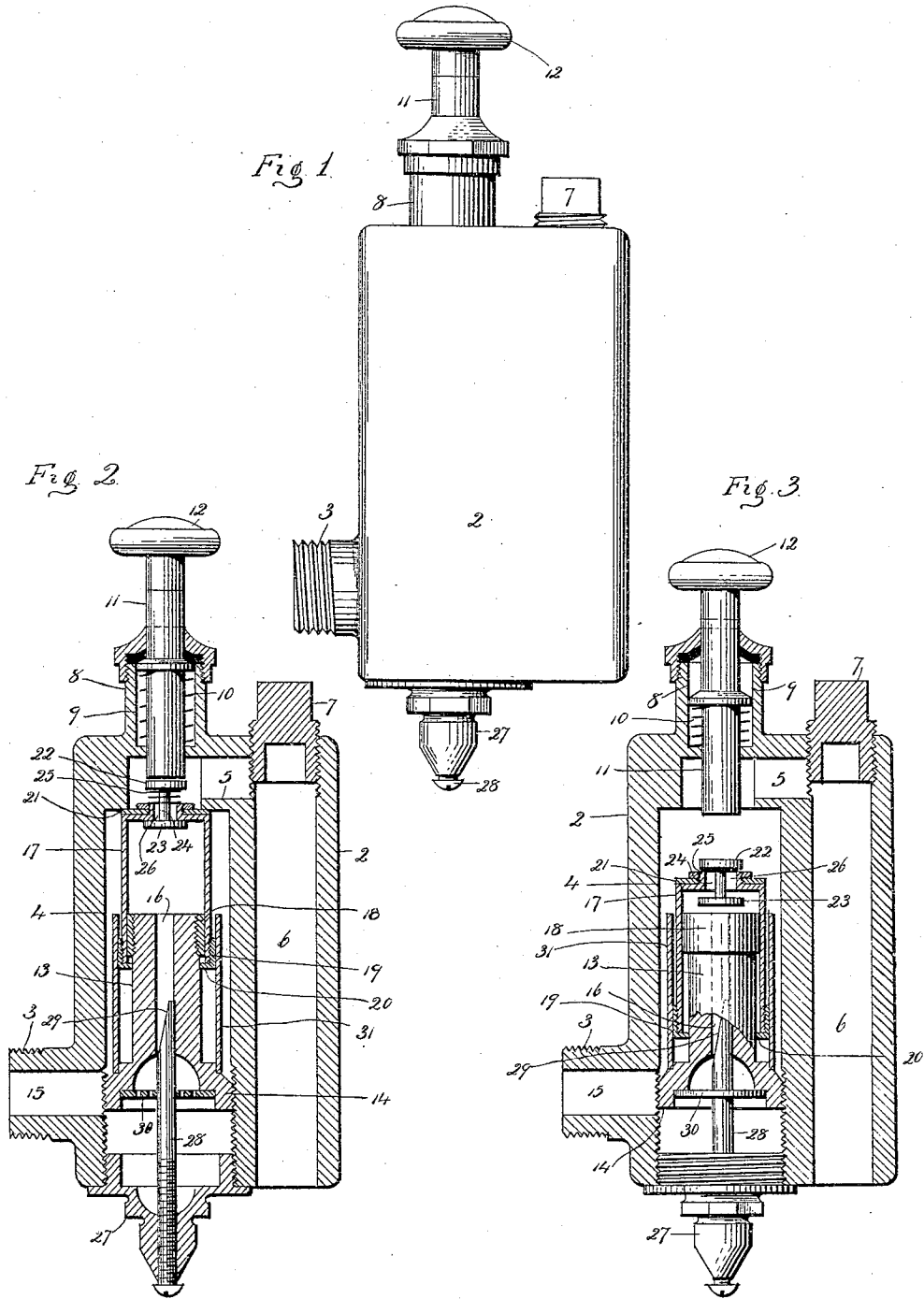


E. NANFELDT.
FLUSH VALVE.
APPLICATION FILED NOV. 9, 1908.

931,465.

Patented Aug. 17, 1909.



Attorney
C. J. Reed
C. L. Reed

Ernest Nanfeldt
Inventor
by Seymour T. Carey
Att'y.

UNITED STATES PATENT OFFICE.

ERNEST NANFELDT, OF NEW HAVEN, CONNECTICUT.

FLUSH-VALVE.

No. 931,465.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed November 9, 1908. Serial No. 461,672.

To all whom it may concern:

Be it known that I, ERNEST NANFELDT, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Flush-Valves; and I do hereby declare the following, when taken in connection with the accompanying drawings and the numerals of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a side view of a push valve constructed in accordance with my invention. Fig. 2 a vertical sectional view of the valve closed. Fig. 3 a similar view with the valve open.

