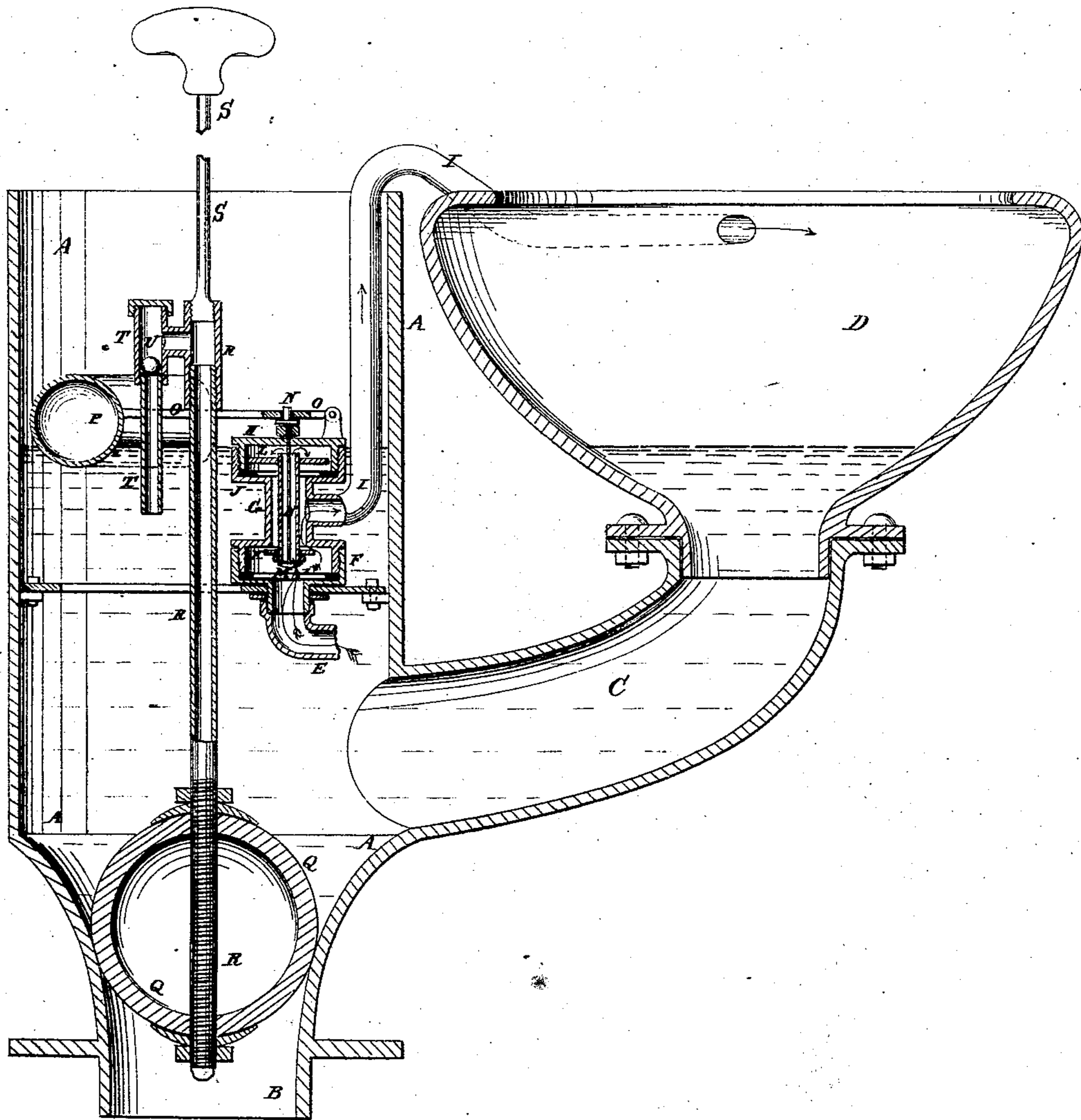


**A. McGILCHRIST.**  
**Water-Closet Apparatus.**

No. 157,211.

Patented Nov. 24, 1874.



