

(No Model.)

J. G. BRYAN.
WATER CLOSET.

No. 448,908.

Patented Mar. 24, 1891.

FIG. 2.

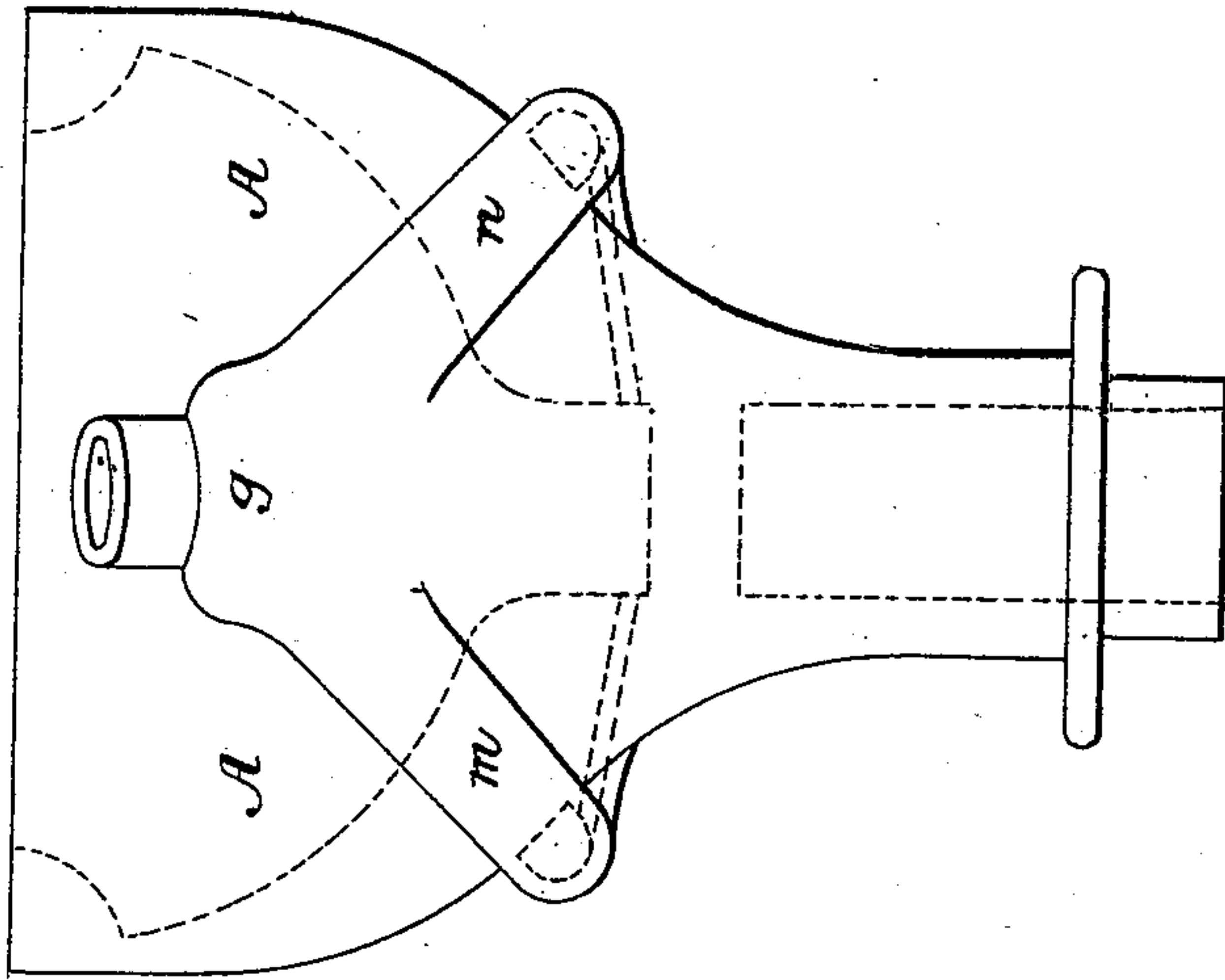
