

(No Model.)

M. HOGAN.

WATER COCK.

No. 275,487.

Patented Apr. 10, 1883.

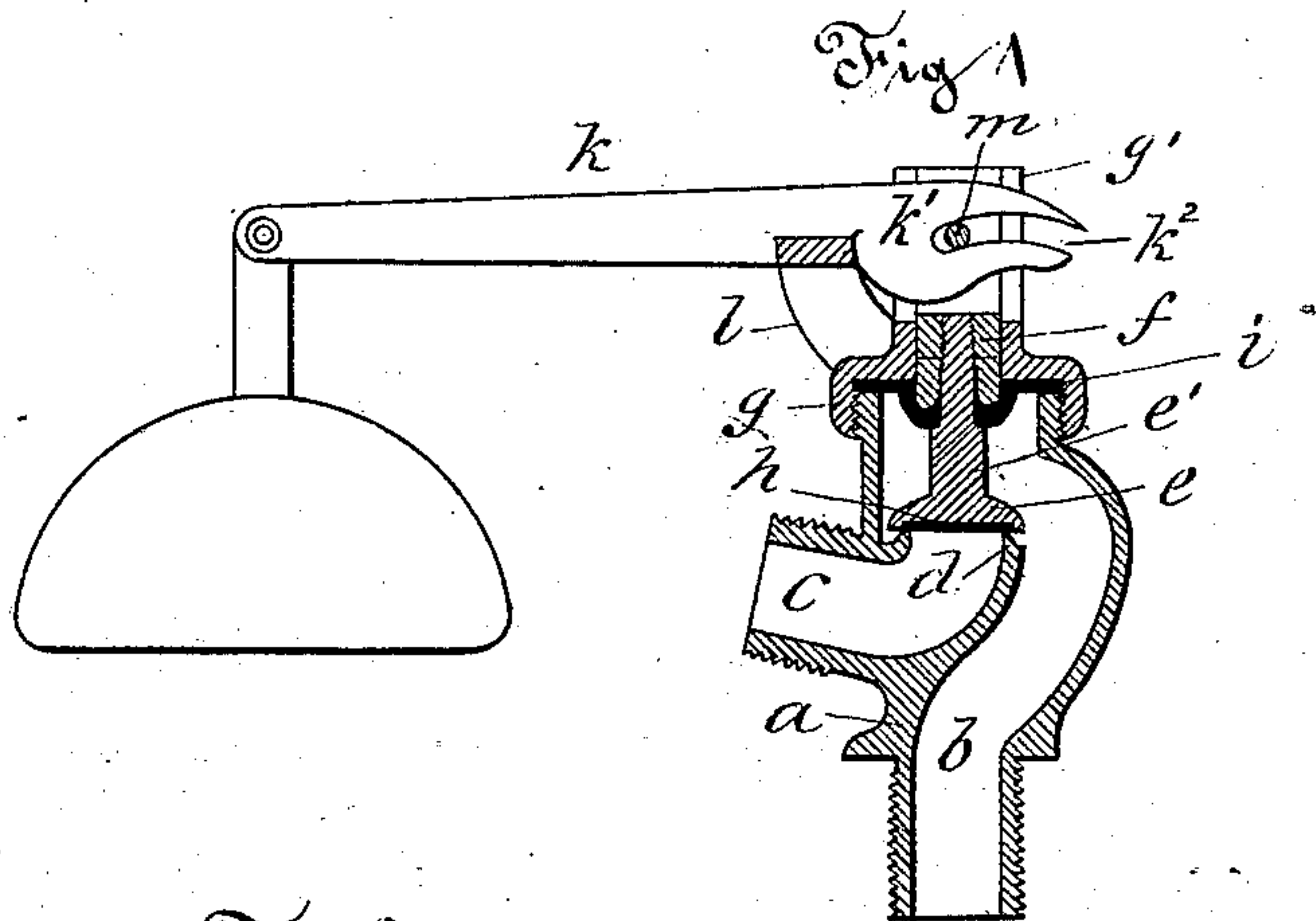


Fig 2.

