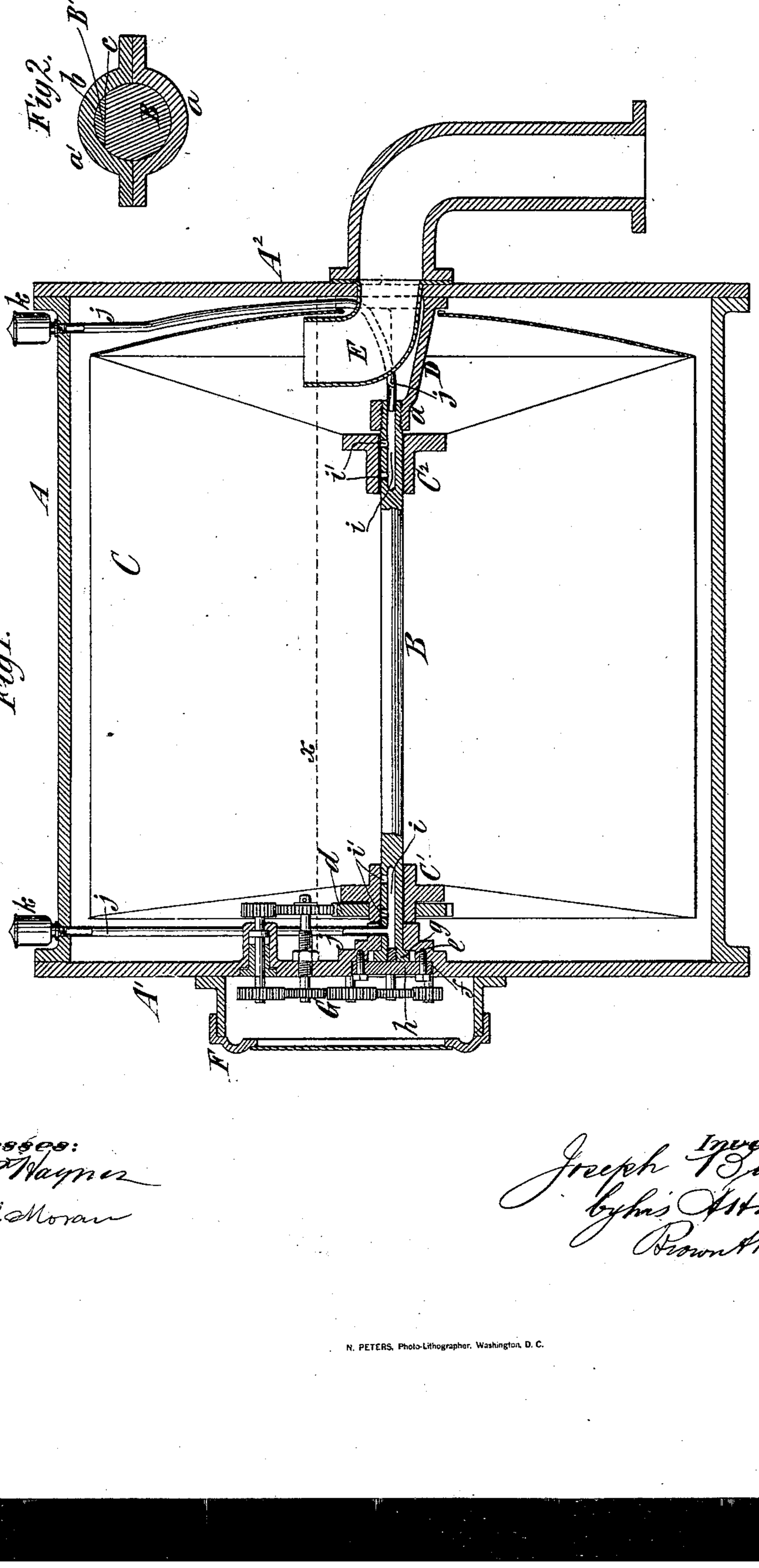
(No Model.)

J. BURTON.

MEANS FOR LUBRICATING GAS METER SHAFTS.

No. 282,610. Patented Aug. 7, 1883.



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MEANS FOR LUBRICATING GAS-METER SHAFTS.

SPECIFICATION forming part of Letters Patent No. 282,610, dated August 7, 1883.

Application filed June 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BURTON, of the city of New York, in the county and State of New York, have invented a certain new and useful Improvement in Means for Lubricating Gas-Meter Shafts, of which the following is a specification.

