(No Model.)

J. S. ROWLAND.

COAL OIL HEATER.

No. 248,611. Patented Oct. 25, 1881.

Fig. 1.

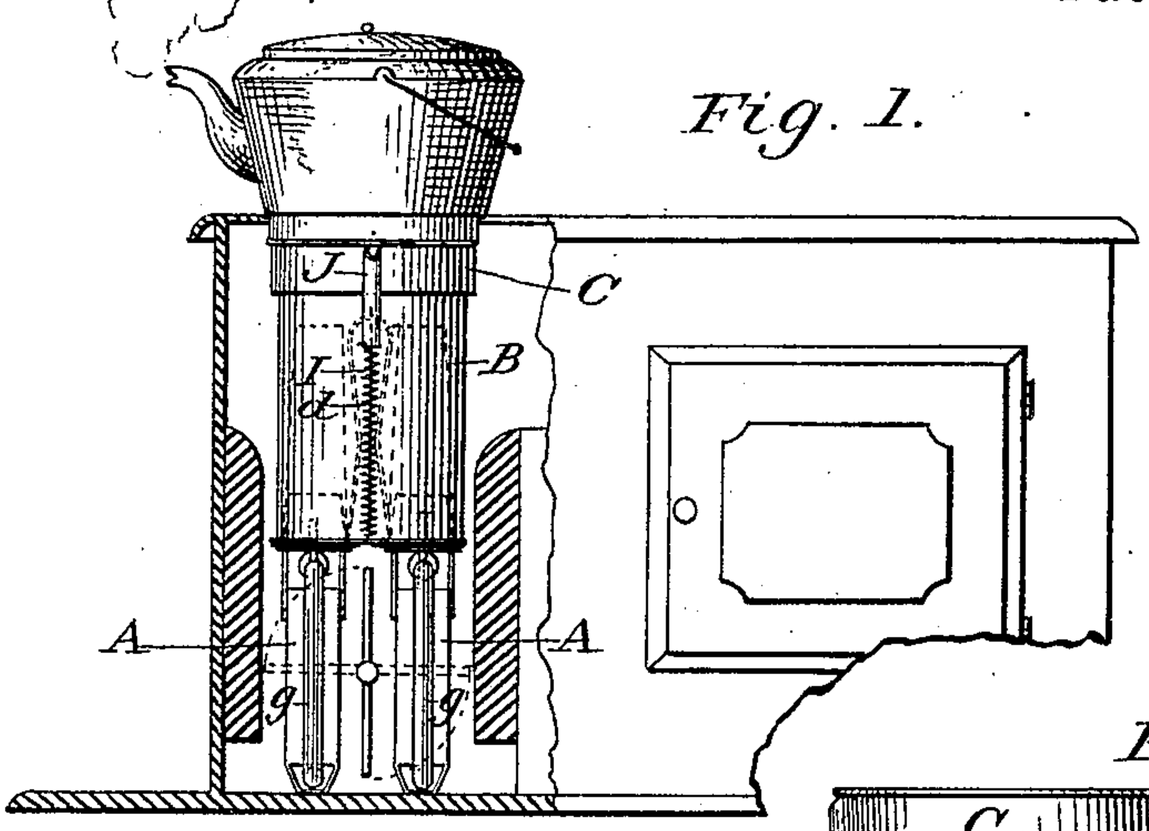


Fig. 6.

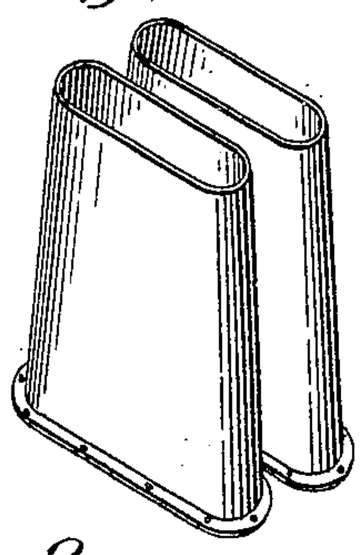


Fig. 2.

