

(No Model.)

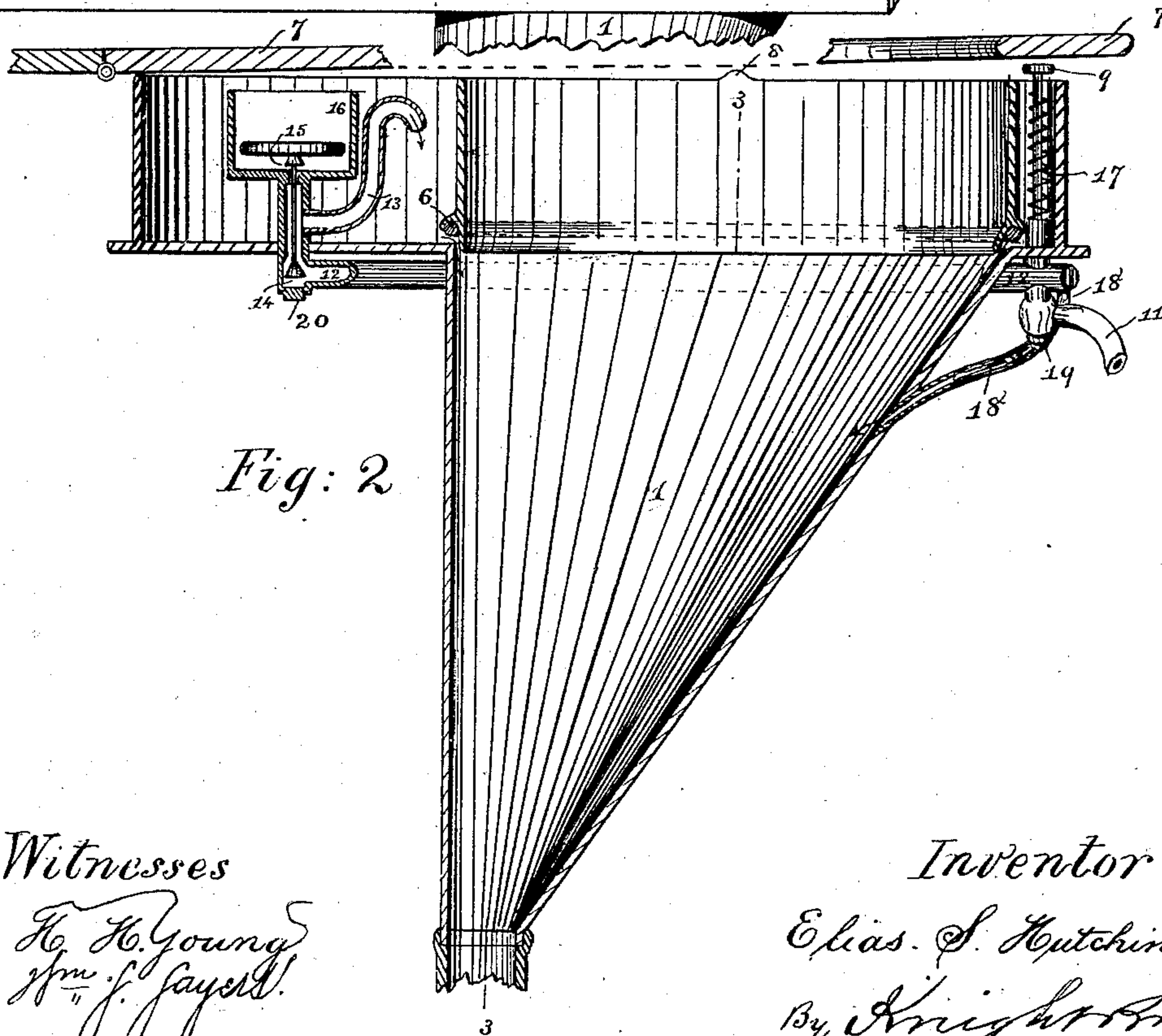
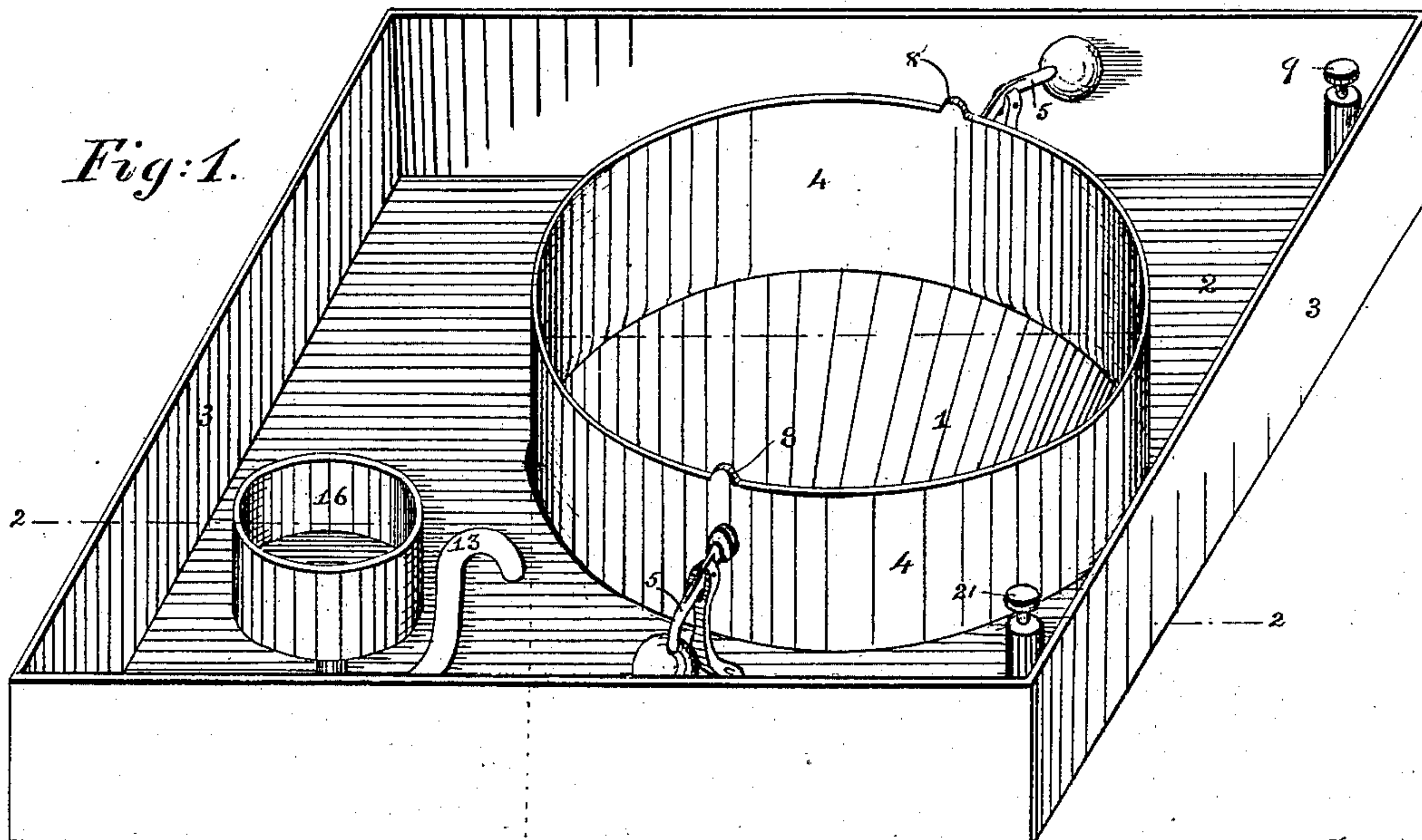
2 Sheets—Sheet 1.

