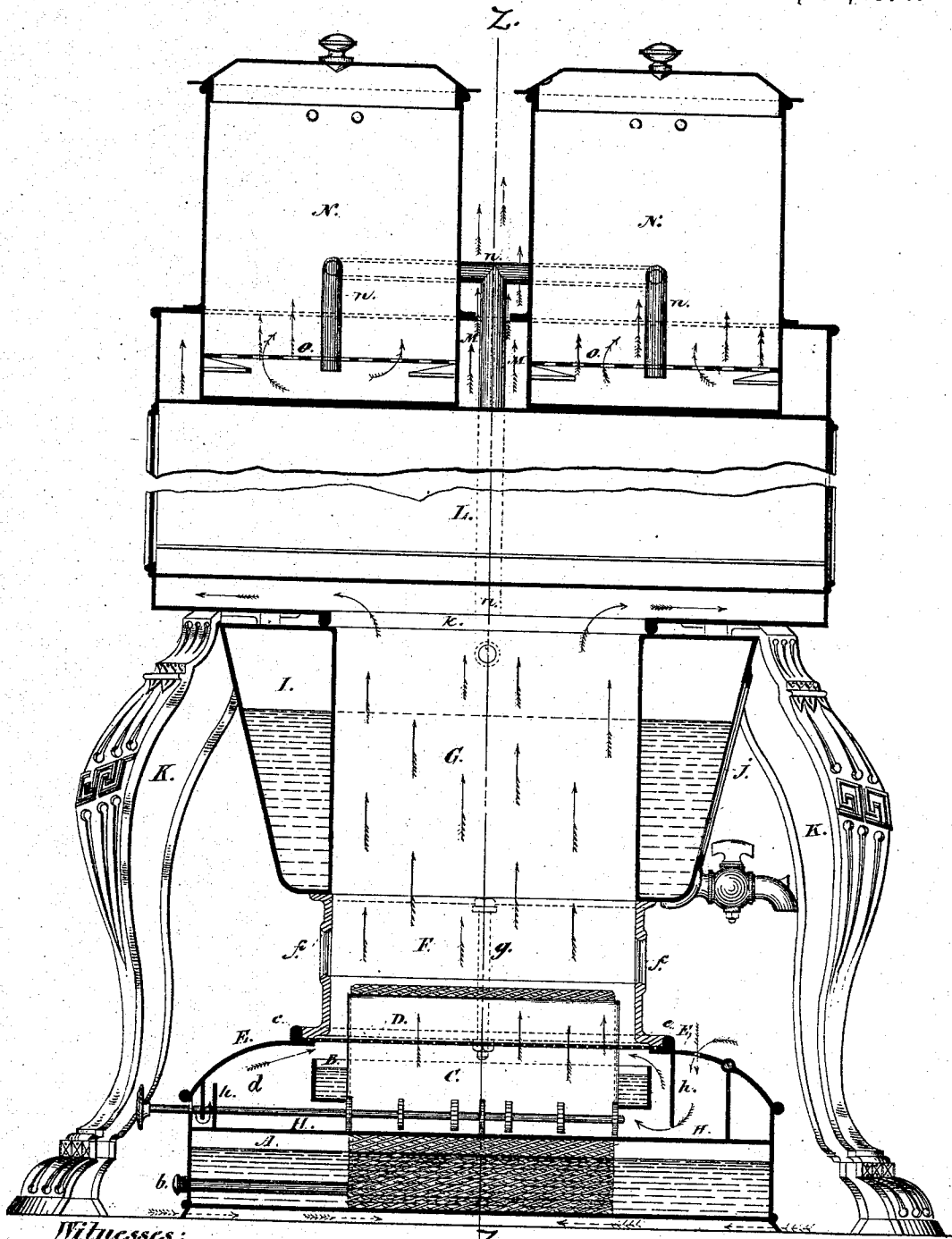


H. MACKINNON.
Coal-Oil Cooking-Stoves.

No.154,696.

Patented Sept. 1, 1874.



Witnesses;

Fig. 1.

Inventors.

Geo. Bird
Hugh Bird.

