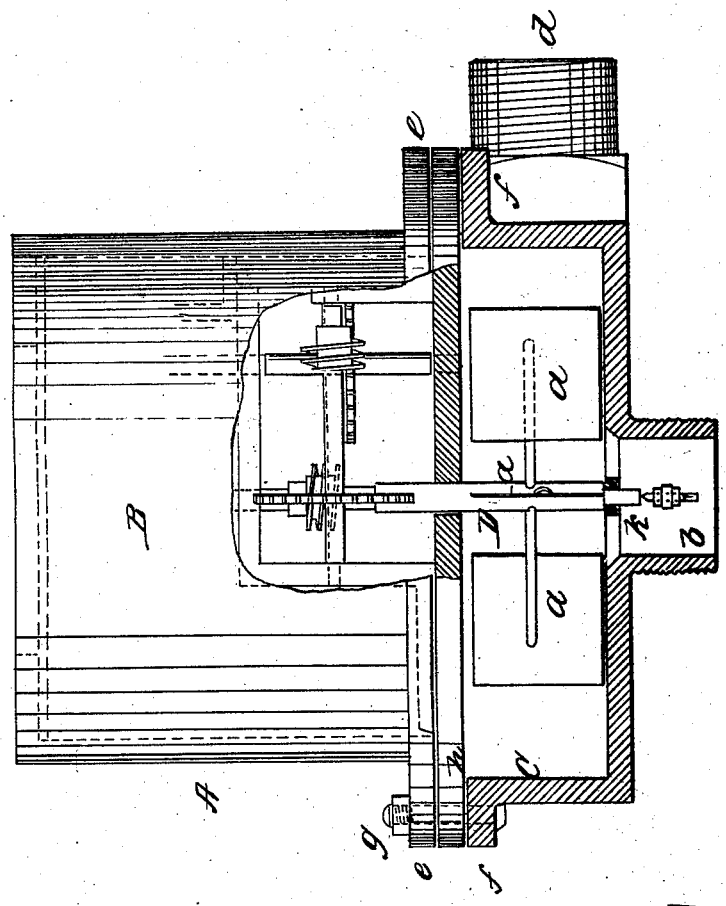
No. 47,866. PATENTED MAY 23, 1865.

J. SHEFFIELD.

WATER METER.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

Henry Morris

C. L. Toppliff

Inventor

John Sheffield

per Munn & Co

No. 47,866. PATENTED MAY 23, 1865.

J. SHEFFIELD.
WATER METER.

2 SHEETS—SHEET 2.

Fig. 1.

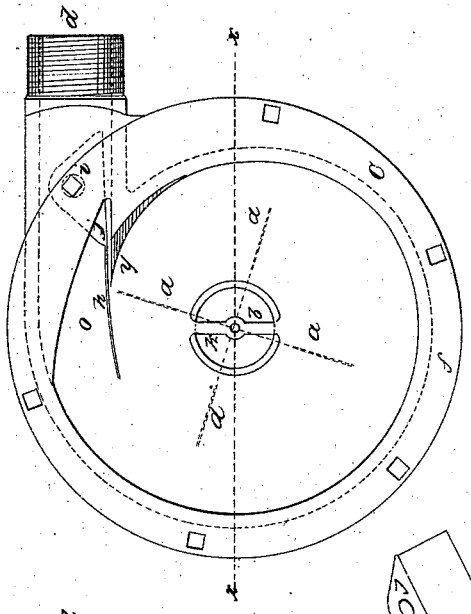


Fig. 4.