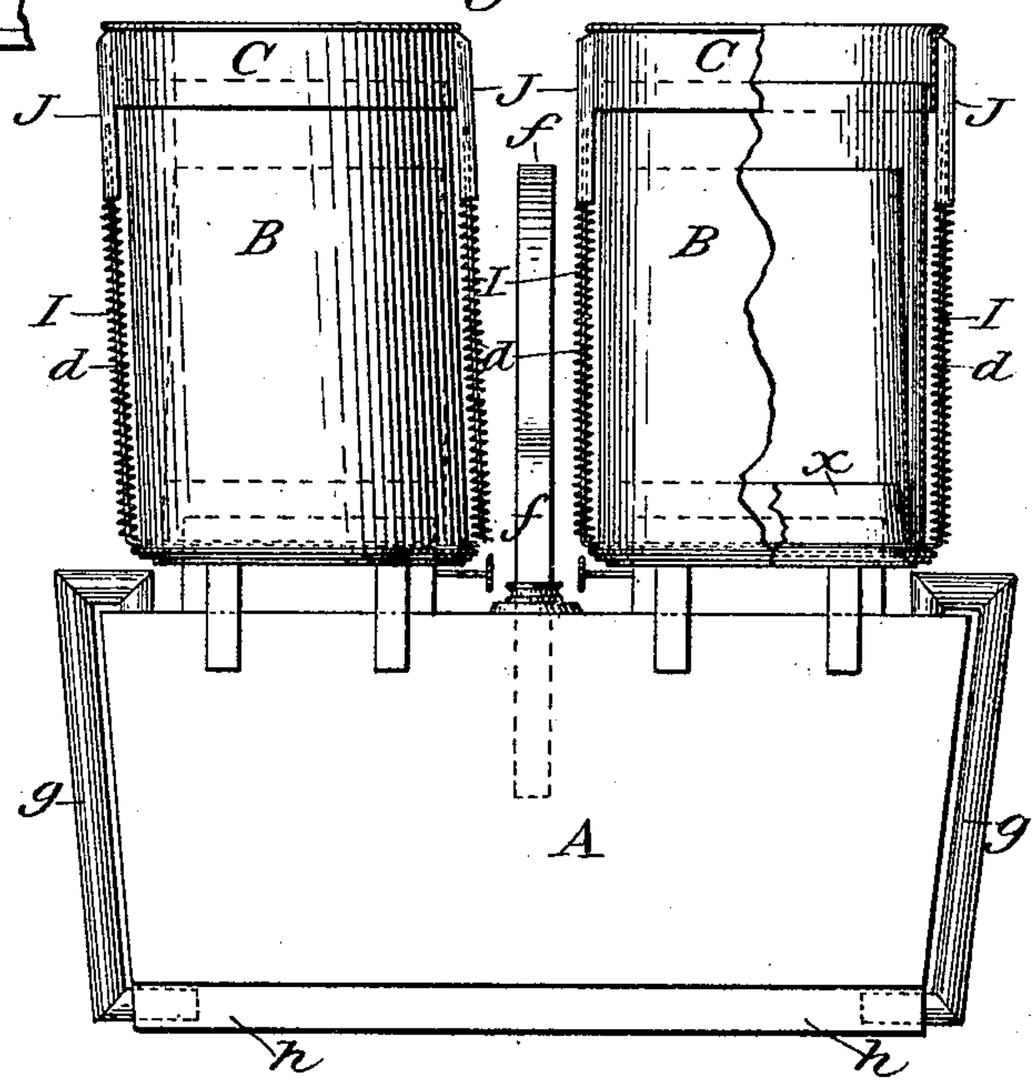


Fig. 3.