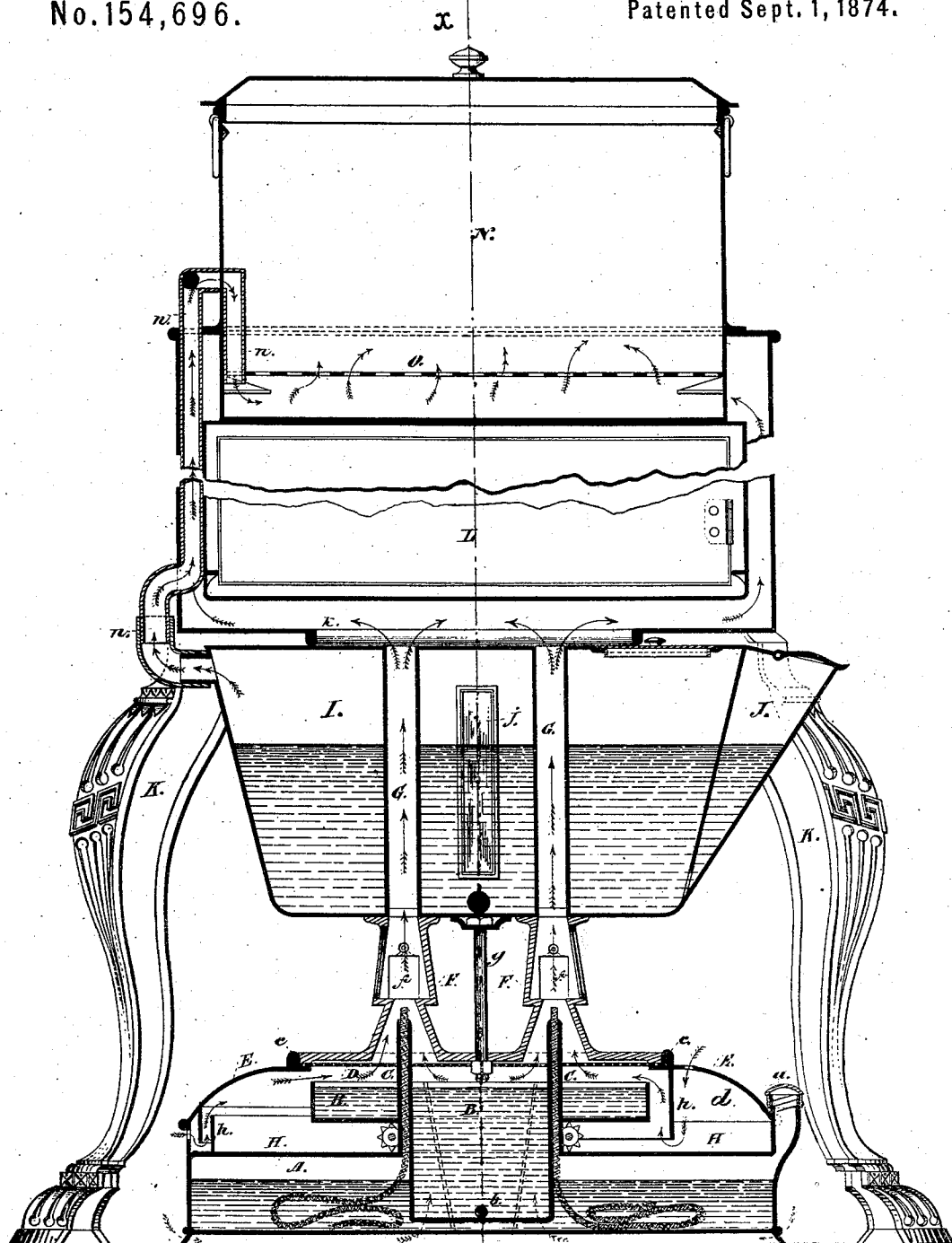
Hector Mackinnon

per B. B. Bird & Co. Attys.

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Witnesses:

Fig. 2.

Inventors.

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Hugh Bird

Hector Mackinnon

per L. C. Ridout and Co. Attys

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3 Sheets--Sheet 3.

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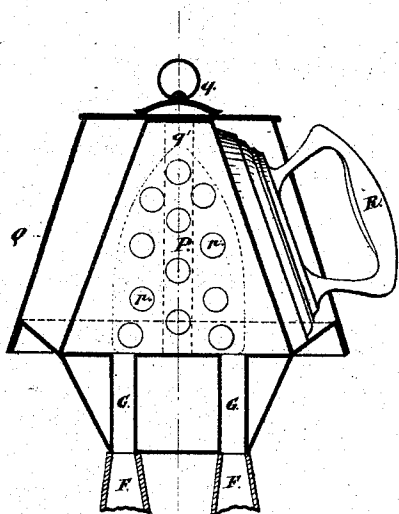


Fig. 4.

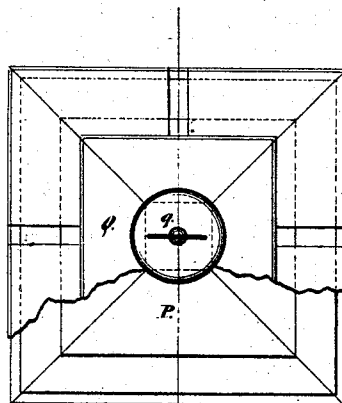


Fig. 5.

