

No. 668,990.

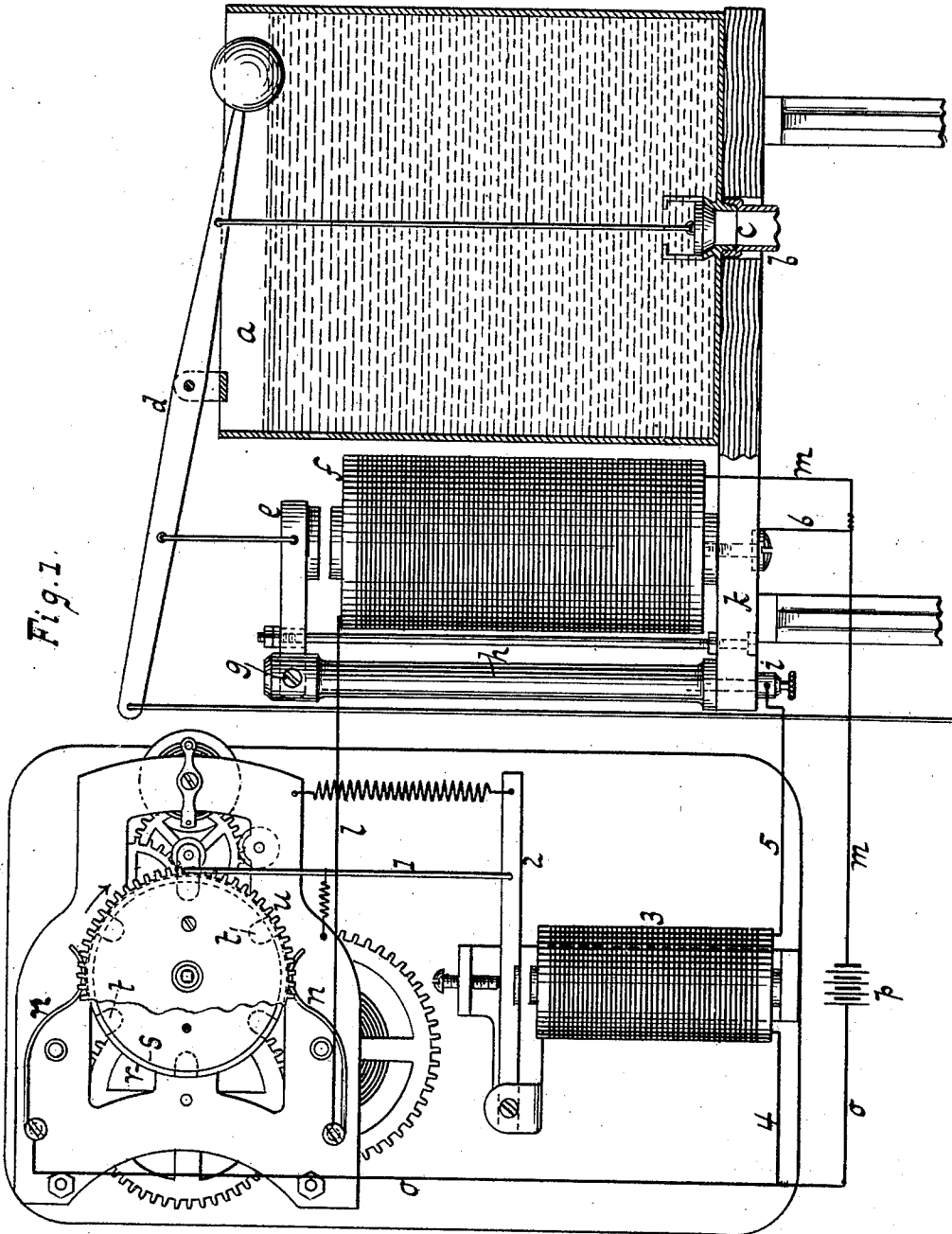
Patented Feb. 26, 1901.

G. M. JENKINS.
FLUSHING DEVICE.

(Application filed June 7, 1900.)