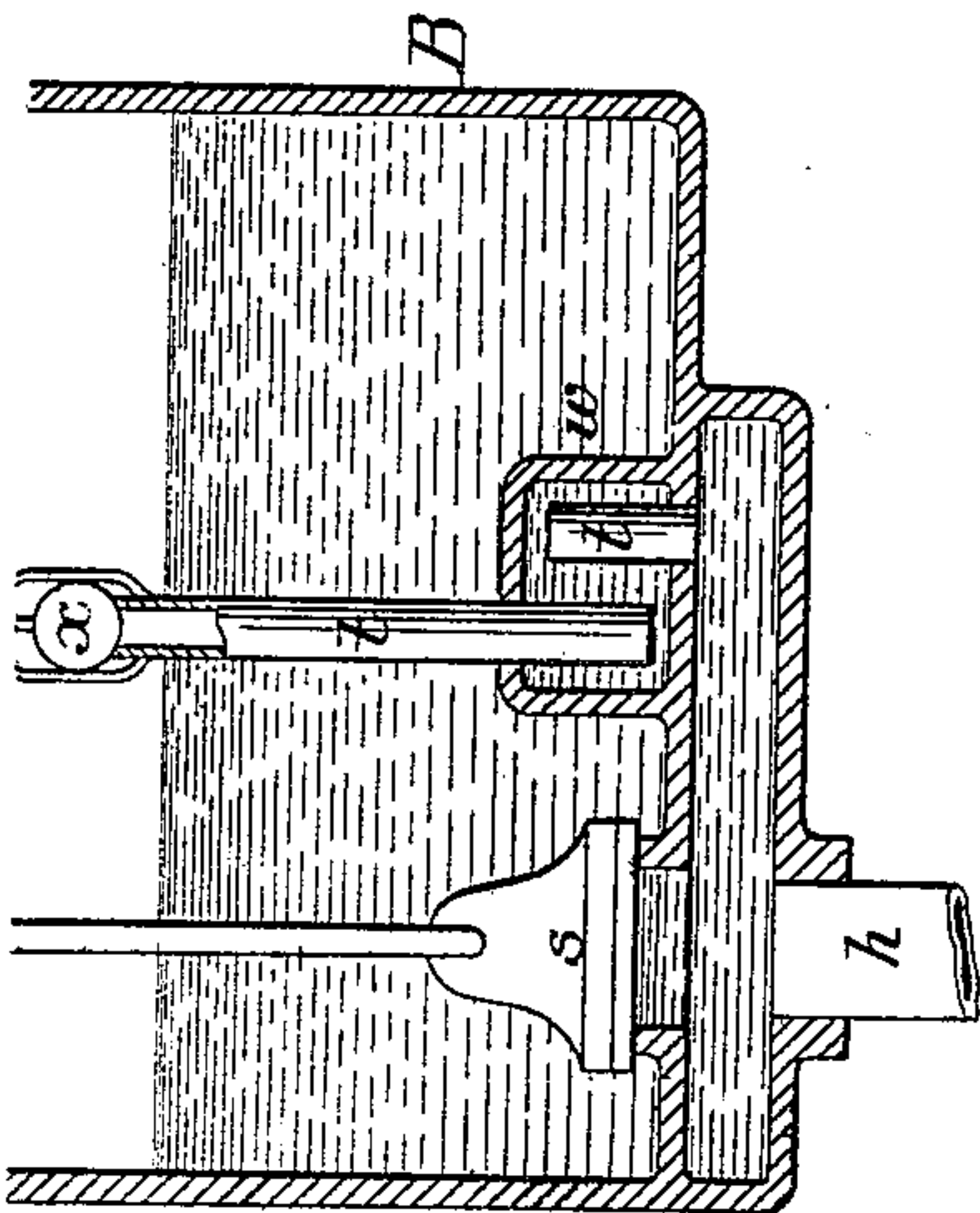
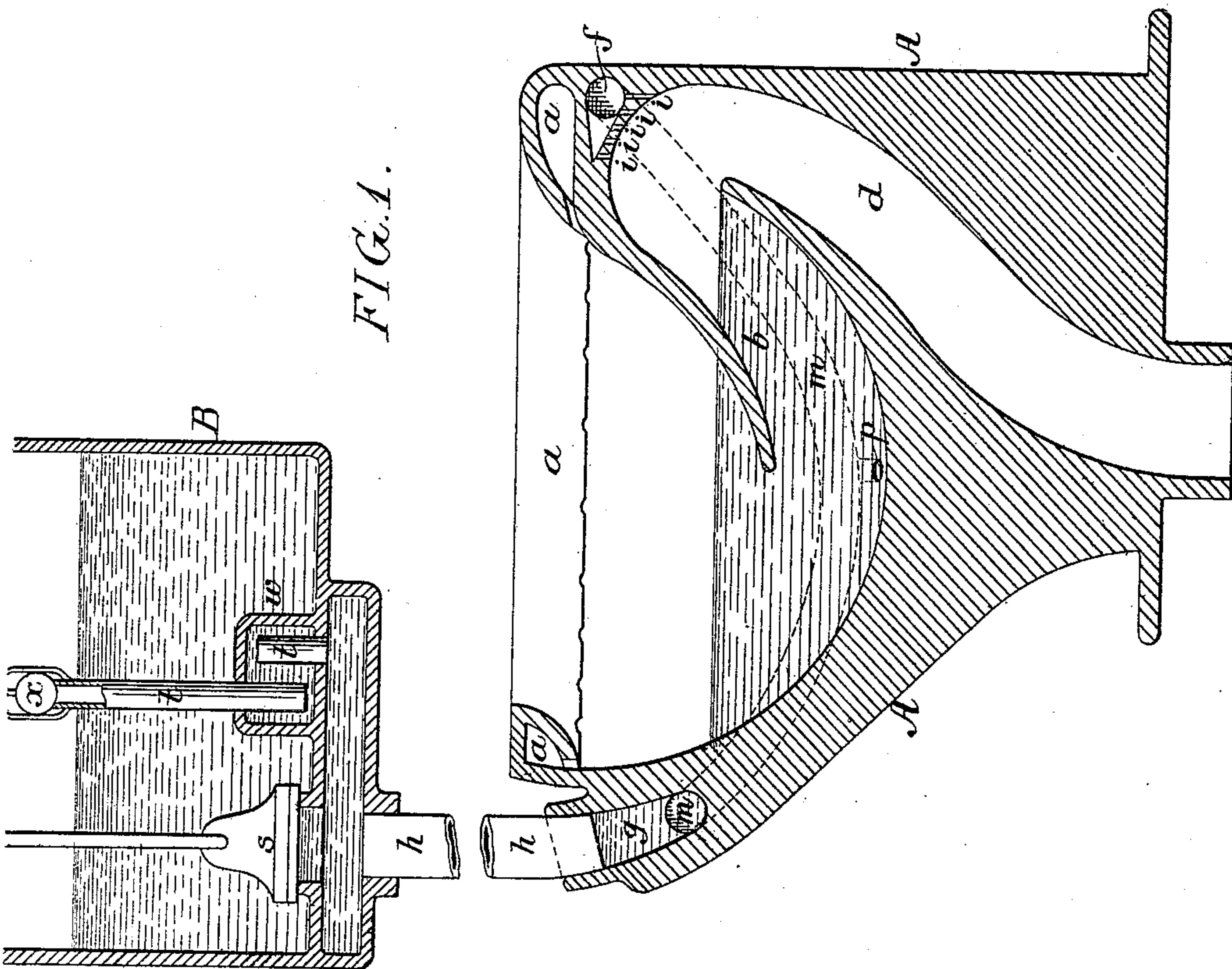