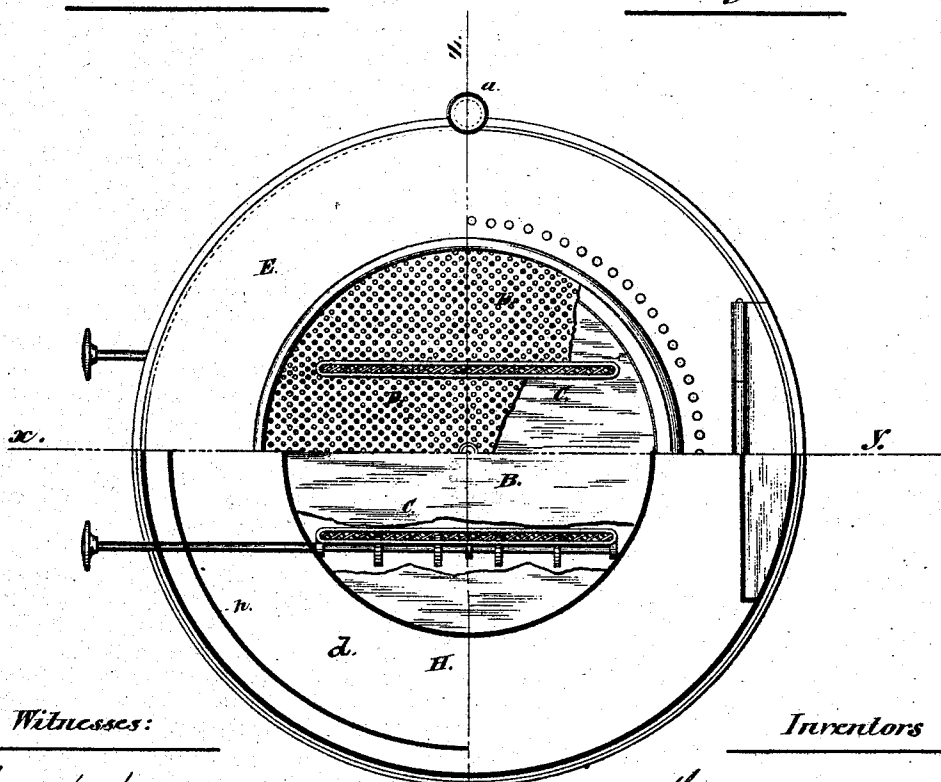


Fig. 3.

Witnesses:

Geo. A. Bird
Hugh Aird

Inventors

Hector Mackinnon
per B. B. Bidout and Co. Attys

UNITED STATES PATENT OFFICE.

HECTOR MACKINNON, OF TORONTO, CANADA.

IMPROVEMENT IN COAL-OIL COOKING-STOVES.

Specification forming part of Letters Patent No. **154,696**, dated September 1, 1874; application filed March 21, 1874.

To all whom it may concern:

Be it known that I, HECTOR MACKINNON, of the city of Toronto, in the county of York and in the Province of Ontario, Canada, gentleman, have invented an Improved Coal-Oil Cooking-Stove, of which the following is a specification:

My invention relates to certain improvements in coal-oil cooking-stoves; and consists, first, in certain improvements in the lamp, by which the supply of air necessary for combustion is equitably furnished, preventing sudden drafts from in any way affecting the flame; also, the application of an open cold-water font partially within the oil-chamber and around the wick-tubes, for the purpose of keeping the oil and wicks cool. The vapor produced by evaporation ascending from this reservoir to the flame, naturally intensifies its brightness. The second part of my invention relates to the peculiar manner in which I utilize the heat from the lamp; and consists in the novel arrangement of the chimneys, in combination with flues for conducting the heat through chambers or cooking-ovens, as hereinafter described in detail. Thirdly, my invention relates to the peculiar combination of what may be termed a hot-water reservoir and cooking-oven, by which the steam from the former is utilized in heating the steamers on top of oven. In the arrangement of the whole there are, of course, many parts which can only be understood by a detailed description, illustrated by the drawings, which I shall proceed to describe as follows:

Figure 1, Sheet 1, cross-section through *x y* of Fig. 2, Sheet 2; Fig. 2, Sheet 2, cross-section through *z z* of Fig. 1, Sheet 1; Fig. 3, Sheet 3, plan of lamp; Fig. 4, Sheet 3, sectional elevation of flat-iron holder; Fig. 5, Sheet 3, plan of flat-iron holder.