E. S. HUTCHINSON.

WATER CLOSET.

No. 280,180.

Patented June 26, 1883.



Witnesses

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Inventor

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2 Sheets—Sheet 2.

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Fig: 3.

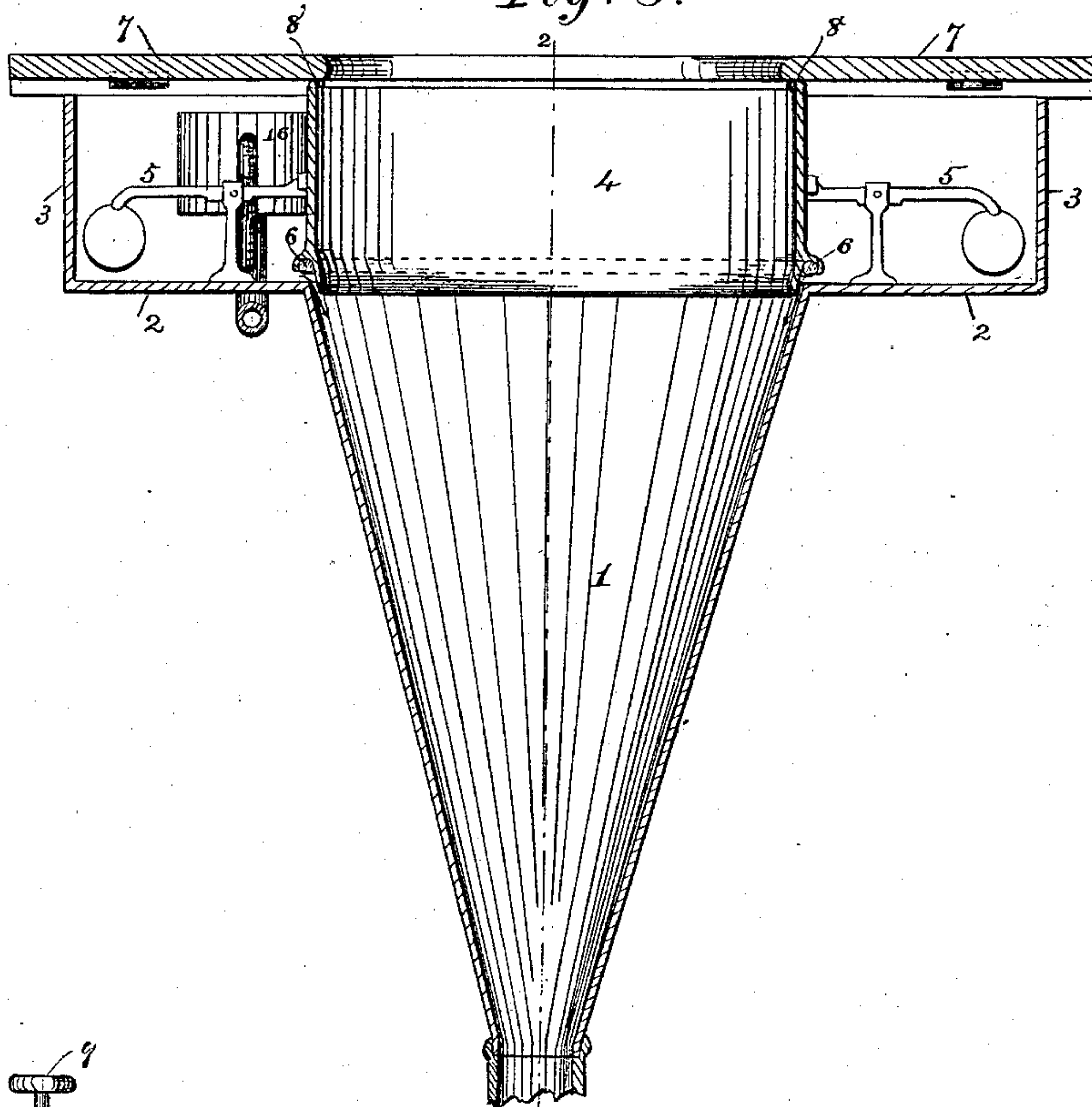
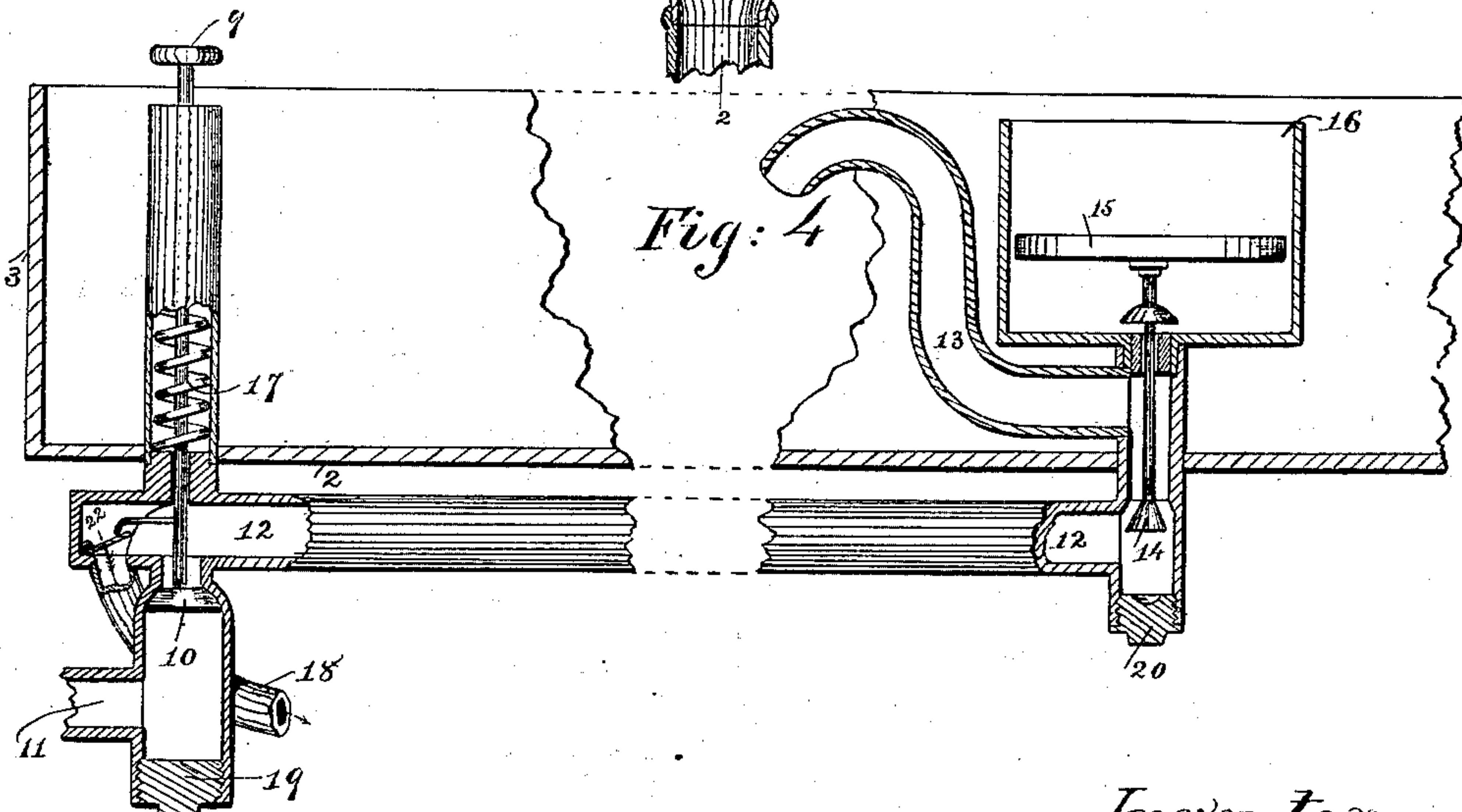