FIG. 1.



Witnesses:
R. Schleicher.
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UNITED STATES PATENT OFFICE.

JAMES G. BRYAN, OF PHILADELPHIA, PENNSYLVANIA.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 448,908, dated March 24, 1891.

Application filed November 6, 1890. Serial No. 370,518. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. BRYAN, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Water-Closets, of which the following is a specification.

The object of my invention is to so construct a water-closet as to render the same noiseless in its action; and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of a water-closet bowl constructed in accordance with my invention, part of the reservoir with its valve and overflow-pipe being also illustrated; and Fig. 2 is a rear view of the bowl.

A represents the body of the bowl, having around the top the usual flushing-rim *a*, and having at the front a siphon discharge-passage comprising the short leg *b*, communicating with the receiving-chamber of the bowl, and the long leg *d*, communicating with the soil-pipe, these two legs being connected at their upper ends, as usual. At the front of the bowl and between the flushing-rim and the upper portion of the discharge-siphon is a chamber *f*, having a number of jet-openings *i* above the long leg *d* of the siphon, and so located in respect to the latter that the jets discharged therefrom will cover almost the entire area of said discharge-leg, so as to drive the air downward therefrom, and thus start the siphon action in order to drain the bowl. At the back of the bowl is a neck or branch *g*, which receives the water-supply pipe *h* from the elevated reservoir B, and this water-receiving neck is forked at its lower end, so as to form two pipes or passages *m* and *n*, which extend around under the sides of the bowl and up toward the top of the same at the front, one of these pipes—say, for instance, the pipe *m*—communicating with the jet-chamber *f* and the other with the flushing-rim *a*. Water entering the supply-neck *g* therefore is directed through these branch pipes or passages to the flushing-rim and jet-chamber, the proportion of water-supply received by each being dependent upon the relative areas of the two pipes or passages *m* and *n*, which

may be so proportioned in respect to each other as to give to the flushing-rim and jet-chamber the proper volume of water required by each, each supply being entirely independent of the other, so that neither part can receive an excess at the expense of the other. Each of the pipes or passages *m* and *n* has a drainage-passage *p*, communicating with the lower portion of the short leg of the siphon, so that the water normally stands at the same level in the bowl and in said pipes *m* and *n*, which thus serve as water seals or traps for the lower end of the pipe *h*, the latter being filled with water, owing to the fact that no air can enter the upper end of said pipe when the valve *s* is closed, the overflow-pipe *t* being sealed against the inflow of air, such sealing being effected in the present instance by a water-seal box *w* and by a valve *x* at the top of the pipe. The pipe *h* is thus sealed against the inlet of air either at top or bottom, the bends in the supply-pipes *m* and *n* serving as traps for the lower end of said pipe *h*, so that when the valve at the top of the pipe is closed to cut off the inlet of water to said pipe, the latter, the supply-neck, and the bends of the pipes *m* and *n* below the flushing-rim and jet-chamber remain filled with water. A solid column of water being thus maintained between the reservoir and bowl, there is on starting the flow into the bowl no noise, such as usually accompanies the displacement of the air in the supply-passages and the first rush of mixed volumes of air and water into the bowl. The tank and passages can be drained, however, when desired, by removing the water from the bottom of the bowl and siphon-pipe, so as to uncover the drainage-passages *p*.

If desired, the overflow-pipe may communicate with the bowl independently of the pipe *h*, in which case the sealing of said overflow-pipe will not be necessary.

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

1. The combination of the bowl having a flushing-rim, the supply-reservoir, the valved pipe conducting water from the reservoir to the bowl, but sealed against the inlet of air at the upper end when the valve is closed, and a curved pipe or passage connecting the supply-pipe and flushing-rim and forming a bend

below the latter, so as to constitute a water seal for the supply-pipe, the latter being otherwise closed against the inlet of air at its lower end, substantially as specified.

5 2. The combination of the bowl having a siphon discharge-pipe and jet-chamber therefor, a supply-reservoir, the valved pipe conducting water from the reservoir to the bowl, but sealed against the inlet of air at the upper end when the valve is closed, and a curved
10 pipe or passage connecting the supply-pipe and jet-chamber, and forming a bend below the latter, so as to constitute a water seal for the supply-pipe, the latter being otherwise
15 closed against the inlet of air at its lower end, substantially as specified.

3. The combination of the bowl having a flushing-rim, a siphon discharge-pipe and a
20 jet-chamber for the latter, a water-reservoir, a valved pipe conveying water from said reservoir to the bowl, but sealed against the inlet of air at the upper end when the valve is closed, and curved pipes or passages connecting the supply-pipe respectively with the

flushing-rim and jet-chamber of the bowl, but 25 forming bends below the same, so as to retain the water and constitute seals whereby any entrance of air to the lower end of the supply-pipe is prevented, substantially as specified.

4. The combination of the bowl, the supply- 30 reservoir, the valved pipe conveying water from the reservoir to the bowl, but sealed against the inlet of air at its upper end when the valve is closed, a curved pipe or passage connecting the supply-pipe with an outlet at 35 the top of the bowl and forming a bend below said outlet, but above the bottom of the bowl, so as to retain the water and seal the lower end of the supply-pipe, and a drainage-passage leading from the lower portion of the 40 bend into the bowl, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES G. BRYAN.

Witnesses:

EUGENE ELTERICH,
HARRY SMITH.