(No Model.)

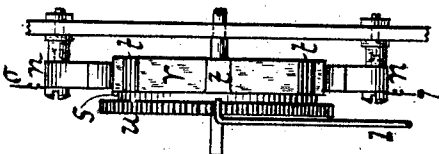
Fig. 1.



WITNESSES:

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Fig. 2.



INVENTOR

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UNITED STATES PATENT OFFICE.

GERTRUDE MOORE JENKINS, OF NEW YORK, N. Y.

FLUSHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 668,990, dated February 26, 1901.

Application filed June 7, 1900. Serial No. 19,433. (No model.)

To all whom it may concern:

Be it known that I, GERTRUDE MOORE JENKINS, a citizen of the United States, residing at Manhattan borough, in the city, county, and State of New York, have invented new and useful Improvements in Flushing Devices, of which the following is a specification.

This invention relates to a flushing device by which a water-closet, waste-pipe, or the like can be automatically flushed or disinfected and at the same time excessive flow or waste of the fluid avoided, as set forth in the following specification and claims, and illustrated in the annexed drawings, in which—
Figure 1 is a face elevation of the apparatus. Fig. 2 is a side elevation of parts of Fig. 1.

The tank *a* has an outlet or flushing pipe *b*, which can lead to any suitable point of use, as a bowl or the like. The valve *c* is opened by a lever *d*, which can be pulled or actuated by hand or hand-chain, if seen fit, and also automatically, as presently explained. The lever *d* is connected to or actuated by an armature attracted by electromagnet *f* when the latter is vitalized. The armature *e* is shown pivoted at *g* to a post *h*, whose foot *i* is supported on a suitable shelf or carrier *k*. The magnet or coils *f* have the wires *l* and *m*, and when a suitable closer or contact mechanism establishes the circuit through these conductors *l m* the magnet is vitalized. One of the conductors *l* connects with one of a pair of spring-contacts *n*, the other contact connecting with conductor *o*, running to battery *p*. These contacts press against disk *r*, of insulating material, and rotated by suitable means—as, for example, a clock mechanism. A smaller disk *s*, of conducting material, is secured to the insulating-disk *r*, and conducting-plugs *t* are inserted into the insulating-disk or extend from the conducting-disk to the surface or periphery of the insulating-disk. When the contacts *n* rest against the insulator *r*, the circuit is broken; but when the plugs *t* have been rotated or brought to touch with contacts *n* the circuit is closed. The current now flows from battery *p* through conductor *o* and from one contact *n* to the other through the conductors or plugs *t* and disk *s* and along conductor *l* to vitalize magnet *f*, thence returning along conductor *m* to

the battery. The armature *e* is thus attracted to move lever *d* and open valve *c*, allowing a flow or flush through pipe *b*.

The plugs *t* should be of such size or width as to assure proper flow or closure of the circuit when in contact with springs *n*. When driven by a clock, the plugs *t* may be so long in passing the contacts and breaking the circuit that the armature *e* is held to keep valve *c* open too long. As excessive flow or waste of water or contents of tank *a* is to be avoided, means are provided for accelerating the rotation of the plugs *t* or breaking the circuit when closed as soon as the flushing or required discharge of the tank *a* has been accomplished.

Secured or connected to disks *r s* is a gear-wheel or ratchet *u*, engaged by a pawl 1, connected to armature 2, the electromagnet 3 of which has conductors 4 and 5. Conductor 4 branches from conductor *o*, and conductor 5 connects to armature *e* or to the foot or a part of this armature. When armature *e* is away from magnet *f*, the circuit 4 and 5 is broken; but on the closing of circuit *l o* or when this armature *e* is attracted a current can flow or branch from battery *p* along conductors 4 and 5, including magnet 3, thence to armature *e* and magnet *f* along wire *m* to the battery *p*. The armature 2 is thus attracted and by its connection or pawl 1 moves gear-wheel *u* to carry plugs *t* past or out of contact with the spring-blades *n*. The circuit *l o* or its closer *n t* is thus opened or the duration of closure shortened, so that the armature *e* is released and valve *c* can close before the tank *a* has discharged an excessive amount. In other words, waste of water is avoided, but sufficient discharge for effective flushing is allowed.

