

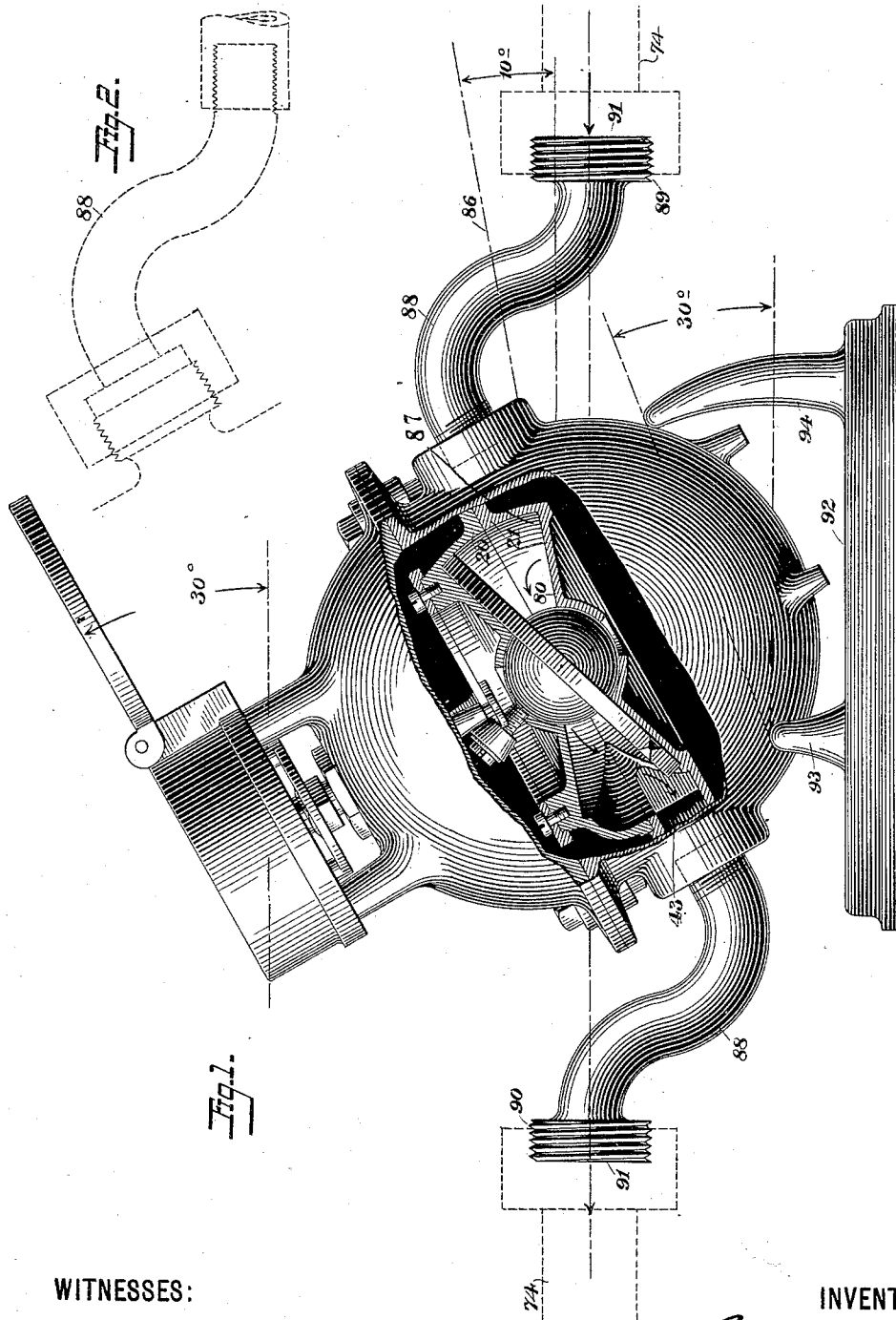
(No Model.)

J. THOMSON.

ANGLE CONNECTION FOR DISK WATER METERS.

No. 427,486.

Patented May 6, 1890.



WITNESSES:

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ANGLE-CONNECTION FOR DISK WATER-METERS.

SPECIFICATION forming part of Letters Patent No. 427,486, dated May 6, 1890.

Application filed March 5, 1890. Serial No. 342,749. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing in the city of Brooklyn, Kings county, and State of New York, have invented certain new and useful Improvements in Angle-Connections for Disk Water-Meters, of which the following is a specification.