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN WATER-CLOSET APPARATUS.

Specification forming part of Letters Patent No. **157,211**, dated November 24, 1874; application filed September 19, 1874.

*To all whom it may concern:*

Be it known that I, ARCHIBALD MCGILCHRIST, of New York city, in the county and State of New York, have invented a new and useful Improvement in Water-Closet Apparatus, of which the following is a specification:

The figure is a vertical section of my improved apparatus.

My invention has for its object to furnish an improved water-closet apparatus, which shall be so constructed as to render the use of a trap unnecessary, and at the same time will prevent any unpleasant odor from escaping through the pipe; which will shut off the water automatically and guard against an overflow while allowing a sufficient amount of water to flow in after the valve has been closed; and which shall be simple in construction and not liable to get out of order.

The invention consists in the combination of the two chambers and their connecting-tube, the inner tube, the smaller lower valve, the larger upper valve, the small valve, the rod, the lever, and the float, with the water-pipe, the case, and the basin; and in the combination of the ball-valve, the tube and rod, the branch tube and its valve, with the case and the basin, as hereinafter fully described.

A represents a case in which the operating mechanism is placed. The lower end of the case A is connected with the upper end of the discharge-pipe B, and its lower part is provided with a branch pipe, C, with which the basin D is connected. E is the pipe through which the water enters the apparatus, and with the end of which is connected a small chamber, F. From the chamber F a tube, G, leads to a similar chamber, H. The chambers F H are made water-tight, and with their connecting-tube G is connected the end of the pipe I, through which the water flows into the basin D. Through the tube G is passed a tube, J, which is made smaller and a little longer than the tube G, and has a valve attached to each end, the lower valve, K, within the chamber F being made smaller than the upper valve, L, within the upper chamber H. The lower end of the inner tube J is closed by a small valve, M, which is attached to the lower end of a rod, N. The rod N passes

up through the tube J, through the top wall of the upper chamber H, and its upper end is pivoted to a lever, O, the end of which is pivoted to a stud attached to the top of the chamber H, or to some other convenient support. To the other or free end of the lever O is attached a semicircular block or case, P, which is made light enough to float upon the water and heavy enough to press down and open the valve M against the pressure of the water in the chamber F, into which the inlet-pipe E opens. The lower end of the case A is closed by a ball-valve, Q, made of rubber or other suitable material, and which is secured to the lower end of a small tube, R, by nuts, as shown in the figure. The tube R passes up through the case A and through a hole in the lever O, and to its upper end, above the said lever O, is attached the rod S, by which the ball Q is raised to allow the contents of the basin D and case A to flow out. With the upper end of the tube R is connected a branch tube, T, within which is placed a ball-valve, U, as shown in the figure, and which is arranged a little above the ordinary water-line, so that, should the water rise above the ordinary level it will raise the valve U and flow off through the tube R, thus guarding against overflow, while the valve U will prevent any unpleasant odor from escaping through the said tube R.

With this construction, when the ball Q is raised, by means of the tube R and rod S, the contents of the basin D and case A will flow off through the pipe B. As the water lowers in the case A the float P sinks, which presses down the rod N and opens the small valve M, allowing the water to flow through the tube J into the upper chamber H. The valve L being larger than the valve K, the pressure of the water forces down the valve L and tubes J, opening the valve K, which allows the water to flow through the tube G into the pipe I, and through it into the basin D. When the ball Q is lowered into place the water rises in the case A and raises the float P. This closes the valve M and shuts off the water-pressure from the upper valve L, which allows the water to slowly close the valve K as the water escapes from the chamber H, the valve L being made to fit loosely, so that the

water may slowly escape around it, the valve U guarding against any danger from overflow while the valve K is closing.

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

1. The combination of the two chambers F H, the connecting-tube G, the inner tube J, the small lower valve K, the larger upper valve L, the small valve M, the rod N, the lever O, and the float P, with the water-pipe

E I, the case A, and the basin D, substantially as herein shown and described.

2. The combination of the ball-valve Q, tube and rod R S, branch tube T, and valve U, with the case A and basin D, substantially as herein shown and described.

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Witnesses:

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