2 Sheets--Sheet 1.

W. FARMER.

Rotary-Valve for Dip-Pipes.

No. 167,606. Patented Sept. 14, 1875.

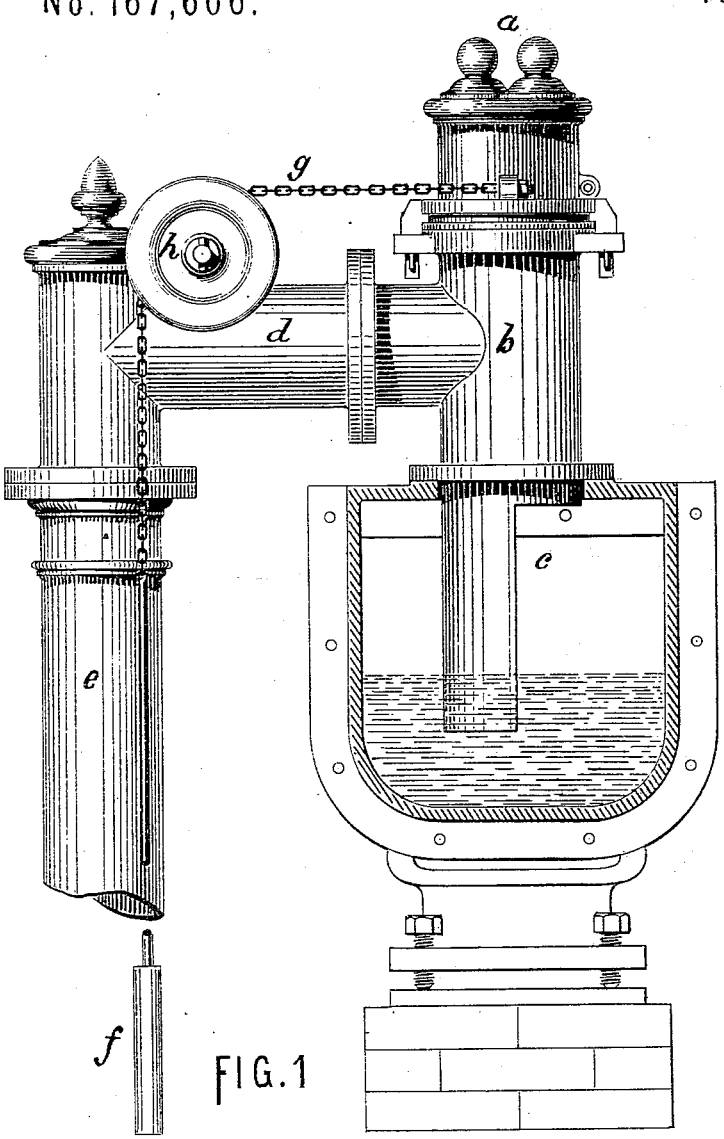


FIG. 1

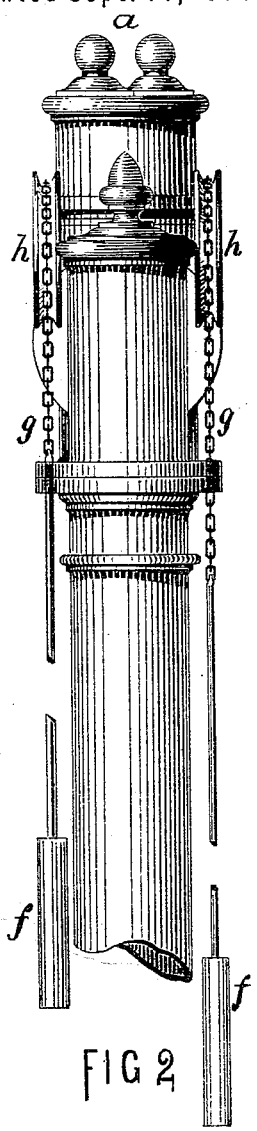


FIG 2

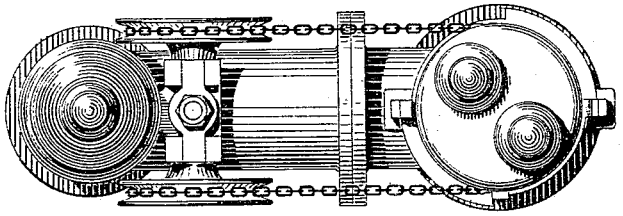


FIG 3

WITNESSES

Wm. Kemble Hall.

