

(No Model.)

T. ZANGER.
ROTARY WATER METER.

No. 515,726.

Patented Feb. 27, 1894.

Fig. 1.

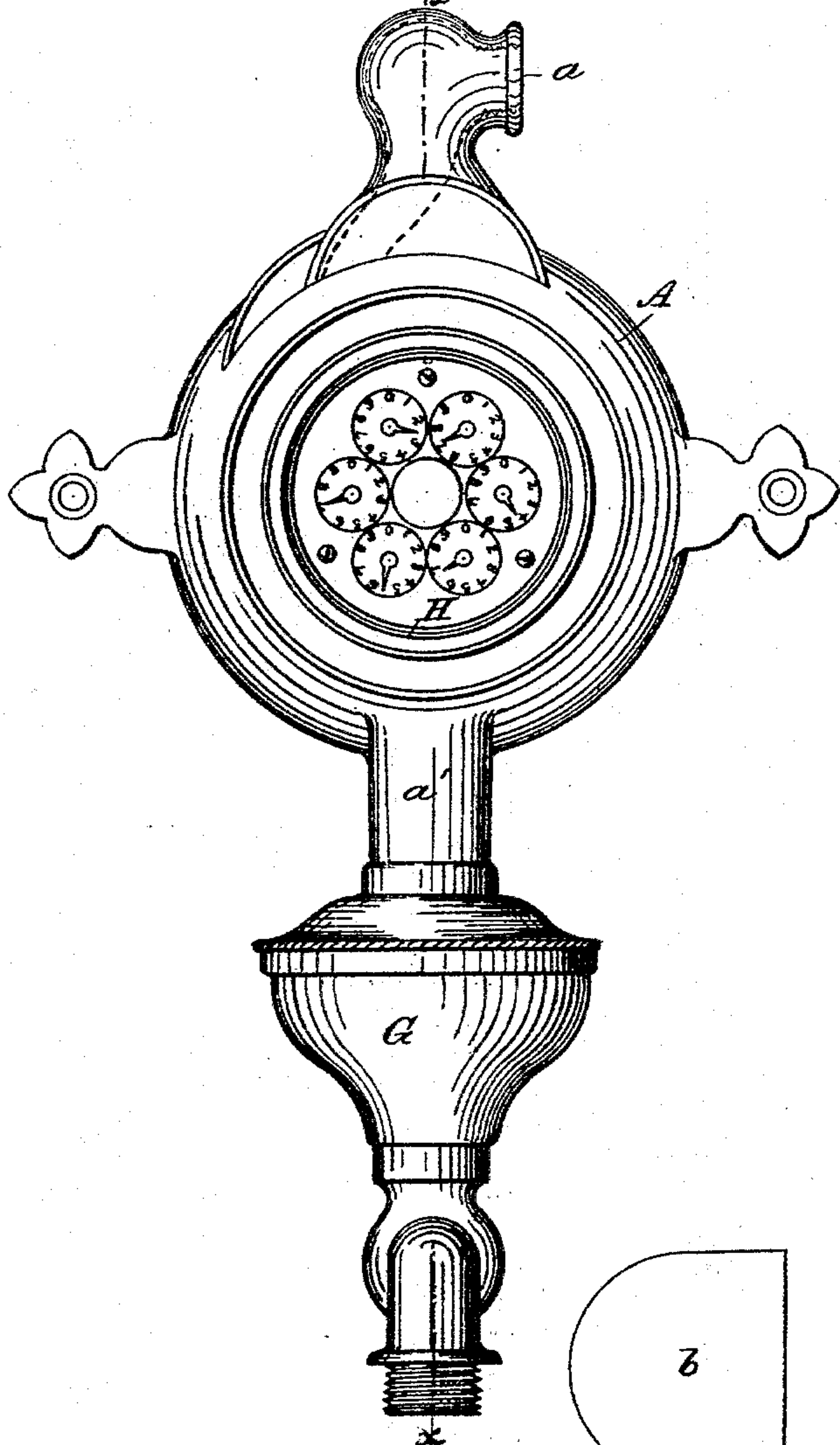


Fig. 2.

