J. S. WILLIAMS.
Petroleum-Stove.

No. 206,204. Patented July 23, 1878.

Fig. 1

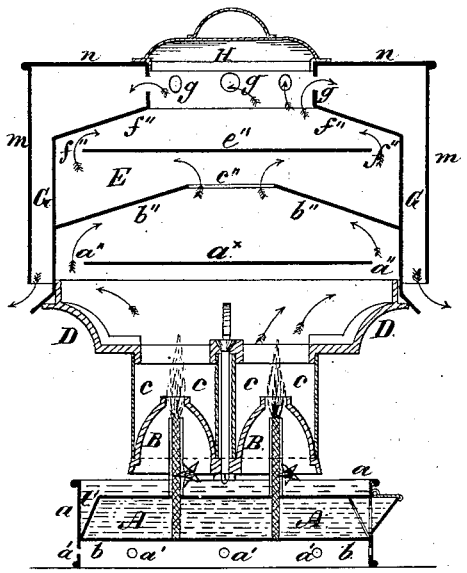


Fig. 2.

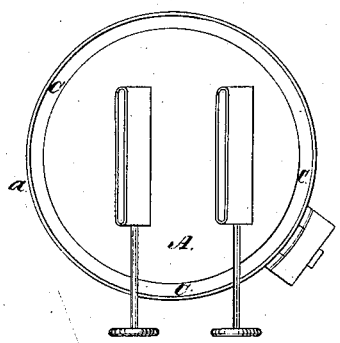


Fig. 3.

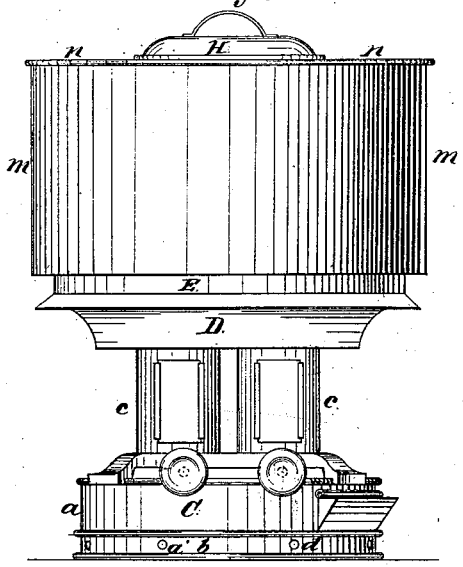
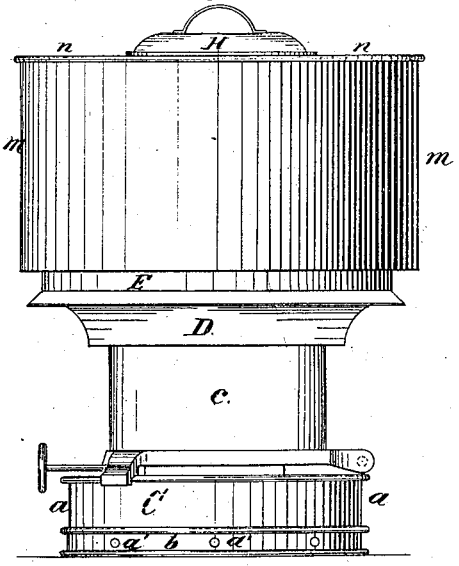


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN S. WILLIAMS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PETROLEUM-STOVES.

Specification forming part of Letters Patent No. **206,204**, dated July 23, 1878; application filed September 20, 1877.

To all whom it may concern:

Be it known that I, JOHN S. WILLIAMS, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Petroleum-Stoves, of which the following is a specification:

The object of this invention is to provide for the downward radiation of heated-air currents from the stove, whereby, when the latter is used for heating purposes, the heat is caused to be brought into suitable contiguity to the floor for the proper and comfortable warming of the apartment, the apparatus being, moreover, from the peculiarities of its construction, adapted for cooking, laundry, and heating or warming purposes.

Figure 1 is a central vertical sectional view of a petroleum-stove made according to my invention. Fig. 2 is a plan view of one portion of the same. Fig. 3 is a side view of the same; and Fig. 4 is also a side view thereof, but taken in a plane at right angles to Fig. 3.

A is the oil-reservoir, provided with any desired number of burners, B, of any ordinary or suitable construction. Around the reservoir A is an annular tank, C, the walls *a* of which extend upward beyond the level of the top of the reservoir A. The latter rests upon a downwardly-projecting flange, *b*, which elevates the bottom of the reservoir, leaving a clear space beneath. The flange *b* is perforated with any desired number of openings, *a'*.

The tank C is filled with water, the latter rising over and upon the top of the reservoir, as well as surrounding the same at the sides, while atmospheric air, passing through the openings *a'*, circulates freely in contact with the bottom of the reservoir. By the conjoint action of the water and of the air, therefore, the reservoir A is kept cooled below the temperature at which explosive gases could be generated in the reservoir, and all liability of explosion within the reservoir is avoided.

The chimneys *c* of the burners B support a rim, D, upon which is placed the detachable drum E, which comprises within it a horizontal plate, $a^{\times}$, upon which the flame and hot air and products of combustion impinge as they rise from the burners, and whereby they are directed radially to passages *a''*, through which they pass upward to the funnel-shaped deflector *b''*, which directs them, through the central opening *c''*, against the secondary plate *e''*, by which they are again spread laterally to the passage *f''*, which conducts them to the outlets *g*, whence they pass laterally to and downward through the annular passage G, provided around the drum by the fixed annular plate *m* and top *n*, attached by suitable fixtures to the drum itself. By the means just described the hot air and hot products of combustion from the burners are directed downward from the apparatus to the floor, thereby enabling the apparatus to heat the apartment in its lower as well as in its upper parts, and fitting said apparatus for general and convenient use in warming rooms, &c., the vapor from the water in the tank, moreover, tempering the heat of the hot air, &c., and rendering the same bland and innocuous.

By removing a small cap, H, from the top of the drum the hot currents may be permitted to pass directly upward when desired; or, on occasion, a tea-kettle or like utensil may be placed in lieu of the cap H for the purpose of heating said utensil.

When it is desired to use the lower portion of the apparatus for general cooking or laundry purposes, the drum and its appurtenances are removed, and a laundry-boiler or cooking utensil, as the case may be, is placed directly upon the rim in lieu of the drum.

What I claim as my invention is—

In a petroleum-stove, the drum E, constructed with internal deflecting plates and passages, as set forth, in combination with the external annular passage G, provided to conduct the hot air, &c., from the burners in a downward direction, substantially as and for the purpose set forth.

JOHN S. WILLIAMS.

Witnesses:

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