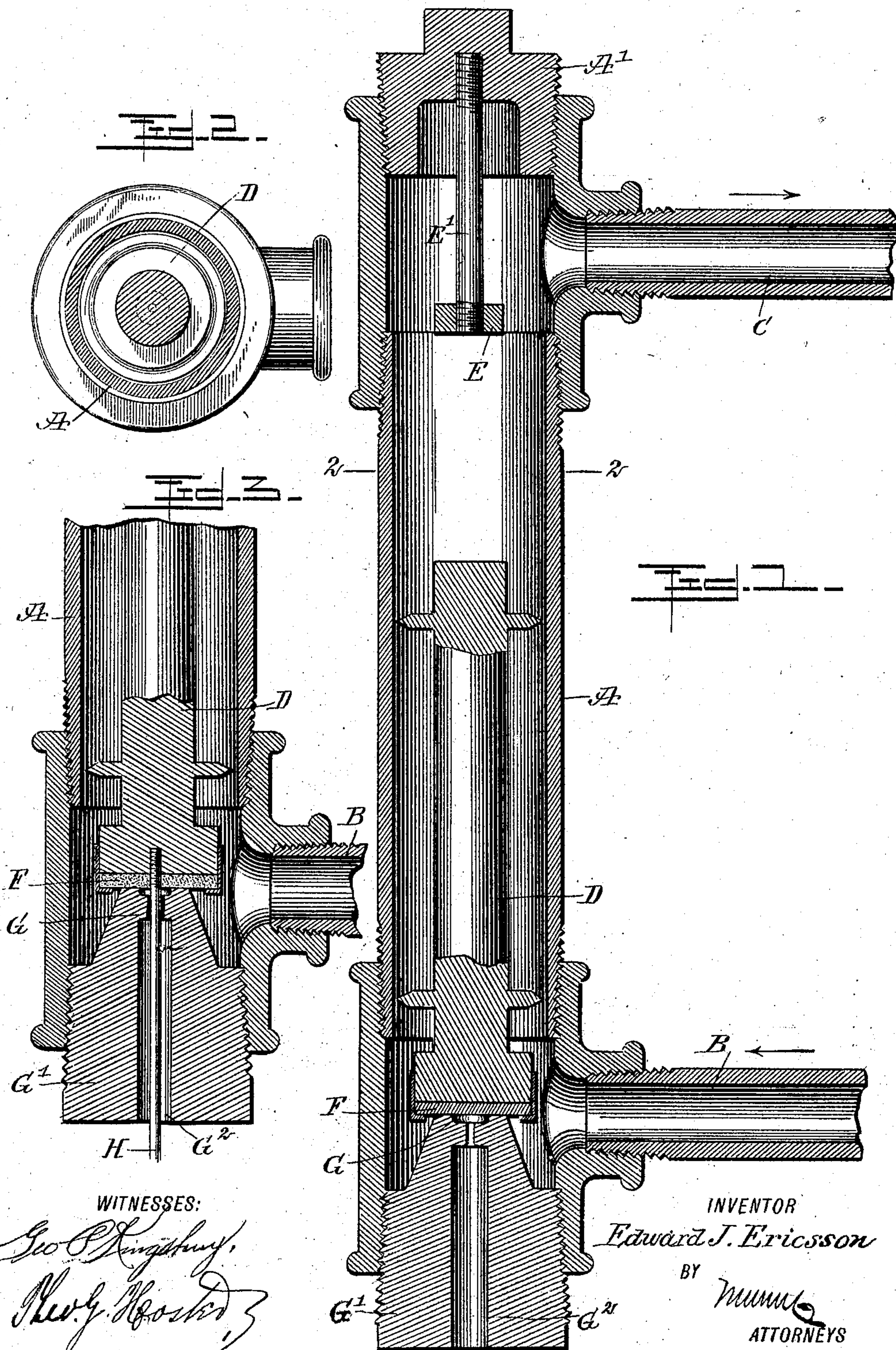


No. 815,691.

PATENTED MAR. 20, 1906.

