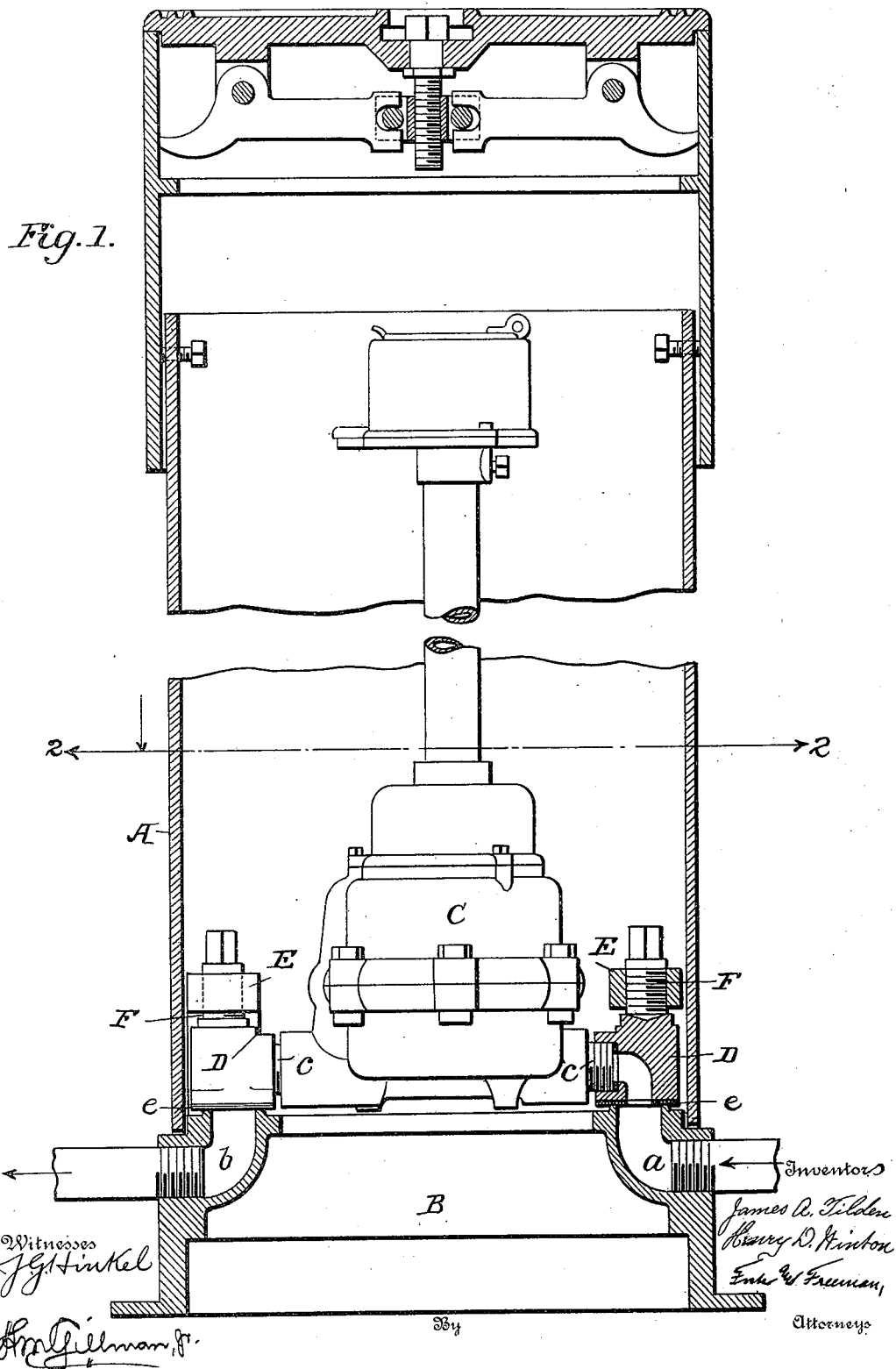




J. A. TILDEN & H. D. WINTON.

METER BOX.

(Application filed Aug. 9, 1900.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 2.