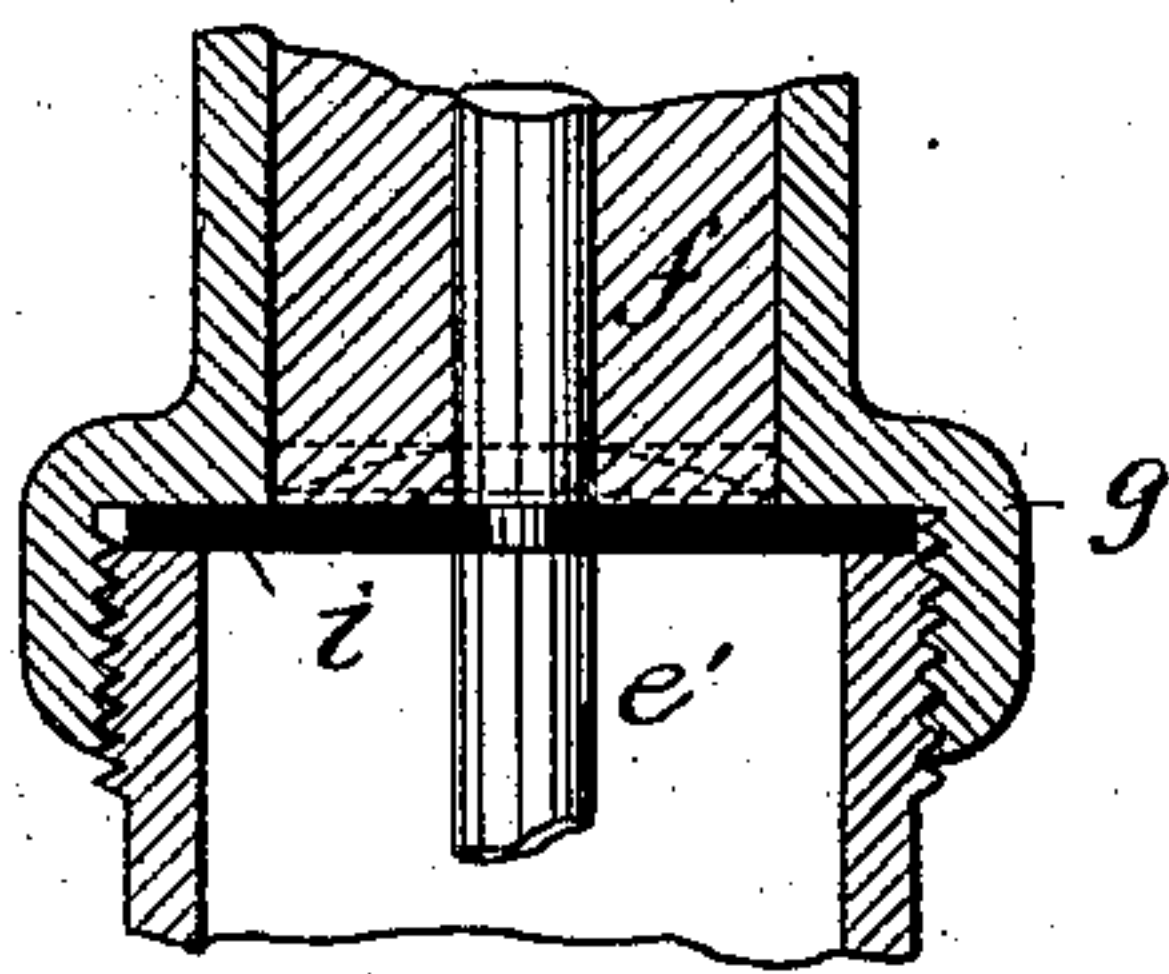


Fig 3.

