

A. HARRIS.
Dry Gas-Meters.

No. 145,650.

Patented Dec. 16, 1873.

FIG. 1.

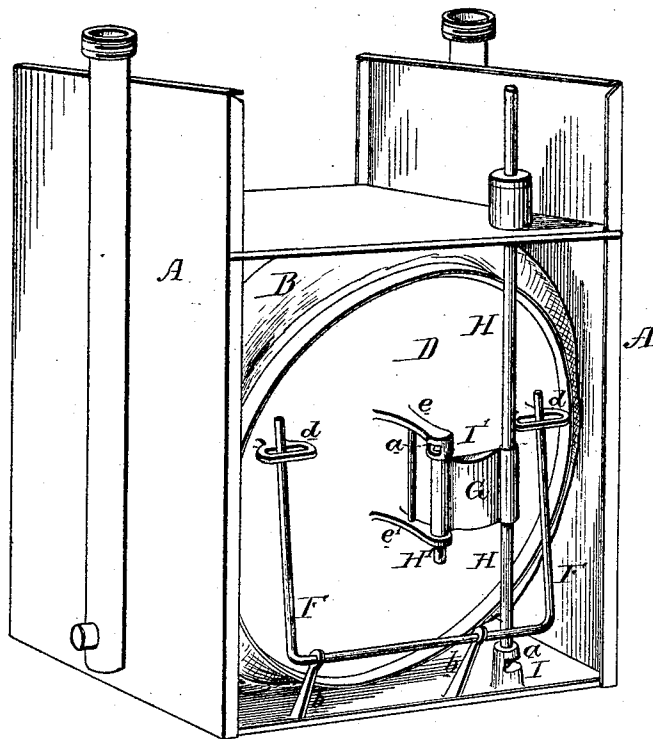


FIG. 2.

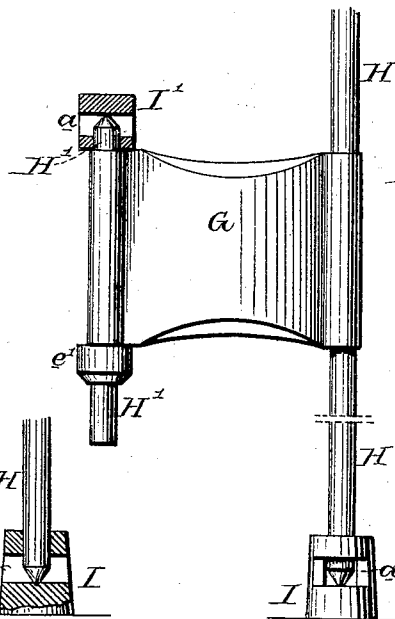
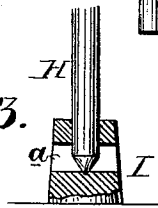


FIG. 3.



Witnesses,
Thomas Milligan
Harry Smith

Andrew Harris
by his Attor.
Horsman and Son.

UNITED STATES PATENT OFFICE.

ANDREW HARRIS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN J. GRIFFIN, OF SAME PLACE.

IMPROVEMENT IN DRY GAS-METERS.

Specification forming part of Letters Patent No. **145,650**, dated December 16, 1873; application filed November 28, 1873.

To all whom it may concern:

Be it known that I, ANDREW HARRIS, of Philadelphia, Pennsylvania, have invented an Improvement in Dry Gas-Meters, of which the following is a specification:

The object of my invention is to prevent the clogging of the spindle-bearings of dry gas-meters by accumulations of gummy or tarry matter; and I attain this object by forming a lateral opening, *a*, in the bearing directly opposite the conical end of the spindle, through which opening the clogging matter may be discharged, all as shown in the perspective view, Figure 1, and enlarged detached views, Figs. 2 and 3, of the accompanying drawing.

A is part of the casing of the meter; B, the bellows; and D, the bellows-disk, steadied in its movements by a rocking frame or bridle, F, hung to projections *b* on the casing, and arranged to slide through slotted brackets *d* at the opposite sides of said disk. The latter is supported by an arm, G, on a vertical spindle, H, the lower conical or pointed end of which is adapted to a bearing, I, within the casing. A short spindle, H', parallel with the spindle H, and secured to the outer end of the arm G, is likewise adapted at its upper pointed end to a bearing, I', secured to a projection, *e*, on the bellows-disk, and the lower end of the

said spindle turns in, and is steadied by, a projection, *e'*, of the said disk. A rocking movement is transmitted from the bellows to the vertical spindle H, and the usual valves are operated by the said spindle.

In meters of this class, as heretofore constructed, a serious defect has been the clogging of the bearings I and I' by accumulations of gummy or tarry matter, which materially increases the friction and detracts from the desired delicacy of operation of the moving parts of the meter. This I obviate by simply forming a transverse or lateral opening, *a*, in each bearing directly opposite the end of the spindle; as best observed in Figs. 2 and 3, through which opening the gummy matter is continually discharged by the action of the spindles.

I claim as my invention—

The combination of a bearing having a lateral opening, *a*, with the vertical spindle of a dry gas-meter, for the purpose specified.

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

A. HARRIS.

Witnesses:

WM. A. STEEL,
HARRY SMITH.