

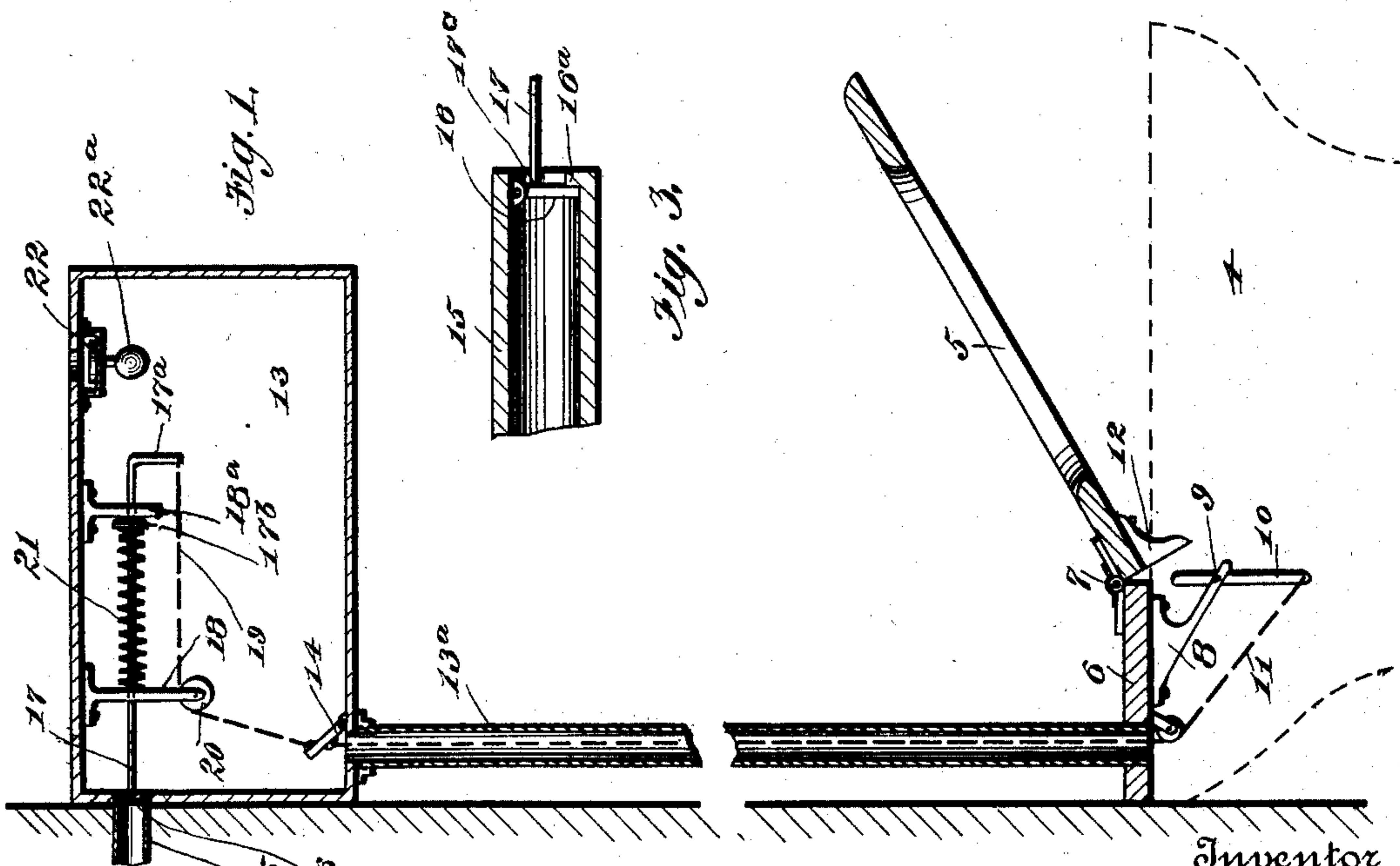
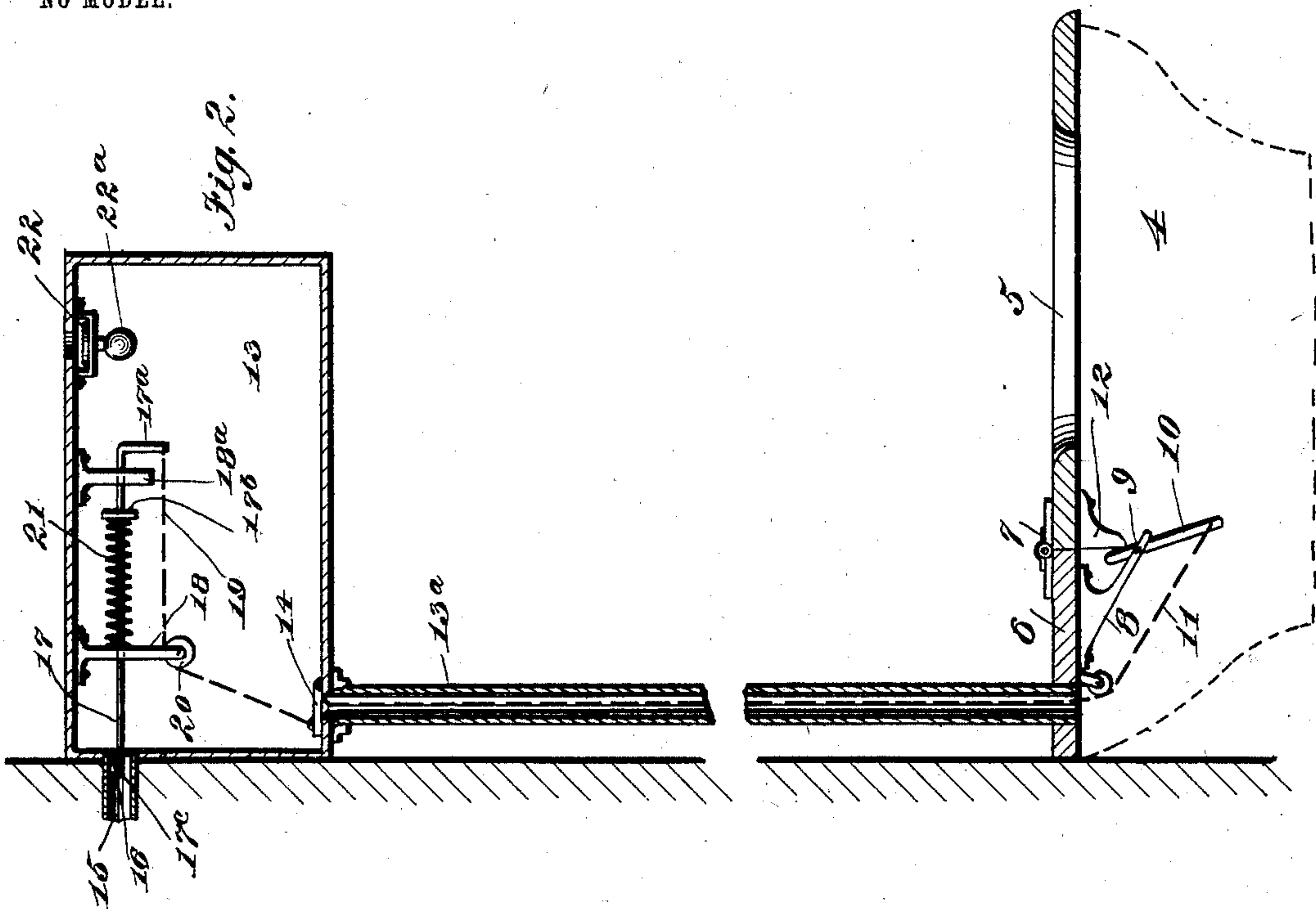
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PATENTED FEB. 3, 1903.

