2 Sheets—Sheet 1.

M. L. HULL.
Lamp-Stove.

No. 196,120. **Patented Oct. 16, 1877.**

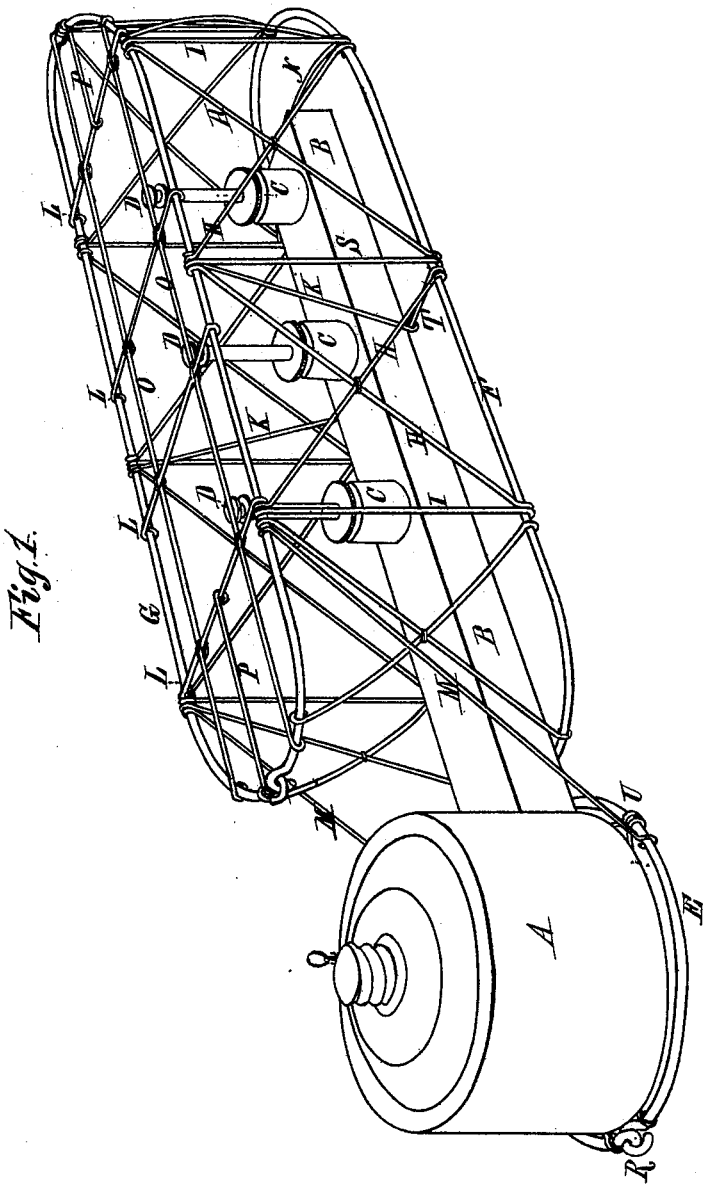

Fig. 1.

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2 Sheets—Sheet 2.

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Fig. 2.