My invention more particularly relates to gas-meters of the kind shown and described in Letters Patent No. 175,865, granted April 11, 1876, to Charles C. Lloyd. Meters of this class are mostly used for station-meters or meters of large size, and the rotary drum turns upon a central fixed or stationary shaft or rod, which connects the ends or heads of the case together. The cases are partially filled with water, and the said fixed shafts or rods not only serve as journals or bearings on which the drums may turn, but they also serve to tie together or brace the ends or heads of the cases and prevent the latter from bulging outward under the immense weight of water often contained in them.

The objects of my invention are to provide for oiling the rotary drum or the fixed shaft at the points where the drum rotates upon it, and also to prevent leakage from the interior of the case into the dial-case or dial-work case of the meter.

The invention therefore consists in the combination, with the meter-case, of a fixed shaft connecting the ends or heads thereof, and provided with axial cavities and apertures leading therefrom to the periphery of the shaft, a rotary drum mounted on the shaft, and pipes leading to the cavities in the shaft and serving to conduct lubricating material thereto, from whence the lubricating material can pass to the periphery of the shaft, and so lubricate it and the portions of the hub of the drum which have a bearing thereon. The lubricating-pipes will preferably lead from a point above the water-line in the case, so that the pressure of the lubricant will overcome the pressure of the water.

The invention also consists in a novel construction and combination of parts whereby the fixed shaft is connected with the ends or heads of the case and the water is prevented from getting into the dial-work case.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of a meter embodying my invention; and Fig. 2 is a transverse section through the fixed shaft and the frame which connects its one end with the head or end of the case, upon a larger scale.

Similar letters of reference designate corresponding parts in both figures.

A designates the cylindric part of the case, and A′ A^2 the heads or ends thereof. These parts may be constructed of any suitable material, and are shown as connected by flange-joints, through which securing-bolts may be inserted.

B designates the fixed or stationary shaft, and C designates the rotary drum, the hub portions C′ C^2 of which are journaled upon the fixed shaft near opposite ends thereof.

Upon the inner side of the head A^2 is secured a frame, D, through which the gas-inlet pipe E enters, and which is provided with a socket, *a*, into which one end of the fixed shaft B is screwed. I may, if desired, make this socket in two parts, *a a′*, like a bearing and cap, as shown in Fig. 2, and may cut away a segment of the thread from end to end of the cap, as at *b*. I would then provide or form the shaft with a flat place or seat, *c*, and after screwing the shaft in and bringing it into position with the flat place or seat *c*, opposite the portion *b*, would drive in a key, B′. The key will then hold the shaft securely against turning.

F designates the dial-work case upon the head A′, and G designates a part of the dial-work, which derives motion from a wheel, *d*, upon the hub portion C′. In the outer side of the head A′, and within the dial-work case F, is a recess, *e*, surrounded by a rabbet, *f*. The end of the fixed shaft B is provided with a head, *g*, which is received in said recess, and in the rabbet *f* is securely bolted or otherwise secured a cap, *h*, which covers the head *g*. A packing may be placed between the cap and the rabbet, and by this construction water is prevented from leaking into the dial-work case from the interior of the meter-case.

To provide for lubricating the fixed shaft B, I form in opposite ends thereof axial cavities *i*, from which apertures *i′* lead to the periphery of the shaft where it is surrounded by the hub portions C′ C^2. To the cavities *i* lead pipes *j j*,

which, as here shown, lead from reservoirs *k* for lubricating material. (Here shown as placed on top of the case of the meter.)

Water is intended to be carried in the meter up to the dotted line *x;* and in order that the lubricating material can be delivered against the pressure of the water, it is of course desirable that the reservoirs *k* should be above this line. I may, however, place them anywhere below the water-line, and employ a weight, a pump, or other means for forcing the lubricating material through the pipes into the cavities of the fixed shaft.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the meter-case, of a fixed shaft connecting the ends or heads thereof, and provided with axial cavities and apertures leading therefrom to the periphery of the shaft, a rotary drum mounted on said fixed shaft, and pipes leading to the cavities in the shaft, and serving to conduct lubricating material thereto, substantially as specified.

2. The combination, with the meter-case partly filled with water, of a fixed shaft connecting the ends or heads thereof and provided with axial cavities and apertures leading therefrom to the periphery of the shaft, a rotary drum mounted on said fixed shaft, pipes leading to the cavities in said shaft, and vessels for lubricating material connected with said pipes and located above the water-line in the meter, substantially as and for the purpose described.

3. The combination, with the meter-case having at one end or head the frame or yoke D and at the other end or head the dial-work case F, and the recess *e* of the fixed shaft B, secured at one end in the frame D, and having at the other end the head *g*, contained in the recess *e*, and the cap *h* covering said recess, substantially as herein specified.

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