G. HUBBARD.

Measuring Faucet.

No. 39,654. Patented Aug. 25, 1863.

Fig. 1.

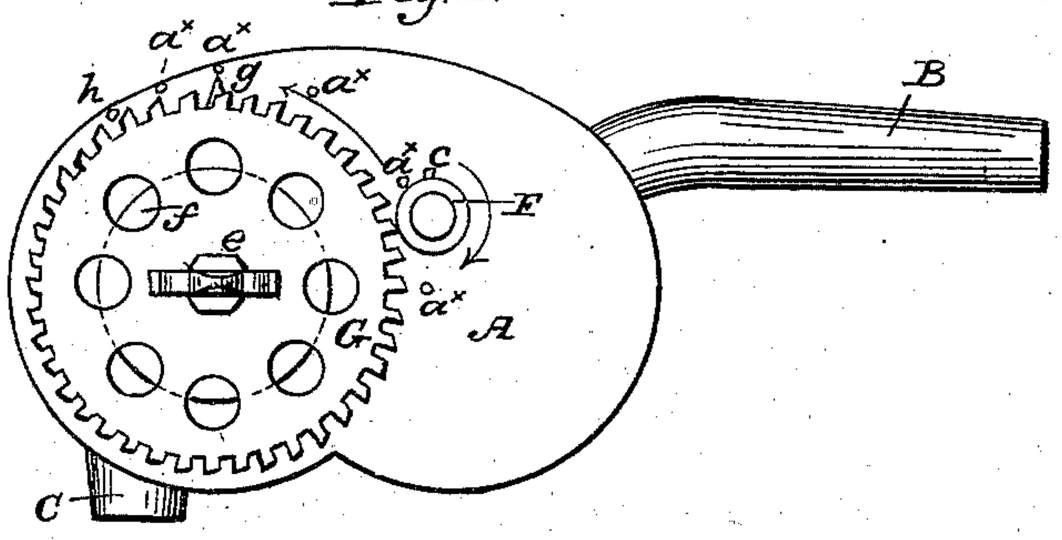


Fig. 3.

