No. 609,079. Patented Aug. 16, 1898.

J. P. J. CAHILL.

CLOSET CISTERN.

(Application filed Oct. 16, 1897.)

(No Model.)

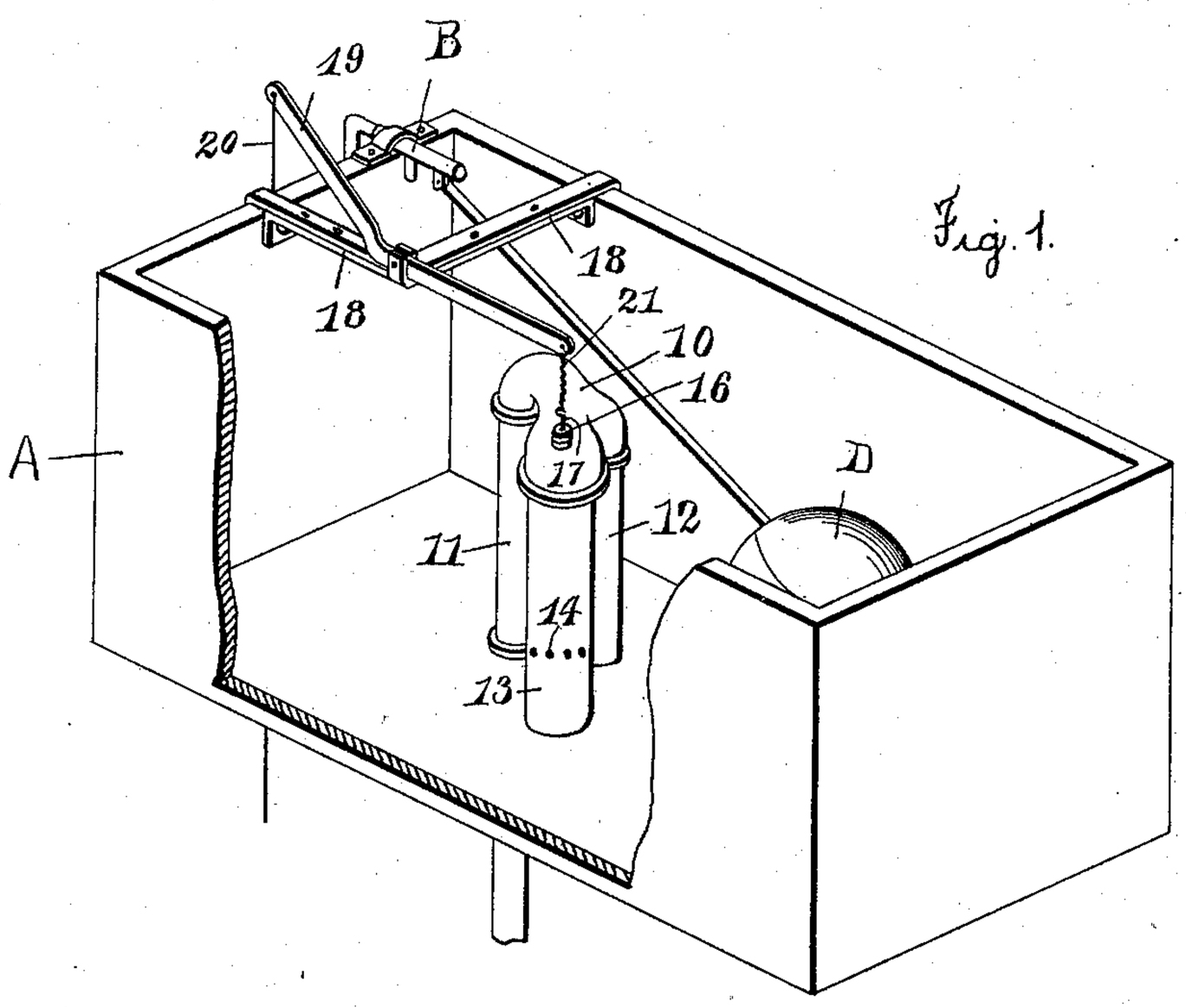

Fig. 1.

