

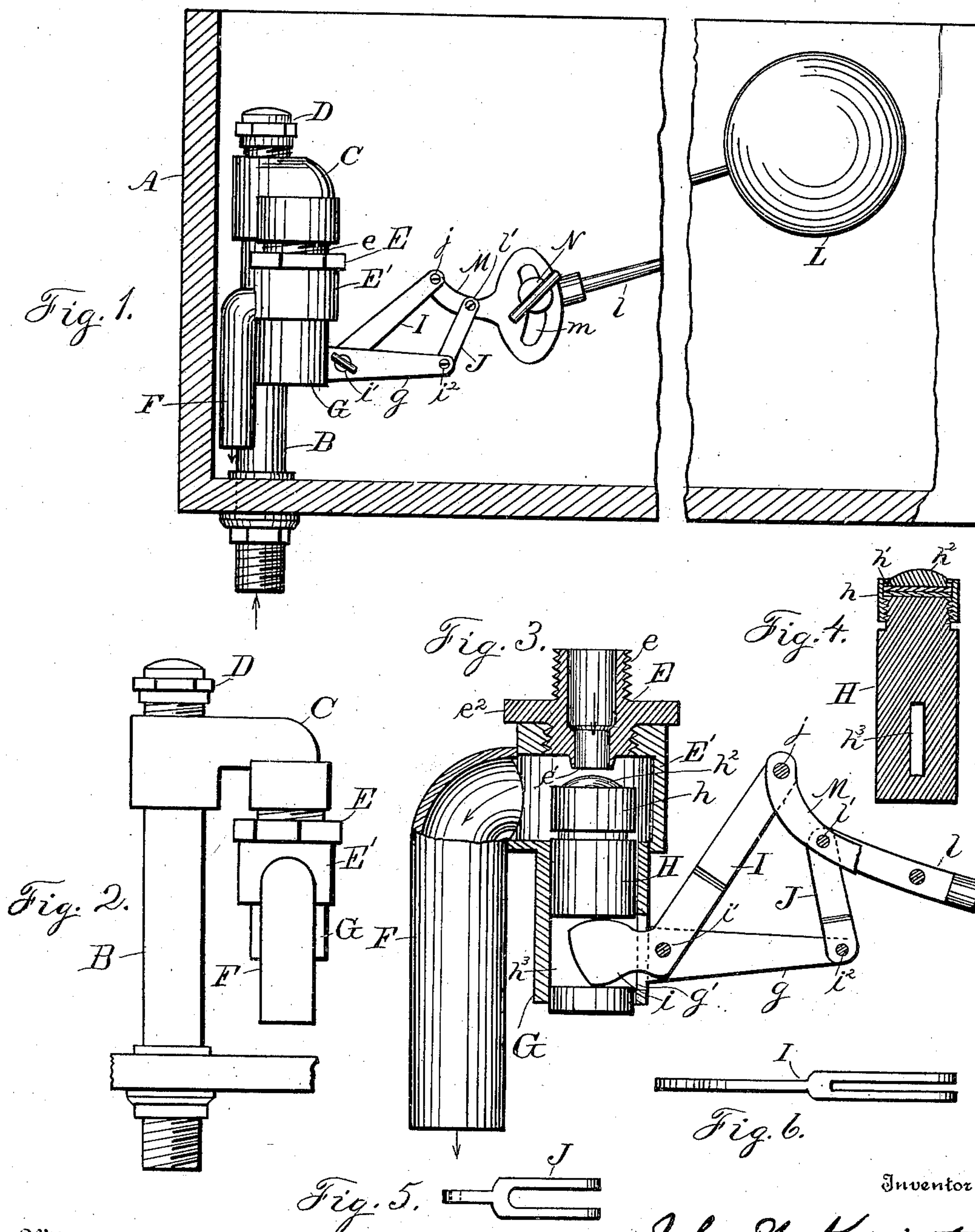
No. 741,343.

PATENTED OCT. 13, 1903.