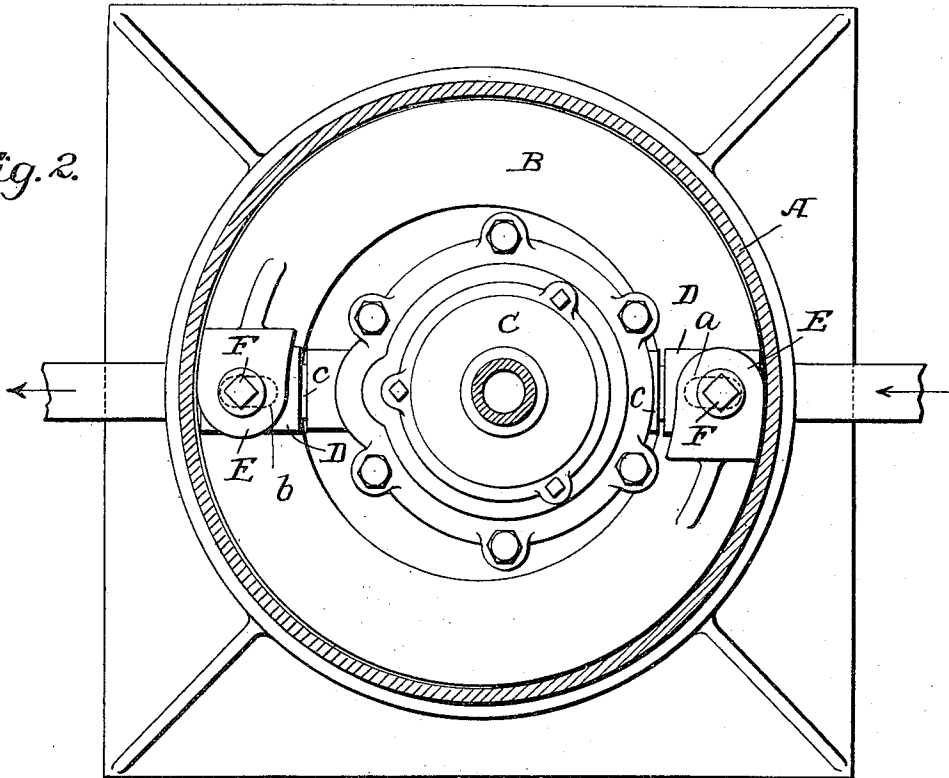
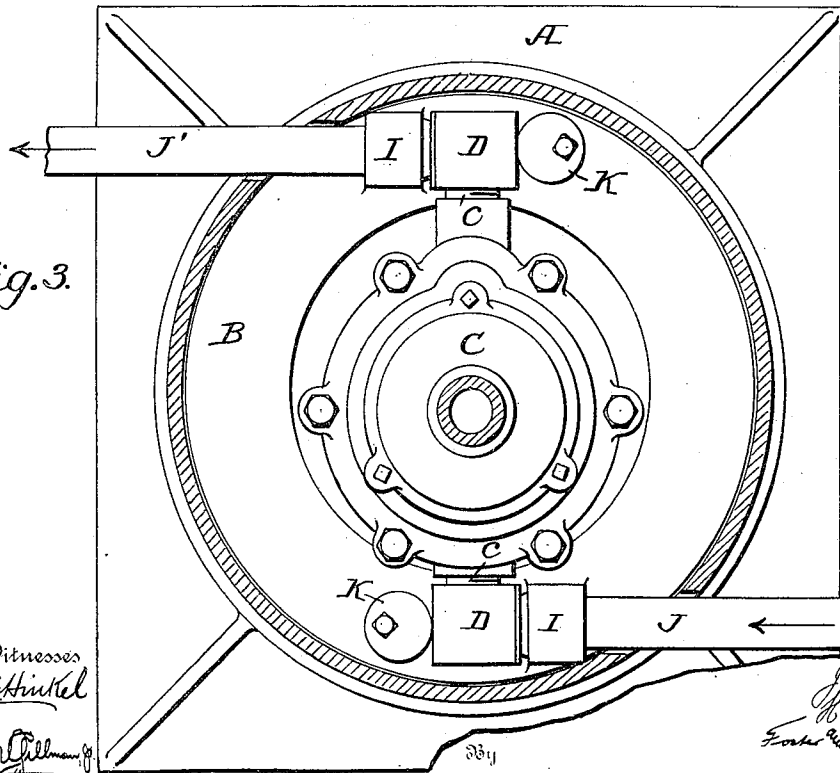


Fig. 3.



