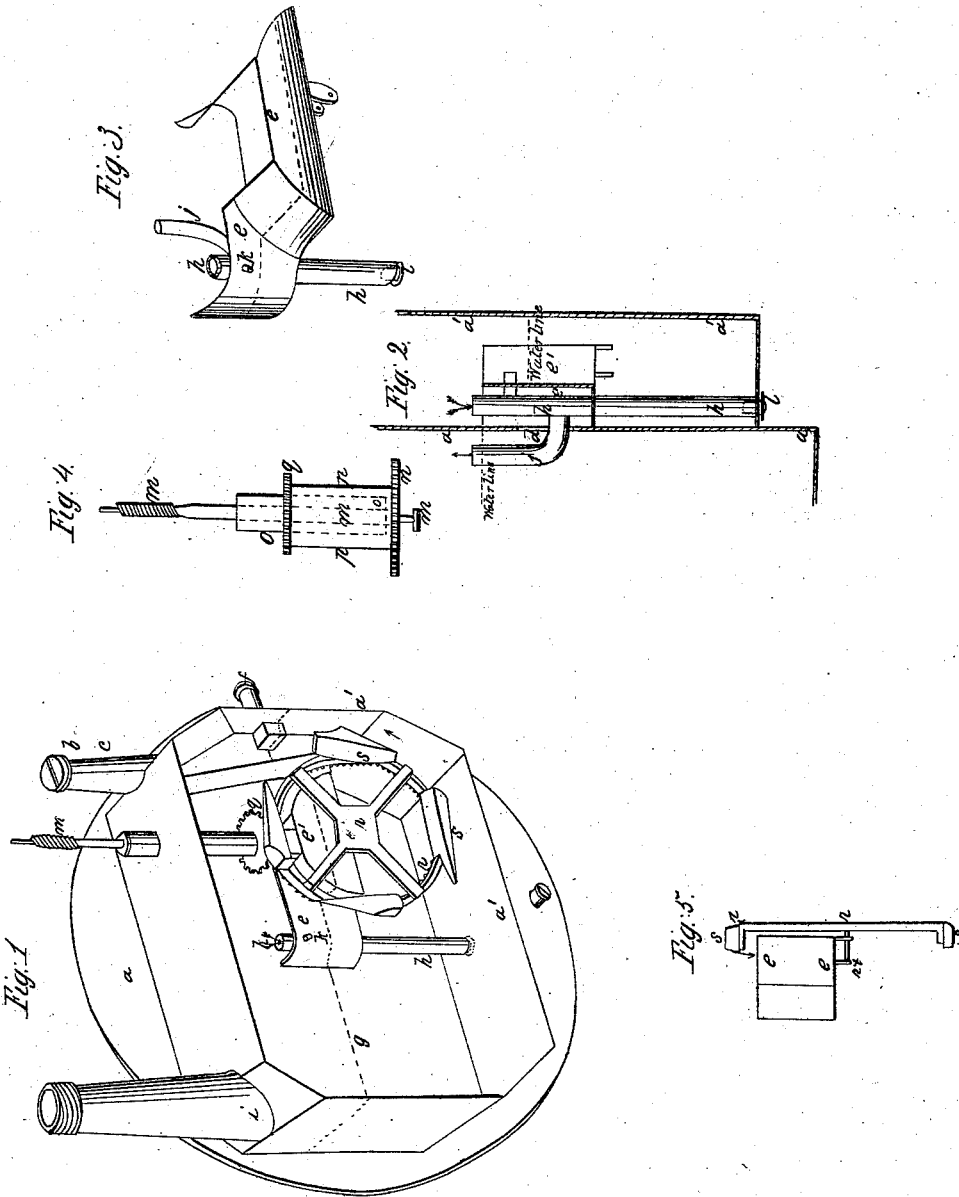


# C. F. Brown, Gas Meter.

No. 2,687,

Patented June 22, 1842.



# UNITED STATES PATENT OFFICE.

CHRISTOPHER F. BROWN, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN GAS-METERS.

Specification forming part of Letters Patent No. 2,687, dated June 22, 1842.