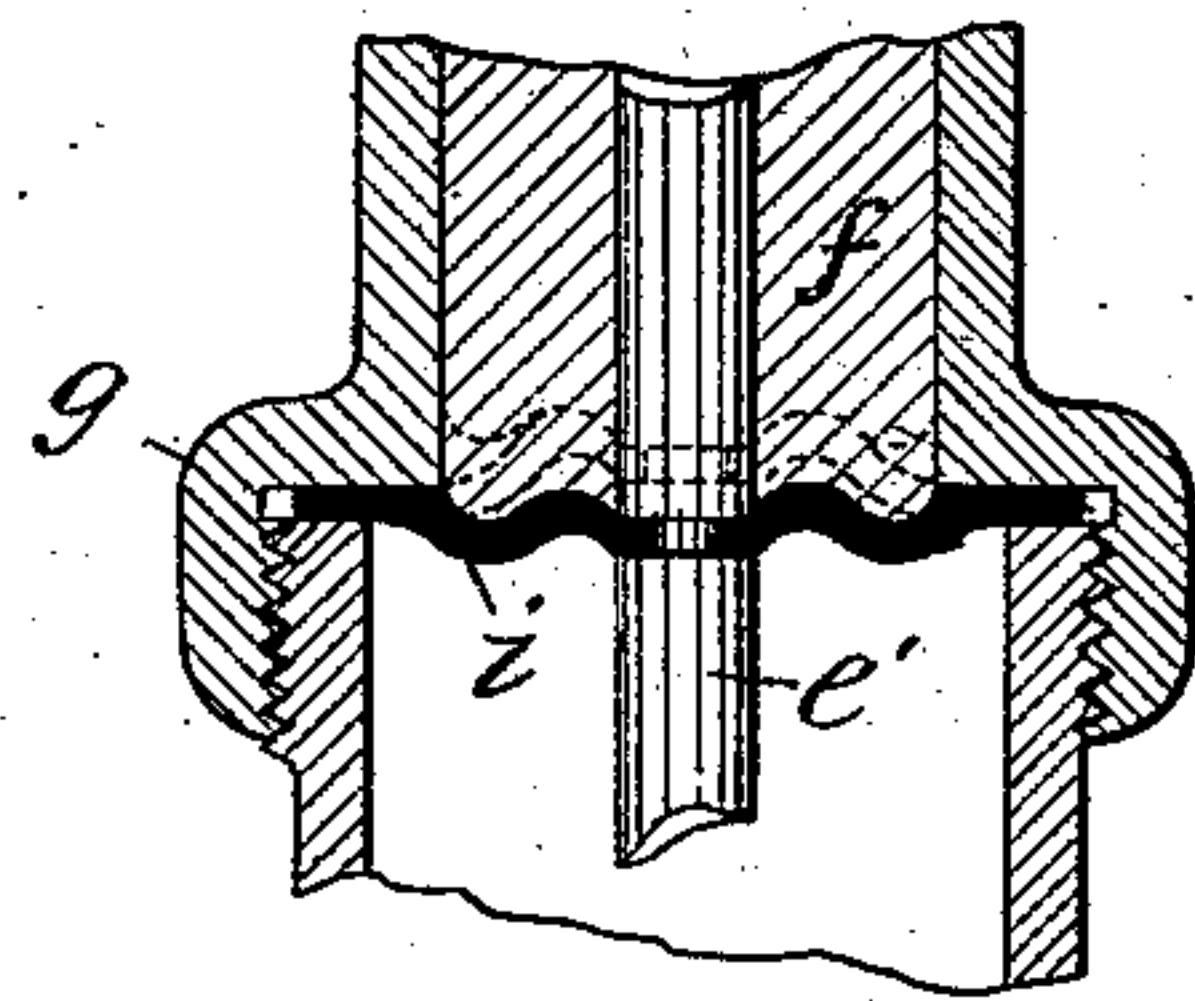
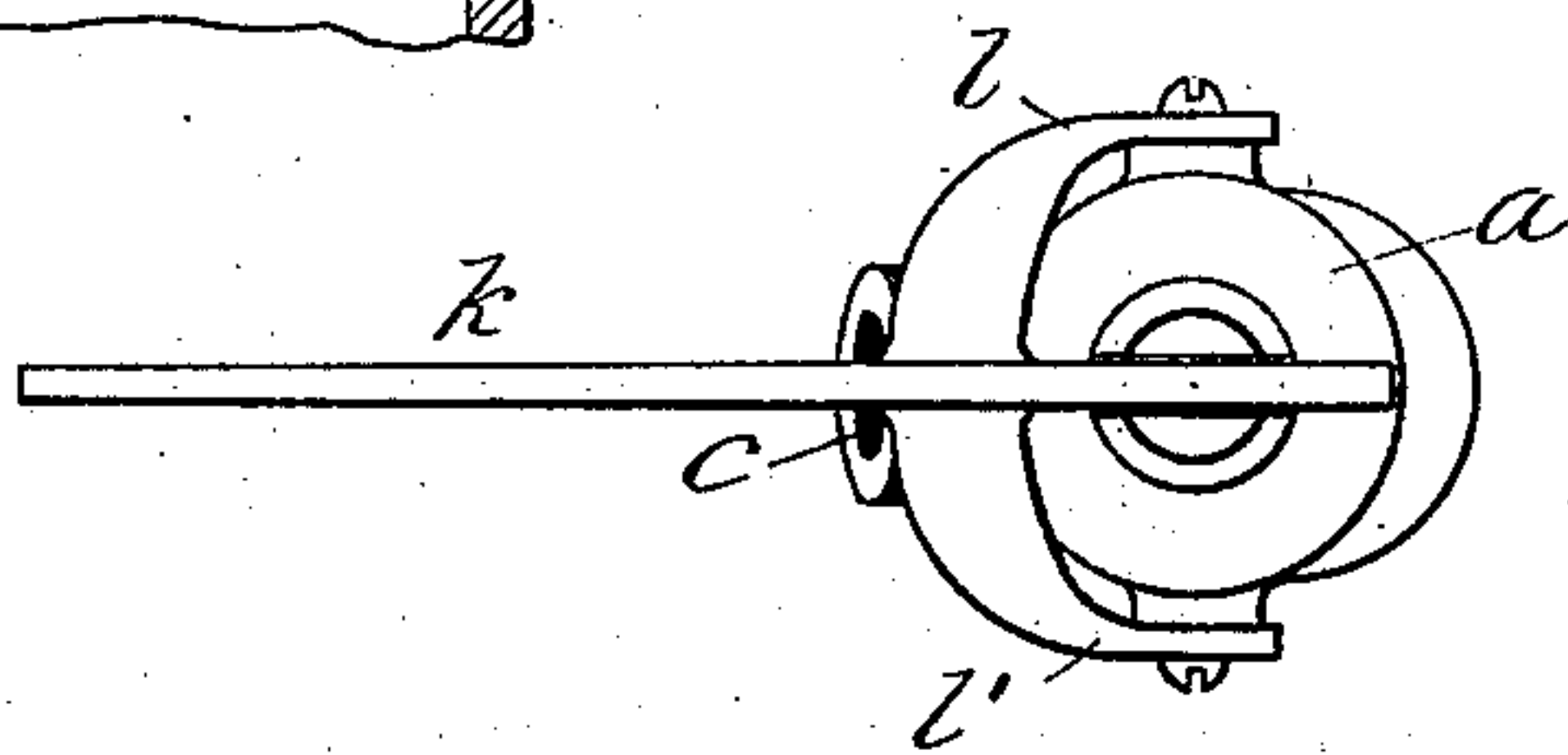


