

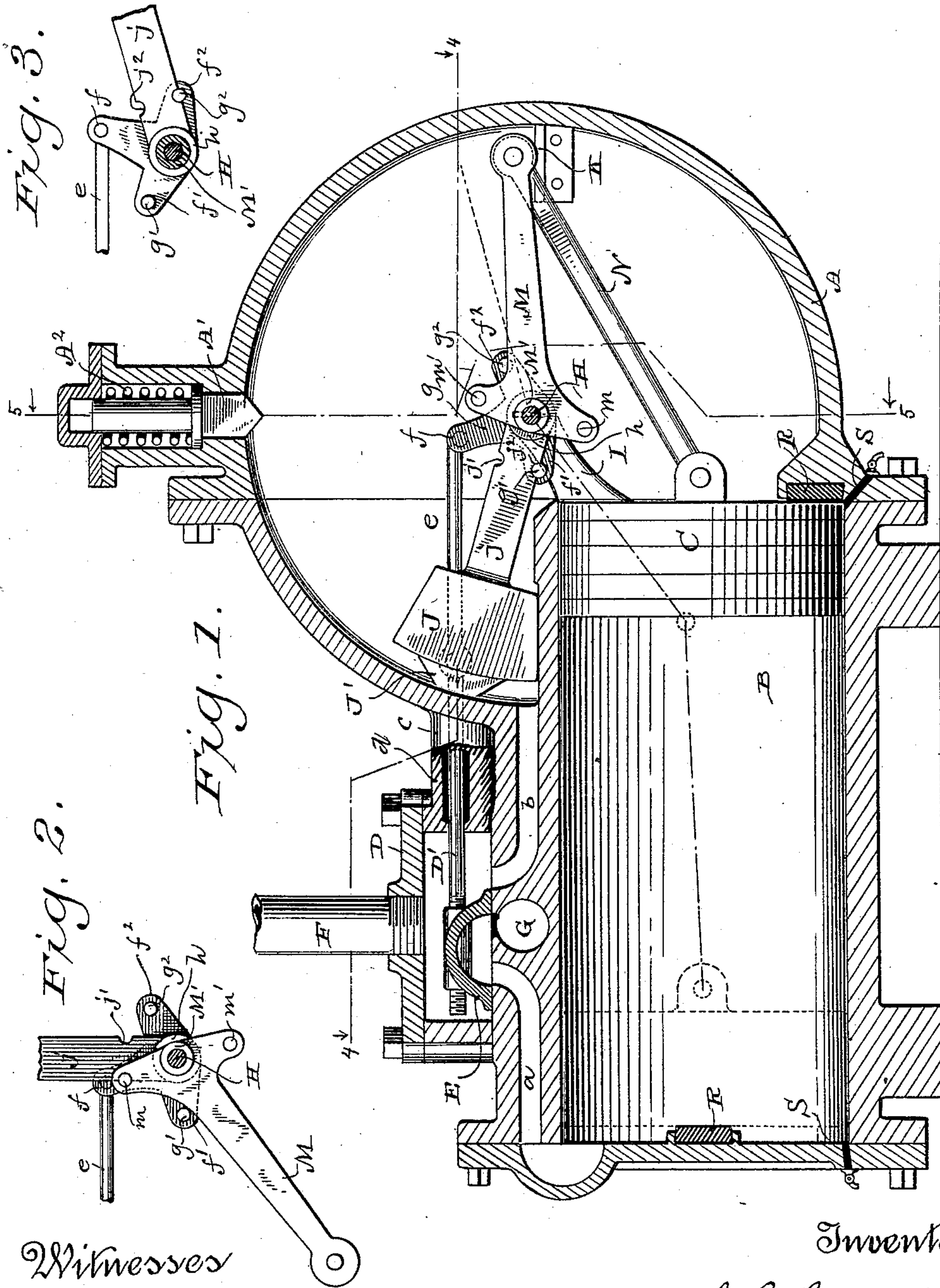
(No Model.)

2 Sheets—Sheet 1.

F. B. GIESLER.
WATER METER.

No. 427,852.

Patented May 13, 1890.



Witnesses
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(No Model.)

