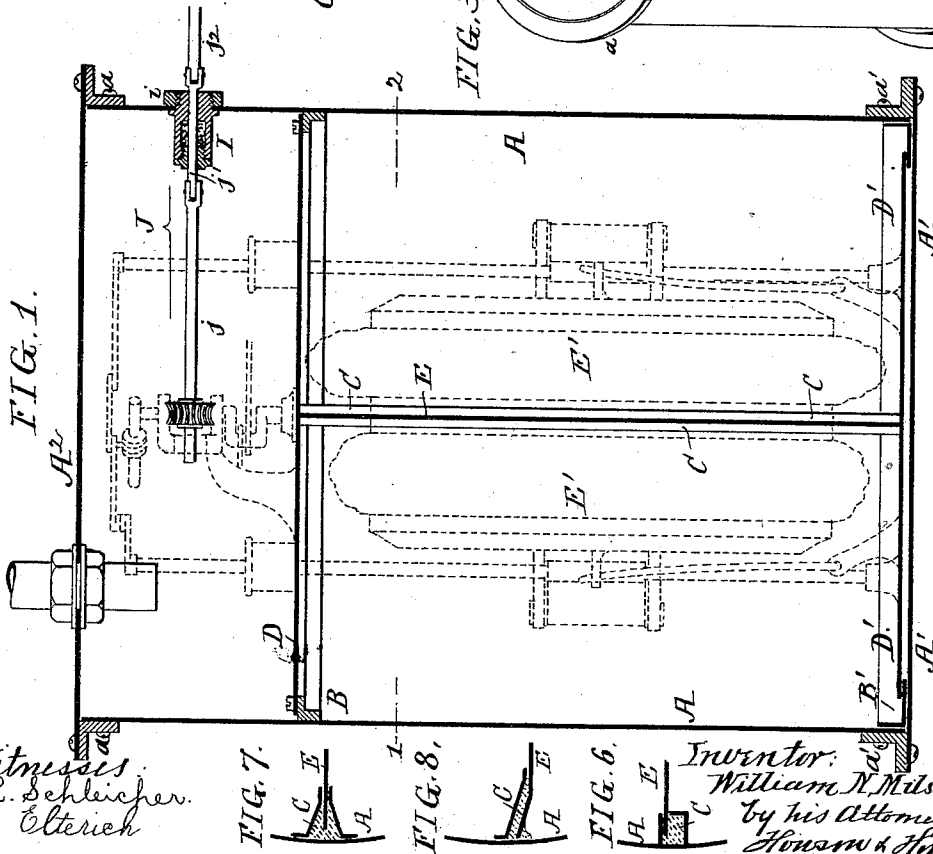
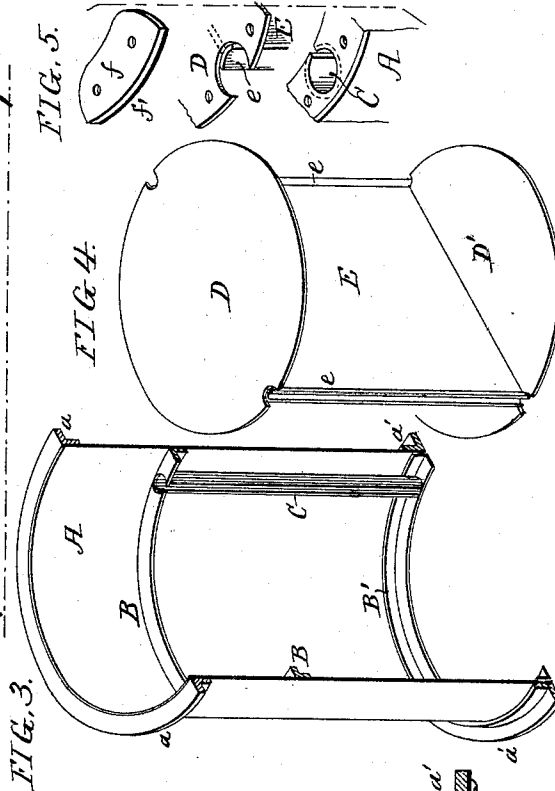
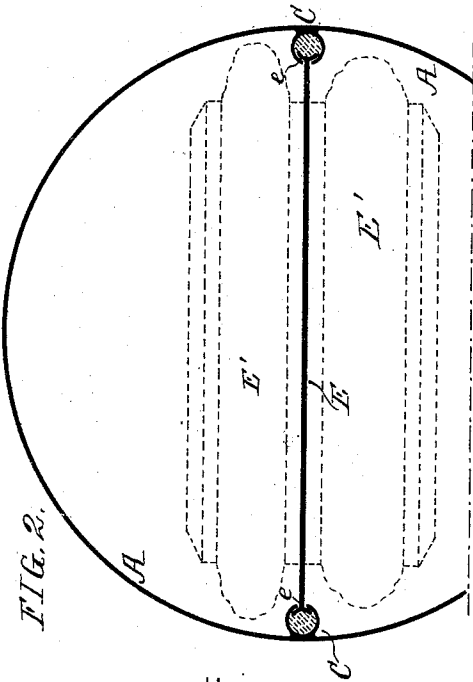


