

(No Model.)

G. R. URIDGE.
FLUSHING DEVICE FOR WATER CLOSETS.

No. 466,985.

Patented Jan. 12, 1892.

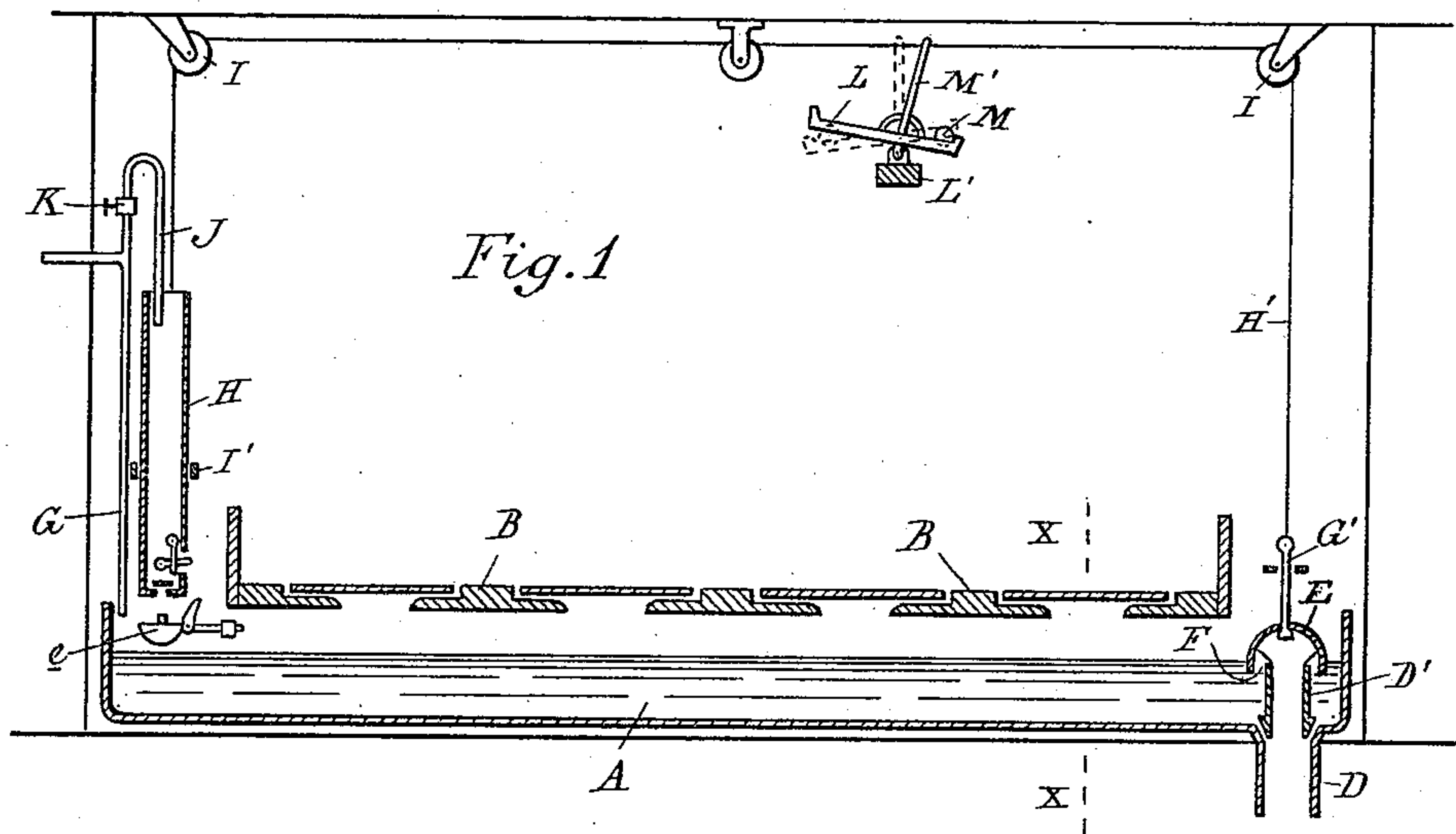


Fig. 3