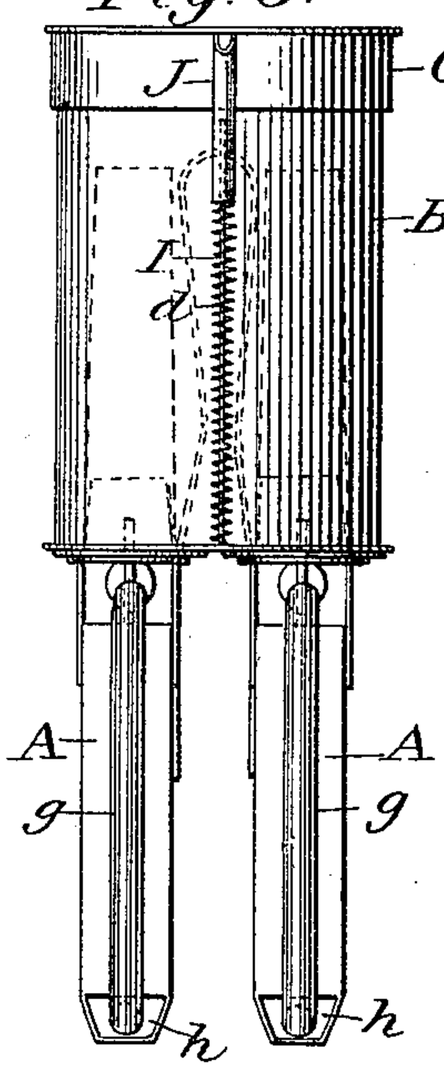
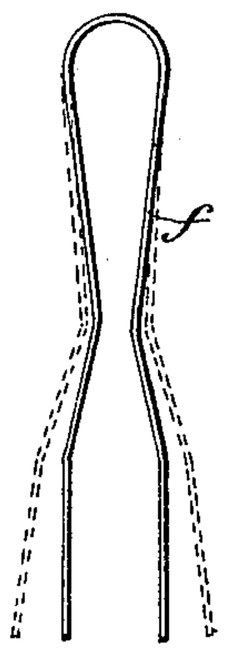


Fig. 7.



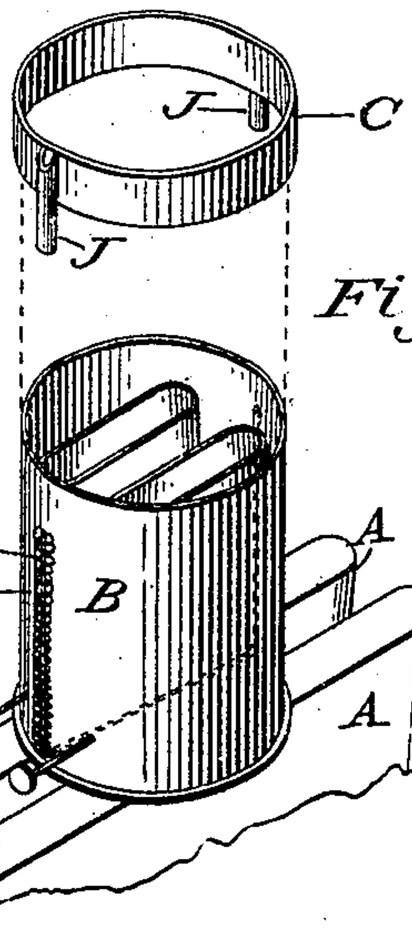


Fig. 4.

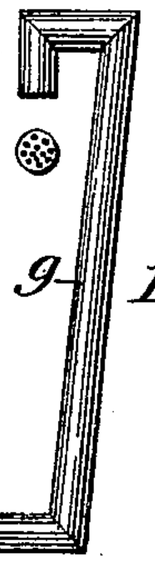


Fig. 8.

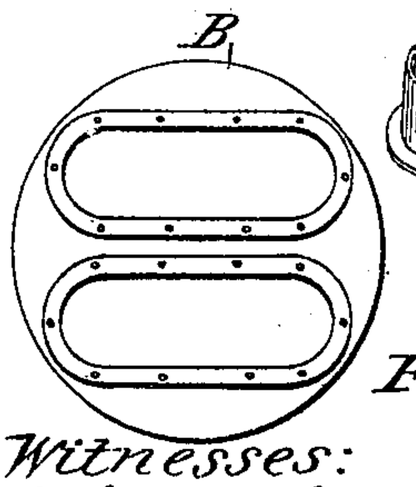
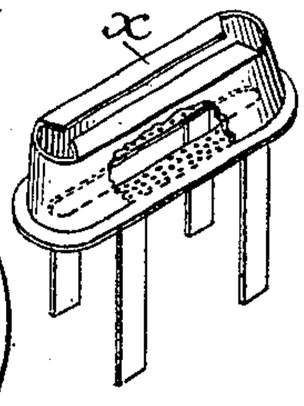


Fig. 5.