Fig: 4



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UNITED STATES PATENT OFFICE.

ELIAS S. HUTCHINSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 280,180, dated June 26, 1883.

Application filed March 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, ELIAS S. HUTCHINSON, a citizen of the United States, residing at Washington, in the District of Columbia, have
5 invented certain new and useful Improvements in Water-Closets, of which the following is a specification.

The subject of my invention is a water-closet having a tank surrounding the upper
10 part of the hopper beneath a hinged or spring seat, the depression of which opens a valve to fill the tank, and also forces down the annular inner wall of the tank, which constitutes the
15 top of the hopper, and is made separate from the body thereof and movable vertically. This movable inner wall is supported by weighted levers or by springs, and is adapted at its lower edge to be seated as a valve on the fixed
20 body of the hopper, so that the flushing-tank may hold water so long as the seat is depressed, and on the seat being relieved of weight the inner wall will be elevated by the levers or
25 springs, discharging water instantly in a copious flow, which is distributed uniformly all around the hopper.

The invention further relates to the combination, with the above-described apparatus, of an automatic check-valve to prevent the flow of water into the tank after the latter is
30 full; also, to a drip appliance for emptying the entire flushing-tank and the float-chamber of the check-valve when the closet is out of use, and to means for closing the drip when the tank is filling.

