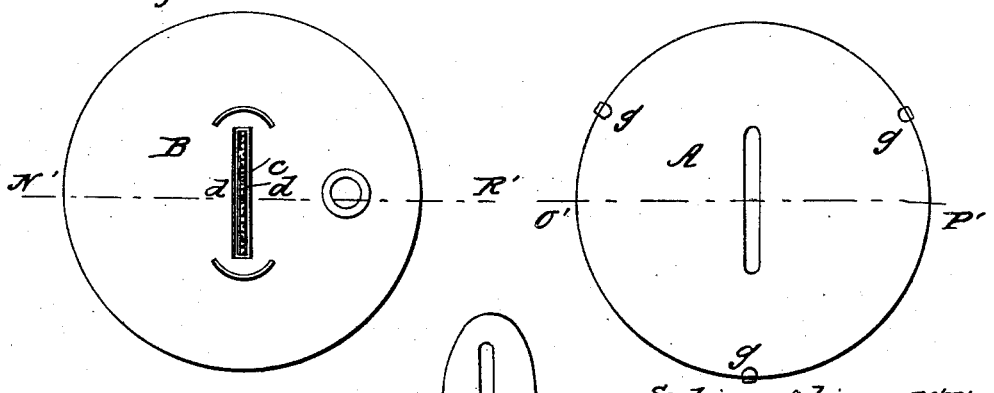
W. B. BILLINGS.

Coal Oil Lamp for Cooking Purposes.

No. 50,892. Patented Nov. 14, 1865.

Fig. 1.



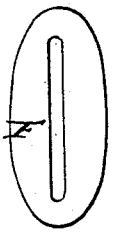
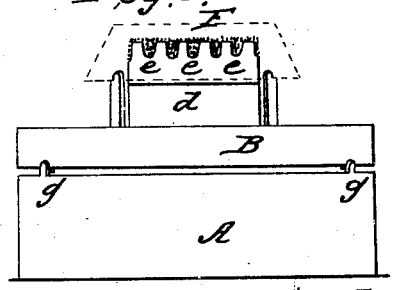


Fig. 3.



Sections on lines N'R' C'P:

Fig. 4.

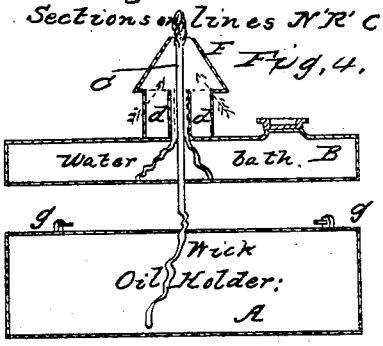
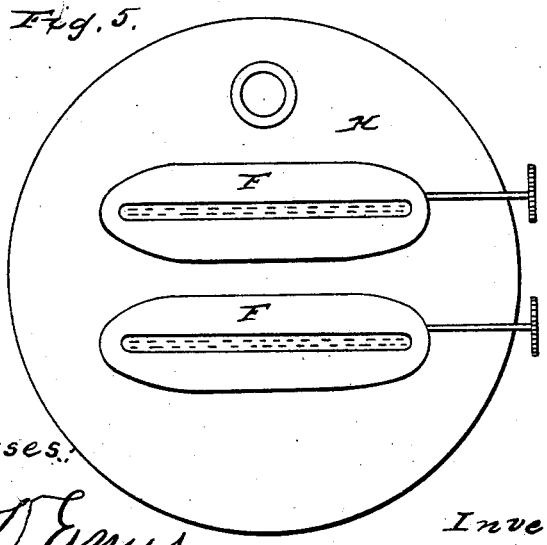


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM B. BILLINGS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COAL-OIL LAMPS FOR COOKING PURPOSES.

Specification forming part of Letters Patent No. **50,892**, dated November 14, 1865; antedated September 11, 1865.

To all whom it may concern:

Be it known that I, WILLIAM B. BILLINGS, of the city of Brooklyn, county of Kings, State of New York, have invented a new Mode of Constructing Oil-Stoves for Cooking and Heating Purposes; and I do hereby declare that the following is a full and exact description of the same.

The nature of my invention consists in a new and improved mode of constructing oil-stoves for heating and cooking purposes.

One object of my present invention is to produce heat from the petroleum and coal oil now in common use without the aid or assistance of a flue or chimney, or any device which shall produce the necessary air for perfect combustion by induction or impulsion; or, in other words, to construct a lamp and burner which shall operate on the same plan or general theory as the "no-chimney" coal-oil burners now in general use.