F. LIGHT.
FLUSHING APPARATUS FOR CLOSETS.

APPLICATION FILED AUG. 11, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANK LIGHT, OF LOUISVILLE, COLORADO.

FLUSHING APPARATUS FOR CLOSETS.

SPECIFICATION forming part of Letters Patent No. 719,598, dated February 3, 1903.

Application filed August 11, 1902. Serial No. 119,271. (No model.)

To all whom it may concern:

Be it known that I, FRANK LIGHT, a citizen of the United States, residing at Louisville, in the county of Boulder and State of Colorado, have invented certain new and useful Improvements in Flushing Apparatus for Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in apparatus for flushing closets, and has for its object to provide a mechanism by the use of which the opening and closing of the flushing and supply valves is controlled by the seat.

My invention comprises a tank, which is normally empty, the valve admitting the supply of water to the same not being opened until the seat is depressed. At the same time the flushing-valve is closed. When the seat is raised, the flushing-valve opens, permitting the water to flow down into the bowl, washing out the same. Simultaneous with the opening of the flushing-valve the supply-valve is closed, thus permitting no waste of water.

Improved details in the construction and arrangement of the several parts of my invention will be apparent from the detailed description hereinafter and the appended claims when taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a vertical section of my apparatus, showing the position of the several parts when the flushing-valve is open. Fig. 2 is a similar view when the flushing-valve is closed. Fig. 3 is an enlarged detail view of the supply-valve.

Referring specifically to the drawings, the closet-bowl is indicated in dotted lines at 4. I have shown only a portion of the same, as its construction is well known. The seat is indicated at 5. It is secured to the wall-plate 6 by spring-hinges 7, which normally retain the seat in raised position, as shown in Fig. 1. Secured to the bottom of the wall-plate 6 is a bracket 8, to which is pivoted at

9 a lever 10. To the lower end of the lever a chain 11 is secured. To the under side of the seat, at the rear end thereof, is secured a finger 12, which is adapted to contact with the upper end of the lever 10 when the seat 5 is lowered and swing the said lever forward, as shown in Fig. 2, pulling down the chain 11.

