2 Sheets—Sheet 1.

S. D. BALDWIN.

Coal-Oil Stove.

No. 199,952. **Patented Feb. 5, 1878.**

Fig. 1.

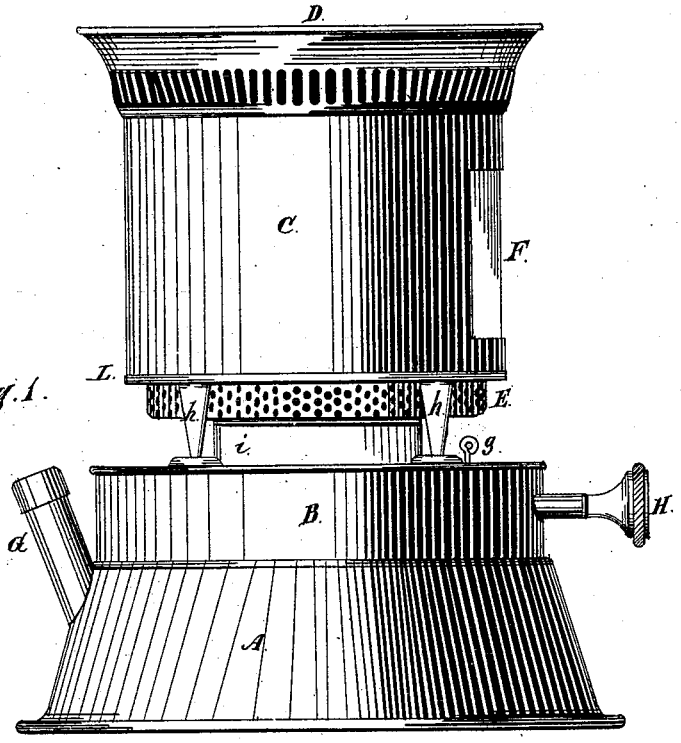
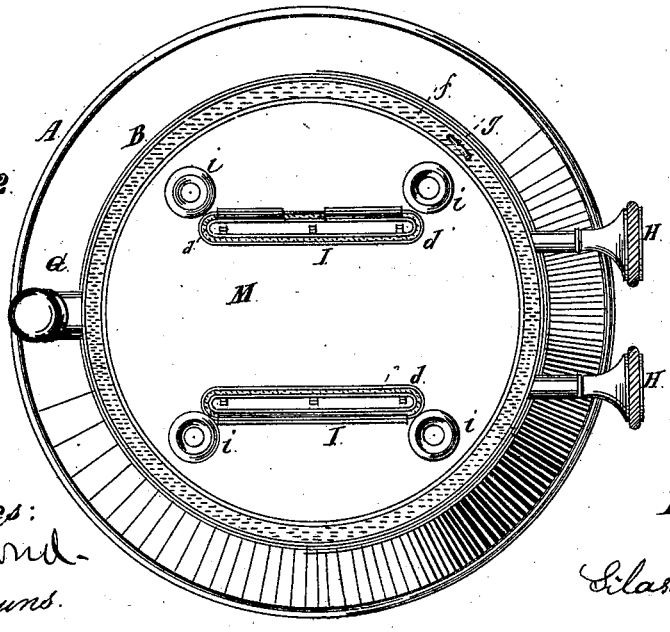


Fig. 2.



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H. F. Bruns.

Inventor:
Silas D. Baldwin

2 Sheets—Sheet 2.

S. D. BALDWIN.

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Fig. 3.

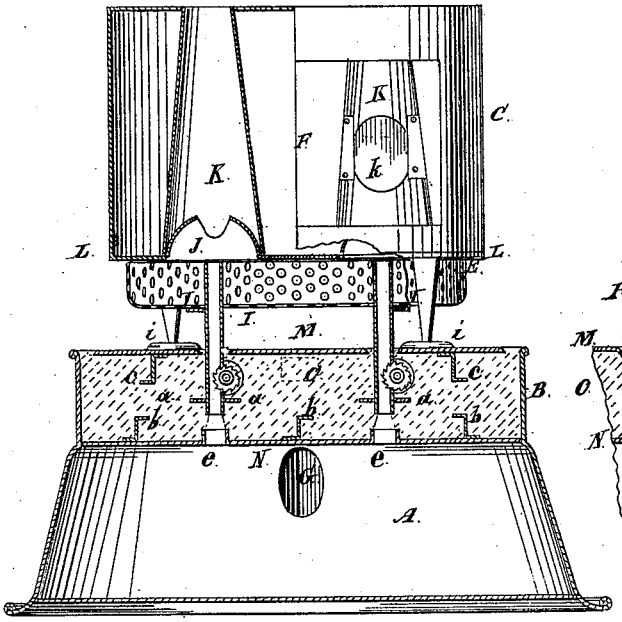


Fig. 4.