There are many oil-stoves now in use with flues or chimneys constructed in a great variety of ways, and my Union Oil-Stove, patented January 17, 1865, although it has no attachment of a flue or chimney, yet the body of the stove acts upon the burner in the same manner as the chimney upon the ordinary burner.

It is plain that if a lamp can be constructed to use the no-chimney burner, it will be much more simple and less expensive than by any other mode. But the great difficulty to be overcome is to prevent the oil from becoming heated; for, if the flame be large enough to give the necessary heat for practical purposes, the oil will become much more heated by using the no-chimney than with the common chimney burner, as the cold air drawn in by the flue or chimney can be so adjusted as to keep the heat in a measure from the oil; but this difficulty I overcome by using a water-bath between the flame and the oil.

To enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and mode of operation, reference being had to the accompanying drawings with the letters of reference marked thereon.

The oil pot or vessel may be made of any shape or size desired, but with large opening in the center of the top for the wick to pass. (See drawing A in drawings annexed.) I then construct another vessel for the water-bath with the same or larger top surface as the oil-vessel, but about half the height or thickness as the oil-holder. In this water-bath vessel the wick-tubes are fastened. (See drawing B.) The wick-tube *c*, which is the oil-tube, passes through the water-bath about half an inch, and of course is surrounded with water. On one or both sides of the wick-tube *c* are wick-tubes which only pass into the water-bath. (See letters *d d*.) These tubes hold a wick which carries the water up the sides of the oil-tube *c* to within about half an inch of the top. By cutting slots or notches in the top of the wick-tube *c* about one-fourth of an inch long (see letters *e e e* in drawing B) and trimming the wick even across the top of the notches the flame will feed itself with oil by burning down the slots, and the wick can remain without cutting or trimming for a long time, as the points between the slots or notches will hold the burned and charred wick from falling off or breaking away, thus keeping the surface or top of the wick level and even.

Another way of holding the charred end of the wick in its place is to use wire-gauze over the end of the wick, or raise the wick to the proper height above the top of the wick-tube and put the wire-gauze over the wick and tube together; but for many practical reasons the notches *e e e* are preferable. But neither the notches *e e e* nor the wire-gauze are practical with the ordinary burner, as it would overheat and be unsafe to use; but with the wick-tube passing through my water-bath the difficulty of overheating is entirely overcome.

The cone to be adjusted over the wick-tube *c* is shown in drawing F. This cone may be fastened or adjusted over the wick-tube so as to be movable. The slot in the cone should be about one-fourth of an inch above the top of the wick-tube *c*.

The water-bath B is placed over the oil-holder A and insulated from it by resting on points about one-eighth of an inch high, which may be fastened to the oil-vessel A, (see let-

ters *g g g* in drawing A,) or a sheet of cork-wood or some other good non-conductor of heat may be put between the oil-holder A and water-bath B. Thus the heat from the flame or flames is kept from the oil-vessel by the water-bath B, and the heat of the water-bath itself from the oil-vessel by insulation.

The opening in the top of the oil-vessel A should be large enough to freely admit the wick or wicks suspended from the wick tube or tubes in the water-bath B, and the water-bath should be so adjusted on the oil-vessel that the wick-tubes will not touch it. The steam or vapor from the wick-tubes *d d* passes into the flame under the cone F, which very materially assists combustion and increases the heating power.

A complete heater, with two burners and with the wick worked by ratchet-wheels in the usual way, is shown in drawing H.

I do not consider it necessary to go into any detailed description of the manner of getting up the different-sized stoves or ranges necessary for common use, as it will readily be seen that all that is further required is simply a frame or support over my oil-heater upon which to rest the vessel or dish for cooking, or a drum for heating.

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

1. The water-bath B, constructed with the no-chimney burner, for cooking and heating purposes, substantially as described and set forth.

2. The insulation of the water-bath B from the oil-vessel A, substantially as described, and for the purposes set forth.

3. The wick-tubes *c* and *d d*, fastened and attached to the water-bath B, the whole being separate from yet adjusted to oil-vessel A, substantially as described, and for the purposes set forth.

4. The slots or notches *e e e* in the wick-tube *c*, or their equivalent, when used with the side water-wicks, *d d*, and water-bath B, arranged and constructed substantially as described and set forth.

W. B. BILLINGS.

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