J. W. KEDDINGTON.  
FLOAT OPERATED VALVE.  
APPLICATION FILED MAY 9, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor

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Fig. 7.

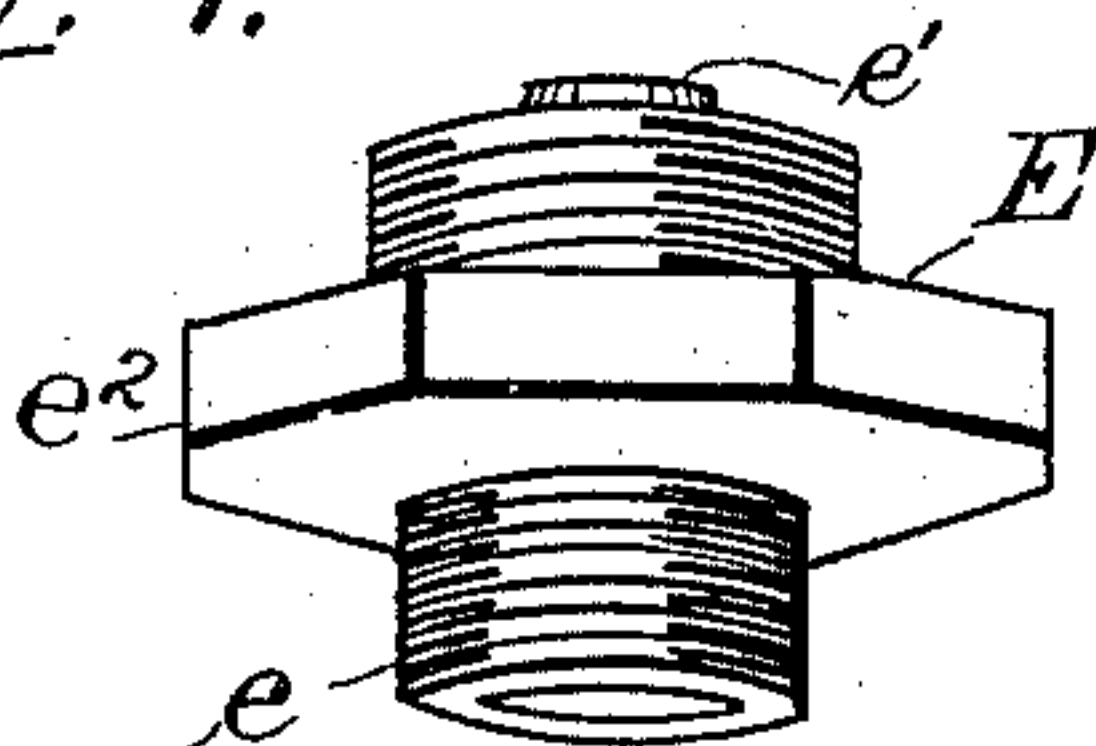


Fig. 8.