*To all whom it may concern:*

Be it known that I, CHRISTOPHER F. BROWN, of Baltimore, in the county of Baltimore and State of Maryland, have invented a new and useful Improvement in Gas-Meters, the following being a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the front side of the reservoir with the compartment and apparatus attached, the outer plate being removed to show the interior. Fig. 2 is a transverse section of the improvement; Fig. 3, perspective view of the receiver; Fig. 4, shaft, cog-wheel, &c., connected with the index, &c.; Fig. 5, section of the elevating-wheel.

My improvement consists in the construction of an apparatus for maintaining an exact height of water in the common meter, supplying the deficiency caused by evaporation, &c.

*a a* represent the front side of the meter, which is of the usual construction. To this side is affixed a reservoir, *a' a'*, of an oblong form and of sufficient capacity to contain the necessary machinery, hereinafter described. Within this reservoir is formed a receiver, *e e'*, the front, *e'*, of which is the segment of a circle in shape of a little smaller diameter than the elevating-wheel *r*, the convex side being up and having an opening at the top which is just on a level with the desired water-line in the meter. This receiver has a projection on one side, where it joins the side of the meter, which is exactly opposite the center of said meter. A circular opening is made from the meter into the receiver to admit the water to flow freely through. A vertical tube, *h h*, extending up through the bottom of the reservoir and through the receiver to a little above the water-line, forms the dry well. This tube is closed at the lower end by a screw, *l*, and has a branch pipe, *j*, extending from below the water-line through the opening into the meter and curving up above the water-line. There is also a short tube, *k*, passing through the side of the receiver and opening into the reservoir on the opposite side just above the tube. A pipe, *i*, is affixed to the top of the reservoir for the introduction of gas, and on the opposite side is a pipe, *c*, for the introduction of water. This leads down into the meter and has no communication with the reservoir. It

is stopped by a screw, *b*, on one side of the reservoir. About one inch below the water-line of the meter is an opening, *f*, into which a stopper is put, and by this the height of the water in the reservoir is regulated.

The vertical shaft *m* for moving the index, having an endless screw on the upper end and a horizontal spur-wheel, *n*, on the lower end, is made and driven like those in common use, it being incased in a tube, *o*, in the usual way. To the wheel *n* a tube, *p*, is fixed concentrically with the wheel, which extends up outside of tube *o* above the water-line. When in its proper position, the lower end of the shaft rests in a step in the bottom of the receiver, its upper part rising through a hole in the top of the reservoir.

On the upper end of the tube *p* is a spur-wheel, *q*, which drives an elevating-wheel running horizontally, having its bearings on the under side of the receiver. This wheel is of sufficient diameter to extend from near the bottom of the reservoir up above the receiver. The rim, having teeth which mesh into the wheel *q*, extends over the opening in the receiver, and to it are attached several small buckets of a proper form for elevating water from the reservoir and discharging it into the receiver.

When the meter is to be put into operation, the stopper *f* is removed and water is poured into the tube *c* till it flows over the top of the receiver *e* and fills the reservoir up to a level with the opening at *f*. It is thus ready for action. The gas enters the apparatus through the pipe *i* into the reservoir. From thence it enters the dry well *h* and passes through the curved branch pipe *j* into the meter, causing the revolving drum to turn and communicating motion to the index-shaft in the usual way, in doing which the elevating-wheel is turned and raises water into the receiver in sufficient quantity to supply the deficiency caused by evaporation in the meter and always keeping it at a uniform height. If in filling the meter the stopper *f* is kept closed and the water rises to the tube *k*, the dry well is filled with water above the opening of the tube *j* and stops the gas till the water is drawn off to the proper level and the well is emptied.

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

1. The combination of the elevator *r* and re-

ceiver *e* in the manner and for the purpose set forth.

2. The tube *p* and pinion *q*, attached to the wheel *n*, arranged and combined as above specified.

3. In combination with the reservoir, the tube *k*, connected with the dry-well for the pur-

pose of regulating the height of water in the reservoir, as herein described.

CHRISTOPHER F. BROWN.

Witnesses:

JOHN ZELL,

HENRY SNYDER.