In the accompanying drawings, Figure 1 is a perspective view of the flushing-tank and upper part of the hopper. Fig. 2 is a vertical section of the entire apparatus on the line
40 2 2, Figs. 1 and 3. Fig. 3 is a vertical section of the same on the line 3 3, Fig. 2. Fig. 4 is a vertical section of a portion of the flushing-tank and valves on a larger scale.

The hopper 1, and the bottom 2, and external walls, 3, of the annular flushing-tank may
45 be cast in one piece of metal, or otherwise permanently connected. The interior wall of the annular flushing-tank is formed of a rim, 4, which is supported by weighted levers 5, or by suitable springs, so as to be lifted from
50 contact with the top of the hopper 1. The bottom of the rim 4 is flanged to fit within the

hopper 1, and is provided with an annular valve, 6, formed of rubber confined within a suitable lip, so that by the depression of the rim 4 this valve will be seated securely on the
55 top of the hopper 1, and will retain water in the annular flushing-tank. The seat 7 is hinged at back and rests on protuberances 8 on opposite sides of the upper edge of the rim 4, so that by the depression of the seat the rim will
60 be forced down to close the valve 6 and permit the annular flushing-tank to fill. The hinged seat also bears on the rod 9 of a valve, 10, which is thus opened by the depression of the seat, permitting the flow of water from the
65 service-pipe 11, through the pipe 12 and spout 13, into the flushing-tank. The valve 10 is closed by a spring, 17, when released. The pipe 12 is also guarded by a valve, 14, controlled by a float, 15, in a chamber, 16, so as
70 to close the supply to the flushing-tank when the latter is nearly filled.

18 represents a drip-pipe discharging into the hopper and permitting the escape of all water from the apparatus when it is not in
75 use. The valves 10 and 14 may be advantageously made of rubber in conical form. To give access to them for repairs, the chambers in which they work are closed by screw-plugs 19 and 20, respectively. 80

21 represents a spring-rod on the opposite front corner of the hopper from the valve-rod 9, for the purpose of balancing the pressure of the said valve-rod on the seat.

The drip-pipe 18 is closed by an automatic
85 valve, 22, to prevent the waste of water while the seat is depressed and the flushing-tank filling.

It is manifest that the elevation of the rim 4 may be effected by springs instead of by the
90 weighted levers 5; or this rim or valve may be operated by hand instead of by the depression of the seat without departing from the principles of my invention.

The form of the hopper may be varied as
95 desired.

In the use of the apparatus a slight waste is permitted at the back of the hopper for the purpose of lubricating the surface of the hopper, and any small amount of leakage which
100 may occur all around the valve 6, while the rim 4 is depressed, will not be objectionable.

In operation the annular flushing-tank will be quickly filled while the closet is in use, and when the seat is relieved of weight the whole contents of the said tank will be instantly discharged into the hopper from all sides, causing a most thorough flushing of the hopper and of the customary trap beneath it. The automatic check 14 15 stops the flow of water in the event of the seat being occupied for a protracted period, and prevents the maintaining of a continuous flow through the hopper by weighting the seat.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination, with the hopper, of a flushing-tank surrounding its upper part, and a movable rim forming the inner wall of the said flushing-tank, substantially as described.

2. The combination of the hopper 1, flushing-tank 2 3, movable rim 4, and seat 7, substantially as and for the purposes set forth.

3. The combination of the hopper 1, flushing-tank 2 3, with a vertically-moving rim, 4, having protuberances 8 upon its upper edge

and a flange upon its lower edge, the annular packing 6, and hinged seat 7, all substantially as and for the purposes set forth.

4. The combination of the hopper 1, flushing-tank 2 3, movable rim 4, seat 7, inlet-valve 9 10, and suitable connections, 11 12 13, substantially as and for the purposes set forth.

5. In combination with the flushing-tank 2 3, the pipe 12, spout 13, and the valve 14, controlled by a float, 15, in a chamber, 16, to close the supply to the tank when nearly filled, substantially as herein described.

6. The combination, with the flushing-tank 2 3 and pipe 12, having valve 9 10, of the drip-outlet 18, substantially as and for the purposes set forth.

7. The combination, with the flushing-tank 2 3 and pipe 12, having valve 9 10, of the drip-outlet 18 and automatic valve 22 for closing the same.

ELIAS S. HUTCHINSON.

Witnesses:

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