(No Model.)

W. N. MILSTED.
GAS METER.

No. 430,431.

Patented June 17, 1890.



Witnesses:
R. Schleicher.
C. Elterich

FIG. 7.

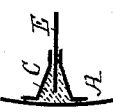


FIG. 8.

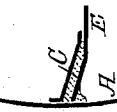
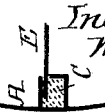


FIG. 6.



Inventor:
William N. Miled
by his Attorneys
Howard & Howard

UNITED STATES PATENT OFFICE.

WILLIAM NEVE MILSTED, OF NEW YORK, N. Y.

GAS-METER.

SPECIFICATION forming part of Letters Patent No. 430,431, dated June 17, 1890.

Application filed December 2, 1889. Serial No. 332,227. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NEVE MILSTED, a citizen of the United States, and a resident of New York city, State of New York, have invented certain Improvements in Gas-Meters, of which the following is a specification.

My invention relates to certain improvements in the construction of that type of dry meters generally known as the "Glover meter," and relates, principally, to a simple and economical construction of the casing for the meter in order that it may be readily put together or taken apart for repairs or cleaning. In the construction of all gas-meters the common practice is to hermetically seal the casing in such a manner as to prevent the escape of gas, and also to prevent the user from tampering with the registering or operating devices.

In the accompanying drawings, Figure 1 is a vertical section of a gas-meter to which my improved casing is applied, the operating mechanism being in dotted lines. Fig. 2 is a section on the line 1 2, Fig. 1. Fig. 3 is a sectional perspective view of the casing. Fig. 4 is a perspective view of the carrying-frame for the working parts of the meter. Fig. 5 is a detached perspective view of the joint, and Figs. 6, 7, and 8 are views showing different forms of joints.

A is the casing of the meter, made in the present instance in the form of a cylinder, having a bottom plate A' and a top plate A². The bottom and top plates are secured to the body of the meter through the medium of angle-rings a a'.

Within the casing are secured two rings B B', the ring B' being somewhat wider than the upper ring B, and is situated at the bottom of the casing. Extending from one ring to the other, in the present instance, are two slotted tubes C C, Fig. 2, the tubes being preferably soldered to the rings B B' and to the casing.

Resting upon the rings B B' of the casing is a carrying-frame for the working parts of the meter, composed of two disks D D' and a division-plate E. This division-plate is secured to the disks, as shown clearly in Fig. 4,

and also carries the bellows E'. (Shown by dotted lines in Fig. 1.) The disk D' is somewhat smaller than the disk D, in order that it will readily pass the ring B of the casing, the lower ring B' being sufficiently wide to support this lower disk.

The partition-plate E has a T-rib e on each side, as shown clearly in Figs. 2 and 5.

