2 Sheets--Sheet 1.

J. H. THORP.

Coal-Oil Stoves.

No. 140,743. Patented July 8, 1873.

FIG. 1.

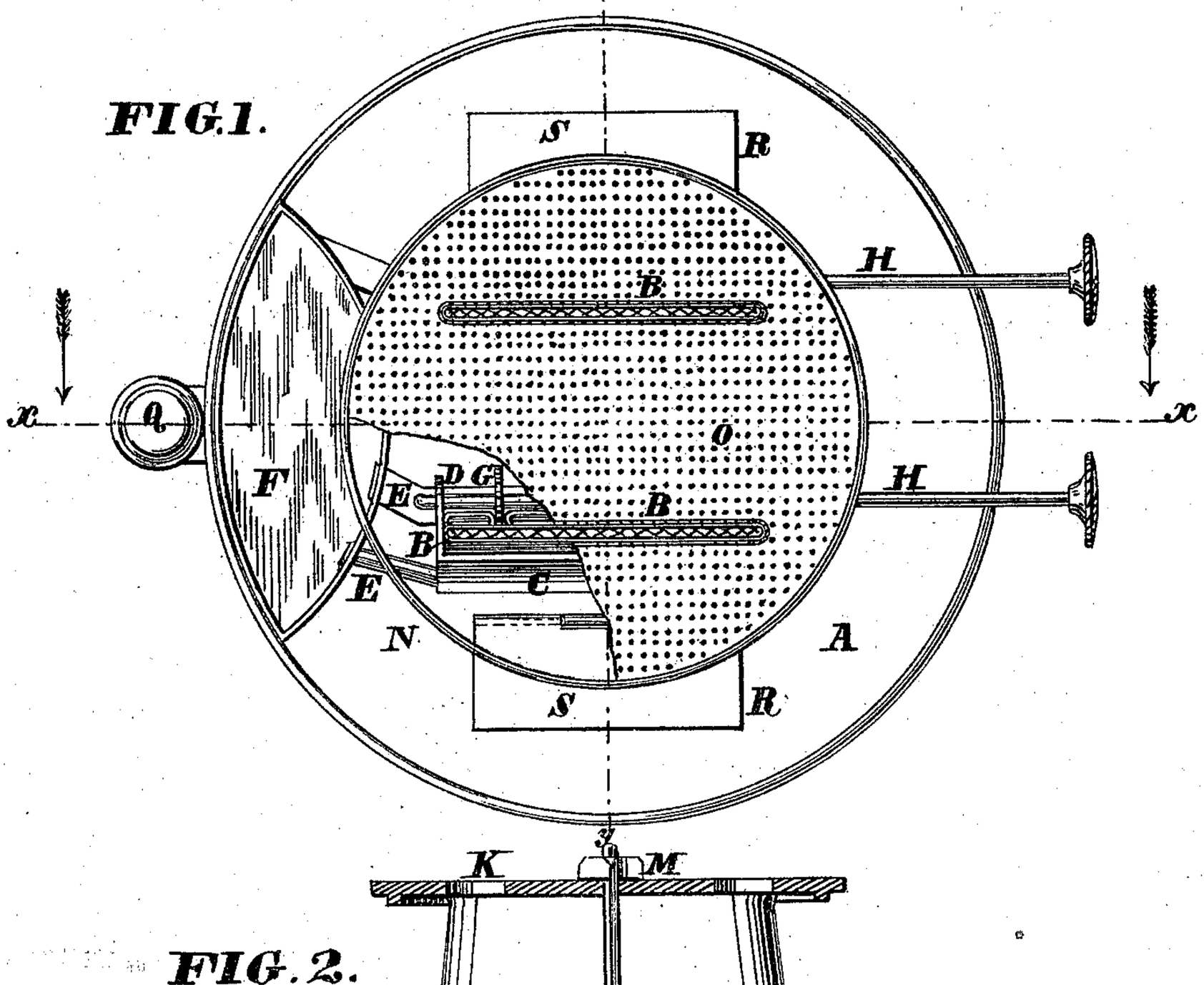
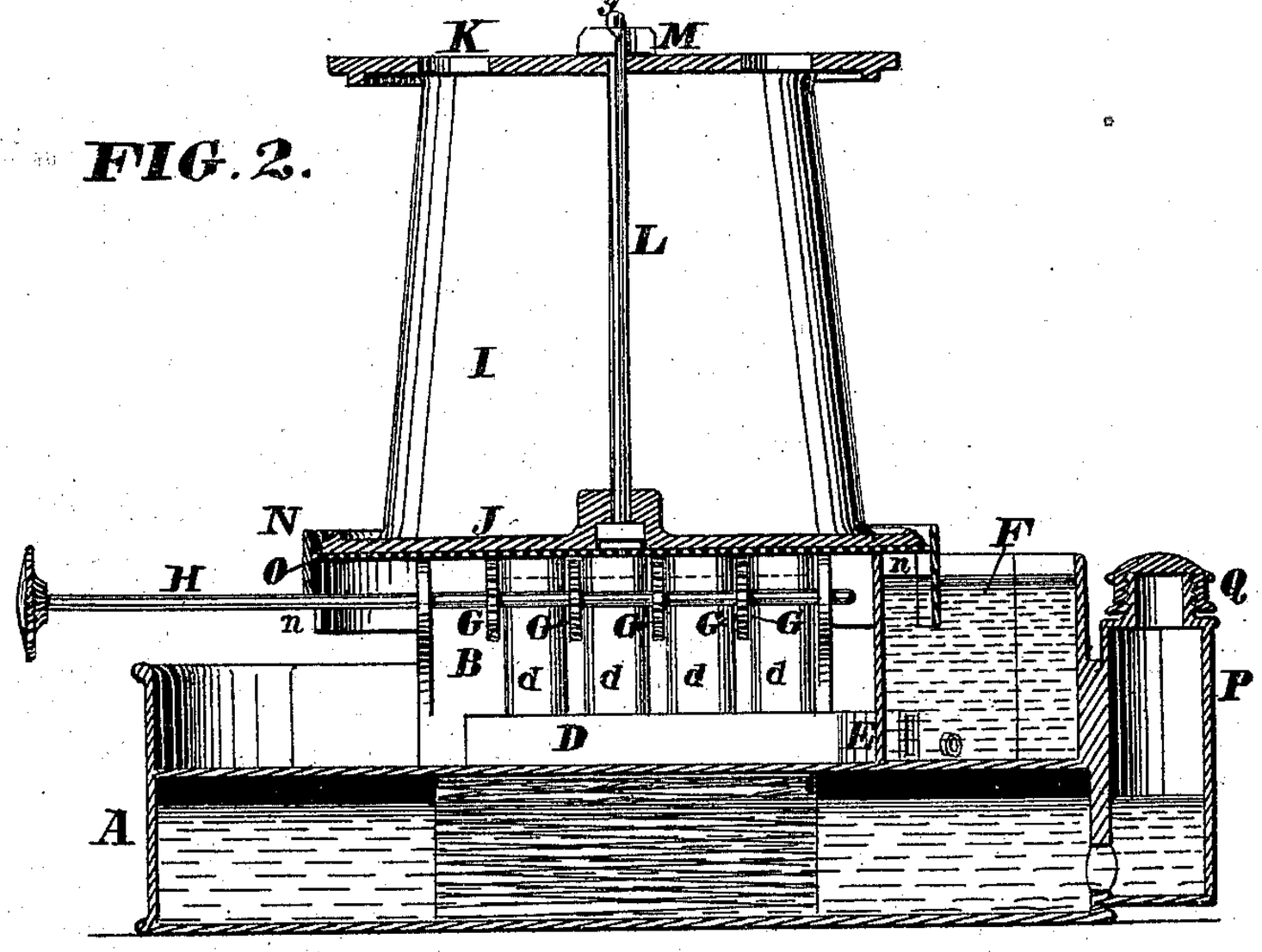