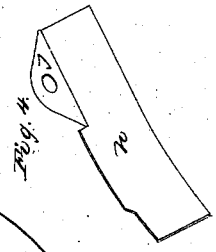
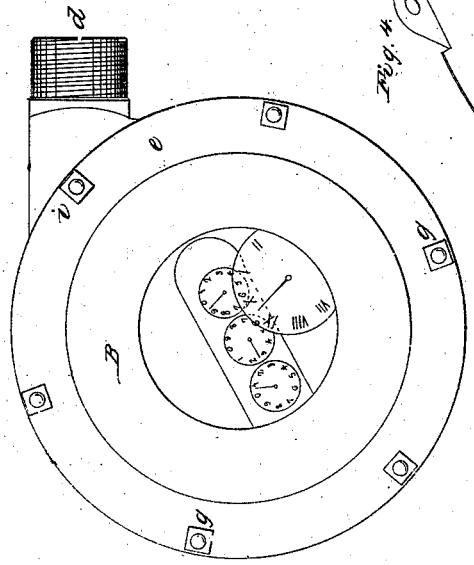


Fig. 2.



Witnesses
Henry Morris
C. L. Tifft

Inventor
John Sheffield
per Munn & Co
attys

UNITED STATES PATENT OFFICE.

JOHN SHEFFIELD, OF PULTNEYVILLE, NEW YORK.

IMPROVEMENT IN WATER-METERS.

Specification forming part of Letters Patent No. **47,866**, dated May 23, 1865.

To all whom it may concern:

Be it known that I, JOHN SHEFFIELD, of Pultneyville, in the county of Wayne and State of New York, have invented a new and useful Improvement in Water-Meters; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation of a water-meter constructed after my invention, taken on the line *x* of Fig. 3, the side being broken away in part to show the location of the gearing or wheel-work by which motion is transmitted to the indices of the meter. Fig. 2 is a plan view of my meter. Fig. 3 is a plan view of a horizontal section of the meter below the plate *p*, showing the water-chamber C. Fig. 4 is a detailed view of the gate *h*.

Similar letters of reference indicate corresponding parts.

This invention consists in adapting the principles of construction of the ordinary central discharge water-wheel to the purposes of a water-meter.

A represents the water-meter, composed of the chamber B, which contains the wheel-work and indices and dials for recording the work done or the water passed through the meter, and of the water-chamber C, the two chambers being separated by a metallic diaphragm, *p*, perforated at its center to permit the passage of the shaft D from the water-chamber to the index-chamber. The two chambers are secured together by means of their flanges *e* and *f*, which are bolted together by screw-bolts *g*, the diaphragm *p* being secured between them. The shaft D is properly stepped and secured according to the art of the machinist, its lower end being supported upon the cross-piece *k* at the mouth of the central discharge-pipe, *b*.

The induction-pipe of the meter is designated by the letter *d*, and it has a screw-thread cut upon its exterior to enable me to connect it to any water-supply pipe. The water-chamber is of any suitable capacity, and it is supplied with vanes *a*, four in number in this example of my invention, secured to arms projecting from the shaft D. These vanes are to be of such a length as to be nearly equal to the radius of the water-chamber at its narrowest part, *y*, the interior circumference of the chamber being in general outline of the shape of a scroll, becoming gradually narrower from the inlet-passage O to the point *y* in its side. A gate, *h*, is set vertically in the inlet passage O along its inner side, being secured therein by means of a fulcrum-pin, *i*, which passes through the flanges *e* and *f*, the diaphragm *p*, and a flange, *j*, which projects from the head of the gate at right angles thereto. The gate *h* is to be set by means of its fulcrum *i* at any desired angle in the inlet-passage O, the measure of the capacity of the meter being altered by the contraction and enlargement of the inlet by this means. The passage of the water through the water-chamber will turn the vanes *a* and their shaft D, and thereby the wheel-work in the index-chamber will be operated so as to cause the amount of work or the number of revolutions of the shaft to be recorded in the ordinary manner, the water being discharged through the central opening, *b*.

The graduation of the wheel-work with the capacity of the inlet-passage O and of the water-chamber and the graduation of the inlet-passage itself by means of the gate are to be made in the usual way, and I have not thought it necessary to ascertain them for the purposes of this application, as these results are not embraced in the scope of my invention.

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

The combination of the wings *a a*, shaft D, gate *h*, and inlet-passage O, all arranged to operate substantially as specified.

JOHN SHEFFIELD.

Witnesses:

J. M. REYNOLDS,

CHAS. R. HAVEN.