David E. Gwynne.

INVENTOR

Wm Farmer

2 Sheets--Sheet 2.

W. FARMER.

Rotary-Valve for Dip-Pipes.

No. 167,606

Patented Sept. 14, 1875.

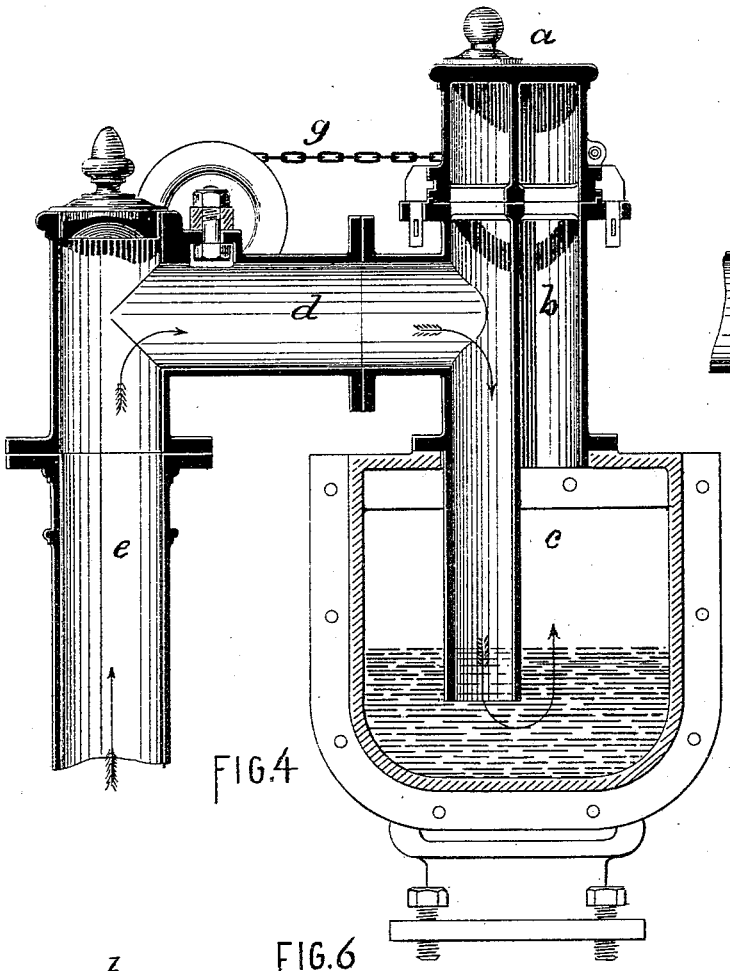


FIG. 4

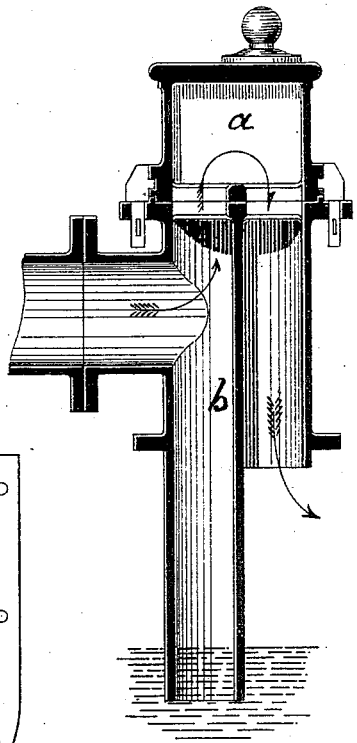


FIG. 5

FIG. 6

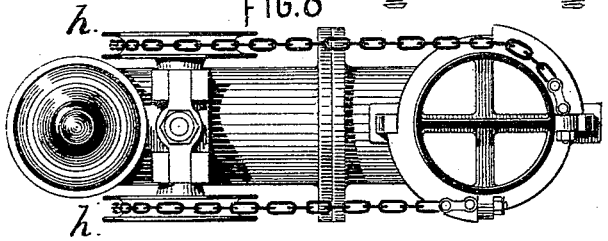


FIG. 7

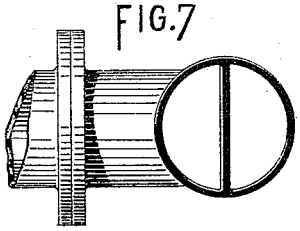


FIG. 8

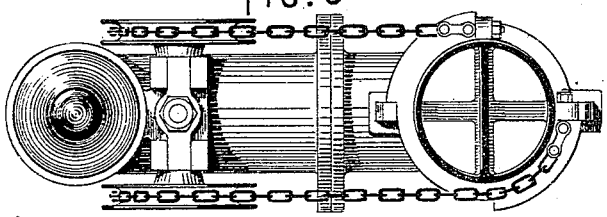
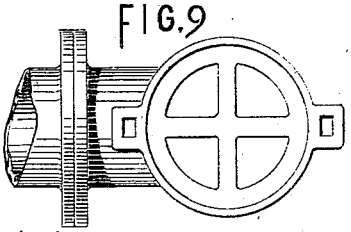


FIG. 9



WITNESSES

Wm Kemble Hall.

David E. Gwynne.

INVENTOR

Wm Farmer

UNITED STATES PATENT OFFICE.

WILLIAM FARMER, OF NEW YORK, N. Y.

IMPROVEMENT IN ROTARY VALVES FOR DIP-PIPES.

Specification forming part of Letters Patent No. **167,606**, dated September 14, 1875; application filed August 23, 1875.

To all whom it may concern:

Be it known that I, WILLIAM FARMER, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Gas-Making Apparatus, which I prefer to term a rotary valve for dip-pipes, and of which the following is a specification:

The said invention relates to the means for opening and closing the communication between the stand-pipe of a retort and the hydraulic main in gas-making apparatus, by which it may be sealed by the liquid in the main when the retort is open, and may be free from the pressure consequent upon the seal when the retort is in operation. It consists in dividing the dip-pipe by a partition into two sections, one of which is sealed by the liquid in the main, and is connected with the stand-pipe from the retort, and the other opens merely into the top of the main. A rotary cylindrical valve or cap of the same diameter, and with a corresponding partition, is placed on the open top of this dip-pipe, so that when the two partitions are in line with each other the gas from the main occupies only the side of the valve corresponding with