FIG. 2.



WITNESSES:
Jas. L. Ewin
Walter Allen

INVENTOR:
James Henry Thorp
By Knight Bros Attorneys.

2 Sheets--Sheet 2.

J. H. THORP.

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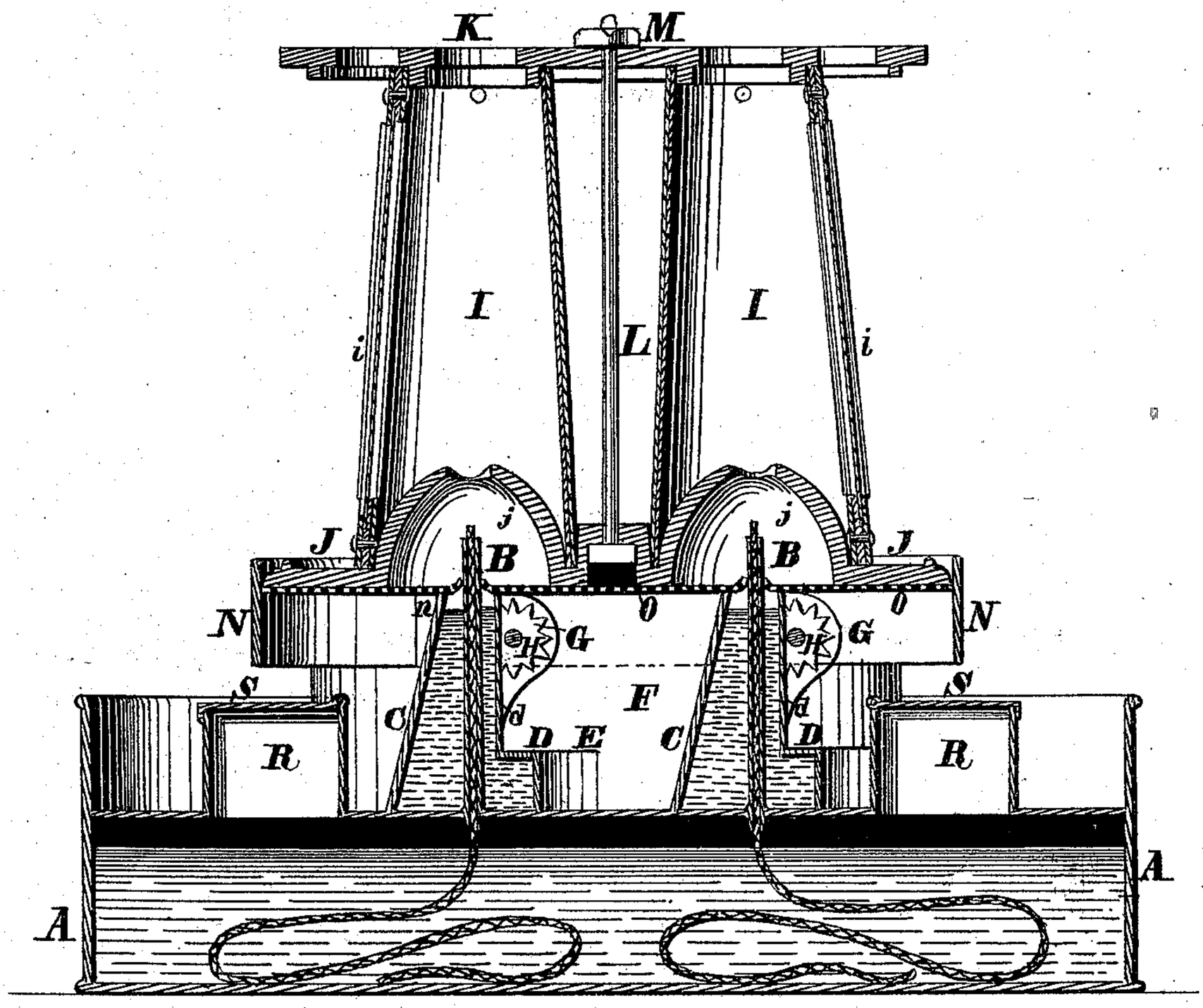
FIG. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

JAMES H. THORP, OF NEW YORK, N. Y.

IMPROVEMENT IN COAL-OIL STOVES.

Specification forming part of Letters Patent No. **140,743**, dated July 8, 1873; application filed April 30, 1873.

