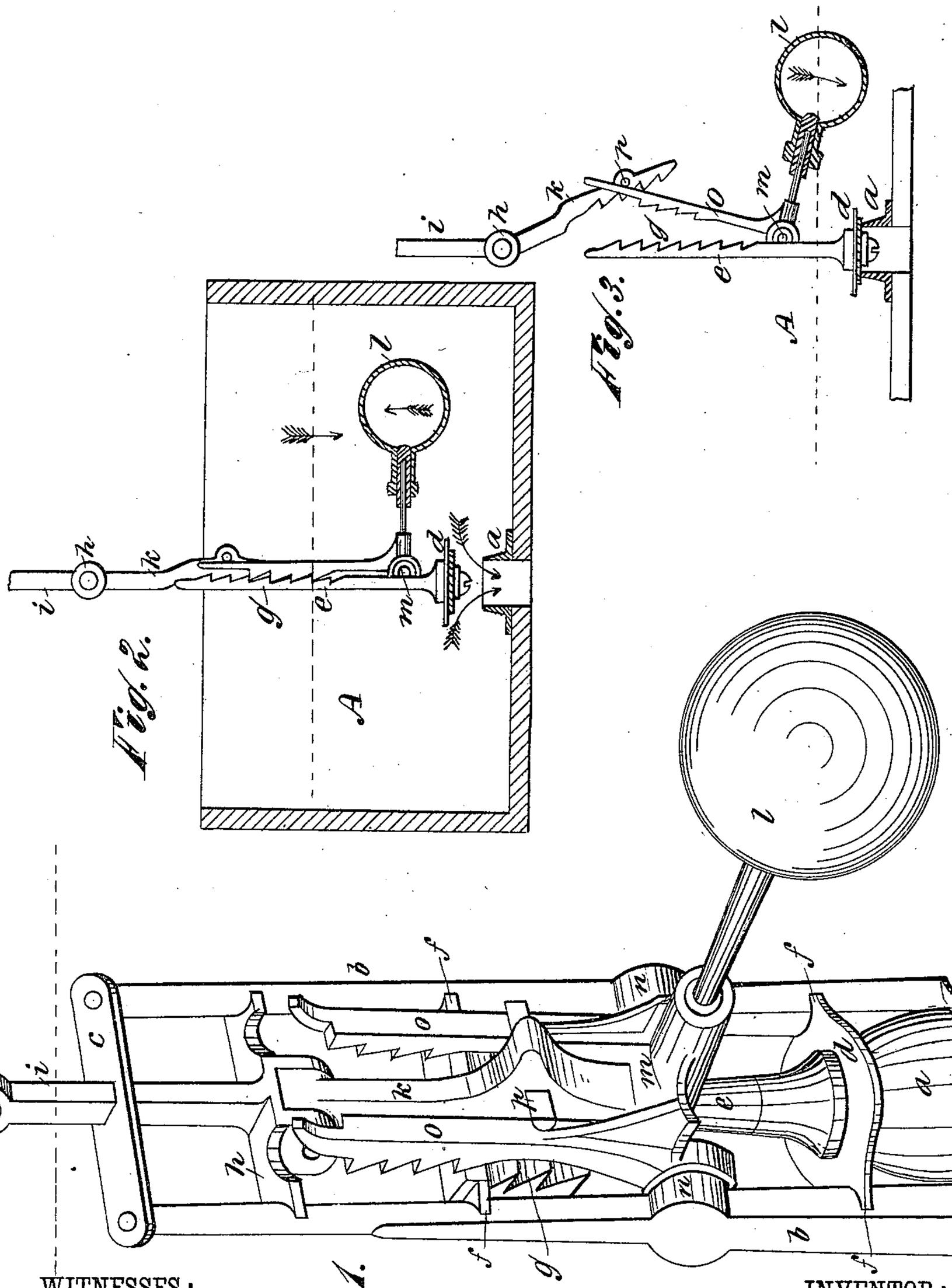
(No Model.)

D. THOMPSON.

FLUSHING VALVE.

No. 249,696. Patented Nov. 15, 1881.



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FLUSHING-VALVE.

SPECIFICATION forming part of Letters Patent No. 249,696, dated November 15, 1881.

Application filed September 10, 1881. (No model.) Patented in England July 21, 1879.

To all whom it may concern:

Be it known that I, DAVID THOMPSON, of Leeds, in the county of York, England, have invented a new and useful Improvement in Flushing-Valves, of which the following is a full, clear, and exact description.

The object of my invention is to furnish a flushing-valve for use with water-closets and at other places, combining simplicity and certainty of action in the supply of a definite and exact quantity of water each time the handle is lifted, whatever the extent, height, or time of lifting may be, and the prevention of any increased supply, however long the handle may be held up.

The invention consists in the combination, with a valve, of a float and ratchet, whereby the closing movement of the valve is governed, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the valve in its closed position. Fig. 2 is a sectional side view of the same in the open position, and Fig. 3 is a side view of the valve in the position as closed by the action of the float.

In practice I employ an inner cistern or boot for containing the quantity of water to be discharged at each flushing. At the bottom of this boot (shown at A) is fitted the valve and its mechanism.

a is the valve-seat, fixed around an opening in the bottom of the boot A.

b b are vertical rods, fixed to the valve-seat at opposite sides, and connected at their upper ends by a cross-bar, *c*, so as to form a frame for carrying the valve mechanism.

d is the valve on the end of a stem, *e*, that engages the rods *b b* by lugs *f f*, so that the valve and stem are guided by the rods in their vertical movement.

g g are ratchet-teeth formed at the upper end of stem *e*.

h is a slide engaging the rods *b* by lugs, and *i* is a rod extending from the slide through the cross-bar *c*. To this rod *i* the handle by which the valve is opened is to be connected.

k is an arm pivoted on the slide *h*, and formed at its lower end with ratchet-teeth, which engage the teeth *g* of the valve-stem.

l is the float, attached on a cross-head, *m*, that is pivoted at *n n* on the rods *b*, so that the float is free to rise and fall with the water-line.

o o are arms projecting from the head *m*, and formed with ratchet-teeth at their upper ends.

p p are pins or lugs projecting from the pivoted arm *k* behind the arms *o*.

The float may be made of metal, glass, or other suitable material.

The admission of water into the boot A from the main cistern may be by means of a small hole or perforation, and no valve will be required.

In operation, the valve being down or closed and the boot filled to the water-line, as shown in Fig. 1, the float will be elevated. In this position the ratchet-arm *k* engages the teeth on the valve-stem, so that when the rod *i* is raised the valve is also moved up and the water escapes to the closet. In this raised position of the valve (shown in Fig. 2) the ratchet-teeth *g* are engaged to the ratchet-arms *o*, and the valve is thus sustained by the float. When the boot A is emptied, or nearly so, the float will fall, and the arms *o* being thus moved outward carry the arm *k* with them, and the valve is free to fall.

This position is shown in Fig. 3. The water rising again in the boot restores the first position of the parts.

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

1. The combination of valve *d*, having its stem provided with ratchet *g*, slide *h*, pivoted ratchet-arm *k*, having lugs *p*, pivoted float *l*, and ratchet-arms *o*, substantially as shown and described, for operation as set forth.

2. The combination, with valve *d* and its ratchet-stem *e*, of ratchet-arms *o*, operated by a float to engage the stem when the valve is raised, substantially as shown and described.

3. The slide *h* and pivoted ratchet-arm *k*, in combination with the valve *d* and ratchet-stem *e*, substantially as and for the purposes set forth.

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Witnesses:
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