that side of the pipe opening into the top of the main, and can pass no farther, and the seal closes the passage to the retort; but when the valve is turned so that its partition stands across that in the dip-pipe the gas from the retort flows freely to the main without obstruction from the seal. In this manner, while the retort may be sealed, when required, in the ordinary way, it may be entirely relieved from the pressure necessary to overcome the seal when in operation by simply turning the valve.

To enable others skilled in the art to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

Figure 1 is a section of the hydraulic main with the valve and pipes in external elevation. Figs. 2 and 3 are a front view and plan of the valves and pipes. Figs. 4 and 5 are vertical sections that, respectively, show the valve closed and open. Figs. 6, 7, 8, and 9 are similar horizontal sections and plans.

The valve *a* rests upon the open upper end of the dip-pipe *b*, which has a partition separating the section that opens into the upper part of the main *c* from that which dips into the liquid in the main, and is connected with the retort by the bridge-pipe *d* and the stand-pipe *e*.

In Figs. 5 and 6 the valve is represented open, and the gas flows freely from the retort to the upper part of the main.

In Figs. 4 and 8 the valve is closed, and the communication is obstructed by the seal in the main.

The handles *f* and the chains *g*, passing over the pulleys *h*, and secured to the opposite sides of the valve, serve to operate the valve and to counterbalance each other.

I claim—

The combination of the rotary valve *a* and the partitioned dip-pipe *b* with the hydraulic main and the stand-pipe, substantially in the manner described.

WM. FARMER.

Witnesses:

DAVID E. GWYNNE,

WM. KEMBLE HALL.