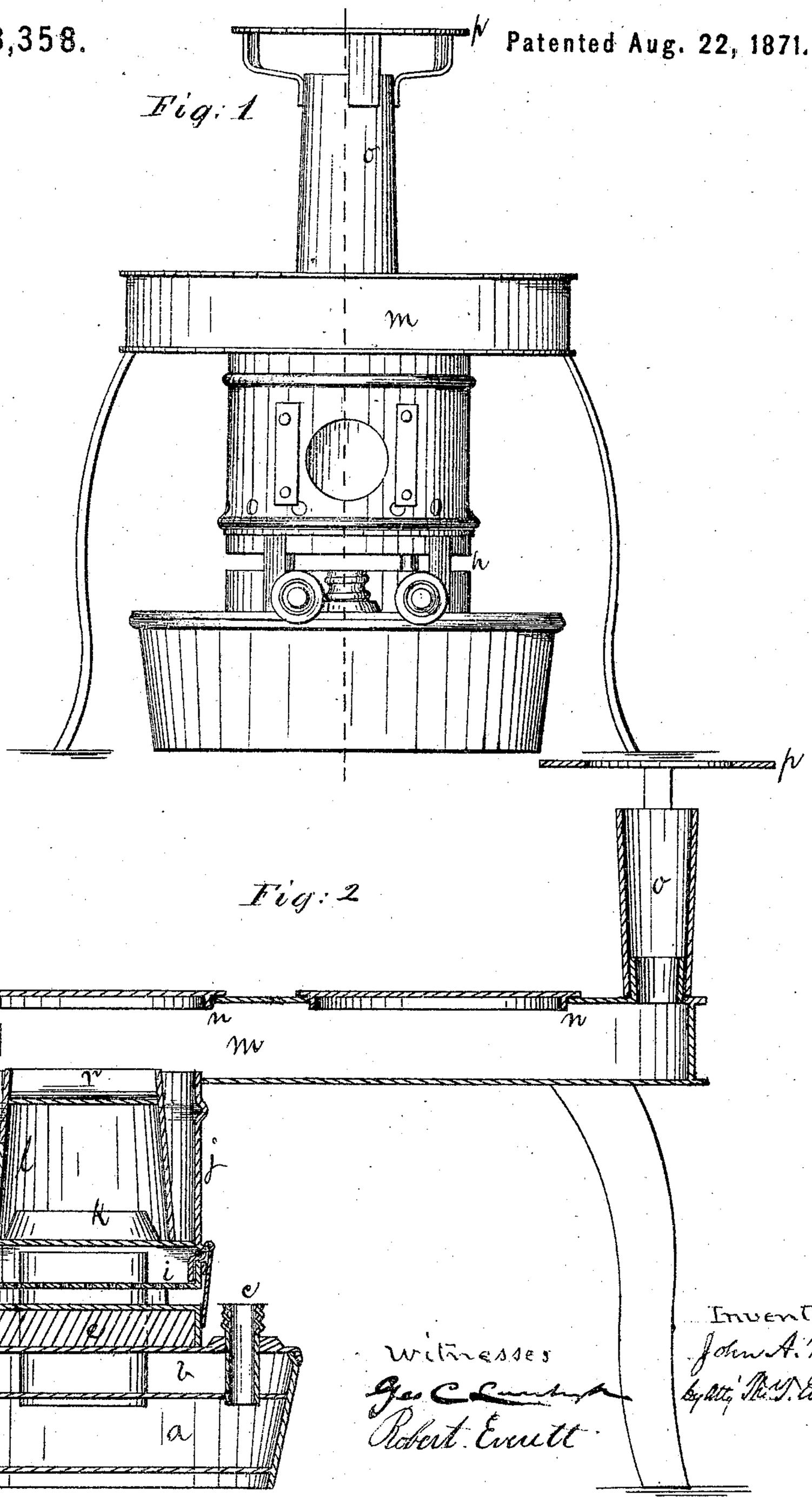
JOHN A. FREY. 2 Sheets--Sheet 1.