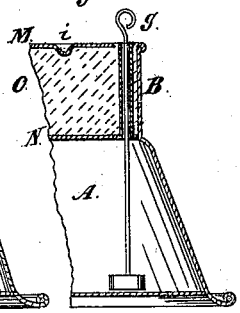


Fig. 6.

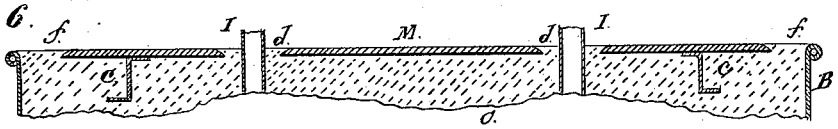
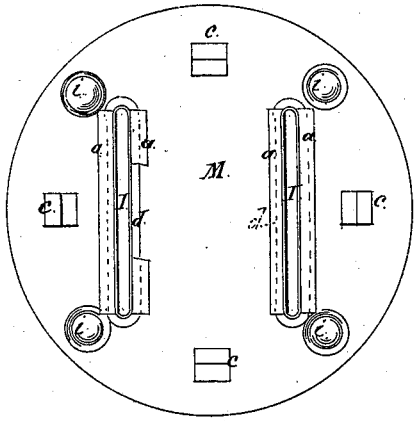


Fig. 5.



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Inventor:

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UNITED STATES PATENT OFFICE.

SILAS D. BALDWIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN COAL-OIL STOVES.

Specification forming part of Letters Patent No. **199,952**, dated February 5, 1878; application filed May 31, 1877.

To all whom it may concern:

Be it known that I, SILAS D. BALDWIN, of the city of Chicago, Cook county, State of Illinois, have invented new and useful Improvements in Coal-Oil Stoves, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation or view; Fig. 2, a plan view of the base; Fig. 3, a vertical section of the base and a partial section of the upper section; Fig. 4, a detail, showing the indicating-float; Fig. 5, a plan view of the top plate of the base; and Fig. 6, a cross-section of the base-top.

The object of this invention is to sever the metallic connection between the upper section or part of an oil-stove, which becomes heated in use, and the lower section or base which contains the oil, so as to prevent any undue heating of the base or such part thereof as is used for holding oil, and also to improve the general construction of such stoves.

Its nature consists in interposing a non-conducting cement, composition, or material between the top plate of the oil-reservoir and the supporting-plate upon which the upper section rests; in connecting these two plates permanently together by hooks or projections passing partly through the intervening material; in obviating the metallic connection of the wick-tubes; in providing a non-conducting space between the supporting-plate and the exterior band of the base; in resting or supporting the upper section loosely upon the lower; and in the improved combinations of parts hereinafter more fully described.

In the drawings, A represents that portion of the base that is used for holding oil, which may be surmounted by a flange or band, or not, as desired; B, the portion of the base containing the non-conducting material; C, the case of the upper section; D, the cap or top; E, a perforated plate, turned up at the border to form an air-chamber around the burner or burners, to prevent unsteady currents of air from causing the burners or flame to flicker or smoke; F, an isinglass plate, permitting an inspection of the interior of the upper section; G, tube or opening for filling the reservoir; H, wick-ratchets; I, wick-tubes; J, cones or guides for conducting air to the flame; K, draft-chimneys or heat-conductors; L, base-plate of the upper section; M, supporting or upper plate of the base; N, partition-plate or top plate of the oil-chamber; O, non-conducting composition, cement, or material interspersed between the plates M and N; *a*, base flanges or projections of the wick-tubes; *b*, hooks, angle-irons, or buttons for connecting the cement with the plate N; *c*, similar devices for connecting the cement with the plate M; *d*, cement-spaces or open spaces between the wick-tubes and the plate M; *e*, partly-lined openings in the cement and through the plate N for the passage of the wicks; *f*, cement-space between the periphery or outer boundary of the plate M and the band B; *g*, a float in the oil-chamber, having a stem projecting through the top coverings to indicate the quantity or height of the oil in the chamber; *h*, legs of the upper section; *i*, sockets or recesses in plate M, for locating the legs *h* and preventing them from slipping; and *k*, isinglass or mica openings in chimneys.