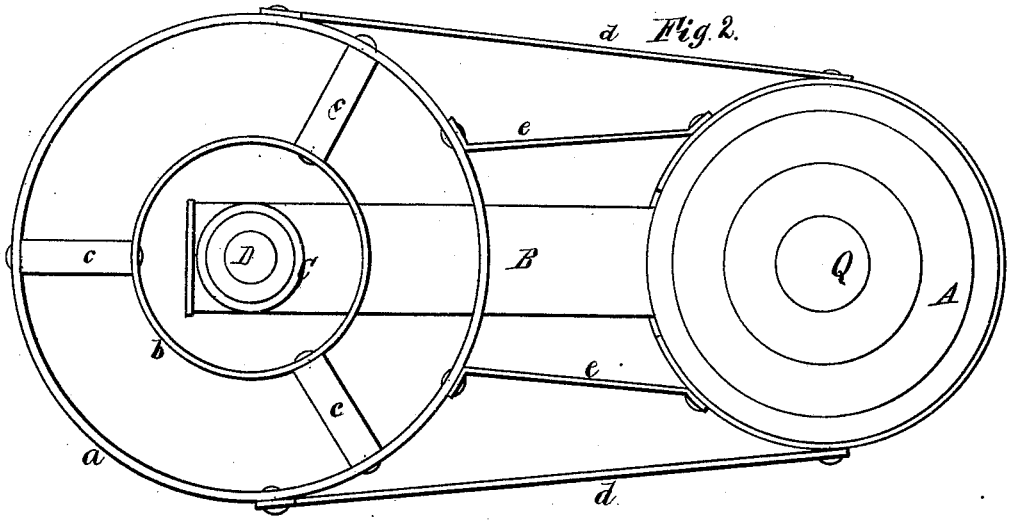
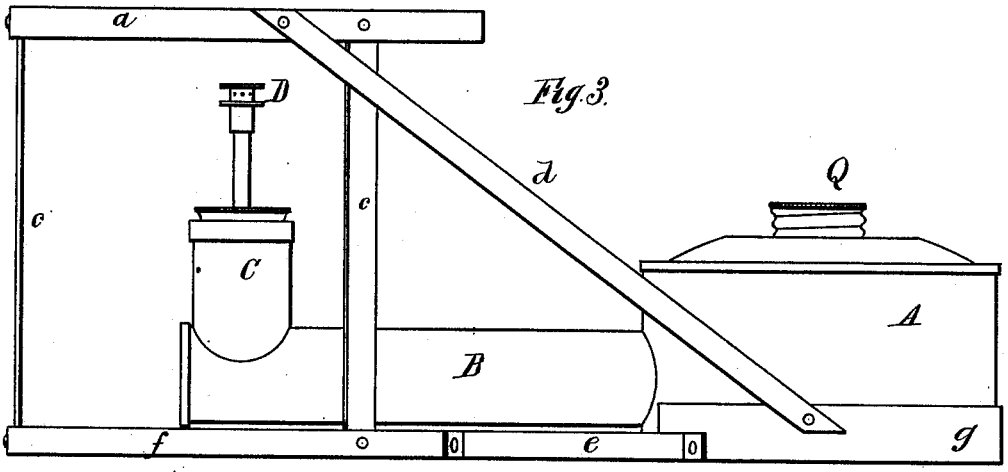


Fig. 3.



Attest;
C. R. Searle,
D. P. Lowe

Martin L. Hull,
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Attorney.

UNITED STATES PATENT OFFICE.

MARTIN L. HULL, OF CLEVELAND, OHIO.

IMPROVEMENT IN LAMP-STOVES.

Specification forming part of Letters Patent No. **196,120,** dated October 16, 1877; application filed March 28, 1877.

To all whom it may concern:

Be it known that I, MARTIN L. HULL, of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Lamp-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view of my improved lamp-stove, showing the supporting-frame as made of round wire, and adapted for use in connection with three burners. Fig. 2 is a plan view, and Fig. 3 a side elevation, showing the frame as it appears when made of flat metal—as narrow hoop-iron—and arranged for use with one burner.

Like letters of reference in all the figures indicate corresponding parts.

The object of my invention is to produce a light, cheap, and substantial frame for the support of cooking-vessels or any stove-furniture over the flame of a hydrocarbon-oil burner, and at the same time to remove the main supply of oil as much as possible or necessary from without the limits of the heat of the burners which it supplies; to accomplish all of which the invention consists in certain details of construction and arrangements of parts, all of which will be first fully described, and then pointed out in the claims.

A is the oil-supply reservoir, and B a pipe or tube leading therefrom, and intended to convey oil to the burners D D, &c., mounted above said tube, substantially as indicated in Figs. 1 and 3, wherein said burners rise from an enlarged portion, C, calculated to afford an ample supply of the liquid fuel to the wick, which depends within.

It is deemed most advantageous to employ a vapor-burner in connection with my improved stove, since this style will afford a greater amount of heat from the consumption of an equal quantity of the oil, and the flame is less liable to cause the deposit of soot upon the cooking utensils, which is so common in other styles of burners, though for the purposes of the present invention any suitable form of burner may be adopted.

The frame should be as light as is consistent with the weight of the stove-furniture which it is to support, and it should afford a convenient rest for the oil-vessel, so that when said vessel is placed therein the burners will fall under their proper places.