E. J. ERICSSON.
AUTOMATIC FEED DEVICE.
APPLICATION FILED JUNE 30, 1905.

2 SHEETS—SHEET 1.

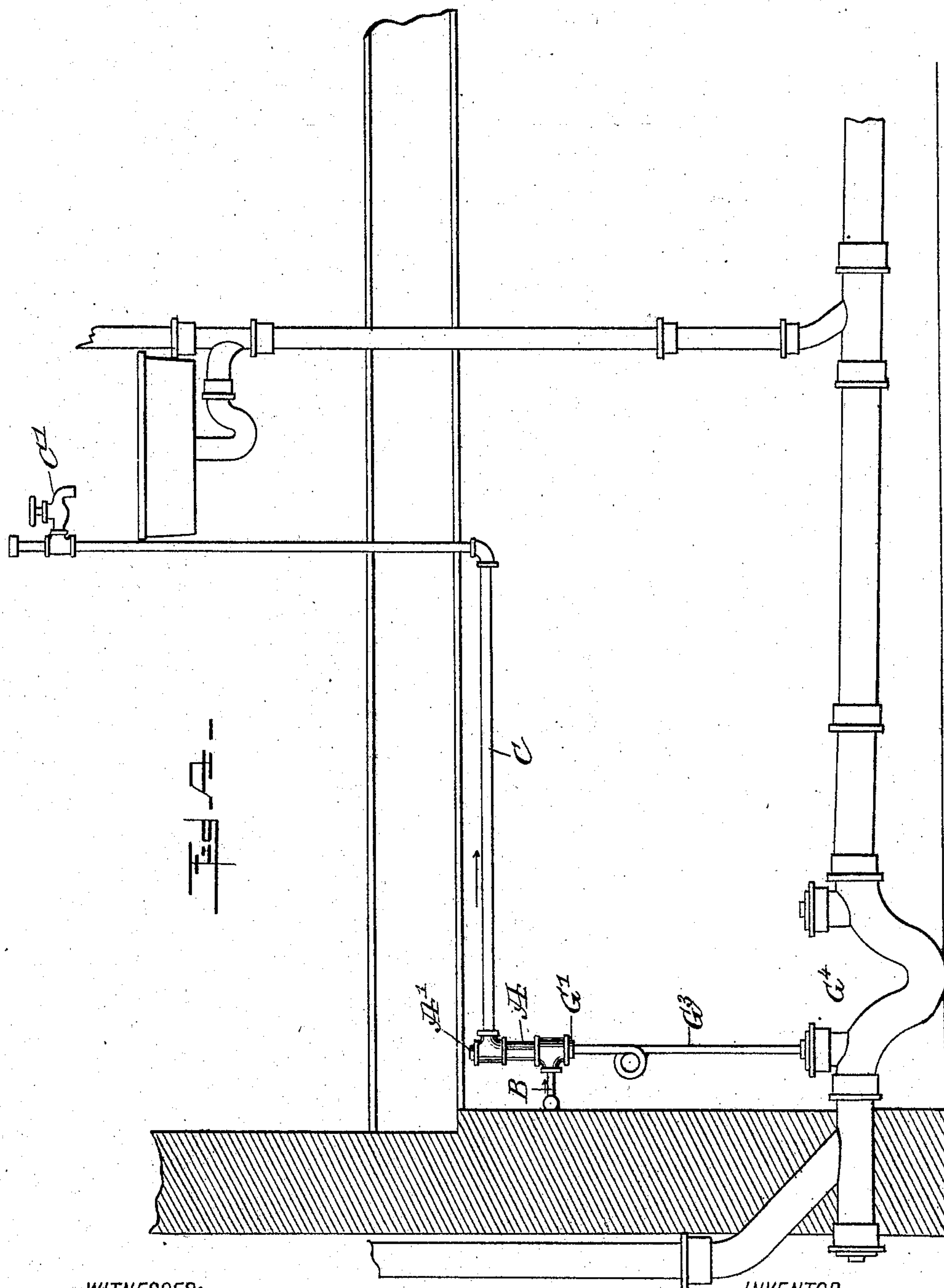


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2 SHEETS—SHEET 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD JOSEPH ERICSSON, OF SAN FRANCISCO, CALIFORNIA.

AUTOMATIC FEED DEVICE.

No. 815,691.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed June 30, 1905. Serial No. 267,748.

To all whom it may concern:

Be it known that I, EDWARD JOSEPH ERICSSON, a citizen of the United States, and a resident of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Automatic Feed Device, of which the following is a full, clear, and exact description.

The invention relates to water distribution; and its object is to provide a new and improved automatic feed device for supplying water to flush-tanks, leader-traps, surface drains, and similar contrivances, and the water-supply of which is not sufficiently regular to maintain a permanent seal, as required by modern sanitary plumbing.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view of the same on the line 2-2 of Fig. 1. Fig. 3 is a sectional side elevation of a modified form of the improvement. Fig. 4 is a side elevation of my improvement applied to a trap.

