W. FORMAN.

APPARATUS FOR BURNING PETROLEUM.

No. 179,410. Patented July 4, 1876.

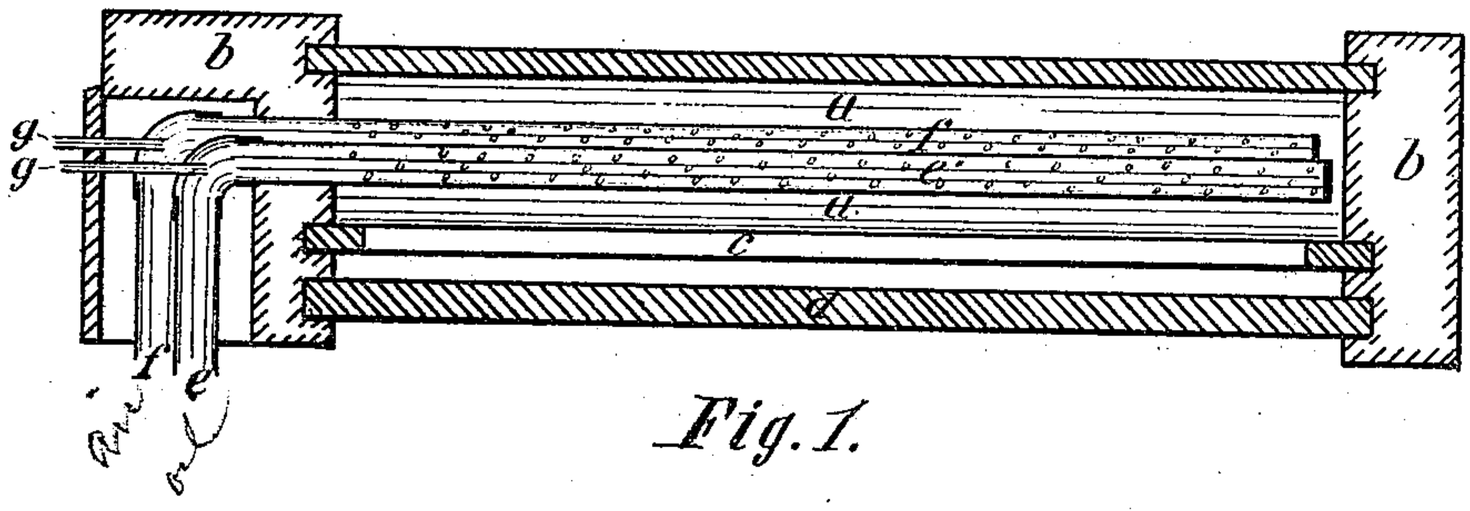

Fig. 1.

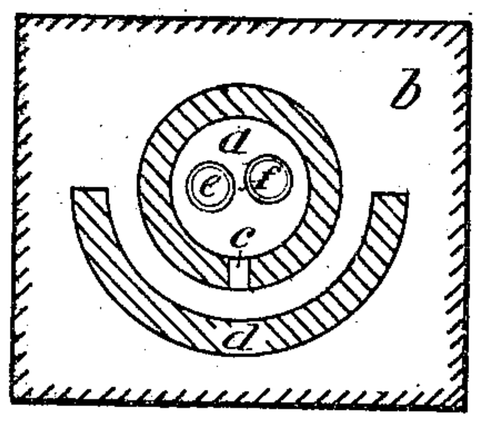

Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM FORMAN, OF TITUSVILLE, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR BURNING PETROLEUM.

Specification forming part of Letters Patent No. **179,410**, dated July 4, 1876; application filed March 29, 1876.

To all whom it may concern:

Be it known that I, WILLIAM FORMAN, of Titusville, Crawford county, State of Pennsylvania, have invented an Improved Apparatus for Burning Crude Petroleum under Steam-Boilers, of which the following is a specification:

In all other burners heretofore constructed, as far as I am aware, the tar produced from the petroleum, together with the earthy matter held in solution by the same, gradually forms a deposit in the burner, thereby obstructing the flow of gas, requiring to be cleaned often, in order that the consumption may be perfect.

The object of my invention is to render the burner self-cleaning, preventing any accumulation of deposit, and keeping itself all the time in full working order.

In the drawing, Figure 1 represents a longitudinal section of the burner, and Fig. 2 a cross-section midway between the ends.

a represents an iron cylinder, confined and inclosed at each end by the supports *b b*, and having a longitudinal slot, *c*, along the bottom, nearly the entire length. Concentric with the cylinder *a* is the half-cylinder or trough *d*, surrounding the lower half of *a*, leaving a space between. This half-cylinder is also confied at both ends by the supports *b b*. *e* is a pipe for introducing the petroleum into the cylinder *a*, and *f* is a similar pipe for introducing atmospheric air. Both these pipes are plugged at the extreme end, and are perforated the entire length of *a*. *g g* are steam-injectors into the pipes *e* and *f*.

The operation is as follows: The petroleum being introduced by the pipe *e*, and mingled with steam from the injector *g*, is discharged through the perforations into the cylinder *a* in a state of foam. At the same time atmospheric air is introduced through the perforations of the pipe *f*. The cylinder *a* being heated by the fire, the petroleum is then converted into gas, and is discharged downward through the slot *c* into the trough *d*, where it is consumed, the fire passing around the outside of the cylinder *a*, and through the flues of the boiler. The supply of petroleum through *e*, of atmospheric air through *f*, and of steam through *g g*, is regulated, as desired, by stop-cocks in their respective pipes. The discharge of gas as generated being downward through the slot *c*, all sediment of any kind is forced downward into the fire, where it is consumed. In this manner the burner is kept constantly free and clean.

I claim as my invention—

The arrangement and combination of the cylinder *a*, having a longitudinal slot, *c*, along the bottom, with the trough *d* and perforated pipes *e* and *f*, substantially as described, and for the purposes set forth.

WILLIAM FORMAN.

Witnesses:

W. M. HENDERSON,

J. M. HENDERSON.