As shown, the second magnet 3 is vitalized by or included in the current of the magnet *f*. The second magnet could have its own battery; but the construction shown is simple. The second or branch circuit 4 5 is closed and opened by armature *e*, which actuates valve *c*, and said armature *e* when moving to open the valve also closes the second circuit to vitalize magnet 3 for promptly opening the circuit *l o*.

A conductor 6, connecting the core of magnet *f* with conductor *m*, it has been found allows the circuit or current from conductor 5

to the armature *e*, contacting with said core, to close or flow through said core and conductor 6 to wire *m* and battery *p*.

What I claim as new, and desire to secure 5 by Letters Patent, is—

1. A flushing-tank having an outlet-valve, an actuating-lever for the valve, an armature and electromagnet for the lever, a circuit-closer, and a second electromagnet for opening the closer, said second magnet being vitalized by or included in the current of the first magnet substantially as described.

2. The combination with a flushing-tank provided with an outlet-valve, of an operating means for said valve comprising a circuit-closer, a gear-wheel connected to or made to actuate the closer, electromagnets vitalized by said closer, one of the magnets having a pawl or connection for engaging the 20 gear-wheel to open the closer, an actuating-lever connected to said valve, and a suitable connection between said lever and one of said magnets substantially as described.

3. The combination with a flushing-tank 25 provided with an outlet-valve, of an operating means for said valve comprising a circuit-closer comprising an insulating and conducting disk, a gear-wheel or actuator for rotating the disks, plugs inserted into the disks, 30 spring-contacts for the plugs, electromagnets in the circuit of the contacts, a pawl for the gear-wheel actuated by one of the magnets to move the plugs away from the contacts on the closing of the circuit, and an actuating-lever connected to said valve and to one of 35 said magnets substantially as described.

4. The combination with a flushing-tank provided with an outlet-valve having an actuating-lever therefor, of an operating 40 means for said lever and valve comprising a circuit-closer comprising an insulating and conducting disk, an actuator for the disks, plugs in the disks, contacts for the plugs, electromagnets vitalized by the contacts and 45 one of which is suitably connected to said actuating-lever, and a connection or pawl actuated by one of the magnets to move the plugs away from the contacts on the closing of the circuit, said closer having the conducting-disk smaller than the insulating-disk so

that the current or circuit is broken when the plugs are clear of the contacts substantially as described.

5. A circuit or battery wires, a closer, an electromagnet and armature connected to and 55 actuated by the circuit, a tank having a valve actuated by the armature, a second or branch circuit closed and opened by said armature, a second electromagnet, and an armature actuated by said second magnet and made to 60 open the circuit-closer for closing said valve substantially as described.

6. A flushing-tank having an outlet-valve, an actuating-lever for the valve, an armature and electromagnet for the lever, a circuit-closer, and a second electromagnet for opening the closer, the circuit of the second magnet being closed through the armature and core of the first magnet substantially as 70 described.

7. The combination with a flushing-tank provided with an outlet-valve, of an operating means for said valve comprising a magnet and armature in mechanical connection 75 with the valve, a circuit-closer, an actuator for the closer to cause the latter to close the circuit and energize the magnet at suitable intervals to open the valve, an electromagnet, and means connected thereto and to said actuator, operated by said last-named magnet 80 for breaking the circuit.

8. The combination with a pipe provided with a valve, of an operating means for said valve, comprising a magnet and armature in mechanical connection with the valve, a 85 circuit-closer, an actuator for the closer to cause the latter to close the circuit and energize the magnet at suitable intervals to open the valve an electromagnet, and means connected thereto and to said actuator, operated 90 by said last-named magnet for breaking the circuit.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GERTRUDE MOORE JENKINS.

Witnesses:

W. C. HAUFF,

E. F. KASTENHUBER.