS.

Specification forming part of Letters Patent No. 165,174, dated July 6, 1875; application filed December 16, 1874.

To all whom it may concern:

Be it known that I, JOSEPH J. O'DONOHUE, of the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Automatically-Cleansing Water-Closets, 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 said invention, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates more especially to the valves and attachments by means of which the water is admitted to the bowl for the cleansing of the same, and to a combination of devices by means of which the movement of the pan is made dependent upon that of the valves and attachments aforesaid.

In the description of my invention which follows due reference must be had to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a partially-sectional view of the principal parts of a water-closet embodying my improvements; and Fig. 2, a sectional view of parts of the invention on an enlarged scale.

Similar letters of reference indicate similar parts in both figures.

In the drawing, A represents the bowl of the water-closet, and B the trunk upon which the bowl rests. C is the seat, hinged or suspended in such manner as to allow of its depression upon weight being applied thereto. D is a valve-case provided with the inlet and outlet pipes *a* and *b*, the inlet-pipe *a* connecting to the water-supply, and the outlet-pipe *b* to the bowl A. The valve-case D is divided into two distinct compartments or chambers by the partition *c*, the upper one, or water-chamber, being at all times filled with water, and the lower one, or connection-chamber, in constant communication with the trunk B. At a point near the top of the water-chamber is secured a perforated valve plate or seat, *b'*, which is connected to the partition *c* by a tube, *d*. Immediately below the valve-plate is a valve, *e*, faced with some flexible packing substance, and sustained in place by means of a spiral spring, *f*, confined between said valve and partition *c* aforesaid. E is the valve-stem, the upper end of which is forced, by means of a second spiral

spring, *h*, which bears against a collar, *l*, upon said stem, to the under side of the seat C, elevating the same and opening the valve *g*, secured to said stem above the valve-plate *b'*. The lower end of valve-stem is connected, by means of a rod, *i*, to the pan *m* in such manner as to retain the said pan in a closed position when said stem is elevated.

Parts of my invention not yet referred to will be described and their several uses fully set forth in the description of the operation of a water-closet embodying my improvements which follows.

When the water-closet is not in use the parts thereof occupy the positions shown in the drawing, the upper valve, *g*, being open, and the lower one, *e*, closed, and the pan *m* covering the lower end of the bowl; but upon the seat being occupied the weight of the occupant causes the depression of the seat and stem E, and consequently the closing of the valve *g*, attached to said stem. During this operation the pan *m* is lowered or opened, and the lower valve *e*, which is sustained by the spring *f*, forced down by means of the rods *n*, projecting from the upper valve *g*, attached to valve-stem E. The rods *n* pass through the perforations in the valve-plate *b'*, and to prevent injury to the flexible packing of the valve *e*, caused by the action of said rods thereupon, rotation of the said valve may be prevented by some simple attachment to the valve-case. As long as the seat is occupied it is depressed, and the flow of water to the bowl prevented, but upon the seat being relieved of the weight of the occupant it is raised by means of the spring *h* and stem E, and the valve *g* being opened by the elevation of the stem, the water flows to the bowl, and continues to flow until the valve *e* closes. The valve *e* does not close with the opening of the one *g*, being independent of it and operated upon only by the spring *f*, but has a retarded motion upon the tube consequent upon the friction caused by the set-screw *o* bearing against the outer surface of said tube. The movement of the stem E and its connecting parts can also be retarded by means of set-screw *r* in the upper end of the valve-case.

The sizes of the different parts of this invention and the tension of the set-screws can be

regulated to allow sufficient water to pass to the bowl to cleanse it before the closing of the valve *e*, and when such arrangement and regulation are had, the bowl and trap below it are cleansed without any manipulation of the parts, and that, too, without an unnecessary expenditure of water.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a water-closet, the movable seat *C*, in combination with the valve-stem *E*, upper valve *g*, and valve-plate *b'*, substantially as shown.

2. The valve-case *D*, in which is secured the valve-plate *b'*, connected, by the tube *d*, to the partition *c*, in combination with the valve *e*, spiral spring *f*, and valve *g*, provided with the rods *n*, substantially as set forth.

3. The stem *E*, with collar *l* thereupon, in

combination with the spiral spring *h* and valve-case *D*, substantially as specified.

4. The combination of the pan *m* and rod *i* with the vertically-moving valve-stem *E*, substantially as described.

5. The valve-case *D*, divided into separate compartments or chambers, as shown, in combination with the inlet and outlet pipes *a* and *b*, and provided with the combination of valves connected and operated as described, substantially as and for the purpose set forth.

In testimony whereof I have hereunto subscribed my name this 14th day of December, in the year of our Lord 1874.

JOSEPH J. O'DONOHUE.

Witnesses:

WM. S. MURPHY,
STANLEY HYNSON.