The stove, as shown, is circular in cross-section; but it may be made oval, square, round-cornered, or of other suitable form, and it may be made of cast or sheet metal, or partly of each, as shall be found most convenient in manufacturing. It is made of any desired size suitable for one, two, three, or more burners, though I do not recommend more than three burners for ordinary use.

The case C is made about in the proportion shown, and the top D may be provided with slits, as shown, or its upper edge may be provided with projections or points in the usual manner.

The cones or air-guides J may be made a part of the plate L, or be separately made and attached thereto; and the plate L is provided with flanges or projections for supporting the case C and the chimneys K in place in the usual manner. Legs *h* are attached by suitable means to the plate L, and are of sufficient length to give the required space between the plates L and M. They are made of such shape as may be most desirable, the ends resting in the depressions or sockets in the plate M, so that in case of any necessity the upper and lower parts can be instantly separated, whether hot or cold.

The band B of the base may be an upward

projection of the walls of the oil-chamber, or it may be an independent band attached thereto. The plate or partition N forms the top of the oil-chamber and the bottom of the cement section, and it is provided with openings *e*, partly lined, as shown at Fig. 3, for the passage of the wicks to the oil, and its upper surface is provided with a suitable number of hooks, *b*, to insure the adherence of the cement O. These hooks *b* may be made, in the form shown, of bent strips of sheet metal or pieces of wire, or they may be made with heads, like trunk-nails or rivet-blanks, their purpose being to secure a permanent adhesion and contact of the cement to and with the plate.

The hooks *c* are made in the same way and applied to the under surface of the plate M for the same purpose. The plate M is made less in diameter than the band B, so as to leave a space, *f*, between them for the prevention of metal contact between them. The openings *d* are larger than the wick-tubes, so as to prevent metal contact of the wick-tubes with the plates M. Their sides are turned out at *a* and embedded in the cement O, by which they are firmly held in position. The perforated metal plate E, as shown, is held in place by ledges or projections on the side or sides of the wick-tubes; but it may be attached to plate L or to the legs *h*, or may be supported upon uprights rising from the plate M, as may be found most convenient in manufacture.

The non-conducting cement or composition O is applied in a plastic condition, and it soon hardens.

The chimneys K are made of metal, and are provided with isinglass-covered openings *k*. The isinglass is applied to the outside by means of projecting strips, so that it can be readily removed or cleaned. The openings *k* are on the same side as the isinglass or mica F, so that the condition of the combustion may be observed or light emitted without leaving uncovered openings for the escape of heat or the heated products of combustion.

If desired, the upper and lower sections may be hinged, so that the upper part may turn to one side instead of being wholly removed.

It will be apparent that the various parts of these improvements may be beneficially employed without using all of them.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plate M, having a less diameter than the outer band, in combination with the non-conducting filling O, and arranged in the manner described, to leave a space between the outer band and the plate, substantially as specified.

2. The hooks or holders *c b*, in combination with the plates M and N and cement O, for holding the parts together and in position, substantially as described.

3. The wick-tube I, having its lower end terminating within and supported by the cement or filling O, in combination with the wick-opening *e*, substantially as set forth.

4. The combination of the plate M, wick-tubes I, with the cement O, band B, and plate N, all arranged as described, to prevent metallic connection with the oil-reservoir, substantially as specified.

5. The cement-spaces *d* around the wick-tubes in plate M, substantially as and for the purpose described.

6. In an oil-stove, the combination, with the base A, of a non-conducting material, arranged in the manner described, to prevent metallic connection of the parts subjected to heat with those containing the liquid fuel or oil, to prevent the transmission of heat to the oil by conduction, substantially as specified.

SILAS D. BALDWIN.

Witnesses:
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H. F. BRUNS.