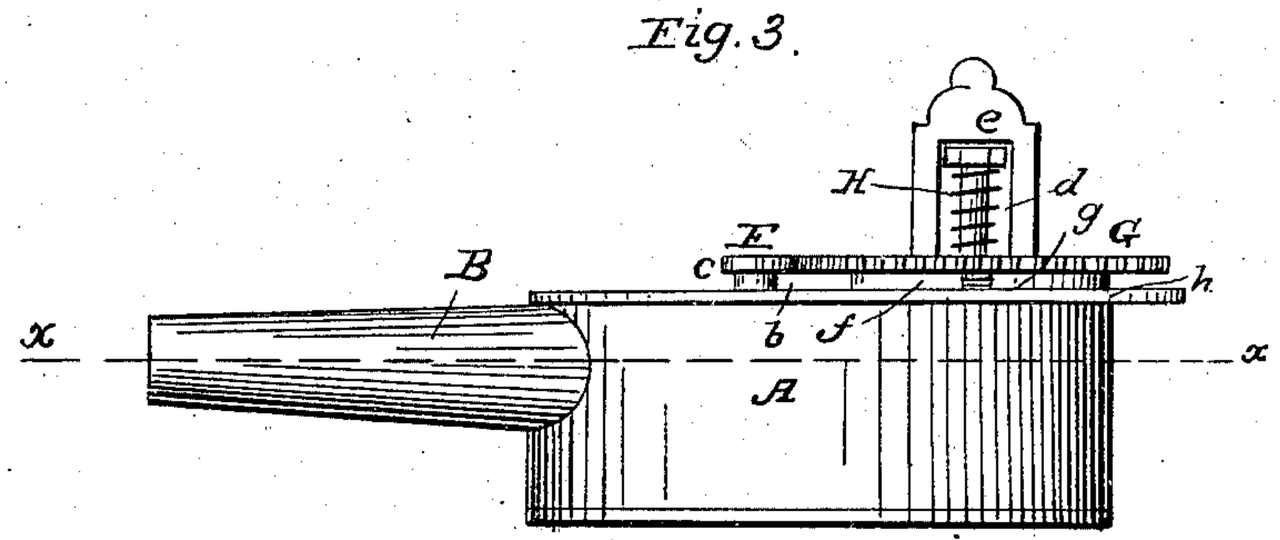
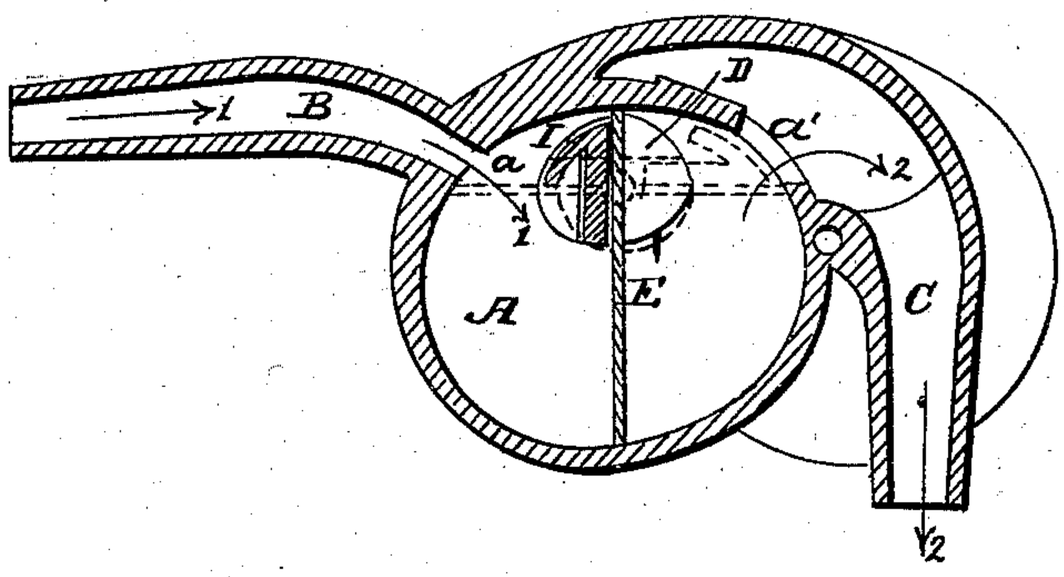


Fig. 2.



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UNITED STATES PATENT OFFICE.

GILBERT HUBBARD, OF SANDISFIELD, MASSACHUSETTS.

IMPROVEMENT IN MEASURE-FAUCETS.

Specification forming part of Letters Patent No. **39,654**, dated August 25, 1863.

To all whom it may concern:

Be it known that I, GILBERT HUBBARD, of Sandisfield, in the county of Berkshire and State of Massachusetts, have invented a new and Improved Measure-Faucet; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a vertical longitudinal section of the same, taken in the line *x x*, Fig. 3; Fig. 3, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment or use of a rotating sliding piston placed within a chamber which is in communication with the tube of the faucet, the piston being fitted within a head provided with a valve, and having at one end of it, outside of the chamber, a wheel provided with a tooth, which engages with a toothed index-wheel, all being arranged in such a manner that liquids may be drawn by measurement from a cask or reservoir, the flow of the liquid ceasing when the desired quantity is drawn.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a chamber, which is slightly of elliptical form, and communicates with a tube, B, at *a*, and with another tube, C, at *a'*, as shown in Fig. 2. The tube B is inserted in the cask or barrel from which the liquid is to be drawn, and C is the tube from which the liquid is discharged, and all the liquid which passes through the faucet passes through the chamber A.

