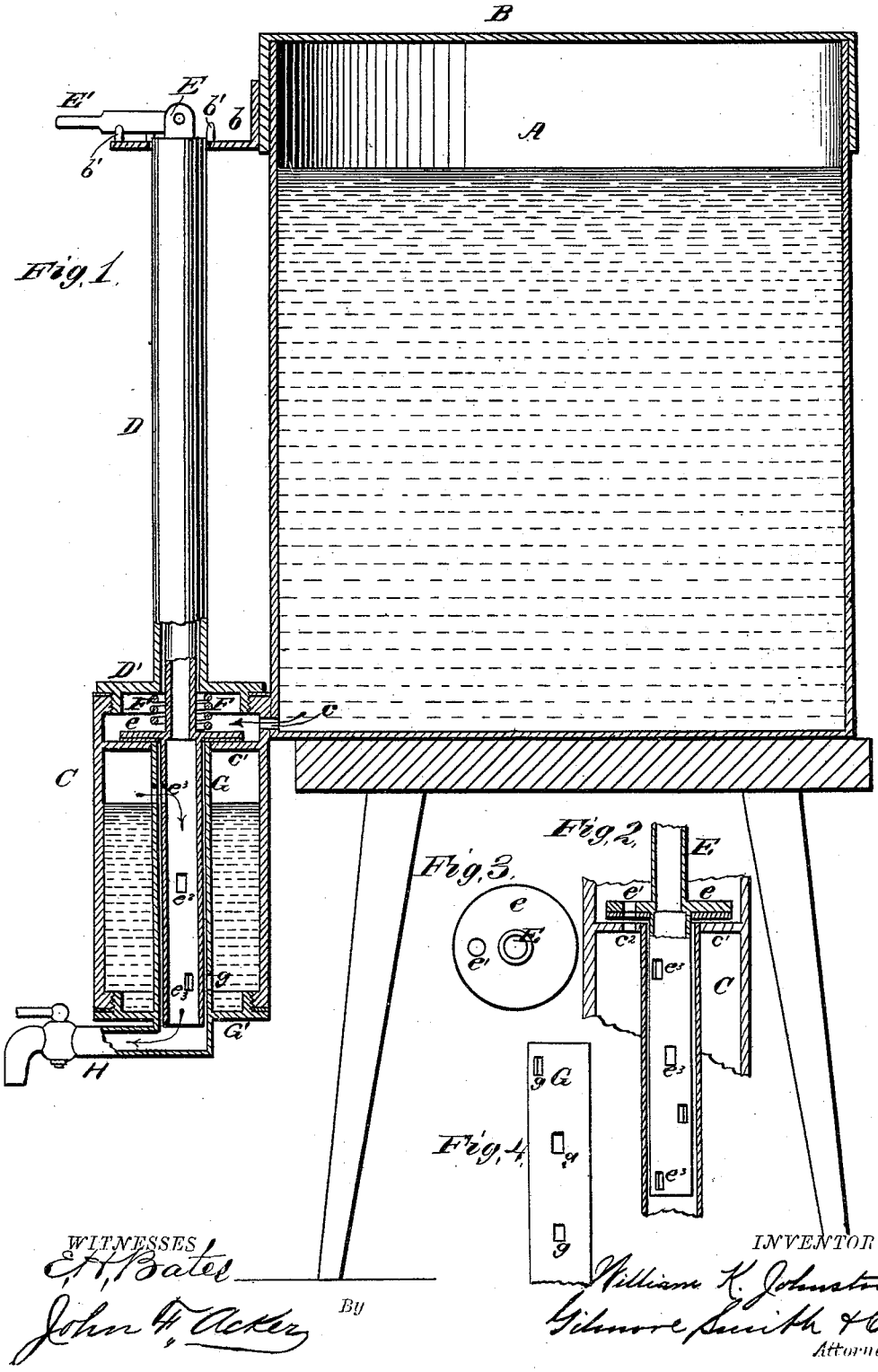
# W. K. JOHNSTON.

## LIQUID-MEASURES.

No. 181,943. Patented Sept. 5, 1876.




WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM K. JOHNSTON, OF CORDOVA, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO CALVIN L. MAXWELL, OF PRINCETON, IOWA.

## IMPROVEMENT IN LIQUID-MEASURES.

Specification forming part of Letters Patent No. **181,943**, dated September 5, 1876; application filed May 20, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM K. JOHNSTON, of Cordova, in the county of Rock Island and State of Illinois, have invented a new and valuable Improvement in Fluid-Measures; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central vertical section of my fluid-measure; and Figs. 2, 3, and 4 are detail views thereof.

This invention relates to devices for measuring liquids as they are drawn from a reservoir; and it consists in a perforated rotating measuring-pipe, an air-passage, a spring for holding a rotating valve in place, and auxiliary devices, hereinafter particularly described and claimed.

In the annexed drawings, A designates a reservoir, from which the liquid is drawn. B designates the cover, to which is rigidly attached a projecting plate, *b*, which is perforated for the passage of an operating-rod, E, and provided on its surface with pins *b'*, or their equivalents, which may be lugs or teeth or a notched rack-bar, for locking the rod E in any position desired. These pins should be arranged to indicate the standard liquid-measures. C is a cylindrical casing or measuring-vessel, which is rigidly attached to the main vessel A, and which communicates with the interior thereof through a perforation, *c*, below which is the horizontal partition $c^1$, which is perforated for the passage of the hollow rod or measuring-tube E, and which supports the rotating plate or valve, hereinafter described. The partition $c^1$ is also provided with a small hole, $c^2$, designed to register with a similar hole in the rotating valve or plate. D is a sleeve, which envelops and protects the operating-rod or measuring-tube E, and is provided at its lower end with a cap, D', which constitutes the cover for casing C. Sleeve D is preferably left free at its upper extremity, or connected with plate *b*, and cap D is detachably connected by screw-threads, or in any equivalent manner, to the casing C.

The hollow operating-rod or measuring-tube E is provided at the top with the pivoted handle E', and bears the plate or rotating valve *e*, which is perforated at $e^1$, and rests upon the partition $c^1$ of the casing C. The hole $e^1$ is adapted to register with the hole $c^2$ in the partition $c^1$.

Spring F, between cap D and valve *e*, holds the valve down upon the partition $c^1$. A washer of soft material, suitably perforated, may be interposed between the valve *e* and the partition $c^1$, to preserve the metallic surfaces from abrasion.

That part of hollow rod or measuring-tube E which is below the plate or valve is perforated at $e^3$ $e^3$. These holes are arranged at such heights as to discharge from the measuring-casing C the different liquid-measures, such as pints, quarts, &c. Said holes are also arranged at various points around the circumference of the tube.

G is a sleeve or outer tube, which is rigidly attached to a bottom piece, G', of casing C, which bottom piece is preferably made detachable, though water-tight. Sleeve G fits over the measuring-tube E, and is provided with holes *g g g*, arranged above one another, and adapted to register with the holes in tube E. On the lower end of sleeve G is a tube and faucet, H.

The operation is as follows: Hollow rod or measuring-tube E is turned by handle E' until hole $c^2$ in partition $c^1$ registers with hole $e^1$ in rotating plate or valve *e*. The liquid will then flow down into the lower part of measuring-vessel C. Then tube E is turned far enough to make one of the holes $e^3$, which corresponds to the amount desired to be drawn, register with a similar hole in sleeve G. It is then only necessary to turn the cock or faucet, and the required quantity of liquid will flow out.

The rod E is made hollow, to allow the escape of air while liquid is being admitted into the measuring-receptacle C, and is carried up to the top of the receptacle, so as to avoid

the possibility of the liquid overflowing. I graduate plate *b* on its upper surface to prevent mistakes.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore described, of a perforated rotating measuring-pipe, an air-passage, and a spring for holding a rotating valve in position.

2. The combination of valve *e* with cap D′, sleeve D, and spring F, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM K. JOHNSTON.

Witnesses:

THEO. ABBOTT,

CONRAD DORST.