2 Sheets—Sheet 2.

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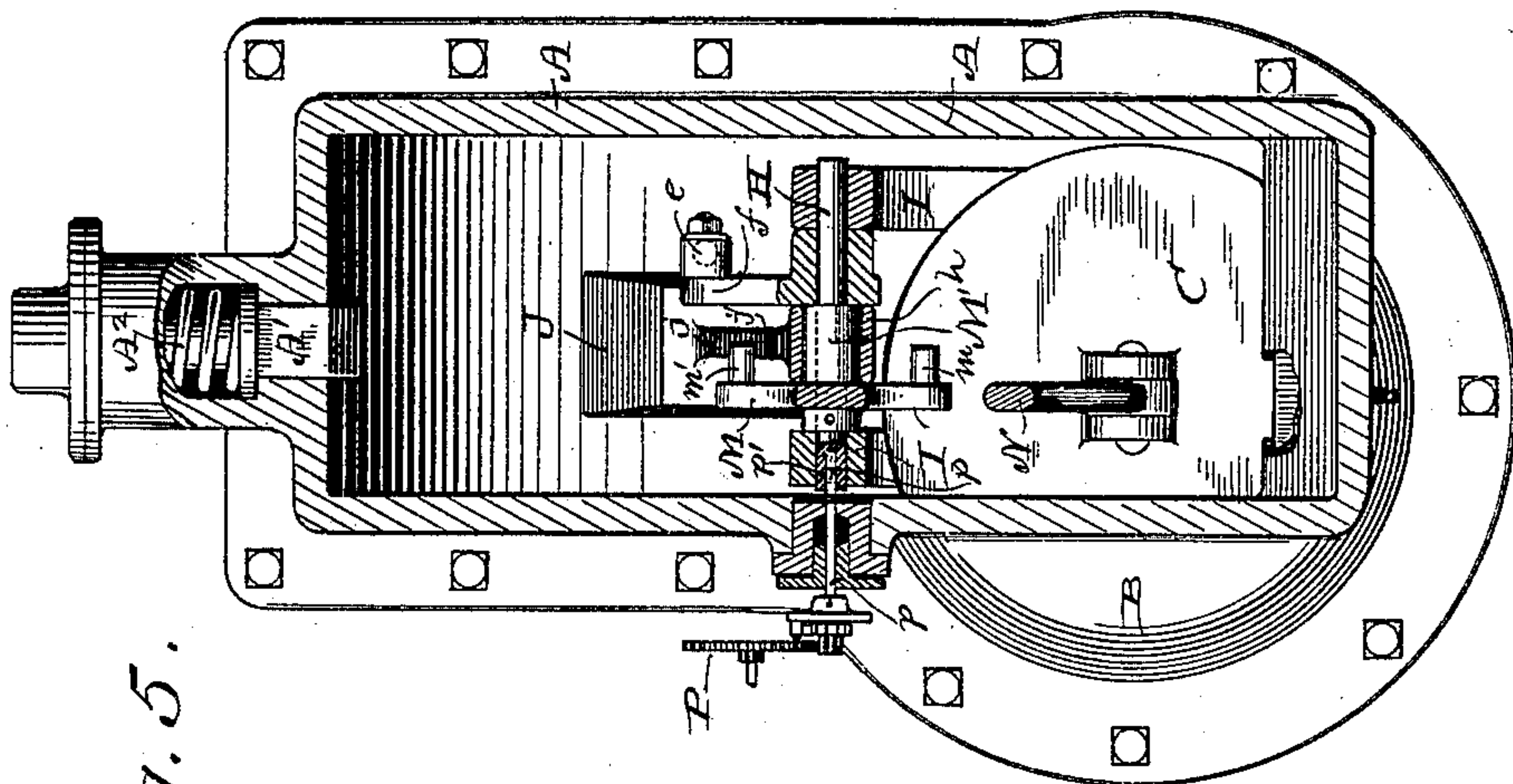


Fig. 5.

