

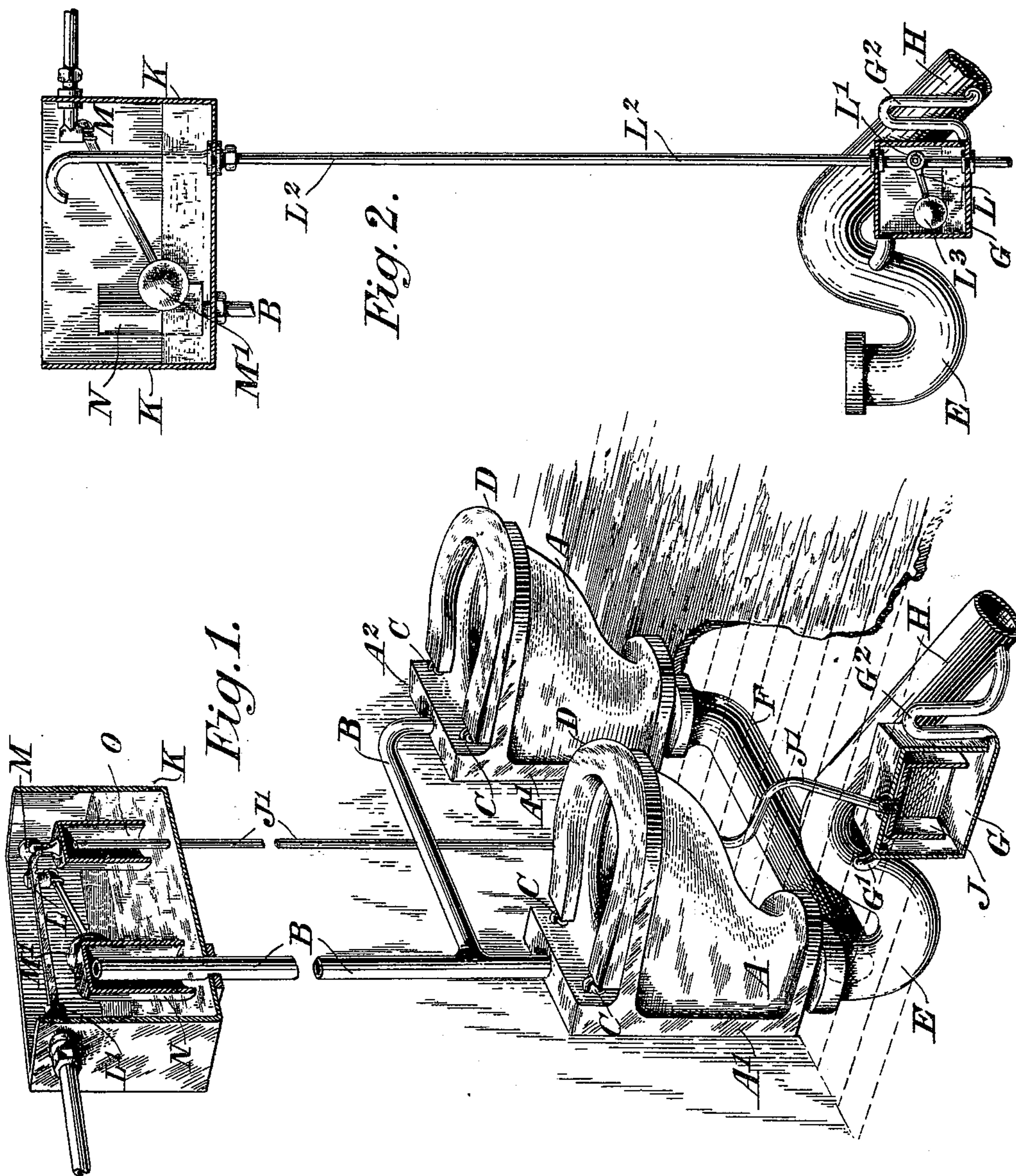
No. 644,488.

Patented Feb. 27, 1900.

M. J. ADAMS.
WATER CLOSET OR URINAL.

(Application filed Mar. 27, 1899.)

(No Model.)



Witnesses

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WATER-CLOSET OR URINAL.

SPECIFICATION forming part of Letters Patent No. 644,488, dated February 27, 1900.

Application filed March 27, 1899. Serial No. 710,663. (No model.)

To all whom it may concern:

Be it known that I, MOSES JAMES ADAMS, a subject of the Queen of Great Britain and Ireland, residing at Glenelg, Harrogate, in the county of York, England, have invented certain new and useful Improvements in Governed Multiple or Single Water-Closets or Urinals, of which the following is a specification.

10 In water-closets and flushed urinals as heretofore commonly constructed the flush is caused by a discharge from a cistern controlled either by hand or by an automatic arrangement, the time of action of which is governed by the rate at which water is supplied to the flushing-cistern.

