

S. Trumbore,

Gas Apprs.

No. 113946.

Patented Apr. 18. 1871.

Fig. 1.

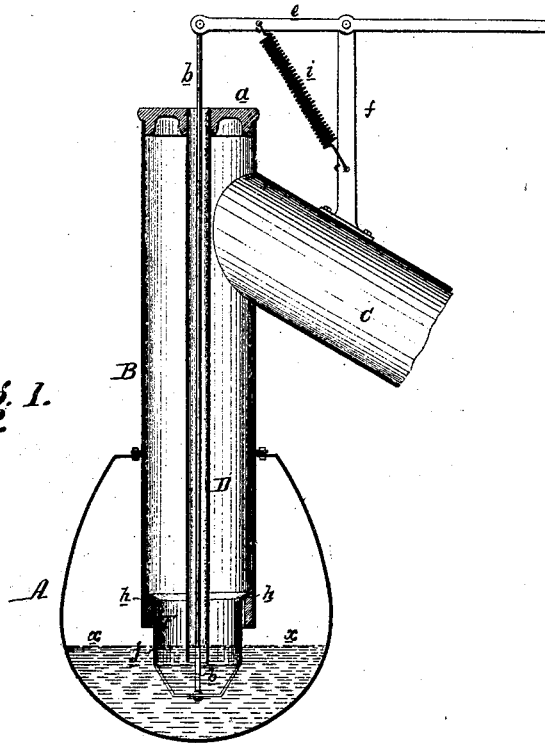
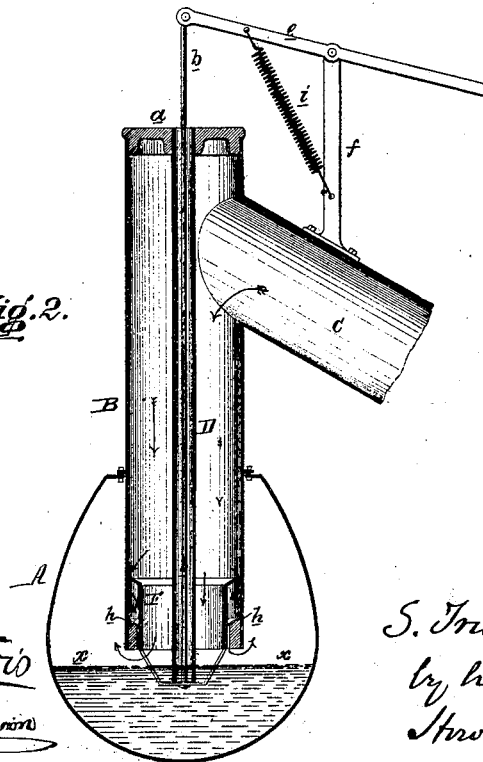


Fig. 2.



Witnesses {
Geo. Norris
Thos. McGowan

S. Trumbore
by his atty
Stroen and son

UNITED STATES PATENT OFFICE.

SAMUEL TRUMBORE, OF EASTON, PENNSYLVANIA.

IMPROVEMENT IN SEALS FOR HYDRAULIC MAINS OF GAS-WORKS.

Specification forming part of Letters Patent No. **113,946**, dated April 18, 1871.

To all whom it may concern:

Be it known that I, SAMUEL TRUMBORE, of Easton, in the county of Northampton, State of Pennsylvania, have invented certain Improvements in Gas Apparatus, of which the following is a specification.

My invention consists mainly of the combination, with the "dip-pipe" and hydraulic main of gas apparatus, of a valve so constructed and arranged in respect to the said dip-pipe and to the tar-level in the main that it shall prevent the passage of gas when in its seat without having any tendency to adhere to the latter, owing to the presence of the tar; and my invention further consists of a tube extending below the tar-level and otherwise arranged, as hereinafter described, so as to serve as a substitute for the stuffing-box, which would otherwise have to be used in connection with the valve-rod.

In the accompanying drawings, Figure 1 is a transverse section of the hydraulic main of gas apparatus with the dip-pipe and valve arranged in accordance with my invention; and Fig. 2, the same, showing the valve raised.

A represents a portion of the hydraulic main of gas apparatus; B, a vertical dip-pipe extending down into the same within a short distance of the tar-level *x*, and C a pipe leading from the retorts and communicating with the upper part of the dip-pipe. The dip-pipe is surmounted by a cap, *a*, from which is suspended a tube, D, of small diameter, which extends downward through the center of the said pipe to a point below the tar-level, and through this tube passes a valve-rod, *b*, attached to and operated by a lever, *e*, which is hung to a standard, *f*, or other fixed object.

To the lower end of the rod *b* is attached a hollow cylindrical valve, F, which is contained partly within the lower end of the dip-pipe, and is adapted to an internal seat or ledge, *h*, formed in the latter. The valve is maintained in its seat by the action of a spring, *i*, connected to the operating-lever, as seen in Fig. 1, and when in this position the cylindrical

portion *j* of the said valve will project below the tar-level and prevent any back-pressure of gas from the hydraulic main toward the retorts during the charging of the latter. When the valve is raised from its seat, however, after the charging of the retorts, its cylindrical portion will be lifted above the tar-level, and the gas as it is exhausted from the retorts can pass freely through and around the said valve into the hydraulic main A, as indicated by the arrows. The valve is fitted so loosely into the lower end of the dip-pipe as to prevent it from gumming or sticking fast to the same, owing to the presence of the tar, and it is of such construction as to effectually seal the lower end of the dip-pipe and prevent any passage of gas during the charging of the retorts, and its construction is also such that it shall offer as little resistance as possible to the gas when it is raised from its seat.

As before mentioned, the tube D, which surrounds the valve-rod, extends downward to a point below the tar-level. The tube, when thus arranged, effectually prevents any escape of gas around the valve-rod, and thus serves as an economical substitute for the stuffing-box, which would otherwise have to be arranged in the cap *a* of the dip-pipe for the passage of the valve-rod.

I claim—

1. The valve F, constructed substantially as described, and arranged within the dip-pipe B and hydraulic main of gas apparatus in respect to the tar-level in the said main, substantially as specified.

2. The tube D, surrounding the valve-rod *b*, extended to a point below the tar-level in the hydraulic main, for the purpose specified.

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

SAMUEL TRUMBORE.

Witnesses:

W. H. HILDEBRAND,
WM. H. CORNELL.