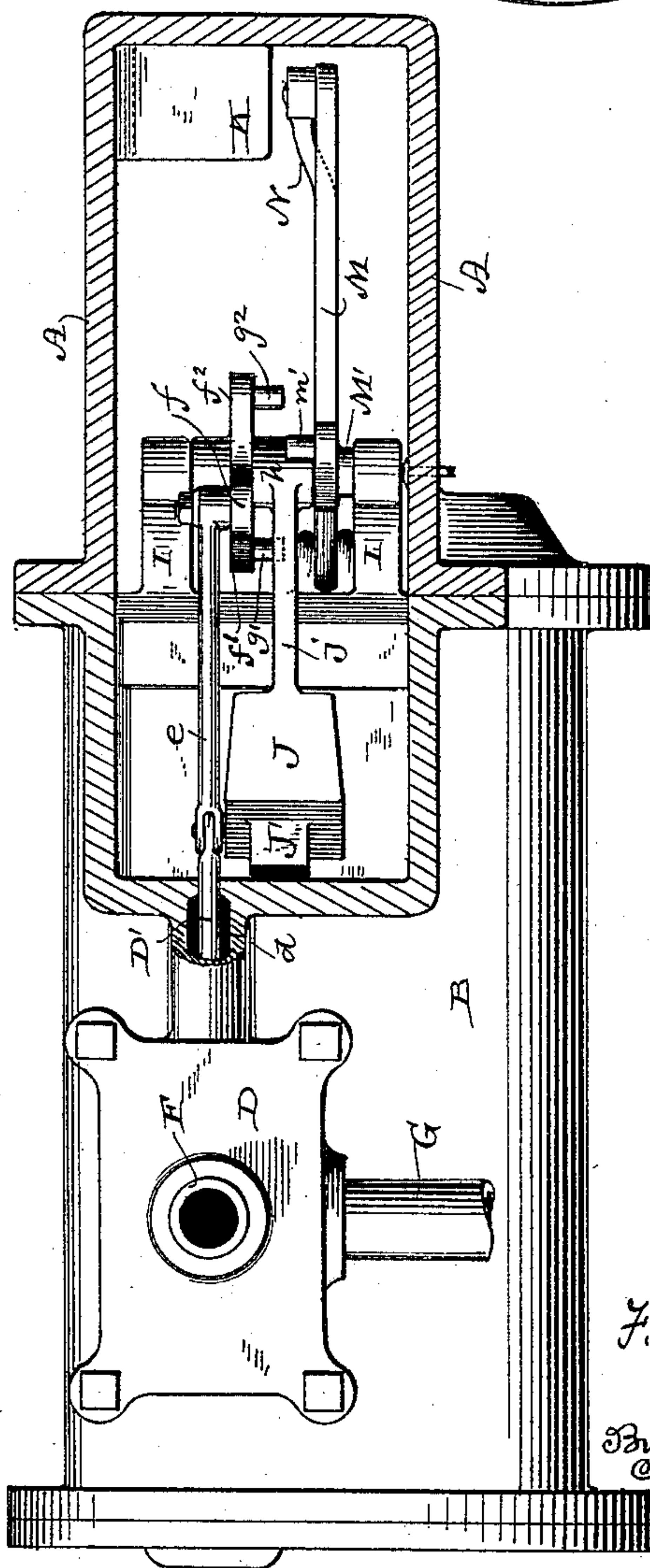


Fig. 4.

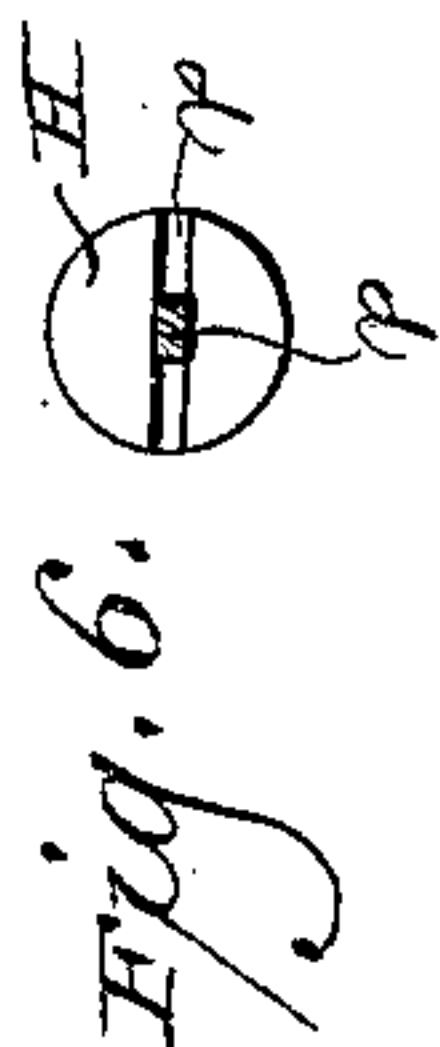


Fig. 6.

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UNITED STATES PATENT OFFICE.

FRANKLIN B. GIESLER, OF MILWAUKEE, WISCONSIN.

WATER-METER.

SPECIFICATION forming part of Letters Patent No. 427,852, dated May 13, 1890.

Application filed June 6, 1889. Serial No. 313,329. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN B. GIESLER, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Water-Meters; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to water-meters, and will be fully described hereinafter.

In the drawings, Figure 1 is a vertical longitudinal section of my device. Figs. 2 and 3 are details. Fig. 4 is a section on line 4 4, Fig. 1. Fig. 5 is a section on line 5 5, Fig. 1; and Fig. 6 is a detail.

A is a casing that incloses one end of a cylinder B, in which a piston C travels.