To all whom it may concern:

Be it known that I, JAMES HENRY THORP, of the city, county, and State of New York, have invented certain Improvements in Coal-Oil Stoves, of which the following is a specification:

My invention relates, in part, to improved devices for applying water to prevent the overheating of the wick-tubes. This is effected, without the use of water-wicks, by flanking the wick-tubes of the burner on both sides with water-chambers extending nearly to the top of said tubes, and communicating at bottom, by means of pipes, with a main water-reservoir, which also extends to a sufficient height to keep it at the proper level within the aforesaid cooling-chambers. My invention further relates to a mode of supporting the lamp-chimneys upon a perforated guard-plate resting on the wick-jackets, and surrounded by a rim or hoop, which forms a neat finish, and, further, assists in keeping the connected chimneys in place.

In the accompanying drawing, Figure 1 is a plan view of my improved oil-stove with the chimney removed. Fig. 2 is a vertical section of the stove, including the chimney, the line *x x*, Fig. 1, indicating the plane of section. Fig. 3 is a vertical section of the same on the line *y y*, Fig. 1.

From the base A of the lamp constituting the oil-reservoir rise the wick-tubes B, on each side of which are water-chambers C and D rising nearly to the top of the wick-tubes, and communicating, through horizontal pipes or ducts E, with the water-reservoir F. In order to accommodate the toothed wheels G, which are attached to the longitudinal shafts H, and project into the wick-tube B for the purpose of elevating and lowering the wick, the water-chamber D on the side of the wick-tubes to which the elevator is applied are separated toward their upper ends, taking the form of flat tubes *d'*, each occupying the intervening space between the adjacent elevator-wheels. Pieces of pasteboard may, if desired, be introduced into the water-chambers C and D of sufficient thickness to prevent water slopping over on the oil-wicks in moving the lamp. The chimney is preferably formed of sheet-iron tubes I, with mica windows *i*, fitted at their lower ends to the cast-iron deflector-plate J, the deflecting "cones" *j* of which are elongated to adapt them to the long wick-tubes. The upper ends of the chimneys are fitted to a cast perforated plate, K, and the whole secured together by a bolt, L, and nut M. The base-plate J of the chimney rests on a perforated safety-plate, O, supported by the wick-jackets C D, and surrounded by a hoop or rim, N, which rests at one side on the wall of the water-reservoir F, and at the other on the elevator-shafts H. The said hoop forms a neat finish, and assists in keeping the chimney in place. This mode of supporting the chimney enables me to dispense with legs resting on the deck of the lamp or stove. Notches *n* are formed in the lower edge of the hoop N to adapt it to fit over the elevator-shafts and over the edge of the water-reservoir.

In addition to the customary feeding-opening P, through which the reservoir A is supplied with oil, and which is closed by a screw-cap, Q, domes R, rising from the deck of the lamp and covered by hinged lids S, are especially provided to give access to the wicks T within the reservoir, which sometimes is necessary—as, for example, if the wicks become foul, or if they are turned too low, and so escape from the elevator-wheels. The hinged lids also serve a useful purpose as safety-valves in the event of the oil in the reservoir becoming heated so as to generate gas, which, when confined, produces pressure and endangers explosion.

Among the advantages of my improvements may be mentioned the following: The water-reservoir extends to a sufficient height above the rim of the lamp to admit of keeping the water in the chambers C and D nearly on the level of the tops of the wick-tubes, causing a greater evaporation of water, the vapor coming in direct contact with the flames, thereby intensifying the heat, producing more perfect combustion, and preventing odor. The peculiar construction of the water-tanks prevents any oil which may be accidentally spilled from being carried up by the water so as to cause smoke or smell. Movable legs resting on the deck of the lamp, and employed to support the chimney, are objectionable on account of causing rust, and consequent leakage. These dif-

ficulties are entirely obviated by my mode of supporting the chimney. The entire stove is cleanly and simple in its operation, and can be safely and conveniently used, even by parties not familiar with the working of oil-stoves.

The following is claimed as new:

1. The water-chambers C and D, conducting-pipes E, and reservoir F, all combined and arranged to operate as described.

2. The chimney I, supported on the perforated guard-plate O, in combination with the rim or hoop N, substantially as and for the purposes specified.

JAMES HENRY THORP.

Witnesses:

RUSSEL T. COE,

SAMUEL W. TILLOTSON.