Witnesses
J. H. Hinkel
J. M. Gillman

Inventors

James A. Tilden
Henry D. Winton
Forbes & Freeman,
Attorneys

UNITED STATES PATENT OFFICE.

JAMES A. TILDEN, OF HYDE PARK, AND HENRY D. WINTON, OF WELLESLEY HILLS, MASSACHUSETTS, ASSIGNORS TO THE HERSEY MANUFACTURING COMPANY, OF SOUTH BOSTON, MASSACHUSETTS.

METER-BOX.

SPECIFICATION forming part of Letters Patent No. 670,335, dated March 19, 1901.

Application filed August 9, 1900. Serial No. 26,433. (No model.)

To all whom it may concern:

Be it known that we, JAMES A. TILDEN, residing at Hyde Park, and HENRY D. WINTON, residing at Wellesley Hills, Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Meter-Boxes, of which the following is a specification.

It has become necessary in many instances to set water-meters in meter-boxes below the surface of the ground, and to this end the said meter-boxes are provided with inlet and outlet ports communicating with the service-pipes, between which ports and the inlet and outlet ports of the meter-casings connections must be made. Various means have been employed for making such connections, which differ, resulting from the fact that meter-casings vary in length, so that connections suitable for one style of meter cannot be employed for another, and many of the connecting devices employed are expensive and difficult to manipulate in setting the meter-casings, and the latter cannot be removed with facility. In order to avoid the objections incident to many of the constructions heretofore employed, we dispense with the usual union connections, and by means of suitable pressure or clamping devices we force the flat seats or faces of the meter-casing adjacent to the ports thereof by direct pressure into close contact with parallel flat seats or faces of the meter-box adjacent to the inlet and outlet ports thereof, preferably, with suitable intervening packings, and thereby secure the desired close joints between the meter-casing and said inlet and outlet ports without the necessity of the appliances heretofore employed, and in order to adapt such connections to meters of different sizes or styles or to compensate for variations in the distances between the inlet and outlet ports we enlarge the ports of the meter-casing or the meter-boxes, preferably, by elongating the same, so that there will be a full, complete, and unobstructed communication between the respective ports, even if they are not concentric with each other, the joints being maintained tight, even if the meter-casing is shifted laterally upon the bearing-faces of the box-casing.

In the accompanying drawings, Figure 1 is an elevation of a meter-box and a meter embodying our invention. Fig. 2 is a sectional view on the line 2 2, Fig. 1. Fig. 3 is a plan view illustrating a modification.

In carrying out our invention we may construct the parts and clamp them together in different ways.

The meter-box is of any suitable construction, the inlet and outlet ports extending into the same, or, as in Figs. 1 and 2, the box itself may be provided with inlet and outlet ports *a b* in a cast-metal base *B*, which, as shown, is constructed for connection to the cylindrical portion *A* of the casing, which extends upward and may be made in sections, so that the upper portion may be set to any desired height upon the lower portion, according to the depth of the meter below the surface of the ground. As shown, the ports *a b* open upward, and each is surrounded by an annular seat or bearing-face.

The meter-casing *C* is of any suitable construction and has the usual inlet and outlet ports terminating generally in threaded spuds *c*, and to these spuds are adapted channel-blocks *D D*, threaded at the ends to receive the spuds, with openings at their faces surrounded by seats, which constitute bearing-faces, between which and the faces around the ports *a b* suitable packages *e* may intervene.