This invention consists in an arrangement of couplings and an auxiliary seat applicable to disk water-meters.

In the drawings, Figure 1 is a side elevation of a disk water-meter having a portion of the exterior casing broken away, exposing an edge view of the disk and a central vertical section through the disk-chamber and the outlet-port thereof, and also shows the couplings and seats all in proper relative position. Fig. 2 is a detached detail outline of coupling, showing a modification thereof.

The object of this invention is to provide a cheap and ready means for setting disk water-meters at an angle from the horizontal, whereby, should any foreign matter be carried by the current into the interior of the disk-chamber, there will still be a chance for such matter to gravitate out again.

If the accompanying drawings be revolved toward the right hand through an arc of thirty degrees they will then represent the usual position in which disk water-meters are set. From this it will be seen that the inside of the lower section 21 of the disk-chamber forms a circular pocket, sufficient to retain at low rates of flow particles of sand, &c., which may have been carried in at rapid rates of operation. This has been fully demonstrated in practice, as the upper section 20 of the chamber seldom shows any serious evidence of sand-grinding. A simple remedy for this is to incline the meter, the ports in the disk-chamber being at the lower position, so that any matter once brought in will be free either to roll back and out or will be carried through the circuit of the chamber with the slightest movement of the current; but this makes the attachment of the meter inconvenient, the connections being out of line, the outlet being below that of the inlet in the casing.

In the drawings the meter is shown as having been rotated—the ball being the axis—to-

ward the left hand through an arc of thirty degrees, the inlet being thus elevated and the outlet correspondingly depressed. This carries the register forward and downward; but as the cover in regular usage opens toward the inlet, as shown, the register may still be read nearly, if not quite, as conveniently as in the horizontal position. I have found it most desirable to have the chamber placed at such an inclination that all portions of the chamber will be inclined slightly to a horizontal plane passing through the chamber, so that all extraneous substances will have a tendency to fall by gravity to the lower portion of the chamber and will be in the best position to be washed or carried through the meter, and at the same time there will be the least liability of their accumulating at this point or in the angle-pipe between the meter and the service-pipe. Now, as the angle of the frustums in this representation of the disk-chamber is twenty degrees from the horizontal, this rotation of thirty degrees will bring the right-hand side of the lower frustum up to the angle (see line 86) of ten degrees above the horizontal. Consequently there is now no pocket, and any material of greater specific gravity than water will tend either to roll back to the inlet-port, and thence to the dirt-space 87 below the disk-chamber, or will pass on and out through the outlet-port 43, and thence to the pipe. In muddy or gritty water this is an advantage, and to enable users of these meters to properly set them to the necessary angle to obtain the desired result and still be able to insert the meter in a straight circuit of service-pipe and without in any manner complicating the regular manufacture or shipment of the meter itself, I provide a pair of curved spuds or projections, each of which is a duplicate of the other and which when attached to the meter, the extremity of one tending downward, as at 89, and that of the other tending upward, as at 90, will bring the outer faces 91 at a right angle to and in axial line with the service-pipe 74, the disk-chamber being thus brought to the desired angle for automatic clearance.

In Fig. 2 a modification of the coupling is shown, here appearing as a regular "union," in which the conditions are reversed to indi-

cate the adaptations that may be made to meet different conditions of piping or the requirements of different localities.

To still further facilitate such setting of disk-meters, a separate base 92 is provided, having two short prongs 93, projecting upwardly and one long prong 94, the point of the latter being at an angle with respect to the horizontal of thirty degrees from the shorter. These prongs and their base are for the purpose of supporting the meter; hence it will be properly and firmly supported by the three contacts of the standards, and the setting of the meter as a whole will involve no extra skill and will incur but a trifling additional expense over that of regular practice.

What I claim is—

1. The combination, with a water-meter, the surface of the lower section of the disk-chamber of which is inclined toward the outlet-port, of bent connections, each a duplicate of

the other, whereby the meter in its inclined position may be connected to the ends of a straight horizontal service-pipe, substantially as described.

2. A water-meter having a disk-chamber, the surface of the lower section of which is inclined toward the outlet-port, bent connections, each a duplicate of the other, whereby the meter in its inclined position may be connected to the ends of a horizontal service-pipe, and a standard having prongs to maintain the meter in such inclined position, substantially as described.

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

JOHN THOMSON.

Witnesses:

F. A. LOVECRAFT,
JOS. W. KAY.