20 The primary object of the present invention is to provide an automatic flushing device of such a nature that the flush only takes place when it is required by reason of sufficient use of the closet or urinal, whereby considerable saving is effected in the amount of water used.

My improvements are applicable to single as well as to multiple closets or latrines or 25 urinals.

Other objects of my invention are to improve the construction of closets, more especially intended for use in schools, as hereinafter described with reference to the drawings 30 accompanying this specification, in which—

Figure 1 is a perspective view, partly in section, illustrating two connected closets and an automatic flushing apparatus constructed according to my invention; and Fig. 2 is a 35 section of part of the apparatus, illustrating a modification.

A A are the closet-pans, each having a flat back A', extended, as shown, to fit close against a wall, and so obviate the open spaces 40 that usually exist between the closet-pans and the wall at the back thereof. The upper part of each back is raised at A² and is made to connect to the flush-pipe B, which serves both pans. Hooks or hinges C C are secured in the front of the raised part A² to engage with 45 corresponding hooks in the seat D, which can be raised and lowered. The seats are horse-shoe-shaped. The lower extremity of one of the pans unites, by means of a suitable socket connection, directly with the trap E, the other 50 pan being connected to a lateral pipe F, which discharges into the trap E. In this way one

trap is made to serve for a series of closets. Just below the upper bend of the trap is inserted an overflow-pipe G', communicating 55 with a chamber G, which is furnished with a siphon G² for draining it. The said siphon discharges into the drain-pipe or outlet H. Within the chamber G, in the arrangement shown in Fig. 1, is a second chamber J, open 60 at the bottom and closed at the top except for an air-pipe J', that passes up and enters the supply or flushing cistern K. Above the open end of the pipe J' is an inverted bell or cap O, suspended from the lever L of a supply-tap 65 L'. M is another supply-tap controlled by the float M' in the usual manner, and N is a discharging-siphon of any ordinary or suitable construction. The tap M is arranged to partly fill the cistern with water, so as to seal 70 the mouth of the cap O. The action is as follows: As the closets are used liquid overflows from the trap through the pipe G' into the chamber G and, pressing on the air in the inner chamber J, drives it gradually through 75 the pipe J' into the cap O, thus raising the latter and opening the tap L'. The water-level then rises in the flushing-cistern until siphonic action is started through the siphon 80 N and a flush takes place. During the flush the chamber G fills sufficiently to start siphonic action in the siphon G², which action continues until the chamber G is emptied, whereby the pressure is removed from the air in the pipe J', and the cap O then descends 85 again and closes the tap L'. The apparatus is now ready for another flush when the closet has been used sufficiently to reproduce the actions above described. The ball-tap M maintains a sufficiency of water in the flush- 90 ing-cistern to seal the lower rim of the cap O.

In certain cases it may not be desirable to transmit air to the cap O for the purpose of starting the flush. In such cases I proceed as follows—that is to say, referring to Fig. 2, 95 I dispense with the air-pipe J' and the inner chamber J and transfer the supply-tap from the flushing-cistern to the chamber G. L² is the water-supply pipe leading to the flushing-cistern through the chamber G, and L' 100 is a tap in said pipe controlled by a float L³, connected to the arm L of the tap. When the liquid rises in the chamber G, it raises the float and gradually opens the tap L', and

so allows water to enter the flushing-cistern, whereupon the flush takes place, as above described. When the discharge has been effected and the chamber G emptied again by
5 the action of the siphon G², the float L³ falls and shuts the tap L', thus stopping the further supply of water to the flushing-cistern. When applied to urinals, the ordinary urinal-basin takes the place of the closet-pans A.

10 What I claim is—

1. The combination with a water-closet or flushed urinal, of a chamber for collecting liquid from the outlet-pipe thereof, a second chamber within the said chamber, a siphon
15 for automatically draining the first-mentioned chamber, a connection between said second chamber and the flushing-cistern, and means actuated by the rising of the liquid in the chamber for controlling the admission of wa-
20 ter to said cistern, substantially as specified.

2. The combination with a water-closet or flushed urinal of a chamber G for collecting liquid from the outlet-pipe thereof, a siphon for automatically draining the said chamber,

connection between said chamber and inlet- 25 valve and an inner chamber J for trapping air and transmitting same to the flushing-cistern to actuate the supply-tap, substantially as, and for the purpose, specified.

3. The combination with a water-closet or 30 flushed urinal of a chamber G for collecting liquid from the outlet-pipe thereof, a siphon for automatically draining the said chamber, and an inner chamber J for trapping air, a pipe such as J' forming a communication be- 35 tween said chamber J and the flushing-cistern, the lever of the supply-tap and a cap O suspended from the lever of the supply-tap over the open end of the pipe J', substantially as described, and for the purpose specified. 40

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

MOSES JAMES ADAMS.

Witnesses:

JOSH HY WHITAKER,
JOHN HY WILLIAMSON.