This invention relates to an improvement in flush valves, and particularly to flush valves which are opened by a push button or rod, the object of the invention being a simple construction of parts whereby the force of the water will close the valve when the push rod or button is released; and the invention consists in details of construction hereafter described and particularly recited in the claims.

In carrying out my invention I employ a casing 2 formed from a casting with an inlet hub 3 opening into a chamber 4 which is connected by a passage 5 with an outlet opening 6. Preferably the outlet opening 6 would be formed by a hole extending entirely through the casing, the upper end being closed by a plug 7. Over the chamber 4 is a hub 8 formed with a chamber 9 to receive a spring 10 which surrounds the stem 11 of the push button 12. The lower end of the chamber is internally threaded to receive a cylindrical block 13 which is screwed into the chamber so that its flange 14 will stand in line with the inlet passage 15 in the hub 3. Longitudinally through the block 13 is a passage 16, and surrounding the block is a thimble valve 17 which is adapted to slide upon the block. The internal diameter of the thimble is slightly larger than the external diameter of the block which at its upper end is provided with a collar 18 to increase the diameter of that end. The thimble closely fits on this collar and is provided with a ring 19 having an inwardly turned flange 20 which will engage with the edge of the ring 18 to prevent the thimble from being entirely removed from the block. Secured to the outer end of

the thimble is a packing washer 21 which tends to close the upper end of the chamber and in this end of the valve is a small spring valve consisting of two plates 22, 23, connected by a pin 24 on which is a spring 25 which tends to draw the plate 23 against the interior face of the upper end of the sleeve so as to close the opening 26 therein. The lower end of the chamber is closed by a plug 27 in which a screw 28 is mounted, this screw having a beveled end 29 which enters the passage 16 in the block so that the passage through the block can be contracted or fully opened as desired. Also mounted in the lower end of the block is a strainer 30. To protect the thimble valve from action by water in the chamber 4 the block may be surrounded by a sleeve 31 which may be soldered to the flange 14 and extends beyond the end of the block, being of diameter somewhat larger than the thimble valve so as to allow that thimble valve to move freely on the block, but yet prevent the action of a current of water in the chamber from moving the thimble valve.

As shown in Fig. 2 of the drawings the valve is closed, and pressure through the inlet 15 and through the passage 16 to the interior of the valve 17 will hold the sliding valve so as to close the upper end of the chamber. To open the valve the button 12 is depressed, forcing the spindle 11 against the disk 22, which forces the disk 23 away from the opening 26, and continued pressure on the button will force the thimble downward on the block. Water will then flow through the inlet outside the block, and through the passage 5 to the outlet 6. When, however, the button is released the spring 10 will raise it, and the force of water through the passage 16 in the block into the chamber will force the disk 23 against the opening in the top of the thimble so as to close that end of the thimble and raise the thimble to close the opening at the top of the chamber. The strainer prevents foreign particles from entering the valve so as to interfere with the action of the disk 23 and the flow through the block may be regulated by the screw 28.

I claim:—

1. A flush valve comprising a casing formed with a connected chamber, an outlet passage, and an inlet opening into the said chamber, a block mounted in said chamber and having a flange in line with said inlet so

as to provide a passage for water on opposite sides, a thimble-valve surrounding said block, a passage at the outer end of said valve, a spring valve to close said passage, and a spindle arranged in line with said thimble and spring valves and adapted to force the same inward, substantially as described.

2. A flush valve comprising a casing formed with a connected chamber, an outlet passage, and an inlet opening into the said chamber, a block mounted in said chamber and having a flange in line with said inlet so as to provide a passage for water on opposite sides and formed with a hole, a thimble valve surrounding said block, a passage at the outer end of said valve, a spring valve to close said passage, and a spindle arranged in line with said thimble and spring valves and adapted to force the same inward, substantially as described.

3. A flush valve comprising a casing formed with a connected chamber, an outlet passage and inlet passage, a block mounted in said chamber and having a flange in line with said inlet, whereby a passage is formed on opposite sides of said flange, said block formed with a hole, a collar on the outer end of said block, a thimble valve closely fitting

said collar, a ring on said thimble formed with an inturned flange to engage with said collar, an opening at the upper end of said thimble valve, a spring valve to close said opening and a spring-operated spindle adapted to move said spring valve, substantially as described.

4. A flush valve comprising a casing formed with a connected chamber, an outlet passage and inlet passage, a block mounted in said chamber and having a flange in line with said inlet so as to provide a passage for water on opposite sides, a thimble-valve surrounding said block, a sleeve secured to said block and surrounding said thimble valve, a passage at the outer end of said valve, a spring valve to close said passage, and a spindle arranged in line with said spring valve and adapted to force the same inward, substantially as described.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ERNEST NANFELDT.

Witnesses:

HELMER A. PEARSON,
WILLIAM C. ROSS.