Improvement in Coal Oil Stoves.

No. 118,358. Patented Aug. 22, 1871.

Fig. 1



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JOHN A. FREY. 2 Sheets--Sheet 2.

Improvement in Coal Oil Stoves.

No. 118,358. Patented Aug. 22, 1871.

Fig: 3

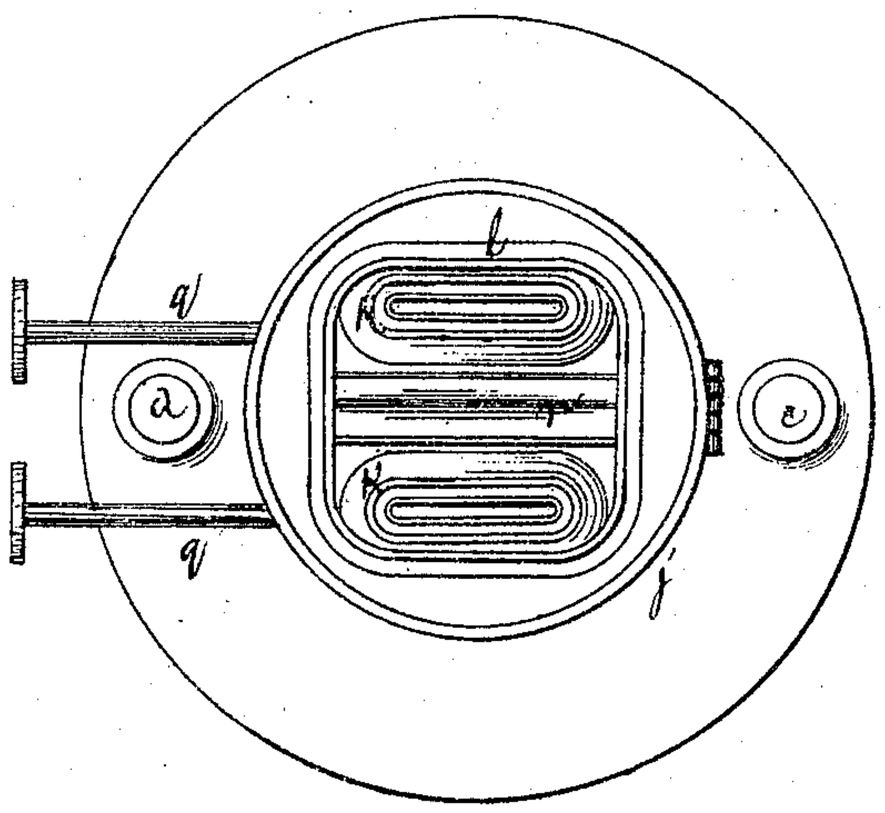
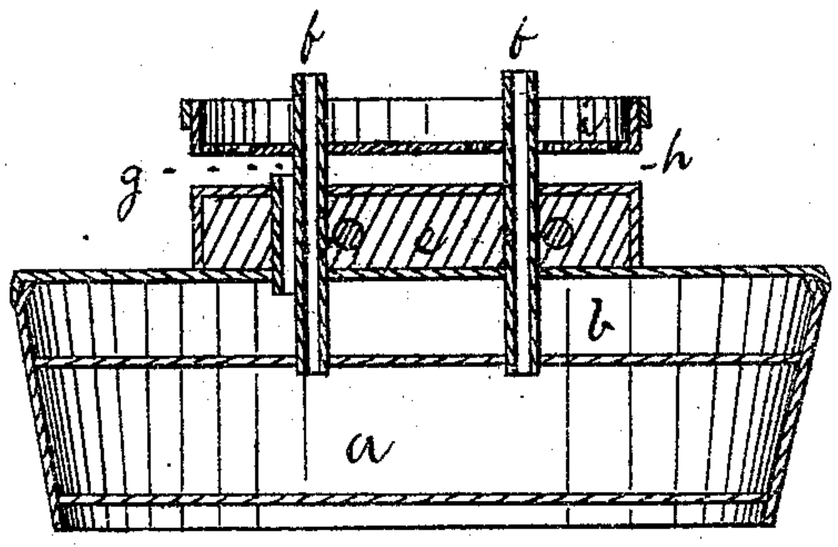


Fig: 4



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118,358

UNITED STATES PATENT OFFICE.