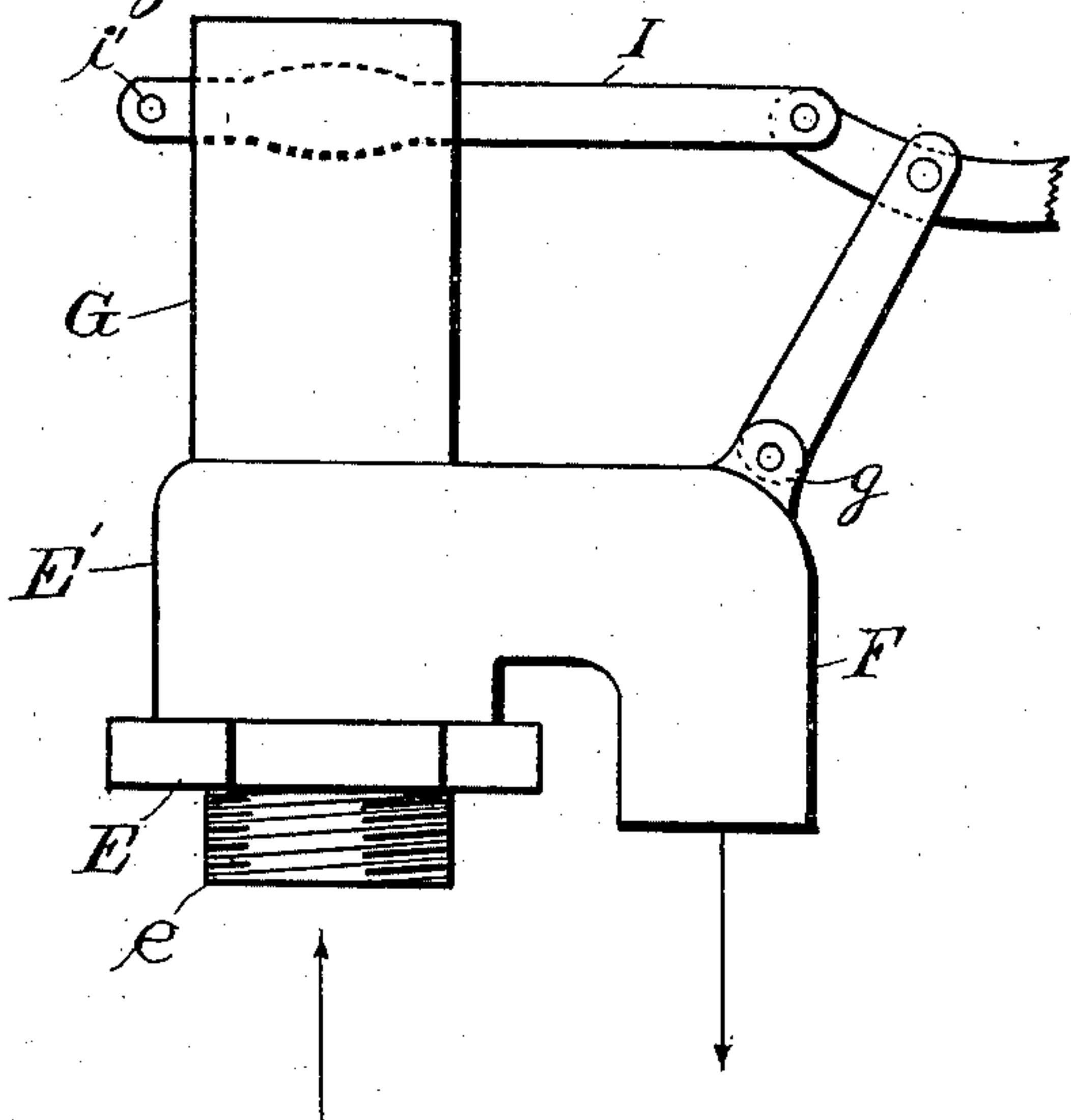
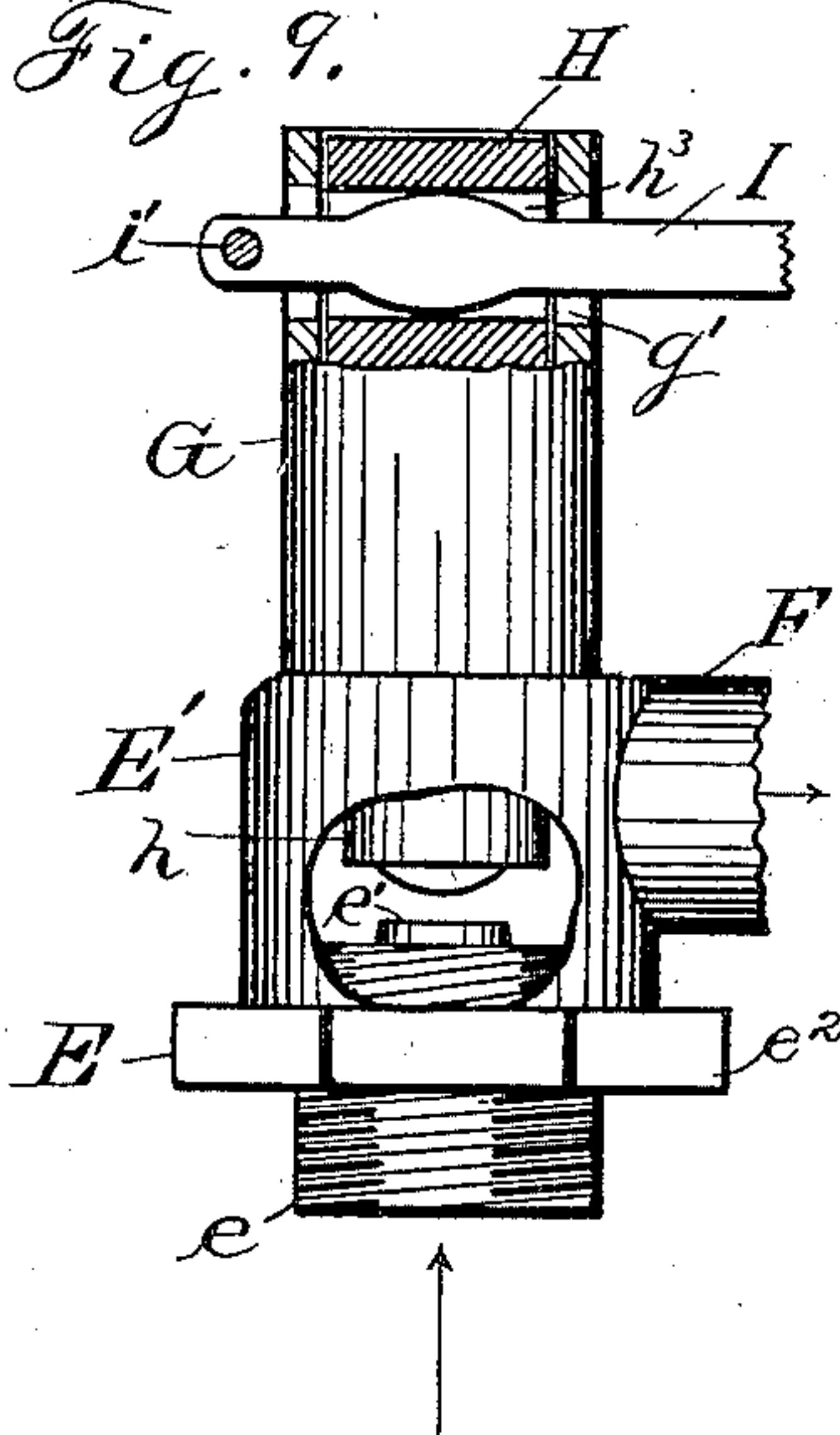