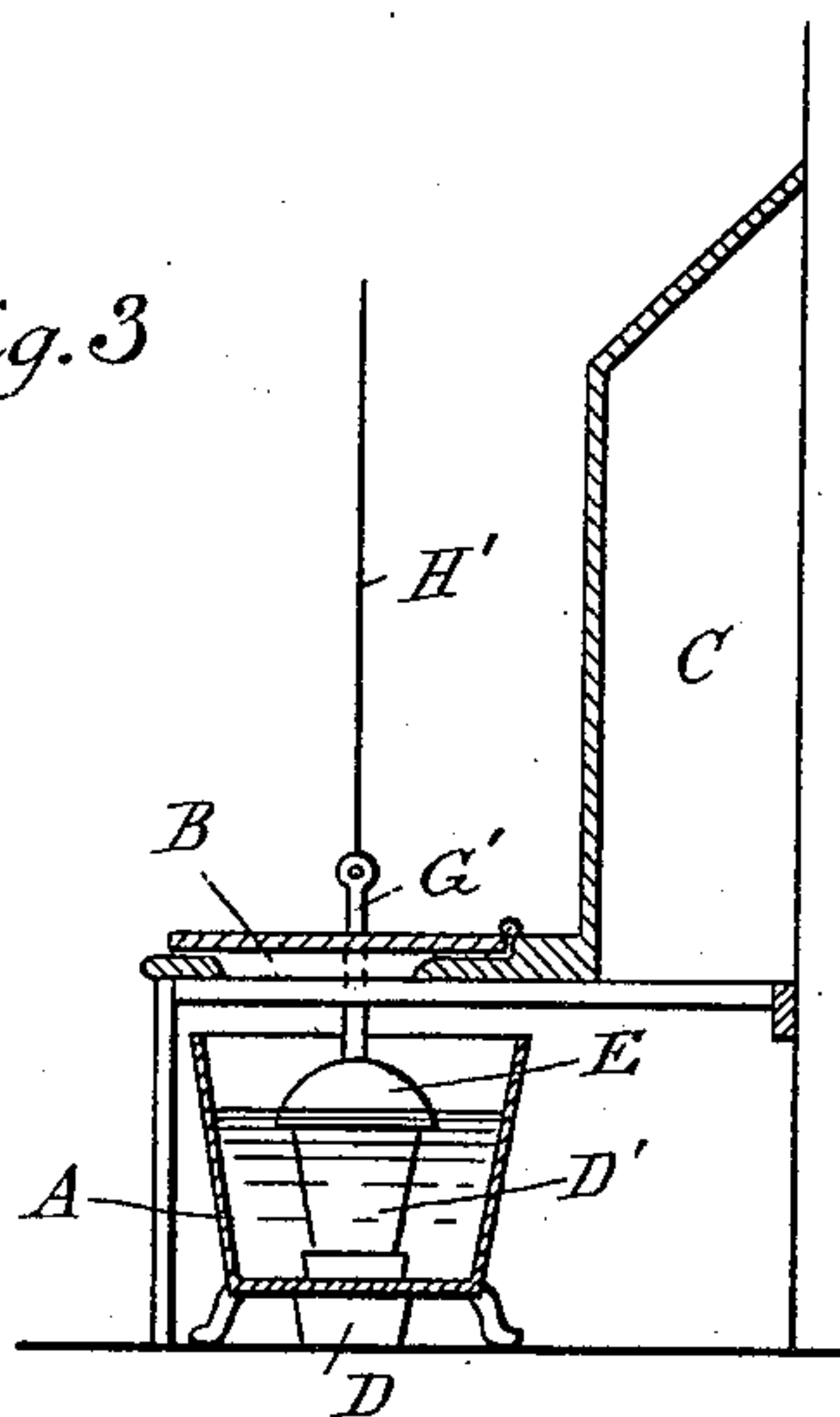
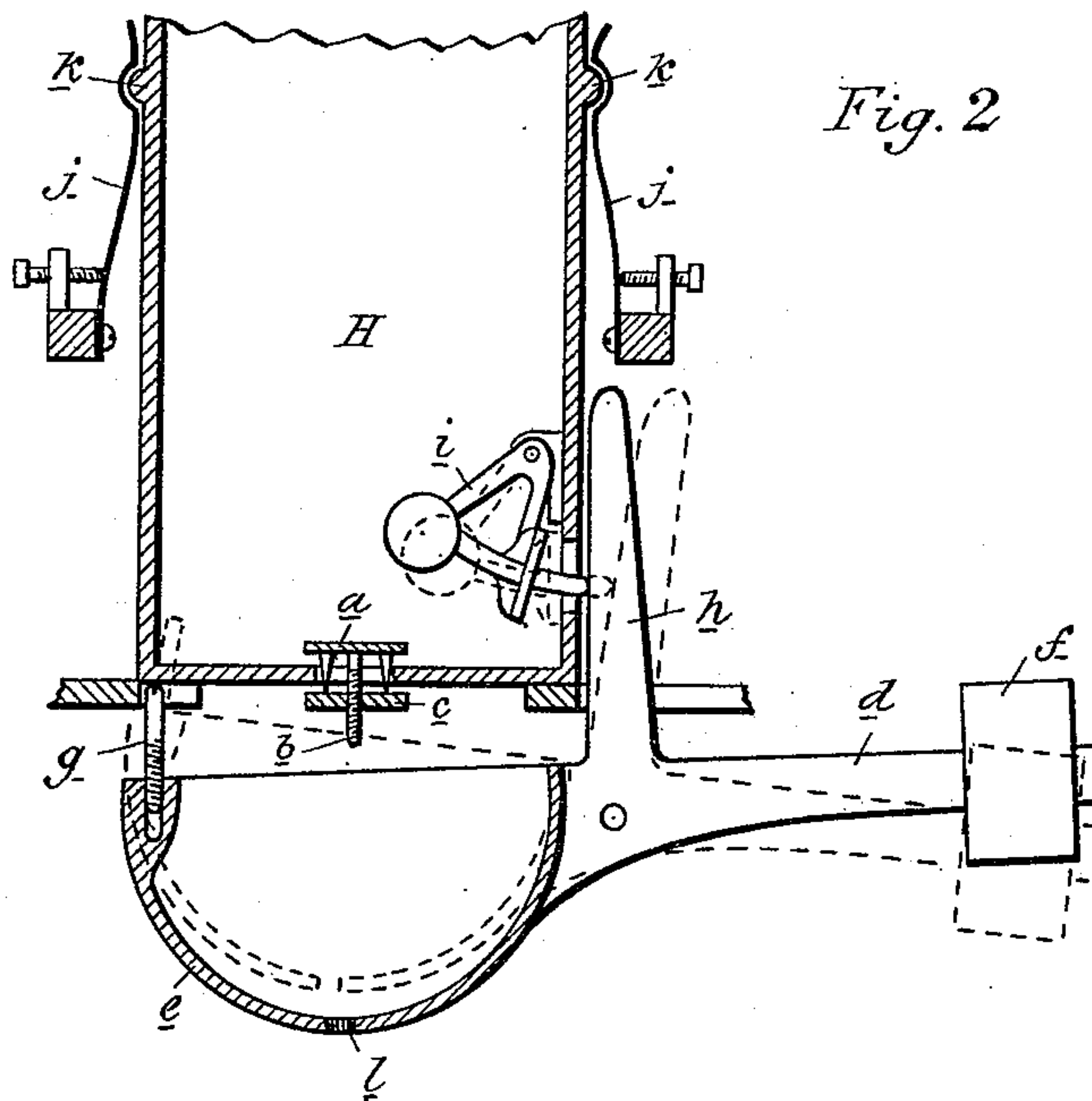