Witnesses:
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Inventor:
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UNITED STATES PATENT OFFICE.

JARED S. ROWLAND, OF JAMAICA, ASSIGNOR OF ONE-SIXTH TO WILLIAM A. ROWLAND, OF BROOKLYN, NEW YORK.

COAL-OIL HEATER.

SPECIFICATION forming part of Letters Patent No. 248,611, dated October 25, 1881.

Application filed June 17, 1881. (No mod l.)

To all whom it may concern:

Be it known that I, JARED S. ROWLAND, of Jamaica, in the county of Queens and State of New York, have invented a new and useful Improvement in an Apparatus for Heating or Cooking by the Use of Kerosene or Coal Oil, which improvement is fully set forth in the following specification and accompanying drawings.

Similar letters of reference indicate like parts.

Figure 1 represents a stove with a vertical plate broken away, the grate turned in vertical position, and the heating apparatus herein described. A A represent the oil-reservoirs, which may be of any chosen metal, plain or corrugated; B, the casing, to the bottom of which, as shown in Fig. 5, the sheet-iron chimneys are secured. The said casing, bottom, and chimneys, being firmly fastened together, form one piece. C is the movable sheet-iron band pressed upward against the bottom of the vessel to be heated by the tube *d* moving upon the rod J and acted upon by the spring I.

Fig. 2 represents a side view of the heater. A represents the oil-reservoir; B B, the casings inclosing the chimneys; C C, the movable sheet-iron band. *f* is the handle. (Shown also in Fig. 7.) *g g* are air-tubes. *h* is the air-chamber at the bottom of the reservoirs. One casing, as represented here, is made slanting for use, as hereinafter described.

Fig. 3 represents an end view of the heater, with same letters of reference.

Fig. 4 represents a smaller heater for use under one stove-opening, with the sheet-iron band C removed to show position of chimneys.

Fig. 5 represents the bottom of the sheet-iron casings and chimneys with openings for the admission of the wick-tube; and its surrounding cone *x* is also shown here.

Fig. 6 represents the chimneys used inside the sheet-iron casings B B.

Fig. 7 represents the spring-handle fastened to the oil-reservoirs.

Fig. 8 represents the air-tubes and perforated plates to be fitted in their ends.

The object of my invention is to provide a kerosene-oil heater of such construction that it can be placed in the small space of the fire-box and ash-basin of the ordinary coal cooking stove and range when said stove is connected, by pipe with the house-chimney, and be made more safe and as useful for cooking and similar purposes as the best arranged of the kerosene-oil stoves, and at a less price than an oil-stove of equal heating power. It has the advantage of furnishing the way of escape for the unpleasant smell that accompanies the burning of oil in quantity sufficient for cooking purposes up the stove-pipe and chimney, while the reservoirs containing the oil are prevented from heating by the upward passage of the cold current of air which the draft of the stove supplies, thus lessening the danger of firing the reservoirs, and providing, in case of any accident in the use of the oil, the inclosure of the fire-box of brick and iron, which, in combination with the stove-pipe and house-chimney, would render the burning of the oil comparatively harmless, the heaters themselves being so constructed with air-tubes as to be non-explosive. Being so placed in the fire-box they avoid the additional danger of being upset by children, or through the inadvertence of others, or by the weight of any article placed over them, while the broad top of the substantial coal-stove, with its cooking-utensils, already fitted and available, is of ample size to permit the articles to be heated to be placed directly over the oil-flame, effecting a great saving of both heat and time. The draft of the stove forces all the heat upward to the top of the heater-chimneys and their casings. No part of the stove or any oven or boiler or article desired to be heated can be so heated, except it be placed over the flame of the burning oil.

