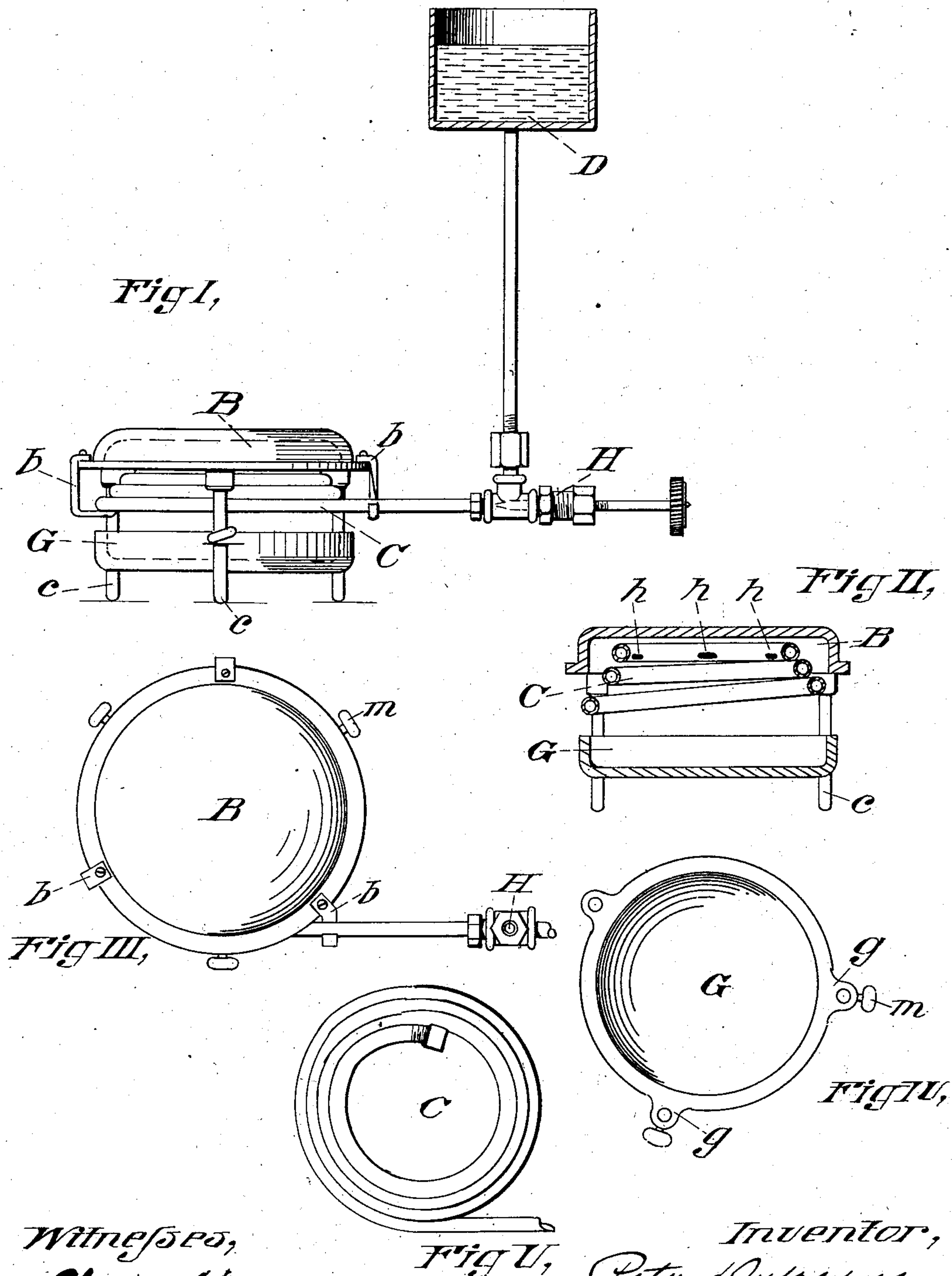


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PATENTED FEB. 24, 1903.

P. DUFRESNE.
OIL BURNING HEATER.
APPLICATION FILED OCT. 14, 1902.

NO MODEL.



Witnesses,
Charles Coffey

Inventor,
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UNITED STATES PATENT OFFICE.

PETER DUFRESNE, OF SPRINGFIELD, MASSACHUSETTS.

OIL-BURNING HEATER.

SPECIFICATION forming part of Letters Patent No. 721,164, dated February 24, 1903.