D is a shaft, which is fitted transversely in the chamber A, and is allowed to rotate freely therein. The bearings of the axis *b* of the shaft D are in the sides of the chamber A, and in the shaft D there is fitted a sliding piston, E, both ends of which are in contact with the inner side of the chamber A at all points in the rotation of the former, the piston E sliding as the shaft D rotates. The shaft D is placed midway between and in line with the openings *a a'*, and in contact with the upper part of the chamber A, to serve as a cut-off, as shown in Fig. 2.

To one end of the axis *b* of the shaft D there is attached a small wheel, F, which is provided with a single tooth, *c*. This wheel F is at the outer side of the chamber A, and there is also a large wheel, G, at the outer side of the chamber A, said wheel being fitted loosely on a fixed shaft, H, having a spiral spring, *d*, upon it, the inner end of which bears against the wheel G, and the outer end against a nut or head, *e*, on the outer end of shaft H. This spring *d* prevents the wheel G from casually moving or turning as it presses it against a circular fixed plate, *f*, at the outer side of chamber A. (See Fig. 3.)

To this wheel G there is attached an index, *g*, which projects a short distance beyond the periphery of the wheel G and to the outer side of the chamber A a small pin or projection, *h*, which serves as a stop for the index *g* to come in contact with, and thereby arrest the motion of wheel G and the shaft D. The tooth *c* of the small wheel F engages with the teeth of wheel G, and at every revolution turns the wheel G the distance of one tooth.

I represents a valve, which is provided with a stem, J, that is fitted and allowed to slide freely in the shaft D. The opening in which the stem is fitted and works passes transversely and entirely through shaft D, as shown in Fig. 2, and said valve, when closed, fits within a recess in the shaft D. When the liquid is running through the faucet, it passes through the tube B into the chamber A, as indicated by the arrows 1, and acts against the piston E, forcing it around and filling the chamber back of the piston, and when the piston has made one-half of a revolution and reaches the position, as indicated in red, one end of the piston will have passed the opening *a* of tnbe B, and the liquid from B will act against the opposite side of the piston, which still rotates, and the water which previously entered chamber A, and is in front of the piston, will be forced through opening *a'* and into and out of tube C, as indicated by the arrows 2. At every revolution of shaft D the wheel G is moved the distance of one tooth, in consequence of the tooth *c* of the wheel F engaging with it, as previously described, and the liquid will continue to run and be discharged until the wheel G is arrested and stopped, which is done by the pin

or stop *h*. In order, therefore, to draw the required amount of liquid, the wheel G is set at the commencement so that its index *g* will be at the proper distance from the stop *h*. The proper setting of the wheel G is accomplished by having the outer side of the chamber A graduated, as shown at $a^{\times}$, Fig. 1. This may be accurately done, the capacity of the chamber A being known, and consequently the amount of liquid discharged at each revolution of the piston. The wheel G may be turned by drawing it outward from the side of the chamber, so that it will be free from the tooth *c* of the wheel F. The piston E is always stopped at the same point or in the same position, which is indicated in red in Fig. 2, and when the piston is stopped the valve I, under the pressure of water behind it, which passes through the opening in which the stem J works, is forced or pressed over the opening *a'* of the tube B', and as soon as this opening closes the flow of water ceases, as there is no escape for it from chamber A, and there is an equal pressure on each side of shaft D. When the wheel G is set to draw the designed quantity of liquid, it is turned a little, so that the valve I will be moved past the opening *a'*, and the flow then immediately commences and continues until the piston is stopped by the index *g* of wheel G coming in contact with the stop *h*.

I would remark that the valve I may be assisted in its operation by a spring so applied as to have a tendency to keep the valve in a recess in the shaft D; but it will operate very well without, the pressure of the water effecting that result.

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

1. The chamber A, communicating with the tubes B C, and provided with the rotating sliding piston E and valve I, all arranged to operate as and for the purpose herein set forth.

2. The wheels F G, in combination with the rotating sliding piston E and valve I, placed within the chamber A, the wheel F being provided with a single tooth, *c*, which engages with the wheel G, and the latter provided with an index, *g*, which comes in contact with a stop, *h*, at the side of the chamber A, all being arranged substantially as and for the purpose specified.

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