

(No Model.)

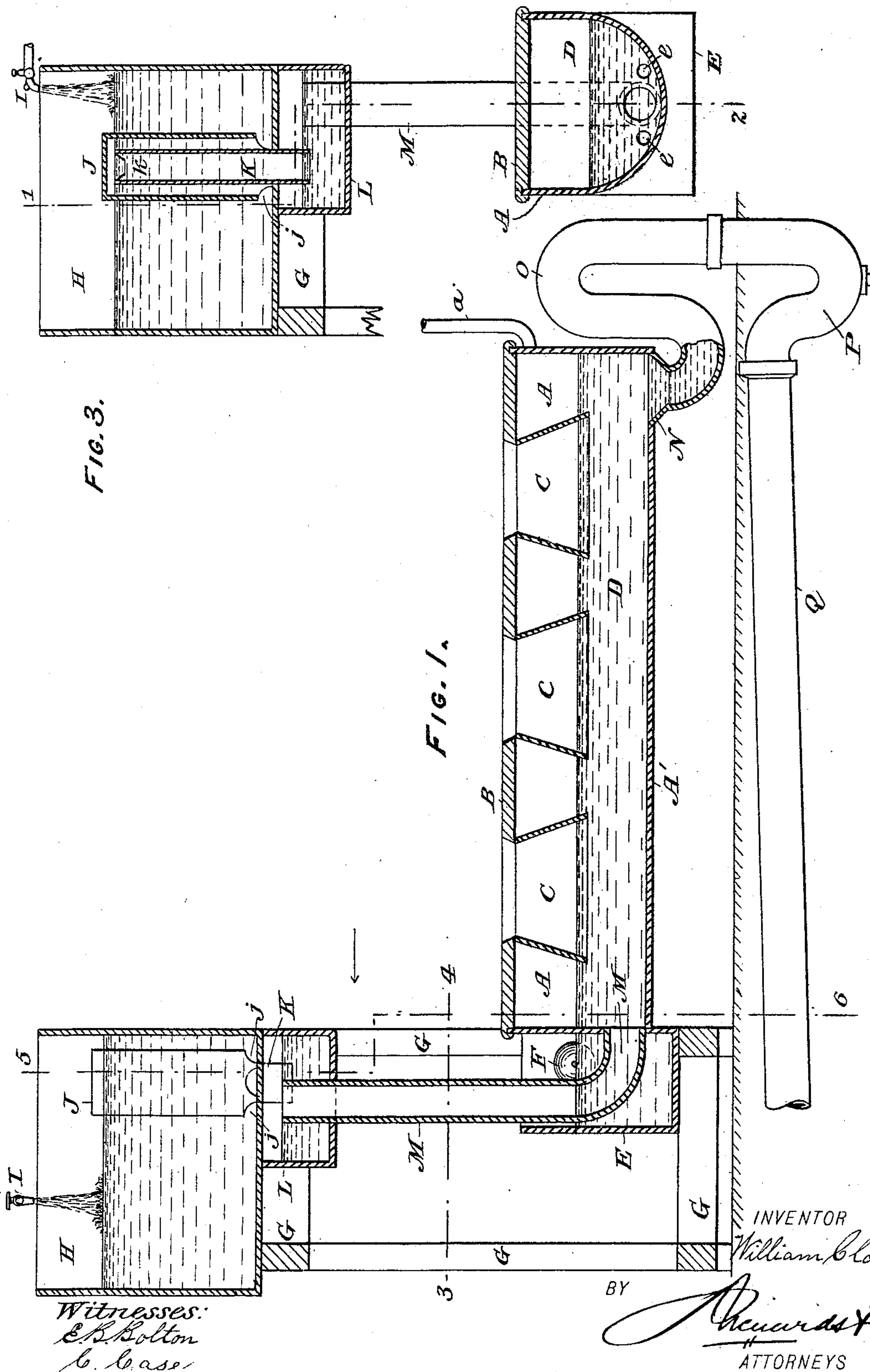
2 Sheets—Sheet 1.

W. CLARK.

LATRINE AND AUTOMATIC FLUSHING APPARATUS.

No. 471,418.

Patented Mar. 22, 1892.