D is a valve-chamber, E a slide-valve, F an inlet-port, and G the outlet-port. A port *a* leads from the valve-chamber D to one end of the cylinder B, and *b* is a port that leads from the valve-chamber to the casing A, that opens into the inclosed end of cylinder B.

The stem D' of valve E passes through a boss *c*, in which is a bushing *d*, and, passing through the wall of casing A, is toggled by a link *e* to an arm *f* of a crank-lever *g*, that is loose on a shaft H, that is journaled in brackets I, that form part of the cylinder-casting. The shaft H also carries another crank-lever M, and the hub M' of this lever, which is keyed or splined on shaft H, carries loosely on it the hubbed end *h* of a weighted lever *j*. The crank-lever *g* has two arms *f'* and *f''*, which are at approximately right angles to its arm *f*, and one of the arms *f'* carries a horizontal pin *g'* and the other *f''* a like pin *g''*, which pins project into a plane drawn vertically through the length of lever *j*. Like pins *m m'* project from crank-lever M into the same plane, and the pins on the two levers *g* and M just clear each other. The end of lever M farthest from its hub is toggled by a link N to the piston-head C, which travels in cylinder B, and the lever *j* is notched at *j'* *j''* to receive the pins of levers *g* and M during the action of the levers. The weight J of lever *j* is formed on its outer end with a lug J', having inclined sides and a flat top, and in the apex of case A is housed a sliding head A' and a spring A² for depressing it. The face of head A' is wedge-shaped, and projects normally through the wall of the casing,

and at stated periods in the operation of the meter intercepts the lug J' of lever *j*, as will be described farther on.

The operation of my device is as follows: Suppose the parts of my meter are in the position shown in Fig. 1. The inlet-pipe F is open to the meter, the outlet G closed from the inlet. Now, if the pipe G be opened, the pressure of the water in casing A will force the piston-head into cylinder B and expel the water through port *a* and outlet G, and as the piston C advances the outer end of lever M is drawn down by toggle-lever N, and by the time the piston C reaches the limit of its stroke the pin *m* of lever M lifts the lever *j* and carries the flat portion of its lug J' under and beyond the point of head A', which, acting as a wedge, gives an impulse to lever *j* to throw it over the center and down on the other side with sufficient force to enable it, when it falls on pin *g''* of lever *g*, to slide valve E by rocking lever *g*, and this sliding of valve E closes port *b* from inlet F and opens it to outlet G, and closes port *a* from the outlet and opens it to the inlet, and the water-pressure in *a* forcing back piston C will reversely repeat the operation just described, thus causing the lever M to rock the shaft H every time the cylinder B is filled and emptied; and that the rocking of this shaft may register the amount of water used I connect it with gearing by a spindle *p*, the inner end of which is flattened and projects into a slot *p'* in the adjacent end of shaft H, the slot permitting the spindle to find the center of shaft H as it revolves. On its outer end spindle *p* may be connected with any desired form of registering-gear P.

The weight J is supported, when in the position shown in full lines, Fig. 1, by the upper wall of the cylinder, and when the piston is in the position shown in dotted lines by a shelf K.

R are cushions for the piston, and S are drain-openings, which may be closed in any suitable manner.

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

1. In a water-meter, a horizontal cylinder, a valve-chamber mounted thereon, a circular casing inclosing one end of said cylinder, and ports communicating from the valve-casing

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with the interior of the circular casing and
with the opposite end of the cylinder, in com-
bination with a rock-shaft mounted horizon-
tally in said circular casing, a pair of T-shaped
5 toggle-levers mounted on said shaft, and con-
nected, respectively, with the piston in the
cylinder and the slide-valve in the valve-cas-
ing, and a weighted lever arranged to move
radially about said shaft, and actuated by
10 studs on the T-lever, which is connected with
the piston and engaging studs on the lever,
which is connected with the slide-valve to
move the same, substantially as described.

2. The combination, with a horizontal cyl-
15 inder and a circular casing inclosing one end
of said cylinder, of a weighted lever arranged
to oscillate within said circular casing, a

bracket within said casing forming a stop to
limit the movement of the lever in one direc-
tion, the intruding end of the cylinder form- 20
ing the stop or rest for the opposite throw of
the lever, and a wedge-shaped spring-head or
abutment mounted in the casing and engag-
ing the wedge-shaped head of the lever to
carry the same beyond its center, substan- 25
tially as set forth.

In testimony that I claim the foregoing I
have hereunto set my hand, at Milwaukee, in
the county of Milwaukee and State of Wis-
consin, in the presence of two witnesses.

FRANKLIN B. GIESLER.

Witnesses:

S. S. STOUT,

WILLIAM KLUG.