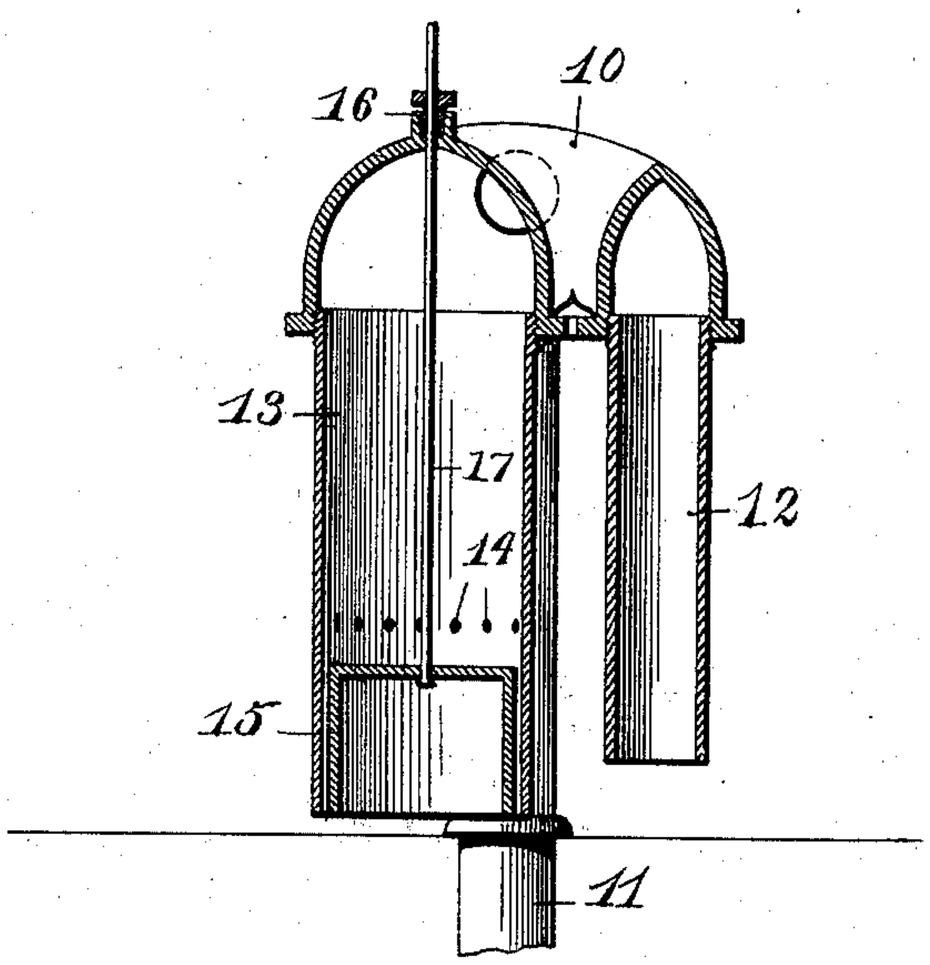

Fig. 2.

Witnesses.

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CLOSET-CISTERN.

SPECIFICATION forming part of Letters Patent No. 609,079, dated August 16, 1898.

Application filed October 16, 1897. Serial No. 655,373. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. J. CAHILL, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Closet-Cisterns, of which the following is a specification.

The object of my invention is to provide a simple, efficient, durable, and inexpensive siphoning device for emptying a closet-cistern; and the especial object of my invention is to provide a siphoning device which will dispense with the valve and valve-seats which have heretofore ordinarily been located below the level of the water in the cistern and which are liable to waste water by leakage.

To these ends my invention consists of the construction and combinations, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view, partially broken away, of a closet-cistern constructed according to my invention; and Fig. 2 is a transverse sectional view of the siphoning device which I preferably employ.

A siphoning device for closet-cisterns constructed according to my invention comprises siphon-legs, one of which may be carried down through the bottom of the tank, a starting-chamber connected to said siphon-legs, a plunger mounted in the starting-chamber, and means for operating said plunger to force water from the starting-chamber into said siphon-legs.

The body portion of the siphoning device is preferably formed by a hollow curved Y-shaped casting. The starting-chamber is preferably of a somewhat larger diameter than the siphon-legs, and the siphon-legs and starting-chamber are preferably formed by ordinary pipe-sections, which are fitted or threaded into the body portion. By constructing a siphoning device in this manner the dome or curved part of the Y-shaped body portion forms a curved gradually-tapering passage which concentrates and directs the flow of water from the starting-chamber into the outlet siphon-leg.