Fig. 9.



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# UNITED STATES PATENT OFFICE.

JOHN WILLIAM KEDDINGTON, OF SALT LAKE CITY, UTAH.

## FLOAT-OPERATED VALVE.

SPECIFICATION forming part of Letters Patent No. 741,343, dated October 13, 1903.

Application filed May 9, 1903. Serial No. 156,461. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WILLIAM KEDDINGTON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented new and useful Improvements in Float-Operated Valves, of which the following is a specification.

My invention is susceptible of general application as a valve, but has especial reference to valves used in the flushing-tanks of water-closets. When a high water-pressure is maintained, the valve is sometimes forced open because of insufficient support from the valve-controlling mechanism.

An object of my invention is to provide force that will certainly hold the valve in the desired position whether open or closed.

Another object of this device is to provide an easily-detachable valve-seat which when it is worn can be renewed by any one without especial skill.

The accompanying drawings illustrate the invention, in which—

Figure 1 is a side elevation with the valve closed, erected in a tank whose front is partly removed. Fig. 2 is a slightly-enlarged end elevation of the device in outline. Fig. 3 is a side elevation, still further enlarged and partly in section, of a part of the device. Fig. 4 is a vertical section of the valve-stem. Fig. 5 is a plan of the forked arm; Fig. 6, a plan of the forked lever; Fig. 7, a perspective of the valve-seat; Fig. 8, a side elevation of a modification of the device; and Fig. 9, a side elevation of the same, partly in section.