Application filed October 14, 1902. Serial No. 127,236. (No model.)

To all whom it may concern:

Be it known that I, PETER DUFRESNE, a citizen of the United States, residing at Springfield, Hampden county, State of Massachusetts, have invented a new and useful Improvement in Oil-Burning Heaters, of which the following is a specification.

My device belongs to that class of heaters in which the oil in pipes after having been at first heated to volatilize and catch fire as gas continues automatically as long as oil is supplied to furnish a flame; and my improvements have for their object to supply in compact form a heater which besides furnishing sufficient heat to warm an apartment can of itself be used as a stove for a limited amount of cooking or be combined with an ordinary cooking-stove by being inserted therein to enable the cooking facilities of a stove to be utilized; and my invention consists in the combination and arrangement, as hereinafter described, and more fully set forth in the claims.

My invention is fully illustrated in the accompanying drawings, in which—

Figure I is a side elevation of my complete device with the reservoir in section. Fig. II is a vertical central section through the stove part of the device. Fig. III is a top plan view of the device. Fig. IV is a top plan view of a part, and Fig. V is a top plan view of the pipe-coil.

Referring to the drawings, B is a cover in the form of a cupola or dome flattened on top, so as to conveniently seat a vessel containing matter to be heated or cooked and made of thick metal preferably, so as to radiate heat the more gradually, although for this purpose slate or soapstone may be used.

Held up within the cover B by suitable clamps—such as *b b*, (shown more particularly in Fig. I,) and so as to have the top ply within the cover and near to it—is a coil of pipe C of the form preferably of a volute, as shown, with its smaller diameter at the top. The coil C has the lower fold of the pipe extended out from under the cover tangentially to connect with the oil-reservoir D, and intermediate to the reservoir and coil is a regulating-valve H. Upon the top coil and arranged near its bottom is a series of openings *h*, penetrating

the wall of the pipe and adapted to deflect the flame from gas ignited at their mouths downward against the under folds of the coil C.

The cover B, with the coil C, is supported upon legs *c*, securely joined to the cover, so that the coil and cover may be safely raised above any floor. In the drawings the legs are shown forming a tripod, and adjustably secured to the legs is the drip-pan G. As shown more particularly in Fig. IV, upon the periphery of the pan are ears *g*, bored to receive corresponding legs, as shown in Fig. I, while set-screws *m* enable the pan to be slid to any desired proximity to the coil and there be secured.

In operation, after the valve H has been turned to admit a flow of oil from the reservoir to the coil, a fire is started in the drip-pan, which fire may be provided by a little free oil poured in the pan and ignited, or by a little oil saturating a pad of asbestos. The fire from the drip-pan heating the oil-filled coil above it volatilizes the oil and forces it in a flame, lighted by the fire in the drip-pan, to come in direct contact with the folds of the coil below, which heat continues the generation of oil-gas after the initial heating fire is out, so that the heating once started may be said to be automatic.

The reservoir for containing the oil may be placed at any safe distance from the heated portion of the pipe to which it is connected.

Common gas-pipe may be used for all of the tubing needed, and it will be seen that the "heater" in its simple and compact form may be, if desired, inserted within the fire box or oven of an ordinary cook-stove; also, that the construction, as shown, of a coil of pipe in the form of a truncated cone having its closed end at the apex and the supply-pipe extended from its base, together with a dome overlapping the cone-apex, an oil-pan at the base of the cone, and orifices in the top ply of the coil adapted to throw flames downward upon the inner surface of the coil of pipe, forms at the inner surface of the cone, with the dome and oil-pan, a mixer composed of only three parts, thus simplifying the construction by dispensing with additional parts heretofore deemed essential in oil-burners.

Now, having described my invention, what I claim is—

1. In an oil-burner, the combination of an oil-pan, a retort above the pan comprising a
5 pipe coiled to the form of a truncated cone with its closed end at the apex, and the supply-pipe extended from its base, a multiple of orifices in the top ply of the cone adapted
10 to throw flames downward against the inner surface of the retort, and a dome surmounting the top of the retort and extending down over it.

2. In an oil-burner, the combination of an

oil-pan, a dome and a combined retort and mixer-surface supplied by a truncated con- 15
ical coil of pipe with a closed upper end provided with orifices adapted to deflect flames against the inner side of the retort, and a supply-pipe extended from the base of the
20 coil, the dome covering the apex of the pipe-coil, and leaving an air-space between its lower rim and the top of the oil-pan.

PETER DUFRESNE.

Witnesses:

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