J. McG. ADAMS.

Coal-Oil Stove.

No. 221,206. Patented Nov. 4, 1879.

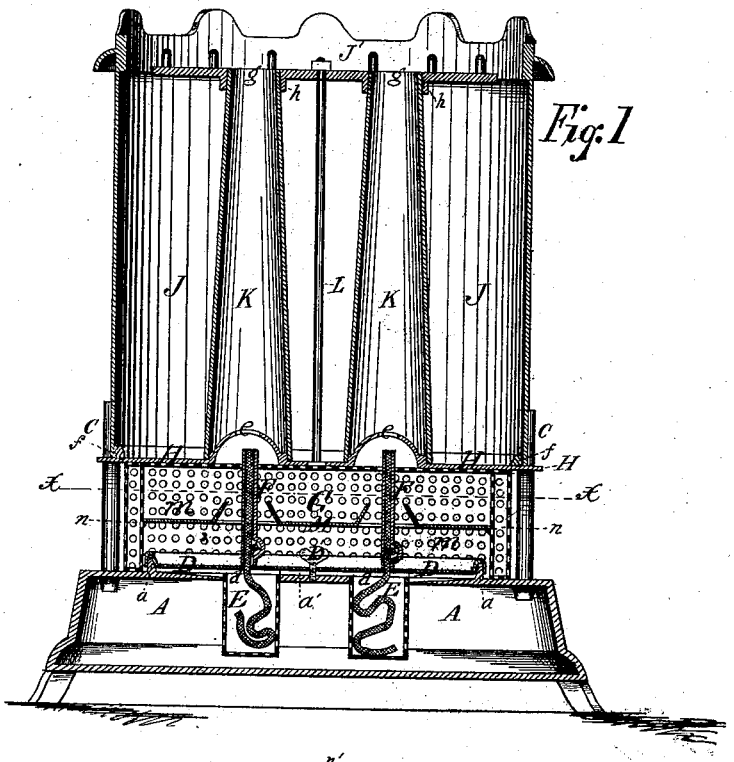

Fig. 1

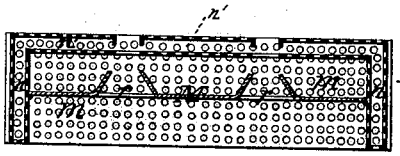

Fig. 2

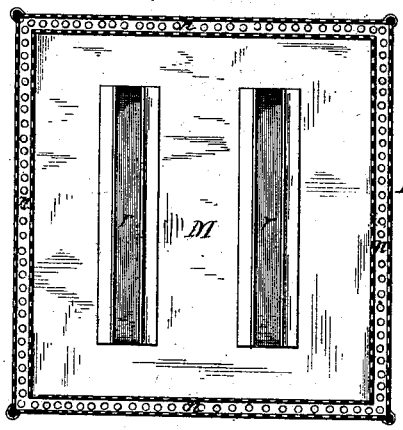

Fig. 3

Witnesses

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J. McGREGOR ADAMS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN COAL-OIL STOVES.

Specification forming part of Letters Patent No. **221,206**, dated November 4, 1879; application filed April 15, 1878.

To all whom it may concern:

Be it known that I, J. McGREGOR ADAMS, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Coal-Oil Stoves; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical transverse section of a coil-oil stove embodying my said invention. Fig. 2 represents a vertical transverse section of the air-strainer detached; and Fig. 3 represents a sectional plan of the same, taken on the line *x x*, drawn across Fig. 1.

Like letters of reference indicate like parts.

My invention relates to that class of coal-oil stoves designed more especially for the purpose of cooking; and the object of my invention is to improve the construction of such stoves, so as to produce a more steady and uniform flame, and thereby increase the intensity of the heat.

To that end my invention consists in the arrangement of the air-strainer and deflecting-plate, as hereinafter described and claimed.

In the drawings, A represents the oil-reservoir, which may be made of any suitable metal, but preferably of cast-iron, and in any suitable form that will receive and support the superstructure constituting the stove proper.

C C represent metal columns, one of which is secured to each corner of the reservoir A, and so as to extend upward therefrom, as shown in Fig. 1.

D represents a sheet-metal plate, which is supported upon an upward-projecting rib or flange, *a*, formed upon the upper surface of the reservoir, and so as to leave a slight space between the lower surface of the plate and upper surface of the reservoir, as shown at *a'*.

D' is a thumb-screw which passes downward through the center of the plate D into the upper wall of the reservoir, so as to hold the plate upon the rib or flange *a*, and so as to allow the plate to be removed by loosening the screw. The general construction of the plate D is substantially the same as that shown in Letters Patent granted to me on the 3d of September, 1878, No. 207,637; but instead of extending outwardly, as in that patent, and forming connection with the columns passing loosely through it, said plate is turned over at the periphery, and, as shown in Fig. 1, rests upon the flange *a*, being held to the base of the stove by the thumb-screw D'.