By employing siphon-legs and a starting-chamber formed from pipe-sections threaded into the body portion I am enabled to employ similar castings or body portions for forming siphoning devices of different capacities—that is to say, where the siphoning device is to be used in a comparatively deep tank the siphon-legs and starting-chamber would be formed of longer pipe-sections than in comparatively shallow tanks, and by means of this single special fitting or casting I am enabled to construct siphoning devices of proper proportions and capacities for use in any desired situations.

Referring to the drawings and in detail, A designates the tank or cistern-body portion. The tank or cistern-body portion A is normally kept full of water, which is supplied by a ball-cock B, controlled by a float D in the ordinary manner. These parts may be of any of the ordinary or approved constructions.

The siphoning device which I preferably employ for emptying the tank or cistern A comprises a curved body portion or Y-coupling 10. Leading from the main stem of the body portion 10 is an outlet siphon-leg 11, which may be carried down through the bottom of the tank. The joint between the tank and outlet siphon-leg 11 can be packed tightly by means of ordinary clamping-washers. Connected to one of the branches of the body portion 10 is an inlet siphon-leg 12. Connected to the other branch of the body portion 10 is a starting-chamber 13.

The starting-chamber 13 is preferably of somewhat larger diameter than the siphon-legs 10 and 11, so that the body of water forced from said starting-chamber into the siphon, as hereinafter described, will be amply sufficient to insure the siphon starting in action.

The starting-chamber 13 is perforated at its lower end, as at 14, and extends nearly to the bottom of the tank.

Mounted in the starting-chamber 13 is a plunger 15, which is carried by a rod or wire 17, preferably extending up through a small gland or stuffing-box 16 in the body portion 10. The rod or wire 17 is connected to an operating-lever 19 by means of a chain 21. The operating-lever 19 is pivoted in a bracket 18 and is controlled by a pull-cord 20 in the ordinary manner. By means of this construction it will be seen that when the lever 19 is

operated by the cord 20 the plunger 15 will be raised, forcing a body of water from the starting-chamber 13 into the siphon. This will start the siphon into action, and water will continue to flow through the siphon until the tank or cistern has been substantially emptied.

The especial advantage of a closet-cistern siphoning device as thus constructed resides in the fact that all valve-seats and pack-joints, which are liable to leak, are dispensed with. The construction of this form of siphoning device does not require accurate work or fitting. For example, the plunger 15 can fit quite loosely within the starting-chamber 14 without interfering materially with the efficiency of the device.

I am aware that changes may be made in the construction of siphoning devices for closet-cisterns without departing from the scope of my invention as expressed in the claims. For example, in practice I frequently dispense with the gland or stuffing-box 16. I do not wish, therefore, to be limited to the form which I have shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, a siphoning device for closet-cisterns, comprising a curved, Y-shaped body portion, an outlet siphon-leg connected to the stem of the Y-body portion, an inlet siphon-leg, and a starting-chamber of larger diameter than the siphon-legs connecting to the branches of the Y-shaped body portion respectively, and means for forcing water from the starting-chamber into the siphon-legs, the body portion being shaped to form a curved, gradually-tapering passage for concentrating and directing the flow of water from the starting-chamber into the outlet siphon-leg, substantially as described.

2. In a device of the class described, the combination of a tank A, a float-controlled ball-cock B for normally keeping said tank full, and a siphoning device comprising a curved Y-shaped body portion or casting 10, an outlet siphon-leg 11 connected to the stem thereof, an inlet siphon-leg 12, and a starting-chamber 13 of larger diameter than the siphon-legs connecting to the branches of the Y-shaped body portion respectively, said body portion being adapted to form a curved, gradually-tapering passage for concentrating and directing the flow of water from the starting-chamber into the outlet siphon-leg, said siphon-legs and starting-chamber being formed by pipe-sections threaded into the body portion, a plunger 15 mounted in the starting-chamber, an operating-lever 19, and connections from the operating-lever for raising the plunger, substantially as described.

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

JAMES P. J. CAHILL.

Witnesses:
LOUIS W. SOUTHGATE,
PHILIP W. SOUTHGATE.