Fig. 2



Witnesses:
J. Paul Mayer
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George R. Uridge
by *Wm. Sprague* Attys

UNITED STATES PATENT OFFICE.

GEORGE R. URIDGE, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
THE DETROIT PLUMBERS SUPPLY COMPANY, OF SAME PLACE.

FLUSHING DEVICE FOR WATER-CLOSETS.

SPECIFICATION forming part of Letters Patent No. 466,985, dated January 12, 1892.

Application filed May 27, 1891. Serial No. 394,314. (No model.)

To all whom it may concern:

Be it known that I, GEORGE R. URIDGE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Flushing Devices for Water-Closets, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in flushing devices for water-closets; and the invention consists in the peculiar construction of a valve intermittently opened to flush the closet by means of a counter-weight, said counter-weight consisting of
15 a chamber having a source of water-supply and a valve at the bottom, opened when the flushing-valve is opened and closed when the counter-weight chamber is emptied, and, further, in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

20 In the accompanying drawings, Figure 1 is a vertical central section through a water-closet embodying my invention. Fig. 2 is an enlarged section through the counter-weight chamber and connecting parts. Fig. 3 is a section on line $x x$.

25 A is a tank; B, the seat; C, a ventilating-flue connecting with any suitable exit. This tank is provided with the exit-pipe D, closed by the cylindrical valve D'. This valve has a cap E and an overflow connection F beneath the cap to take off the surplus water, which is
35 continuously fed at the other end from inlet-pipe G. The valve D' has the stem G' moving in suitable guides and is counterbalanced by a tube or chamber H, to which it is connected by a rope H' passing over grooved
40 wheels I. The chamber H is held in suitable guides I' and is slowly filled with water by a pipe J, controlled by a valve K. There is a continual flow of water from end to end of the tank, the water remaining at the level of the
45 overflow-openings in the valve D'. The valve K being opened more or less, the water gradually accumulates in the chamber H, and when it is filled its weight is sufficient to raise the valve D', drawing off all the water in the tank
50 and flushing it. A lever L is pivoted to a

cross-bar L' and is provided with a runway for the weight M. The lever is connected to the cord H' by the arm M', and as the chamber H drops the weight rolls to the left and assists
55 in holding the valve open. In the opposite movement the ball is moved to the opposite end and counterbalances the chamber H, assisting in holding it in its upper position until it is filled with water.

In order to empty the chamber H, I construct the following mechanism:

a is a valve for a central aperture in the bottom of the chamber. b is an adjustable pin in the cross-bar c , which strikes the valve and opens it as the chamber descends.

65 d is a lever pivoted below the chamber H, carrying the cup e at one end and counter-weight f at the other, sufficient to keep the cup when empty in its highest position. (Shown in dotted lines in Fig. 2.)

70 g is an adjustable striker-arm on the cup. As the chamber H descends it strikes the pin g , turns the lever d upon its pivot, and rocks the striker-arm h toward the chamber, opening the gravity-valve i in the side of the
75 chamber, through which the water escapes. The amount of opening of this valve can be regulated by raising or lowering the pin g .

The cup e fills as soon as the valve a is lifted, and as the water lowers in the chamber
80 the weight of water in this cup assists in positively holding the valve i open. The springs j clamp the lugs k and also aid in holding down the chamber H and prevent its jumping; also act as buffers to prevent a severe blow
85 by the chamber in falling. As soon as the chamber is emptied the weight of the valve D overcomes the weight of the chamber and returns to its upper position ready to repeat the operation, the valve D' seats, the tank
90 fills, and the weight M runs to the opposite end of the lever L. The exit l allows the water to escape from the cup. I thus get a periodical flushing, which can be arranged at any desired time interval, and which gives
95 me a simple construction, especially efficient for public buildings, such as schools, &c.

What I claim as my invention is—

1. In a flushing device for water-closets, the combination, with the water-supply pipe, of a
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vertically-moving chamber into which said pipe leads, a valve in the lower end of the chamber, a lever below the chamber for actuating the valve, a discharge-valve, a flexible
5 connection between the same and the chamber, a lever having connection with said flexible connection, and a movable weight on the lever, substantially as described.

2. In a device of the kind described, the
10 combination of a vertically-movable chamber H, a supply-pipe leading into the same, a valve in the lower end of the chamber, a lever pivoted below the chamber, an adjustable pin on the lever, a cup apertured at its lower
15 end, supported by the lever, a counter-weight on the lever, a valve *a* in the bottom of the chamber, and an adjustable pin below the valve secured to a stationary support, substantially as described.

3. In a device of the kind described, the
20 combination of chamber H, supply-pipe J, leading into the said chamber *a*, valve *i* in the lower end of the chamber *a*, lever *d* below the chamber, and striker-arm *h* on the lever, substantially as described. 25

4. In a device of the kind described, the combination of the chamber H, supply-pipe J, leading into the chamber *a*, valve *i* in the lower part of the chamber, lever *d* below the chamber, adjustable pin *g* on the lever, and
30 a striker-arm *h*, actuated by the lever, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE R. URIDGE.

Witnesses:

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