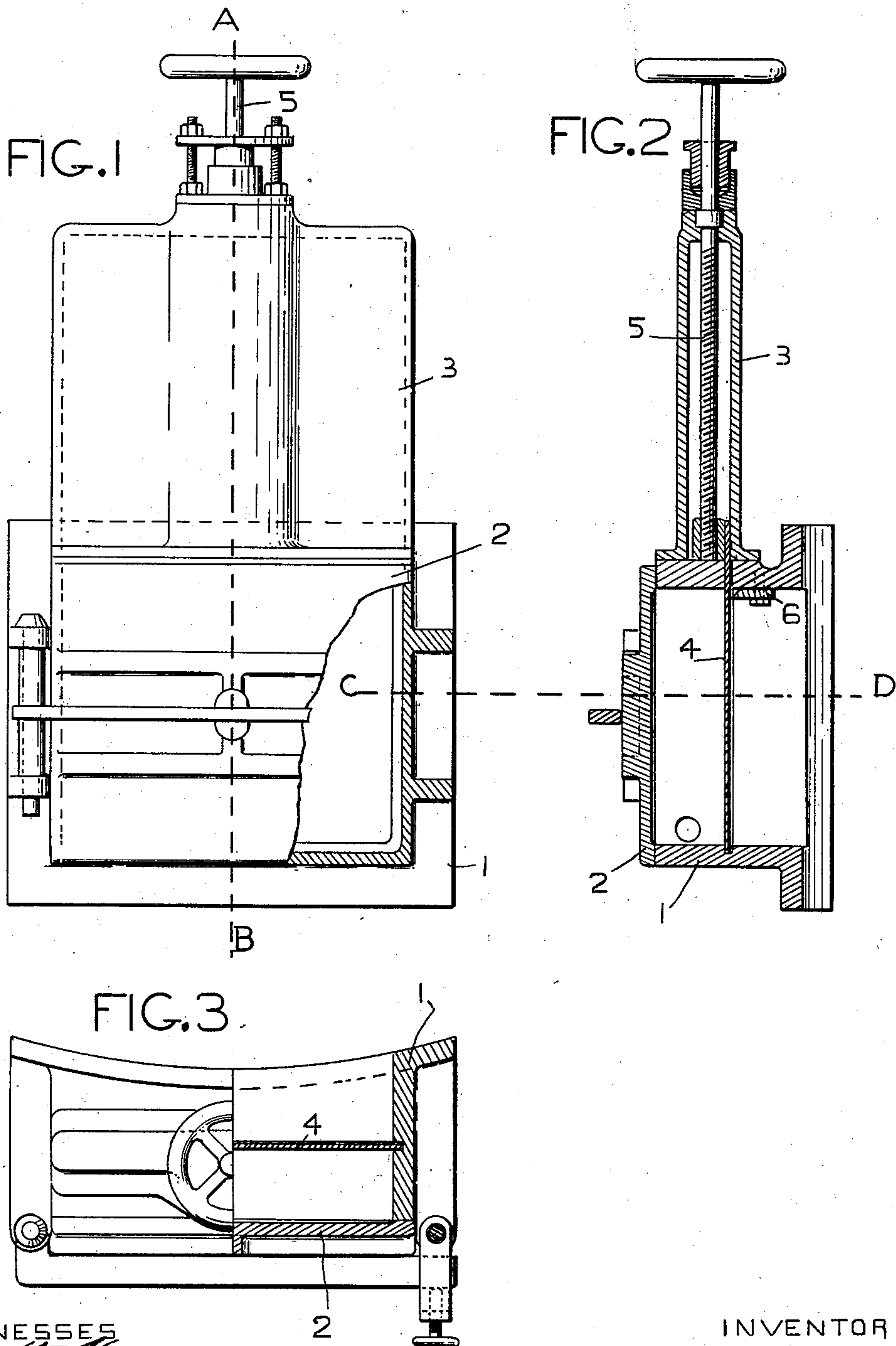


No. 744,214.

PATENTED NOV. 17, 1903.

L. P. LOWE.
GATE VALVE AND DOOR.
APPLICATION FILED MAR. 10, 1902.

NO MODEL.