Each T-rib is adapted to the vertical tube C, secured to the casing, so that when this mechanism-carrying frame composed of the disks D D' and partition-plate E is inserted in the casing the T-ribs e pass into the slotted tube C. A gas-proof packing is introduced into each tube, making the joints perfectly gas-proof, to prevent the passage of gas from one compartment to the other.

When the mechanism-carrying frame is adjusted to its seat, I place over each tube a sheet of packing f', and over this sheet a plate f, which is secured in position by means of screws or equivalent devices.

The joint may be formed in other ways than that shown in Figs. 2 and 5—as, for instance, the tube, instead of being circular, may be square, as shown in Fig. 6, and the partition-plate may extend into this square tube, which would be then packed, as above described; or a plastic packing may be used in the tube, as shown in Fig. 7, which is placed in the tube prior to the insertion of the carrying-frame, which is then forced into position, the plastic packing forming a gas-proof joint; or the joint may be made as shown in Fig. 8, which is merely a plate forming a V-groove into which is inserted plastic packing, the carrying-frame being slipped into position and then turned, so that the wings on the partition-plate will be forced against the packing, and when this packing has set a gas-proof joint is made. Packing-rings or cement may also be placed between the disk D and the ring B, and also between the bottom plate A' and the disk D', in order to make all joints practically gas-proof.

In this class of meter it is preferable to have the registering mechanism on the exterior of the meter, and in order to make a gas-proof connection between the interior of the meter and the registering mechanism I form a stuff-

ing-box I, (shown in Fig. 1,) which is secured to the casing by a nut *z*. In this stuffing-box is the section *j'* of the shaft J, the section *j* of said shaft being connected to said section *j'*, and carries the worm-wheel gearing with the worm on the vertical crank-shaft of the machine, the section *j'* being connected to a section *j²*, carrying the gearing of the registering device. The stuffing-box is made long in order to prevent the escape of gas, which is likely to occur in meters of this class, where the registering mechanism is carried on the outside of the meter. By making the shaft in three sections, as shown, the stuffing-box can be readily removed from the meter-casing by first detaching the sections of the shaft J, and then removing the section *j²* and section *j*, and removing the stuffing-box and section *j'*, if necessary.

After all the parts of the meter have been placed in position the bottom and top plates A' and A² may be secured to the flanges by screws or bolts, and the packing of any kind may be placed between the bottom of the casing and the lower disk D', in order to resist the pressure of gas. The top plate is provided with suitable inlet and exhaust pipes for the gas.

I claim as my invention—

1. The combination, in a gas-meter, of the disks of the mechanism-carrying frame, and a cylinder provided with internal flanges, upon which the said disks are supported, substantially as specified.
2. The combination, in a gas-meter, of the disks and partition of the mechanism-carrying frame, and the flanged casing and grooves in said casing for the reception of the edges of the partition, substantially as specified.

3. The combination, in a gas-meter, of the cylinder provided with an inner ring or flange serving as a support for the lower disk, of the mechanism-carrying frame and a packing between said lower disk and the bottom of the casing, substantially as specified.

4. The combination, in a gas-meter, of the casing, the supporting-ring B thereon, disks D and D', a partition E, connecting said disks together, the said disk D' being of such a diameter as to allow it to pass through the supporting-ring B, substantially as specified.

5. The combination, in a gas-meter, of the casing, the vertical grooves therein, with a mechanism-carrying frame having a partition adapted to said grooves, with gas-proof packing in said grooves, substantially as set forth.

6. The combination, in a gas-meter, of the cylinder, grooves in said cylinder, with a mechanism-supporting frame having T-ribs *e*, adapted to said grooves, and packing inserted in said grooves, substantially as set forth.

7. The combination, in a gas-meter, of the cylinder, grooves in said cylinder, with a mechanism-supporting frame having T-ribs *e*, adapted to said grooves, and packing inserted in said grooves, and a packing-sheet *f'*, and securing-plate *f*, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM NEVE MILSTED.

Witnesses:

JNO. E. PARKER,
HENRY HOWSON.