

(No Model.)

A. & P. THOMAS.
GAS PRESSURE INDICATOR.

No. 400,267.

Patented Mar. 26, 1889.

Fig. 1.

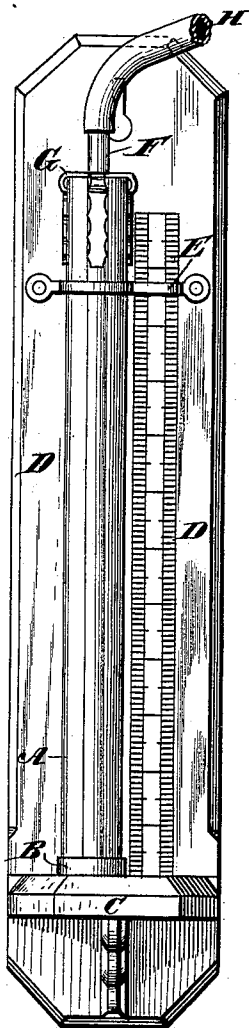
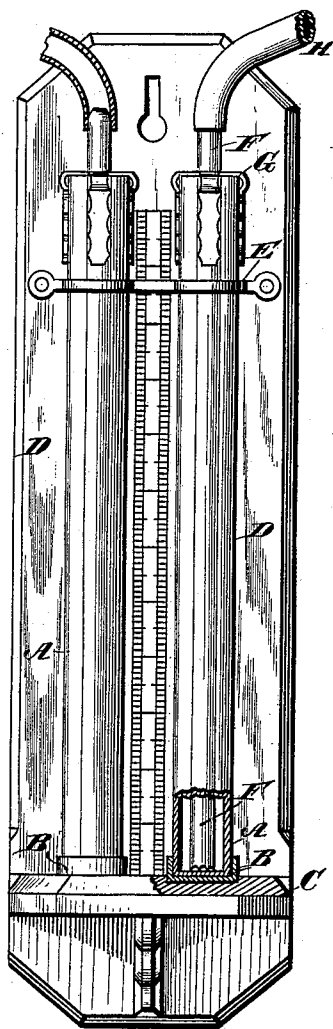


Fig. 2.



Witnesses,
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UNITED STATES PATENT OFFICE.

ALFRED THOMAS, OF WEST COWES, ISLE OF WIGHT, AND PHILIP THOMAS,
OF BUCKINGHAM, COUNTY OF BUCKS, ENGLAND.

GAS-PRESSURE INDICATOR.

SPECIFICATION forming part of Letters Patent No. 400,267, dated March 23, 1889.

Application filed July 11, 1888. Serial No. 279,695. (No model.) Patented in England January 30, 1888, No. 1,366.

To all whom it may concern:

Be it known that we, ALFRED THOMAS and PHILIP THOMAS, subjects of the Queen of Great Britain, residing, respectively, at the Gas Works, West Cowes, Isle of Wight, and the Gas Works, Buckingham, in the county of Bucks, England, have invented a new and useful Foul-Gas-Pressure Indicator, (for which we have obtained a patent in Great Britain, No. 1,366, dated January 30, 1888,) of which the following is a specification.

We make the indicator of two glass tubes, one to be used inside the other. The outer one has a solid bottom, while the inner one is open at both ends and is slightly the longer. We use an upright back plate, which can be made either of wood or metal. At the lower end of back plate we fix a small shelf which has a hole sunk part of the way in to receive solid end of outer tube; or a ferrule may be fixed upon shelf, which answers the same purpose. At the top of back plate we fix a cap-ring, through which the outer tube is passed. The cap-ring at top and the hole in shelf or ferrule fixed upon shelf are for the purpose of keeping the tube in its place. To admit of the water passing freely from the inner to the outer tube, the lower end of the inner tube is in free communication by lateral passages with the interior of the outer tube.

One or any number of the indicators can be placed upon the back plate, as may be desired; but we prefer making them in pairs, and so make one rule answer for two indicators.

To use the indicator, the gas is passed by means of a flexible pipe into the inner tube, and, coming in contact with the water, displaces part of the same, driving it into the outer one. The difference between the two water-levels shows the amount of pressure upon the apparatus.

These indicators can be made of any diameter or length.

The construction of our apparatus will be understood by reference to Figure 1, and for double apparatus by reference to Fig. 2, in which the lower end of the vessel and the

socket-piece are shown in section and indicating the uneven bottom edge of the tube, which permits of the free passage of liquid between the vessel and the tube.

A is the vessel, and B the socket-piece into which the lower end of the vessel is stepped.

C is the shelf of the bracket or back D, which may be of wood or metal.

E is the strap or clip which fixes the upper part of the vessel A in a vertical position.

F is the tube which is centralized in the vessel A by the cap-ring G, the end of the tube F projecting above said ring for the attachment of a flexible tube, H, so that the gas from a branch with which the flexible tube is connected can enter the tube F and press upon the liquid placed therein, which liquid finds its level in the vessel A by reason of the apertures or uneven bottom edge of the tube F. The cap G in addition to centralizing the tube F in the vessel A, prevents the entrance of dust, so that the liquid is kept clean; and, to enable the liquid to be changed at any time, the flexible tube H can be slid off from the tube F and the apparatus removed and emptied for cleaning.

By this invention we produce a gas-pressure indicator which has no fixed joints, thus doing away with all possibility of breakage through undue expansion and contraction, and by reason of having no fixed joints skilled labor is not required when cleaning is necessary. Should any part of the indicator be broken by accident, such broken parts have only to be lifted out and replaced by new ones.

The indicator requires no fixing, but is made to hang upon a wall. It is easily removed to other parts of a works when required.

We claim as our invention—

A gas-pressure indicator having no fixed joints, and consisting of a supporting back piece provided with a shelf, an outer liquid-containing tube closed at its bottom and supported on said shelf, a cap secured to the upper end of the outer tube and provided with a central orifice, and an inner tube centered in the outer tube and having its lower end

- open and in free communication with the outer tube above the closed bottom thereof, said inner tube extending upward through the cap and having its upper open end adapted
5 to connect with a gas-inflow tube for passing gas down the inner tube and causing the liquid therein to pass through the open lower end of said inner tube into the base of the outer tube, substantially as described.
- o In witness whereof we have hereunto signed

our names, in the presence of two subscribing witnesses, this 24th day of May, 1888.

ALFRED THOMAS.
PHILIP THOMAS.

Witnesses:

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