The blocks *D D* may of course constitute themselves fixed parts of the meter; but as shown they are adjustable to the extent that they may be turned downward or to one side to present the inlet and outlet ports of the meter-casing in position to communicate with those of the meter-box, according to the construction of the latter. As shown in Fig. 1, the blocks *D D* are turned so that the ports of the meter-casing open downward to coincide with those of the box-casing, and by simply forcing the meter-casing toward the box-casing the joints between the two may be sealed. While ground faces might be employed, we prefer to use the intervening packings *e*, and any suitable means is employed for forcing the meter-casing against the box-casing.

In order to insure the proper coincidence of the ports, notwithstanding differences in the length of the meters, the ports either of the meter-casing or of the box-casing are enlarged, preferably elongated to such an extent that they will coincide with the adjacent ports, notwithstanding variations in the distances between the latter. Thus, as shown, the ports *a b* of the box-casing are elongated, so that there will be a full communication of the ports of the meter-casing therewith, notwithstanding the differences in distances between the ports of different meter-casings which may be employed. It will be evident that the ports *a b* may be circular and that the ports of the meter-casing may be elongated or enlarged with like effect.

To permit a ready application of the meter-casing to the meter-box and facilitate its removal when required, we make use of clamping devices so arranged that when the meter-casing is in proper position it may be clamped in place and forced toward the seats of the meter-box, so as to secure tight joints between the two. As shown in Figs. 1 and 2, there are brackets *E* extending upward from the base *B* and over the inlet and outlet ports *a b*, and in threaded sockets of the overhanging parts are set-screws *F*, which when the blocks *D* are brought beneath said set-screws are turned so as to force the blocks downward. By loosening the set-screws *F* the meter-casing may be removed by first turning it to carry its blocks *D* from beneath said set-screws and then lifting it vertically upward.

It will be seen in the construction described that flat disks or substantially flat packings are used, so that the pressure to tighten the joint in no wise tends to twist or distort the packing.

In order to permit the set-screws to turn with facility from above, they are provided with angular heads, to which a key may be applied.

While, as before stated, the blocks *D* may be constituted an integral part of the meter, casing, advantage results from making them separate, so that they may be applied to the spuds of meters of different constructions, whereby any forms of meters in ordinary use may be employed in connection with our invention without altering the construction of the meter-casing itself. A further advantage from the use of channel-blocks adapted to the spuds of the meter-casing is that the said blocks may be turned to present the ports upon one side, so that they may be forced against the bearing-faces of ports of the box-

casing opening sidewise. As shown in Fig. 3 within the box-casing are socketed projections *I*, with which communicate different sections *J J'* of the service-pipe, and the blocks *D* of the meter-casing, are forced against the seats or faces of the projections *I*, by means of the eccentrics *K K*, which are turned to the position shown to bind the parts together, and which may be turned half-way around to release the meter-casing.

Without limiting ourselves to the precise construction and arrangement of parts shown, we claim—

1. The combination of a meter-box with inlet and outlet ports in the casing thereof, a meter with inlet and outlet ports adapted to cooperate with those of the box, the seats surrounding the ports of one of these members being plane flat surfaces to which the seats of the other member conform to make a tight joint, and means for applying pressure to the meter in a direction toward the ports of the box to force the seats thereof against the seats of the box and clamp them in contact, substantially as set forth.

2. A meter-box provided with a base having inlet and outlet ports and surrounding seats formed thereon combined with a meter having inlet and outlet ports and surrounding seats, and clamping devices supported by the box to engage the meter opposite the ports in the box forcing the meter by direct pressure toward the box-casing with the ports coinciding, substantially as set forth.

3. A meter-box having a base with inlet and outlet ports and surrounding seats both in the same plane combined with a meter-casing with ports and seats adapted to coincide with those of the meter-box, packings between the seats, and clamping means supported by the box to engage the meter-casing opposite the ports in the box for forcing the meter toward the box with a direct pressure upon the packings, substantially as set forth.

4. The combination of the meter-box having inlet and outlet ports, brackets supporting set-screws opposite said parts, and a meter-casing having channeled extensions adapted to be clamped to the meter-box by said set-screws, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES A. TILDEN.
HENRY D. WINTON.

Witnesses:

FRANCIS J. HERSEY, Jr.,
WM. J. SMITH.