JOHN A. FREY, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR TO HIMSELF, S. A. H. MARKS, AND JOHN F. WALKER.

IMPROVEMENT IN COAL-OIL STOVES.

Specification forming part of Letters Patent No. 118,358, dated August 22, 1871.

To all whom it may concern:

Be it known that I, JOHN A. FREY, of the city of Washington, in the District of Columbia, have invented certain Improvements on Coal-Oil Stoves, of which the following is a specification:

My invention relates to that class of stoves specially adapted to burning natural coal-oil or any of its derivatives as the fuel, and is intended to be used as a portable stove, it being so constructed and arranged as to require but a small space whereon to place it, and is in every respect a safe, convenient, and economical stove.

The drawing accompanying this specification represents my invention, and shows, by Figure 1, a front view of the stove; Fig. 2 being a view, by section, on the dotted line of Fig. 1; Fig. 3 being a top view of the heating portion of the stove detached from the other part; and Fig. 4 being a view, by vertical section, of the heating parts of the stove with the chimney turned off or removed.

The different parts are indicated by the following letters: *a* indicates the oil-chamber; *b*, a water-chamber; *c*, the filling-tube to the oil-chamber; *d*, the tube to the water-chamber; *e*, the cement-chamber; *f*, the wick-tubes; *g*, a water-tube or space; *h*, an air-space between the upper plate of the cement-chamber and a perforated plate, *i*; *j*, the chimney, with the cones *k* and *l*; and *m*, that part of the stove having pot-holes *n* and a flue, *o*, with a seat, *p*, for a heater or plate-warmer. Several parts or pieces of this stove may be made of cast metal, as, for instance, the part *m*, which may be cast as one piece; but the whole can be made of sheet metal. The part *m* can readily be detached from the lamp or heating part with the chimney *j*, as the chimney will fit into the hole of the bottom plate of the part *m* as a pipe fits into a socket. This will allow of the separating of the parts for the more convenient packing or carrying of them, and for filling or lighting of the lamp. The construction and arrangement of the lamp or heating part insure perfect safety in the use of the liquid fuels, as the cement-chamber and water-chamber between the flame and the oil-chamber entirely prevent any communication of heat to the oil-chamber. The wick-elevators *q*, it will be noticed, are surrounded by the cement, thus preventing any escape of vapor from the fluid in the fuel-chamber along the track of the elevators, and aiding to keep the wick-tubes cool. In the water-space *g* a wick will be placed so as to conduct water from the water-chamber up to the side of the wick-tubes, and thus aid in cooling the base of the wick-tubes. These tubes are, therefore, fully protected by the cement and water. The arrangement of the cones *k* and *l* with the disseminator *r* gives the proper direction to the flame and heat, and prevents the heating up of the chimney *j*, which would be apt to occur if the cones *k* were used without *l*, or if *l* were short and had not the directing-plate *r*. While the perforated plate *i* allows the air to pass up from the air-space *h*, it also serves to prevent the passage of the flame downward and toward the oil-chamber.

What I claim as my invention is—

1. The cement-chamber *e*, inclosing the wick-elevators, in combination with the water-chamber *b* and fuel-chamber *a*, when arranged in relation to the wick-tubes and perforated plate *i*, as herein recited.

2. The arrangement of the cones *k* and *l*, having the disseminator *r*, and surrounded by the chimney *j*, as set forth.

3. The combination of the oil, water, and cement-chambers, and the cones *k* and *l*, disseminator *r*, chimney *j*, and perforated plate *i* with the part *m*, as described.

This specification signed this 11th day of July, 1871.

JOHN A. FREY.

Witnesses:

THOS. T. EVERETT,

ROBERT EVERETT.