As is well known, water-outlets from a dwelling, factory, or like building are required to be trapped and the seal of the trap to be permanent. Traps on ordinary plumbing fixtures used every day are readily supplied with the necessary amount of water to maintain the seal of the trap; but with traps such as are used on leader-pipes, surface drains, and the like it is not easily or properly accomplished. For instance, leader and surface drains at the present time are supplied during the dry season with water either by having a faucet connected with a water-supply placed on the leader or surface drain or else a waste-pipe from some near fixture discharges directly or indirectly into the leader or surface drain to maintain a permanent seal. Both methods mentioned are objectionable, as in the one case it requires the occasional opening of a faucet, and if this is not done at regular intervals the permanent seal is not maintained. The second method is objectionable for the reason that the trap in time becomes choked with foul matter and becomes a gas-producer itself instead of a barrier for

foul air passing into the house. With my improvement, presently to be described, the above objections are entirely removed, and water is frequently fed to the trap, so as to maintain a permanent seal thereof.

As illustrated in Figs. 1 and 2, a casing A, preferably in the form of a cylinder, is connected at its lower end by a pipe B with the water-pressure supply for the house, and the upper end of the said cylinder is connected by a pipe C with a faucet or other fixture C² in the house, so that when the faucet is opened a reduction of pressure takes place in the upper end of the casing A.

Within the casing A is mounted to slide a loosely-fitting piston D, the upward movement of which is limited by a stop E, held on a screw-rod E', screwing in a plug A', employed for closing the upper end of the casing A. The lower end of the piston D is provided with a valve F, normally seated on the valve-seat G, held on a plug G', screwing in the lower end of the casing A, the opening G² of the said valve-seat connecting with the pipe G³, leading to the trap or other device G⁴ to be supplied with water for maintaining a permanent seal.

The operation is as follows: Normally the piston D is in a lowermost position in the vertically-disposed casing A, as the pressure of the water is practically equal on both sides of the piston, as the inlet and outlet of the cylinder is connected with a water-supply of the same pressure. When the faucet or like fixture with which the pipe C is connected is opened, then a reduction of pressure takes place in the upper end of the casing A, and hence the preponderance of pressure against the under side of the piston D causes the latter to slide upward until stopped by the upper end of the piston abutting against the stop E. The piston D in its upward movement carries the valve F along, so that the latter uncovers the valve-seat G, and hence the water passing into the lower end of the casing A by the supply-pipe B flows through the opening G² to the trap to supply the latter with sufficient water to maintain a permanent seal. It is understood that as long as the faucet is open the piston D is held in an uppermost position; but as soon as the faucet is closed the piston D immediately drops back by its own weight into its lowermost position, so that the valve F is again seated on the valve-seat G and communication between the supply-pipe B and the trap is cut off. It

is understood that the piston D fits sufficiently loose in the casing A to equalize the water-pressure on both ends of the piston for the latter to return to its seat by its own weight as soon as the faucet connected with the pipe C is closed.

If desired, a valve may be controlled by the piston D for supplying water to the trap or other contrivance, and in this case the stem H of the valve is extended up through the valve-seat opening G² to connect with the piston D, as shown in Fig. 3, so that when the piston is forced to slide upward on the reduction of pressure in the upper end of the casing A then the valve is actuated by the piston D for the purpose mentioned.

The device is very simple and durable in construction, is not liable to get easily out of order, and is arranged to maintain a permanent seal by frequently supplying water to a trap or other contrivance.

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

1. An automatic governing device comprising a casing having an inlet connected with a fluid-pressure supply, an outlet connected with a faucet, and a controlled outlet, a piston in the said casing, and means whereby the said piston may control the controlled outlet.

2. An automatic governing device comprising a cylinder having an inlet connected with a water-pressure supply, and an outlet connected with a fixture such as a faucet, a piston slidable in the said cylinder intermediate the said inlet and the said outlet, and means controlled by the said piston for feeding water to the device to be controlled.

3. An automatic governing device comprising a cylinder having an inlet connected with a water-pressure supply, and an outlet connected with a fixture such as a faucet, a piston slidable in the said cylinder intermediate the said inlet and the said outlet, and means controlled by the said piston for feeding water from the said inlet by way of the said cylinder to the device to be controlled.

4. An automatic governing device comprising a cylinder having an inlet connected with a water-pressure supply, and an outlet connected with a fixture such as a faucet, a piston slidable in the said cylinder intermediate the said inlet and the said outlet, a valve moving with the said piston, and a valve-seat normally closed by the said valve and leading to the device to be controlled.

5. An automatic governing device comprising a cylinder having an inlet connected with a water-pressure supply, and an outlet connected with a fixture such as a faucet, a piston slidable in the said cylinder intermediate the said inlet and the said outlet, a valve moving with the said piston, and a valve-seat normally closed by the said valve and leading to the device to be controlled, the said valve-seat being adjacent to the said inlet to allow water to flow from the inlet by way of the cylinder through the said seat at the time the piston is raised.

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

EDWARD JOSEPH ERICSSON.

Witnesses:

F. KOCH,
C. W. GROTH.