It is apparent that were all the cold air of the stove-draft permitted to surround the chimneys and pass between the article to be heated and the flame but little heat would be left for use. For this reason, and to prevent action on the oil-flame itself, the sheet-iron casings B B are provided, in combination with the movable sheet-iron bands marked C C, fitted to the said casings, so as to move with but little friction, as the springs marked II adjust them to the article to be heated.

In fitting the heaters to any stove, if the wick-tubes are not brought under the desired spot, a casing slightly slanting may, as shown in Fig. 2, be used instead of a straight one.

As the fire-box and ash-basins of stoves vary in shape, the form of the oil-reservoirs must vary to accommodate themselves to use in such stoves, and I do not confine myself to such construction of form as would exclude them from use in any ordinary coal range or stove, an essential feature of my invention being that they are made to fit both sides of a stove-grate when it is turned from a horizontal to a vertical position, and that by occupying both the ash-basin and fire-box I obtain the room necessary for reservoirs of sufficient size to hold the oil and have left for the chimneys sufficient height to obtain a bright, clear flame of great heat, and free from smoke.

The air-tubes *g g* from the top of the oil-reservoirs pass slightly upward, to prevent the spilling of the oil through them, then downward at the ends to the bottom of the reservoirs, where they enter the air-chambers *h h* a few inches only, so that any evaporation of oil occuring is carried away from the oil-flame and heat and discharged in the air-chamber *h h* and dissipated by the stove-draft. The tubes enter the reservoir at the top sufficiently only to permit a secure fastening and have at each inner end a perforated sheet-metal plate, and perform the office of rendering the lamps non-explosive by permitting the expansion without bursting required in case of any accidental firing of the oil. The air-chambers *h h* keep a current of air between the oil-reservoirs and the ash-basin bottom. The two reservoirs are held together by the handle *f*, shown in Fig. 7. It has sufficient spring to permit the movement of the reservoirs toward or from each other for their adjustment on each side of the stove-grate.

I am aware that in stoves from which the grate is removable a single oil-reservoir can be used, and possibly in some stoves there may be found sufficient height to set such a reservoir upon the grate, but the removal of a grate is inconvenient and attended by the scattering of more or less ashes, and a single reservoir, being necessarily of a broader form, presents a greater surface to the heat of the oil-flame than those placed each side of the grate, which, while they present but a small part of their surface to the heat, present an exceedingly large part to the cooling action of the stove-draft.

The movable sheet-iron bands C C adjust themselves to the "setting-in" depth of any vessel placed over them, and are so fitted to the stove that they cannot rise higher than the under side of the stove-covers. If pressed downward to their full extent the casings being always made higher than the chimney-tops, the chimneys cannot be choked, and as the movable bands always prevent an opening no gusts of air blowing down the chimney and stove-pipe can reach the oil-flame.

The casings, chimneys, and movable band, being in one piece, can be easily moved when heated by a pair of tongs simply constructed to grasp them.

Where additional room is required for the top of the vertically-turned grate the bottoms of the casings B B can be formed upward into a recess between the chimneys, the rods *d d* and springs I I having the same relative position at a higher point.

If desired, the substitution of a pinion for the button at the end of the shank by which each wick is adjusted, operated upon by another pinion whose axis is at right angles with the first, and extending upward to the desired height, one to each wick-tube, will permit the control of the wicks without removing the casings B B from their place.

A tight screw-cap covering the opening for filling is placed near the junction of the reservoirs and handle.

Heat for a room can be obtained by placing over the oil-flame any flue-drum attachment.

To my heater, as above arranged and described, I give the name of "stove-lamp."

I am aware that prior to my invention air-tubes and air-chambers have been used. I do not, therefore, claim the air-tubes J J and the air-chambers *h h*, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The oil-reservoirs A A, shaped, joined, and arranged, as shown, to embrace the vertically-arranged grate, substantially as described and set forth.

2. The spring-handle *f*, in combination with the reservoirs A A, constructed and arranged as shown and set forth.

3. The combination of the casings B B and movable sheet-iron bands C C, the springs I I, the rods *d d*, and the tubes J J, arranged and operating substantially for the purpose hereinbefore described.

JARED S. ROWLAND.

Witnesses:
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WM. T. BRUSH.