The various features of the invention are referred to by letters, like letters denoting corresponding parts in the several views.

The letter A indicates an ordinary water-closet tank, shown fragmentarily and partly in section. It has an opening through its bottom to admit a stock or water-supply pipe B.

C is a return-elbow, screwed upon stock B and having an upper opening threaded and covered by a cap D.

In cases where the supply is received from the top of the tank only stock-pipe B and return-elbow C can be dispensed with and sub-

stituted by an ordinary elbow screwed upon the threads *e* of the valve-seat E.

F is the discharge from the chamber E' into the tank A.

G is a cylindrical shell or casing attached to the valve-chamber E and preferably cast integrally with it. The outer end of this shell is open, and a valve-stem H, fitting it closely, is adapted to move vertically in it. The upper end of the stem H carries a hollow detachable thimble *h*, with the annular inwardly-projecting flange *h'*, adapted to overlap and be tightened down upon the elastic packing *h*<sup>2</sup>, holding it tightly between said flange and the upper end of the valve-stem H. On the shell are horizontal brackets *g g*, between which are pivoted at *i'* the forked lever I and near their outer ends at *i*<sup>2</sup> the forked arm J. The lower end of the lever I has a lug *i*, adapted to pass through a slot *g'* in the shell G between the brackets *g g* and to enter a slot *h*<sup>3</sup> in the stem H and by its movement on the fulcrum *i'* to raise and lower said stem, and thus close and open the orifice *e'*.

L is the float, and *l* the float-arm, which is pivotally attached at *l'* to the upper end of arm J between its prongs, and said arm is connected at pivot *j* with the lever I by the float-adjusting plate M, which by its slot *m* and a thumb-screw N is rigidly secured to said float-arm *l*. By these means the float-arm is set at the angle desired to operate the valve-stem H. Thumb-screw pivots are provided at the points shown for adjustment of the float-arm and for the removal of the valve-stem in order to renew its elastic packing.

The valve-seat E is removable when worn and can be replaced by a new one at very small cost instead of incurring the expense of an entire faucet. It is therefore provided with a wrench-rest *e*<sup>2</sup> and threads at each side of said rest, so that it is readily attached to or removed from either the chamber E' or the water-supply pipe.

In the modification shown in Figs. 8 and 9 the relative positions of some of the parts are reversed. The stock-pipe B enters the bottom of the tank as before, but connects directly with the valve-seat E. The lever I



passes through the slot  $h^3$  in the stem II and is fulcrumed at  $i'$ , and the brackets  $g g$  are attached to the discharge-pipe F. The operation of these parts is substantially the same

5 as before described.

It is mechanically convenient to make the lever I and the arm J forked and to make the lever connections generally as shown; but I do not restrict my invention to this precise

10 construction, reserving the right to make reasonable variations in the lever and to substitute equivalents throughout the device without departing from the spirit of the invention.

15 Having now described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A compound valve-operating lever, mounted in brackets on the valve-shell and

20 comprising a lever fulcrumed in said brackets, a lug on said lever to engage the valve-stem, an arm pivoted near the outer end of said brackets, a plate pivotally connecting the upper ends of said lever and arm, and a

float-arm adjustably secured to said plate, 25 substantially as described.

2. In a water-closet float-operated valve, having a valve-stem vertically movable in the shell of the valve, brackets on said shell, a slot in said shell between said brackets, a 30 forked lever fulcrumed in said brackets, a lug on said lever adapted to move in the slot of said shell, and to engage the slot in said stem, a forked arm jointed to the ends of said brackets, a float-arm jointed to said forked 35 arm, a plate terminally pivoted to said lever and centrally pivoted to said forked arm, a slot in said plate and a set-screw adjustable in said slot and adapted to bind said float-arm to said plate, as herein set forth. 40

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

JOHN WILLIAM KEDDINGTON.

Witnesses:

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ROYAL G. BARNES.