WITNESSES

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GATE-VALVE AND DOOR.

SPECIFICATION forming part of Letters Patent No. 744,214, dated November 17, 1903.

Application filed March 10, 1902. Serial No. 97,596. (No model.)

To all whom it may concern:

Be it known that I, LEON P. LOWE, a citizen of the United States, residing at San Francisco, State of California, have invented a new and useful Improvement in a Form of a Combined Gate-Valve and Door, which I term a "Valve-Door," and which improvement is fully set forth in the following specification and accompanying drawings.

My invention embodies novel features, as will hereinafter be set forth and definitely claimed.

My invention is principally applicable for use in connection with apparatus from which it is desired to remove certain solid or semi-liquid substances, such as certain heavy tars or tarry substances, which accumulate in processes of gas manufacture and which, because of their inability to flow through pipes, must be removed through openings of other descriptions, generally in the form of doors or manhole-openings.

On the apparatus in connection with the manufacture of gas or in similar operations it is necessary to tightly close the doors or manhole-openings used in connection therewith, this being usually accomplished by having openings with faced joints or by the use of tightly-fitting gaskets.

If accumulations have occurred—as, for instance, tarry accumulations in gas-works scrubbers—and it becomes necessary to open doors for their removal, the tarry substances issue with but little restraint, thereby causing much annoyance and inconvenience, and to overcome this difficulty I have devised a door or opening fitted with a dam or gate designed to permit of the opening of the door or cover proper and yet practically hold in check the substances contained within the apparatus and to permit of the issuance of the same in regulated quantities at the will of the operator.

To accomplish the foregoing, I use the apparatus or modifications of the same shown in the accompanying drawings, of which the following is a description.

Figure 1 is a vertical elevation, partially in section, of the apparatus embodying my invention. Fig. 2 is a vertical side sectional

elevation on line A B, Fig. 1. Fig. 3 is a top plan, partially in section on line C D of Figs. 1 and 2.

Similar characters of reference indicate corresponding parts in the various figures.

1 is a door-frame in general. 2 is a cover for same, usually of tight-fitting construction.

3 is a case attached to frame 1 in much the same manner as the spindle and gate-case of an ordinary gate-valve are attached to its body.

4 is a gate or dam operating through a slot in the frame 1 in such a manner as to permit of its being raised and lowered in case 3.

5 is a threaded or other suitably-constructed spindle for operating the gate or dam 4.

6 is a scraper designed for the purpose of removing any sticky accumulations on gate 4.

The operation of my valve-door is as follows: The gate 4 is lowered into position in frame 1 by operating same with spindle 5. The cover 2 of frame 1 is then closed and held in place by any device desired. When it becomes necessary to cleanse the apparatus in connection with which my valve-door is used, the cover 2 is opened, after which the dam or gate 4 is operated by raising it to any desired height to permit of the egress of any substance which may be contained within the apparatus to which the door is attached, the flow of same being increased or diminished, as may be desired, by raising or lowering the gate 4.

The gate 4 may fit tightly against a seat, as in the case of an ordinary gate-valve, if desired, or it may work loosely in a slot within the frame 1, as shown. In the former case it is effective as a tight-fitting valve, while in the latter merely as a dam to stop the principal flow of any substance passing through the door.

This valve-door can be of any convenient form or construction, and I do not limit myself to any particular design; but in ordinary operation I prefer the arrangement as shown.

Having thus described my invention, I claim—

1. A device of the character described, comprising a suitable frame having a discharge-opening, a pivoted door swinging against the

edge of the frame surrounding the opening
and provided with means when closed for
firmly pressing the same against said edge,
to resist pressure from within, and a gate slid-
5 ing in a guide in said frame and adjustable
to vary the extent of the opening thereof,
substantially as described.

2. The combination of the frame 1, cover
2, case 3, gate 4, spindle 5 and scraper 6, sub-

stantially as and for the purpose shown and 10
described.

In witness whereof I have hereunto set my
hand in the presence of two subscribing wit-
nesses.

L. P. LOWE.

Witnesses:

ERNEST W. HORNE,
S. McLAUGHLIN.