One fault in all coal-oil cooking-stoves produced heretofore has been, that they become useless when subjected to sudden drafts and gusts of wind, which cause the lamp to smoke and throw off disagreeable vapors, thereby destroying their effectiveness as cooking-stoves. They are also, of course, easily blown out from the same cause.

My improved coal-oil stove has not only overcome this great objection, but I have pro-

duced a stove which, from its simple, compact, and efficient construction, must meet with general approbation.

In commencing my detail description, attention is directed to Sheets 1 and 2, on which cross-sectional elevations of my stove are represented, like letters indicating corresponding parts in each figure.

A is the oil-reservoir, the oil being fed in through the funnel *a*. B is the water-font or well, shaped essentially as shown, encircling the wick-tubes and descending into the center of the oil-reservoirs. The tube *b*, supplied with a proper stopper, is for the purpose of withdrawing the water. C C are the wick-tubes. They project through the perforated plate D, which fits over them and rests upon the deck E of the lamp. F F are the chimneys, cast in one piece, and resting on the deck E, within the ring *e*. They are cone-shaped, (see Fig. 2,) inclining toward the wick-tubes from the bases, but enlarging very much where the flame is brightest, and again contracting toward the point where the chimneys F F connect with the flues G G. The sliding or pivoted windows *f f* enable the wicks to be lighted without having the chimneys removed. Over the oil-reservoir is the lower deck H, between which and the upper deck E is formed an air-chamber. Air is admitted into this chamber either through perforations in the top deck E, as shown on the right-hand side of the Figs. 1 and 2, or through perforations in the side of the lamp immediately above the lower deck H, as shown on the left-hand side of these figures. From this chamber the burners are supplied with the necessary amount of air for combustion. Within the air-chamber are arranged one or more guards or partitions, *h*, around which the air must first pass before reaching the flame. This zigzag course which the air is made to travel before reaching the flame breaks its speed, and thus sudden gusts have little or no effect on the flame. The rods and pinions are placed within the air-chamber, as shown, being beneath the water-font. They are thus protected from the burner, so that no gas which may escape through the holes made in the wick-tubes for the pinions can reach the flame or become ignited. I is the hot-water reservoir, through which the oblong flues G G

pass. The bolt *g* binds or secures the hot-water reservoir to the chimneys F F. The water is poured into the spout J. I insert a glass pane, *j*, in the side of the kettle, for the purpose of gaging the height of the water. K is a tripod upon which the oven L rests. The oven has a double bottom, with a hole through the lower one. This hole is protected by a flanged ring, *k*, which forms a joint with the reservoir I, as shown. The heated air ascends the flues G G through the hole in the lower bottom of the oven into the space between the two bottoms and around, as indicated by the single-headed arrows, up through the space between the two sides, around and beneath the steamers, and finally escaping from the chamber M. The steamers N rest upon the oven L, and when in position the steam-pipes *n* fit and are connected together as shown, leading from the hot-water reservoir up between the sides of the oven to the steamers, into which the steam is conducted, as shown by double-headed arrows, and admitted beneath the perforated bottom O, upon which is placed the article about to be steamed. By thus bringing the steam-pipes *n* up through the spaces between the sides of the oven, which are practically flues for the escape of the heated air from lamp, I superheat the steam before it reaches the steamers, which are kept hot by the heated air circulating around them, as described.

P is my flat-iron heater. When about to use it I remove the hot-water reservoir, and

place the heater on the chimneys F F instead, as will be understood by reference to Fig. 4, where the tops of the chimneys are shown. The heated air ascends through the flues into the body of the heater, escaping through the holes *p*, made in the flat sides upon which the irons R rest. Q is a cover which fits over the irons, as shown, for the purpose of retaining the heated air as long as possible around the iron. *q'* is a flat guide, attached to the cover Q, and fitting into a scabbard within the heater.

I claim as my invention—

1. The wick-tubes C C, in combination with the open water-font B, extending within the oil-reservoir, as specified, upper deck E, having the perforated cover D, lower deck H, and guards *h*, all arranged substantially as herein set forth.

2. The steam-pipes *n*, passing within the space between the outer and inner sides of the oven L, in combination with the reservoir I and steamers N, substantially as and for the purposes specified.

3. The combination of the steamers N N, resting upon the oven L, with the said oven L, having the upper solid and lower perforated bottoms, and lateral heat-escape passages, the reservoir I, and tripod or other support K, all arranged substantially as specified, and for the purposes set forth.

HECTOR MACKINNON.

Witnesses:

GEO. A. AIRD,

HUGH AIRD.