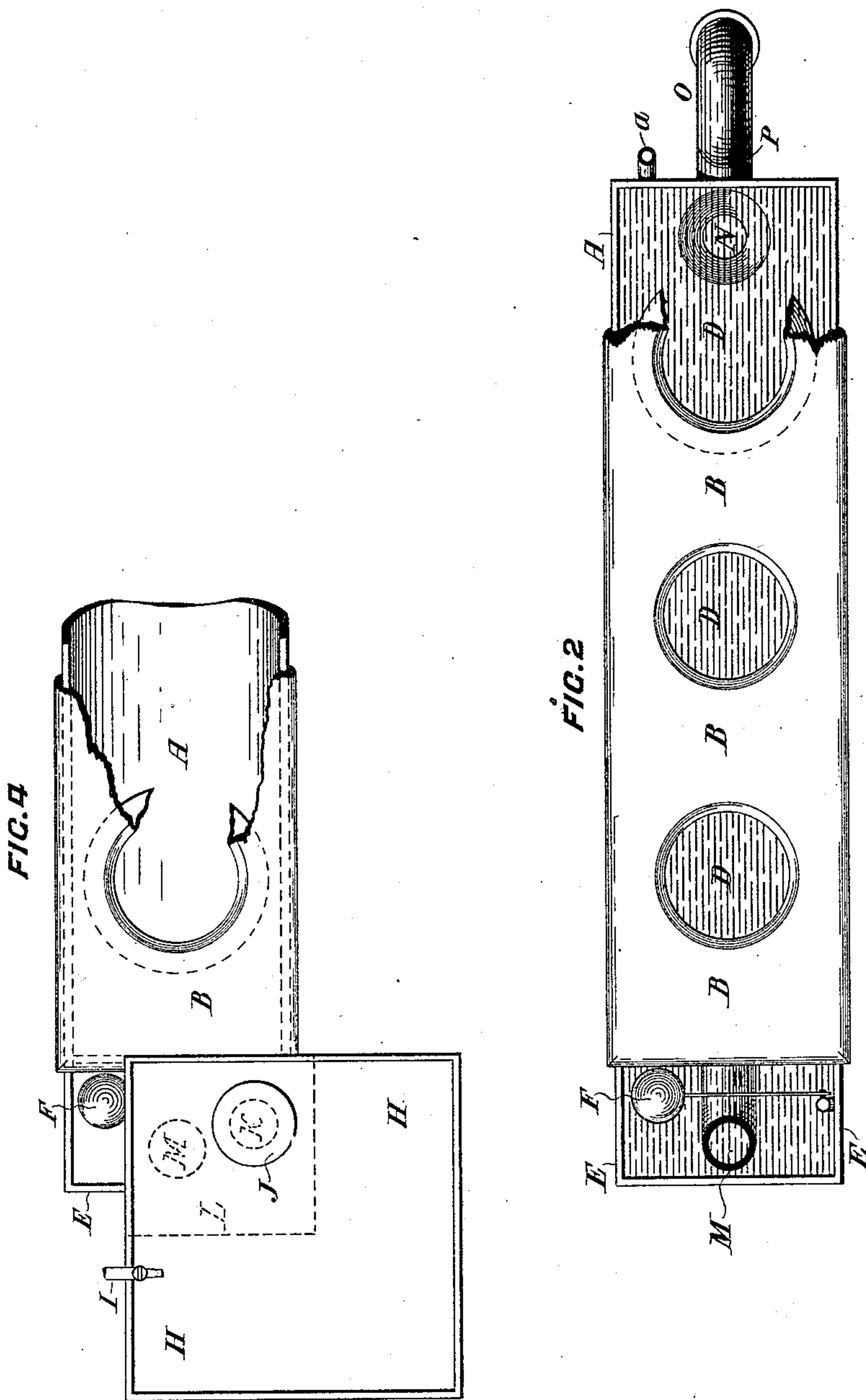


W. CLARK.

LATRINE AND AUTOMATIC FLUSHING APPARATUS.

No. 471,418.

Patented Mar. 22, 1892.



Witnesses:  
E. B. Bolton  
C. Lease.

Inventor  
William Clark  
By Richard A. R.  
his Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM CLARK, OF SYDNEY, NEW SOUTH WALES.

## LATRINE AND AUTOMATIC FLUSHING APPARATUS.

**SPECIFICATION** forming part of Letters Patent No. 471,418, dated March 22, 1892.

Application filed November 20, 1891. Serial No. 412,568. (No model.) Patented in England April 15, 1891, No. 6,487.

*To all whom it may concern:*

Be it known that I, WILLIAM CLARK, a subject of the Queen of Great Britain and Ireland, and a resident of Sydney, in the Colony of New South Wales, have invented an Improved Latrine and Automatic Flushing Apparatus in Connection Therewith, (for which I have obtained a British Patent No. 6,487, dated April 15, 1891,) of which the following is a specification.