The flushing-tank is indicated at 13 and communicates with the bowl 4 by a pipe 13^a.

The flow of water through this pipe from the tank is controlled by a flushing-valve 14, opening upward. To the bottom of this valve the chain 11 is secured, which as it is pulled downward closes said valve. The tank is supplied with water from a suitable source by a pipe 15, communicating with the same near the top thereof. Said supply-pipe is provided at its mouth with a valve 16, opening inward. The opening and closing of the valve 16 is controlled by a rod 17, which passes loosely through brackets 18 and 18^a, secured to the top of the tank 13. The rear end of said rod 17 is bent downward, as indicated at 17^a, and thereto is attached a chain 19, passing over a friction roller or pulley 20, secured to the bracket 18, the other end of the chain being secured to the top of the flushing-valve 14. The rod 17 is provided with a collar 17^b, and between this collar and the bracket 18 a spiral spring 21 is placed, embracing the rod 17. The tension of said spring tends to push the rod rearward, and thus remove its point 17^c from the valve 16, which then closes by reason of the pressure of the water in the pipe 15, inward movement of the valve being limited by a stop 16^a, located within said pipe. This is the normal position of the supply-valve 16. The rearward movement of the rod 17 described above lifts the valve 14 from its seat by reason of the chain 19, connecting said parts. This is the normal position of said valve. The top of the tank is provided with a small float-valve 22 to allow the escape of air from the tank while it is filling. This valve opens downward and is kept open by its own weight when the tank is empty. When the tank is filling, it closes as soon as the water reaches the float 22^a and opens again when the water flows out through the flushing-valve 14.

The operation of the device is as follows: Upon lowering the seat 5 the finger 12 en-

gages the upper part of the lever 10, swinging the same forward, which pulls the chain 11 downward and closes the flushing-valve 14. By this movement of the flushing-valve the chain 19 is pulled downward, which pushes the rod 17 against the tension of the spring 21 and opens the valve 16. The water then flows into the tank and as it reaches the float 22^a of the valve 22 it closes the same. This prevents overflow of the tank. When the seat 5 returns to its raised position, which movement is automatic by reason of the spring-hinges 7, the finger 12 is removed from the lever 10, which allows said lever to return to its normal position. The pressure against the spring 21 then being removed, said spring pushes the rod 17 rearward, which opens the flushing-valve 14 and empties the tank. At the same time as the rod moves away from the supply-valve 16 said valve by reason of the pressure of the water in the pipe 15 closes, as heretofore described. The valve 22 also opens, which prevents a vacuum within the tank.

By this apparatus there is no waste of water, the tank being normally empty and not filling until the seat is depressed.

Having thus described my invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a water-closet and a seat therefor having spring-hinges to retain the same normally in an elevated position, of a tank communicating with the closet, a source of water-supply, a valve kept normally closed by the pressure of said supply, a flushing-valve for emptying said tank, brackets secured to the top of the tank, a rod passing through said brackets, a connection between said rod and the flushing-valve, a shoulder on the rod, a spiral spring interposed between said shoulder and one of the brackets for the purpose of keeping said rod normally out of contact with the supply-valve and allowing the same to remain closed and

to normally hold the flushing-valve open, means carried by the seat for opening the supply-valve and closing the flushing-valve simultaneously, and a relief-valve in the tank, substantially as shown and described.

2. The combination with a water-closet and a seat therefor having spring-hinges to retain the same normally in an elevated position, of a tank communicating with the closet, a source of water-supply, a valve kept normally closed by the pressure of said supply, a valve for emptying the tank, means for keeping said valve normally open, a bracket, a lever pivoted to said bracket, a chain, one end of which is secured to the lever and the other end to the flushing-valve, a connection between this valve and the supply-valve, means to swing the rod forward closing the flushing-valve and opening the supply-valve, means to return said valves to their normal positions, and a relief-valve in the tank, substantially as shown and described.

3. The combination with a water-closet and a seat therefor having spring-hinges to retain the same normally in an elevated position, of a tank communicating with the closet, a source of water-supply, a valve kept normally closed by the pressure of said supply, a valve for emptying the tank, means for keeping said valve normally open, a bracket, a lever pivoted to said bracket, a chain, one end of which is secured to the lever and the other end to the flushing-valve, a connection between this valve and the supply-valve, a finger secured to the seat to engage the rod when said seat is lowered and swing the rod forward, and a relief-valve in the tank, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK LIGHT.

Witnesses:

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MARTIN ZURICH, Jr.