Fig 4.



Witnesses

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MATTHEW HOGAN, OF HARTFORD, CONNECTICUT.

WATER-COCK.

SPECIFICATION forming part of Letters Patent No. 275,487, dated April 10, 1883.

Application filed December 4, 1882. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW HOGAN, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and
5 useful Improvements in Water-Cocks, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a view in central vertical section of a water-cock embodying my improvements. Fig. 2 is a detail sectional view, on
10 enlarged scale, of an old form of packing. Fig. 3 is a detail sectional view, on enlarged scale, of my improved form of packing. Fig. 4 is a top view of the device shown in Fig. 1.

15 My invention relates to the class of water-cocks in which balanced valves are used; and it consists in the improved combination of parts for operating the valve, and in the peculiar devices for packing the valve.

20 In the accompanying drawings, the letter *a* denotes the body of the cock, or valve-body; *b*, the inlet-passage in the body; *c*, the outlet-passage; *d*, the valve-seat; *e*, a disk-valve secured by stem *e'* to the plunger *f*; *g*, a cap
25 secured to the body *a* by screw-thread or by flanges bolted together; *h*, a packing for the disk-valve; *i*, a diaphragm packing of flexible or elastic material as india-rubber or the like held at its outer edge between the body
30 and the cap. This diaphragm may be a plain disk; but the corrugated form, as shown, is preferred, the bottom of the plunger being shaped to conform to it in general outline.

The lever *k* has arms *l l'*, by which it is
35 pivoted to the valve-body or cap at points on the side in line with the center of the plunger, the latter and the stem *g'* of the cap being mortised for the passage of the arm *k'* of the lever. The pin *m* passes through the plunger
40 and the cam-slot *k²* in the arm *k'* of the lever, and as the outer end of the lever is depressed

the plunger and attached valve are lifted, opening the valve; the reverse motion closes it. The downward pressure of the water within the cock upon the valve-disk is opposed by
45 the upward pressure against the bottom of the plunger; and by making these opposing surfaces substantially equal in area the balanced-valve feature of my device is secured. A plane passing through the axis of the disk and
50 plunger and of the pin *m* passes also through the pivots of the lever, whatever its position in opening or closing the valve, and this arrangement prevents chattering of the valve and leakage from the sudden closing of a cock
55 on a branch near the cock *a*.

In the form of packing shown in Fig. 2 the bending caused by working the valve comes sharp against the edge of the cap and tends to crack the diaphragm after short use. This
60 defect is completely remedied by using the corrugated form shown in Fig. 3. A cup-shaped form also possesses many advantages.

I claim as my invention—

1. The combination of a valve-body, a re-
65 ciprocating plunger, a lever pivoted thereto, and having an eccentric cam-slot traversed by a fixed pin or pivot, the axes of the pivots being at all times in the line of the axis of the
70 plunger, all substantially as described.

2. In a water-cock, a balanced valve, *e*, in combination with the valve-body *a*, plunger *f*, and corrugated elastic packing *i*, all substantially as described.

3. In a water-cock having a balanced valve,
75 a corrugated disk-shaped elastic packing, all substantially as described.

MATTHEW HOGAN.

Witnesses:

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