This improved latrine and apparatus is more especially adapted for use in schools, factories, or other places where large numbers of persons congregate. The apparatus comprises a long trough over which are placed the seats, which may be adapted to the simultaneous use of two, three, or more individuals. Under the seats are bottomless pans, which are in the form of truncated cones, the bases being turned downward. The pans are made sufficiently deep for their basic ends to enter the water that is contained in the trough and thus form a water seal. At the end of the trough is placed a cistern provided with a ball-cock in connection with a supply-tank or water-main. Mounted on a suitable framing, preferably near and above the cistern, is a larger cistern provided with a siphon apparatus. The elevated cistern is by means of a down-pipe in direct communication with the trough, and as soon as the water in the elevated cistern arrives at the requisite height the siphon apparatus will be started and the body of water (by siphon action) be discharged from the cistern into the trough. The elevated cistern is filled from a constantly-running tap, which may be regulated so as to fill the cistern in a specified time. The bottom of the trough is inclined, an exit-aperture being at the bottom of the incline, the aperture leading to a double siphon-trap, through which the sewage water will pass to the waste-pipe and thence to the sewer. The whole apparatus is entirely automatic in its action.

In the accompanying drawings, Figure 1 is a longitudinal section of the latrine and apparatus in connection therewith, but with the siphons in elevation, the section being taken on the line 1 2 of Fig. 3. Fig. 2 is plan of the trough and seats, the down-pipe from the elevated cistern being in section and the elevated

cistern removed. (See the line 3 4 of Fig. 1.) Fig. 3 is a transverse section taken on the line 5 6 of Fig. 1, looking in the direction of the arrow in Fig. 1, while Fig. 4 is a partial plan view showing the relative positions of the trough, the lower cistern, and the elevated cistern.

A is the trough, the bottom A' of which is slightly inclined. Over the trough are placed the seats B B, that are provided with undercut truncated cone-shaped bottomless pans C, that dip just below the surface D of the water in the trough. The pans C are made of the peculiar shape shown in the drawings, in order that they shall not be soiled by falling fecal matter. At the end of the trough A is a small service-cistern E, provided with a ball-cock F, that governs the supply of the water from the tank or water-main. A framework G supports the elevated cistern H, into which water is constantly flowing through the tap I. The inflow of water through I may be regulated so that the cistern H shall be filled to the level shown in the drawings in any specified time—say in two, three, or four hours. A siphon apparatus J K is placed in the cistern H. The siphon apparatus consists of a cover J, provided with apertures j at the bottom, through which the water in the cistern H can enter, and a down-pipe K, the top of which is provided with an internal lip k, over which the water will flow when it has reached the required height in the cistern H. The down-pipe K passes through the bottom of the cistern H and dips into water in a small chamber L below, so as to form a water seal or trap. A down-pipe M projects upward into the chamber L and extends downward, passing through the small cistern E into the trough A. At the opposite end of the trough A is an exit-aperture N, through which the water can flow into the double siphon-trap O P, and from thence into the waste-pipe Q, leading to the sewer or drain.

The action of the apparatus is as follows: The gage-tap I is turned on, so as to fill the cistern H in, say, three hours. The trough being empty, the ball-cock F will be depressed and water will flow into the service-cistern E, and from thence into the trough A through the apertures e e (see Fig. 3) until the water attains the level shown in Fig. 1. The closet



is now ready for use. While in use the pans C will only allow of a minimum escape of bad smell, as each pan in itself forms a water seal. I will now suppose the water to have attained the level in the cistern H shown in the drawings, when it will be on the point of starting the flushing operation. Directly the first drop of water passes over the lip *k* of the siphon apparatus *j k* in the cistern H the flushing action will have commenced and will continue until the whole of the water is siphoned out of the cistern H. The siphon J K discharges into the chamber L below, and from thence the water will gravitate down the pipe M into the trough A, raising the level of the water in the trough and starting the siphon O P, which will discharge the whole of the sewage water in the trough into the waste-pipe Q. As soon as the flushing operation is completed the trough is again automatically filled from the cistern E. In cases where the pans C are used it will be necessary to provide a vent-pipe *a* (see Figs. 1 and 2) and vent-holes *a' a'*; but the pans C may, if desired, be altogether dispensed with, and their use is recommended as being of considerable advantage to the satisfactory working of the apparatus.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a water-closet, the combination, with trough D, having a series of seat-openings provided with undercut truncated cone-shaped bottomless pans C, which form a water seal, of the elevated cistern and siphon apparatus for flushing-chamber L, down-pipe M, connecting with trough D, the service-cistern E, ball-cock F, and outlet N, substantially as set forth.

2. In a water-closet, the combination of the cistern H, the trough D, having a service-cistern adjacent to and on the same level with the said trough D and having a series of seat-openings provided with undercut truncated cone-shaped bottomless pans C, which form a water seal, said service-cistern having apertures *e e* for the supply of water to trough D, substantially as set forth.

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

WILLIAM CLARK.

Witnesses:

MANFIELD NEWTON, *C. E.*,  
J. S. WHITELOCKE.