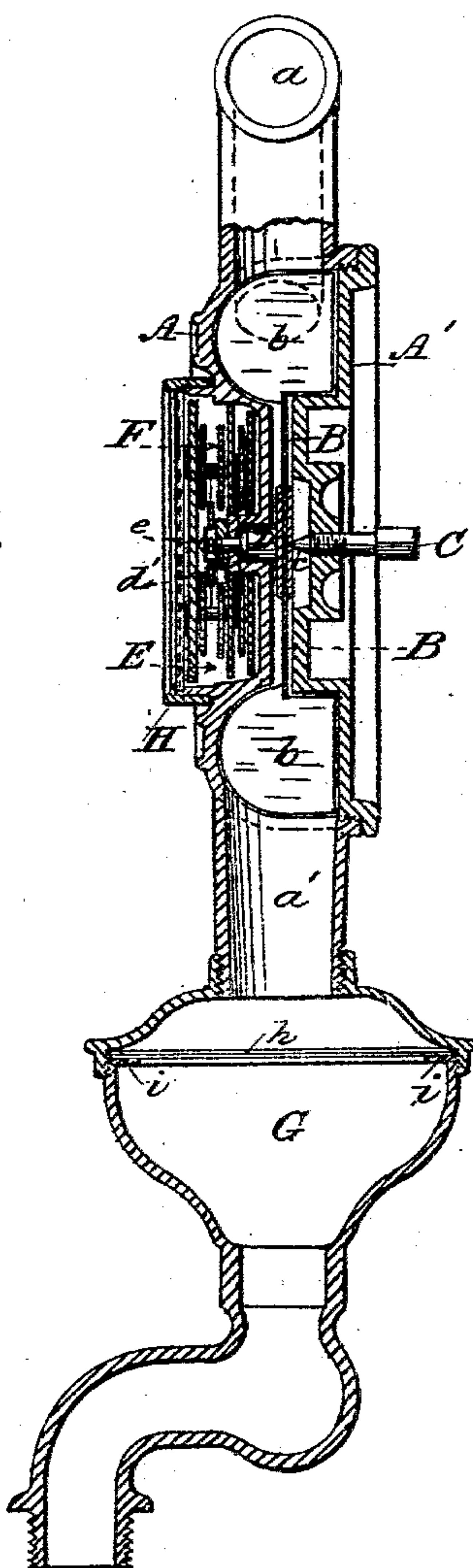
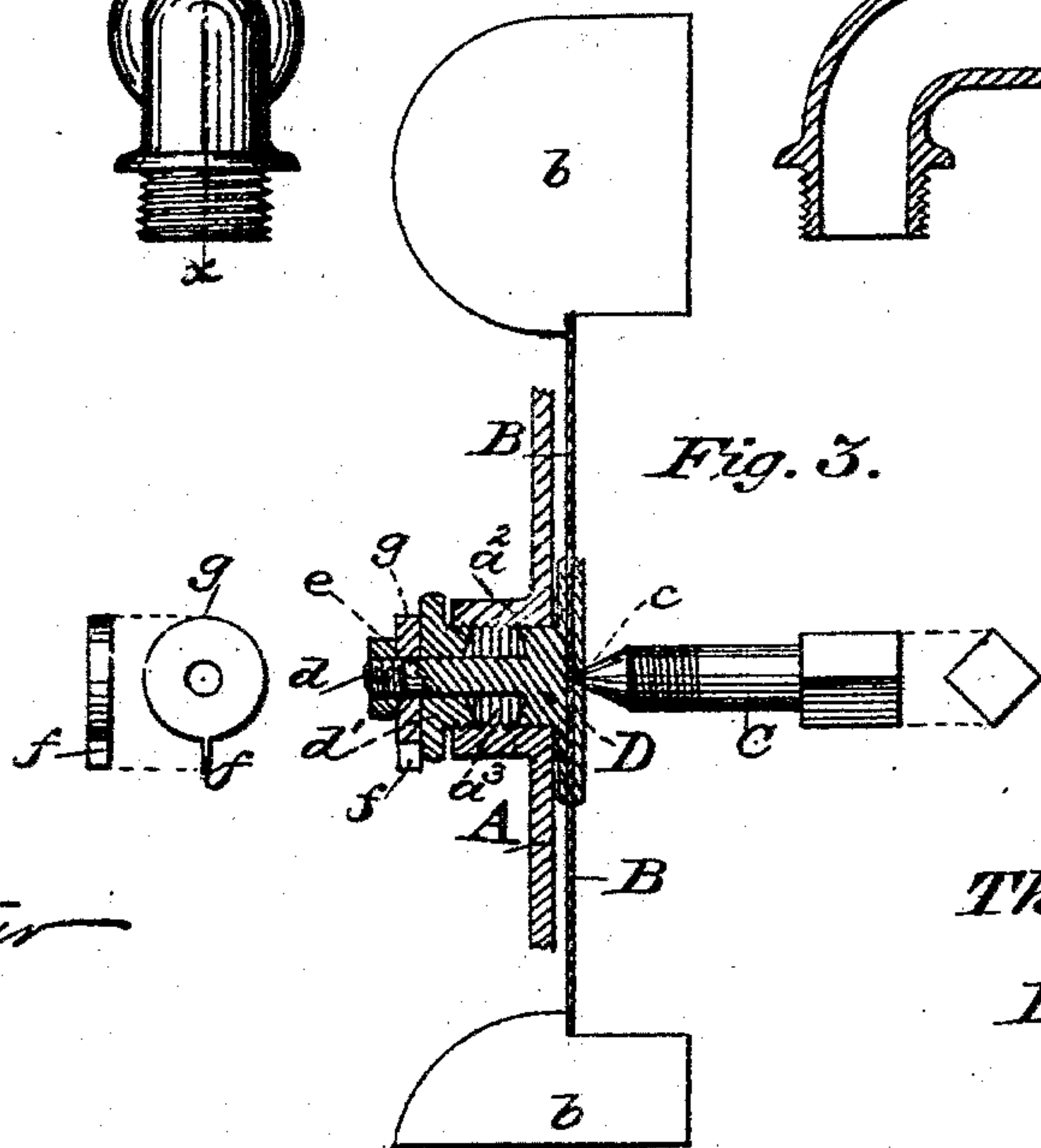