E E are receptacles which are formed of fine wire-cloth or finely-perforated sheet metal, and are permanently attached to the upper wall of the reservoir, and extend downward to a point near the bottom of the reservoir, as shown in Fig. 1. The upper wall of the reservoir is provided with openings *d d*, which communicate with the interior of the receptacles.

F F are the wick-tubes, which are permanently secured to the plate D centrally over the openings *d d*, respectively, and so as to allow the wicks to pass loosely through said openings into the respective receptacles.

G represents the air-strainer, which is loosely fitted upon the upper surface of the oil-reservoir around the rib or flange *a*, and extending upward to a point slightly below the upper end of the wick-tubes.

H represents the cone-plate, which is provided at each corner with an opening through which one of the columns C loosely passes, and is so arranged as to rest upon the walls of the strainer G, as shown in Fig. 1, and is provided with deflecting-cones *e e*, arranged centrally over the wick-tubes.

J is an annular sheet-metal jacket, which rests upon the cone-plate, and is held in place thereon by an annular rib, *f*, formed on the upper surface of the plate, and so as to fit into the lower end of the jacket. J' is a cast-metal cap, which is fitted upon the upper end of the jacket J, and upon which the cooking utensils are supported. This cap is provided with openings *g g*, formed through the same centrally over the deflecting-cones *e e*.

K K are the chimneys, which are arranged between the plate H and cap J' centrally over the respective cones, and are held in place at the lower end by fitting against and around the outer surface of the cones, and at the upper end by passing into the respective openings in the cap, or around depending flanges *h h* formed around said openings.

L is a vertical screw-bolt, which passes through the plate and cap centrally between the chimneys, and so as to firmly connect the plate, cap, jacket, and chimneys together, and so that the latter can be removed from over the reservoir when desired. The air-strainer G is so arranged as to form an air-chamber, *m*, between the lower surface of the plate H and the upper surface of the reservoir, and the walls of the air-strainer are made of two thicknesses of finely-perforated sheet metal, located a slight distance apart, so as to leave an air-space, *n*, between them, as shown in each of the several figures of the drawings, and through which space the air to feed the flame passes into the chamber *m*. The upper wall of the air-strainer is also made of perforated sheet metal, and is so arranged as to bear against the lower surface of the plate H, as shown in Fig. 1, and so that the air to feed the flame passes from the chamber *m*, through the said upper wall, into the deflecting-cones *c c*, and the said upper wall may be made of two thicknesses of metal located a slight distance apart, so as to form an air-space, *n'*, between them, as shown in Fig. 2. The object of this construction of the air-strainer is to cause a steady and uniform supply of air to pass into the air-chamber and to prevent any sudden or unsteady currents of air from coming in contact with the flame, which would tend to flare the same.

M is a deflecting-plate, which is located within the air-strainer at a point near the center thereof, as shown in Figs. 1 and 2, and is provided with openings *r r*, through which the wick-tubes loosely pass. The arrangement of this plate is such as to cause the cold air in the chamber *m* below the plate to pass upward through the openings *r r* around and in contact with the wick-tubes, thus preventing the tubes from heating, while at the same time the plate prevents the heat from the flame from coming in contact with the upper surface of the reservoir.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The oil-reservoir A, in combination with the cone-plate H, arranged above the top of the reservoir, and the perforated sheet-metal plates arranged a slight distance apart, and between the top of the reservoir and the cone-plate, so as to form a double-walled air-chamber about the wick-tubes, substantially as and for the purpose set forth.

2. The perforated plates arranged between the top of the oil-reservoir and the cone-plate to form an air-chamber, in combination with the wick-tubes and the deflecting-plate M, arranged about midway between the reservoir and cone-plate, and provided with slots *r* for the wick-tubes and for the passage of air, substantially as and for the purpose set forth.

3. An oil-reservoir, A, provided with a protecting-top, in combination with a loose supplementary plate, D, to which the wick-tubes are attached, and a thumb-screw, D', by which the plate is secured to the top of the oil-reservoir, substantially as described.

4. The supplementary plate D, to which the wick-tubes are attached, adapted to rest upon the flange *a*, in combination with the oil-reservoir A, provided with openings *d* in the top thereof corresponding in size to the wick-receptacles, and the wick-receptacles E, arranged within the oil-reservoir and attached to the top thereof immediately underneath the openings *d*, substantially as described.

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Witnesses:
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