No. 716,315. Patented Dec. 16, 1902.

N. B. WALES.

COMBINED WATER CLOSET AND FLUSHING RESERVOIR.

(Application filed July 22, 1902.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.

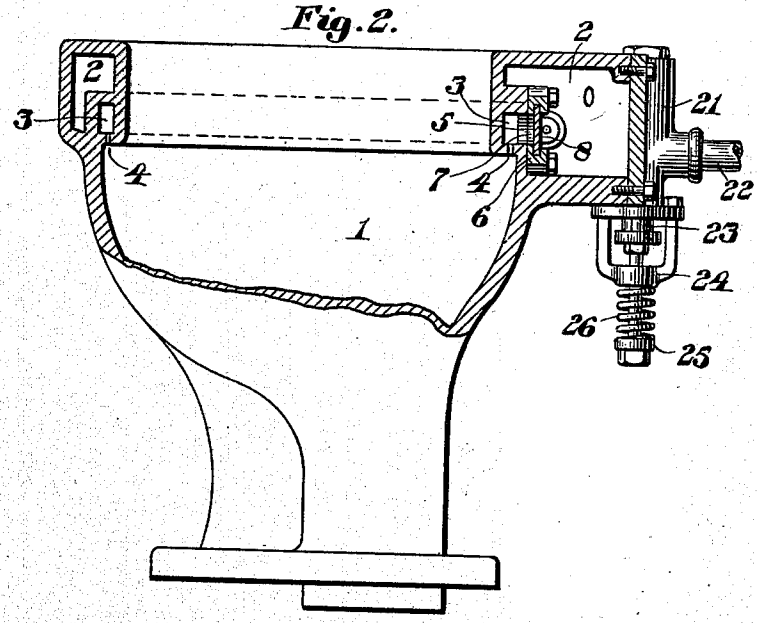
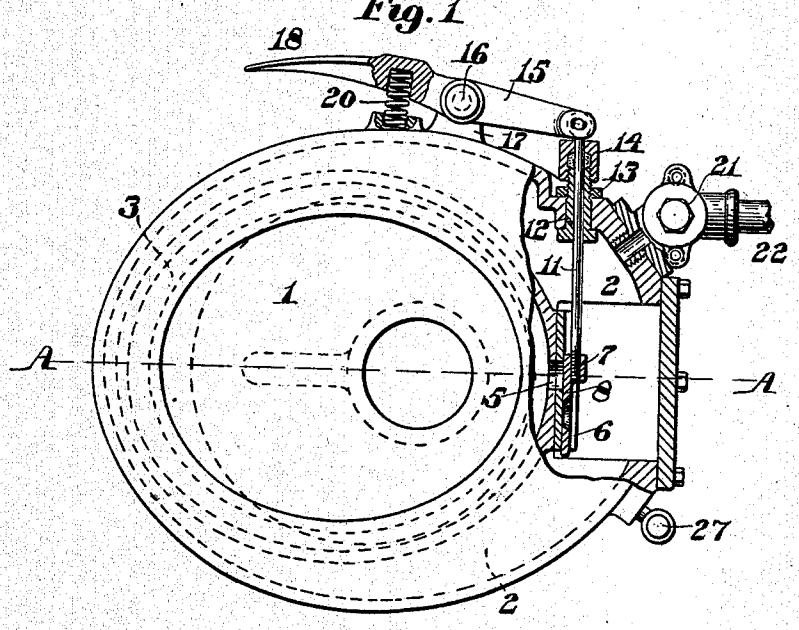


Fig. 1



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Fig. 3.

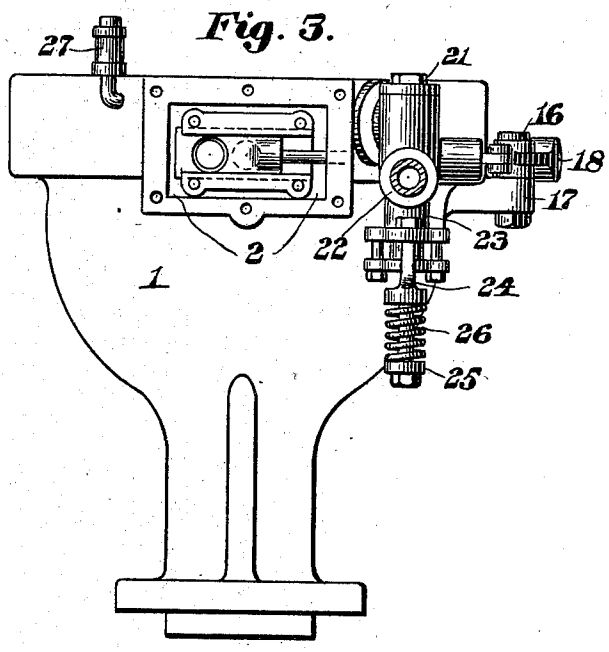
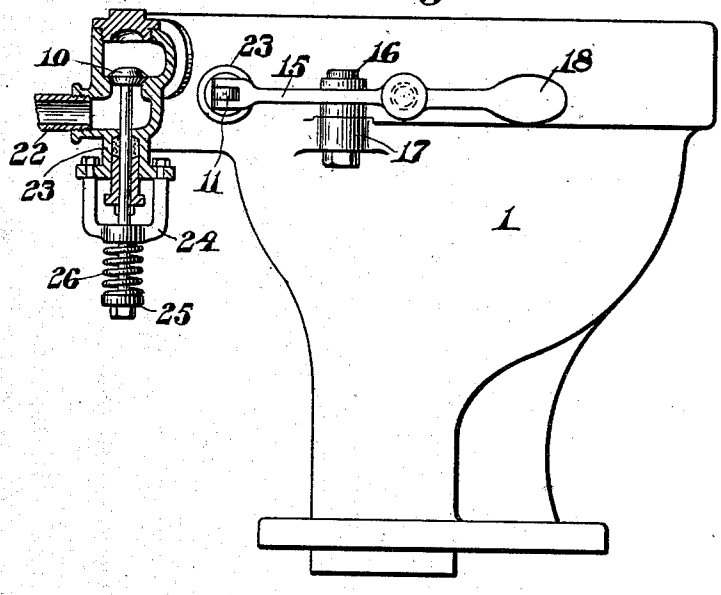


Fig. 4.