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

THEODOR ZANGER, OF ERIE, PENNSYLVANIA, ASSIGNOR OF SIX-SEVENTHS
TO JACOB F. WALTHER, FRANK SCHOTTE, F. G. GORENFLO, CARL FUCHS-
LOCHER, JACOB SCHAAL, AND HUGO HELD, OF SAME PLACE.

ROTARY WATER-METER.

SPECIFICATION forming part of Letters Patent No. 515,726, dated February 27, 1894.

Application filed February 28, 1893. Serial No. 464,138. (No model.)

To all whom it may concern:

Be it known that I, THEODOR ZANGER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have
5 invented certain new and useful Improvements in Self-Registering Dry Water-Meters; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it
10 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in
15 vertical self-registering dry water-meters, *i. e.* meters in which the water does not come in contact with the registering mechanism, placed in a separate water-tight compartment or chamber, but all arranged in one shell,
20 with the bucket-wheel upon which the water acts, so that when locked, none of the parts can be tampered with by unauthorized persons; and the objects of the invention are to produce a meter, in which the water in its
25 passage through its compartment is at all times separated from the registering mechanism, placed in an adjoining compartment, so that it cannot come in contact with the parts of said mechanism, any leakage being
30 prevented by a stuffing-box between the compartments arranged side by side in one shell; also to accurately and automatically register the water, no matter at what pressure it passes through; and finally to produce the meter at
35 a very moderate expense and that it is not liable to get out of order.

My invention consists in the construction of certain details and arrangement of parts, as will be more fully described hereinafter
40 and specifically pointed out in the claim, reference being had to accompanying drawings and the letters thereon.

Like letters indicate similar parts in the different figures of the drawings, in which—
45 Figure 1 is a front elevation of the improved dry water-meter. Fig. 2 is a vertical section on line *x x*. Fig. 3 is an enlarged detail view of the bucket-wheel and its shaft and stuffing box.

50 In the drawings A represents the main or

outer casing or shell, made of any cast metal and of the cross-section shown, with a partition and a head A' with screw-thread, to be screwed into the main part A, which is provided at its top with the inlet nozzle *a* and
55 at its bottom with the outlet nozzle *a'*. The inlet nozzle *a* enters the casing at an angle, and the outlet nozzle is made much larger, so as to furnish a free delivery and prevent back
60 pressure.

Between the part A and A' is placed the wheel B formed of very light sheet metal and has four or more vanes *b*, which are of semi-circular shape on one side and square on the
55 other side, and fit as closely as possible in the space in the casing, to receive said wheel and conforms in shape therewith. This wheel B is journaled on one side on a needle point *c* formed on the adjustable stud C in the head A', as seen in Fig. 2. At its other side is ar-
70 ranged a lug D, fitting into a hub *a*², provided with a screw thread to receive a screw-threaded gland *d'* having a milled head, and between said gland and hub suitable packing
75 *a*³ is placed, thus forming a perfectly water-tight joint around the stud *d*, forming the other bearing of the wheel B, and preventing water interfering with, or clogging the registering mechanism with sediment, &c. Said
80 mechanism consists of a suitable number of toothed wheels E of the usual construction and arranged in such manner that the first wheel being actuated by a finger *f* on the washer *g* on the stud *d* will register ten gal-
85 lons, the next one hundred gallons and successively one thousand, &c., which will be indicated by the pointers and dials, best seen in Fig. 1. To the outlet nozzle *a'* the receptacle G containing one or more layers or diaphragms of flannel *h*, is attached, through
90 which the water will pass when the pressure is on and the meter is in operation, and it will be filtered and purified. When not in use any water not having passed through the meter will rest or lie on said diaphragms. A
95 cover H with glass face is placed over the dial plate, to prevent tampering with the pointers.

I am aware of the Patents No. 78,795 to Flad, No. 248,194 to Meyer and Anschutz, and No. 111,040 to Buschmann, and English Pat- 100

ent No. 13,769 of 1885, and disclaim the construction therein shown, but,

What I claim is—

In the water-meter described, the combination of the shell A, provided with a partition
5 having hub a^2 into which the lug D, having stud d and gland d' , forming a stuffing-box, fits with the wheel B, having vanes b of the form shown, and closely fitting the inner con-
10 tour of said shell, provided with inlet a at its

upper end and the outlet nozzle a' of larger diameter, at its lower end, with a registering mechanism, all arranged as shown and specified.

In testimony whereof I affix my signature in
15 presence of two witnesses.

THEODOR ZANGER.

Witnesses:

J. F. WALTHER,

T. C. BRECHT.