The round-wire frame illustrated in Fig. 1 is constructed substantially as follows: The base-wire F is usually chosen of sufficient length so that it will form both the base of the main frame and that of the enlarged portion A of the reservoir or oil-containing vessel. It should be crossed at the rear of the main base, (not shown,) and brought round, as shown at E, and locked at the ends, as at R. The upper ring, G, is of about the same-sized wire as the lower or base, F, and is held above it by the four main stays or rods I I, &c., near the ends. Between these main rods I I, &c., is another vertical rod, S, which may be of less diameter, and the whole frame is stiffened in a vertical direction by suitable crossed braces H H, &c., running from the top of one vertical rod to the bottom of the one adjacent, and secured to the upper and lower rings and locked together at the point where they cross. This method of bracing and tying the upper and lower rings affords a very rigid frame, and one well adapted for the purposes intended, the several parts of the frame operating in a manner not unlike the elements of a bridge-truss, to give the greatest sustaining capacity with the least weight of material. The whole frame should, of course, be stiffened at top and bottom, and at the same time an open frame-work formed, which shall permit the greatest possible area for contact of the flame with the bottoms of the cooking utensils. This I accomplish quite successfully by traversing the top ring by a number of wires, L L, &c., and running, also, two in an axial direction, as at O O. Two other wires, as P P, may be placed from each end to the transverse rods L L, and suitably secured, as shown. With this arrangement the requisite net-work is formed, leaving an unobstructed space above each burner D, at the same time making the meshes sufficiently small to sustain any ordinary-sized vessel without difficulty. One or two transverse braces at bottom will be found sufficient to give the required rigidity to the structure, and also afford ample support for the extended tube B. The lower transverse rod T, I prefer to place at about the center of the main frame,

or near the central upright S, where it is connected with the side wire F on each side, and forms the support for the tube B. Near the end I also place a second transverse rod, N, and since this is not needed for supporting the oil-tube, I prefer to bend it up slightly, as plainly shown, in order that it may operate as a gage or stop, against which the end of the burner or oil tube will abut when in proper position, and thus serve to prevent its longitudinal displacement, as well as to facilitate its being placed where desired. To further facilitate the proper locating of the burners, and to prevent them from being laterally displaced, I attach the inclined wires K K to the upper ring, near the junction of said ring and the vertical rods S S, and connect them at bottom with the transverse wire T, so that their lower extremities shall be distant from each other by about the width of the tube B. The ring E may be provided with any number of cross-wires, as U, serving as a base upon which the reservoir A may rest. It is obvious that with this arrangement the operator will experience no difficulty in properly locating the burners with respect to the meshes above, it being only necessary to place the tube B between the inclined wires K, and then push it along until its end abuts against the bent wire N, when the tube may be dropped and will fall at once into its proper position.

This frame may be extended to accommodate as many burners as desired, the same general principles being observed in the construction and arrangement of parts.

I also contemplate making the frame of band or hoop iron, as illustrated in Figs. 2 and 3. This latter material being stronger than the wire, the cross-braces and ties will not be necessary, as will be apparent from a glance at the drawing. The vessel-supporting part is composed of two concentric rings, *a* and *b*, and these are united with each other and with the bottom or base ring *f* by means of the flat rods *c c c*, three or more in number, which are riveted upon the insides of the rings *a* and *f*, and are then bent horizontally and again downwardly, and riveted to the outside of ring *b*. The base for the reservoir A is formed of material a trifle wider than the bands *a b*, &c., and is attached to the lower ring by the ties *e e*, and to the upper by those shown at *d d*. In order to give the proper location and direction to the burner-carrying tube, the wide band *g* is cut away at the part nearest the ring *f* just enough to accommodate the tube B, which is attached to the reservoir A. The bottom of this latter vessel fits pretty snugly into its ring *g*, by reason of which it is not easily displaced. This form of frame may also be extended or enlarged for use with any number of burners.

In both these forms described it will be observed that the main reservoir is located at one side of and at a considerable distance from the flame. As it is intended to use a class of oils commonly regarded as highly inflammable, the advantages of the arrangement are apparent.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, the herein-described open frame-work for lamp-stoves, comprising a support for the cooking utensils, and also one for the main oil or fluid supply reservoir, the latter being attached at one end or side of the former, and the whole made up of round or flat metal, and adapted for use substantially as explained.

2. In combination with an open-work frame of wire or flat metal, comprising a support for the cooking utensils and one for the oil or supply reservoir, the reservoir A, having tube B and burners attached, substantially in the manner shown and described.

3. In combination with the upper and lower rings G F, the standards I I and S, and the cross-braces H H, substantially as described.

4. In an open frame-work for lamp-stoves, having an upper and lower ring secured together by standards and cross-pieces, as explained, the transverse and longitudinal wires L, T, O, and P, the whole being combined and arranged substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

M. L. HULL.

Witnesses:
C. N. CRAMER,
M. BUCHMANN.