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UNITED STATES PATENT OFFICE.

NATHANIEL B. WALES, OF BRAINTREE, MASSACHUSETTS.

COMBINED WATER-CLOSET AND FLUSHING-RESERVOIR.

SPECIFICATION forming part of Letters Patent No. 716,315, dated December 16, 1902.

Application filed July 22, 1902. Serial No. 116,534. (No model.)

To all whom it may concern:

Be it known that I, NATHANIEL B. WALES, of Braintree, in the county of Norfolk and State of Massachusetts, have invented a new and useful Combined Water-Closet and Flushing-Reservoir, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a combined water-closet and flushing-reservoir; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings and to the claim hereto appended and in which my invention is clearly pointed out.

Figure 1 of the drawings is a plan of a water-closet embodying my invention with a portion cut in section. Fig. 2 is a sectional elevation of the same, the cutting plane being on line A A on Fig. 1. Fig. 3 is a rear elevation of the same with the rear covering-plate removed. Fig. 4 is an elevation of the side opposite to that shown in Fig. 2 with the equalizing-valve shown in section.

In the drawings, 1 represents the closet-bowl proper, which may be of any usual or well-known form and has formed in one piece therewith the annular reservoir 2, which surrounds the upper portion thereof, as shown. An annular flushing-passage 3 is located in the lower inside corner of said reservoir and is provided with the usual discharge-orifices 4 and has communication with said reservoir 2 through the port 5, said bowl, reservoir, and flushing-passage being combined in a single piece of earthenware, as shown. The inner wall of the reservoir 2 or the outer wall of the flushing-passage has secured thereto at the rear the plate 6, which is provided with a port 7, corresponding in size and shape to the port 5, through the outer wall of the flushing-passage, said plate 6 being also provided with upper and lower grooves to receive the upper and lower edges of the slide-valve 8, which is also preferably provided with a port 9, corresponding in size and shape to the ports 5 and 7, and when said valve is moved into position to uncover the ports 5 and 7 the water contained in the reservoir 2 will pass into the flushing-passage 3 and be discharged therefrom through the orifices 4 into the bowl to flush it, the water in said reservoir when full having a pressure of twenty pounds to the square inch, more or less. The reservoir is charged with water from the service-pipes of the city or town water-supply through an equalizing-valve 10, constructed to meet the requirements of each individual case.

The valve 8 has connected thereto the valve-stem 11, which has a bearing in the metal bushing 12, set in the outer wall of the reservoir 2 and clamped thereto by the nut 13, and has screwed upon its outer end the cup-like gland 14 to form a stuffing-box around said stem, as shown in Fig. 1. The outer end of the stem 11 has connected thereto one end of a lever 15, which is fulcrumed upon a stud 16, set in an ear 17, formed integral with and projecting outward from the outer wall of the reservoir and provided at its front end with a suitable hand-pad 18, and has interposed between its forward arm and a socket 19, formed in the outer surface of the earthenware closet, as shown in Fig. 1, a spring 20, the reaction of which will close the valve 8 when the hand is removed from the pad 18.

The equalizing-valve 10 is mounted in a casing 21, one end of which is firmly secured in any suitable manner to the earthenware closet and has secured in its other end the supply-pipe 22, the stem of said valve projecting downward through a stuffing-box 23, and the yoke 24 and is surrounded between said yoke and a collar 25, formed upon or secured to the end of said stem, by a spring 26, said spring being made of a stiffness sufficient to counteract that portion of the pressure of the city or town water-service which exceeds the pressure maintained in the reservoir when filled.

An air-valve 27 is constructed and arranged to admit air to the reservoir 2 when the water is discharged therefrom and allow it to escape therefrom until the water has risen to a desired given level, when said air-valve will be closed, and as the water continues to rise in the reservoir the air still remaining therein will be compressed until the desired pressure per square inch is obtained in said reservoir, when said pressure in the reservoir, combined with the tension of the spring 26, will close the valve 10, in which condition the parts will remain until the slide-valve 8 is

moved outward by pressing the front end of the lever 15 inward, when the water contained in the reservoir will be discharged into the flushing-channel 3 and thence through the orifices 4 into the bowl to flush the same, and as the pressure in the reservoir is reduced by the discharge therefrom of its contents the excess of pressure in the supply-pipe over that exerted by the tension of the spring 26 will cause the valve 10 to be automatically opened and the reservoir to be again filled as soon as the hand is removed from the pad 18 of the lever 15.

The operation of my invention will be readily understood from the foregoing without further description here.

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

In a water-closet the combination of the closet-bowl, a flushing-rim arranged above and overhanging the upper portion of the inner surface of the wall of the bowl, and having formed therein an annular flushing-passage provided with a series of discharge-orifices opening therefrom into said bowl; an annular oval reservoir surrounding and extending over said flushing-passage and so arranged relative thereto that the bottom of said flushing-passage shall be at as low a level as the bottom of said reservoir; means for admitting water to said reservoir; and a suitable valve for opening and closing communication between said reservoir and flushing-passage.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 21st day of July, A. D. 1902.

NATHANIEL B. WALES.

Witnesses:

N. C. LOMBARD,

J. H. STEVENSON.