

(No Model.)

N. COOPER & T. E. CONWELL.

COOKING STOVE.

No. 277,009.

Patented May 8, 1883.

Fig 1.

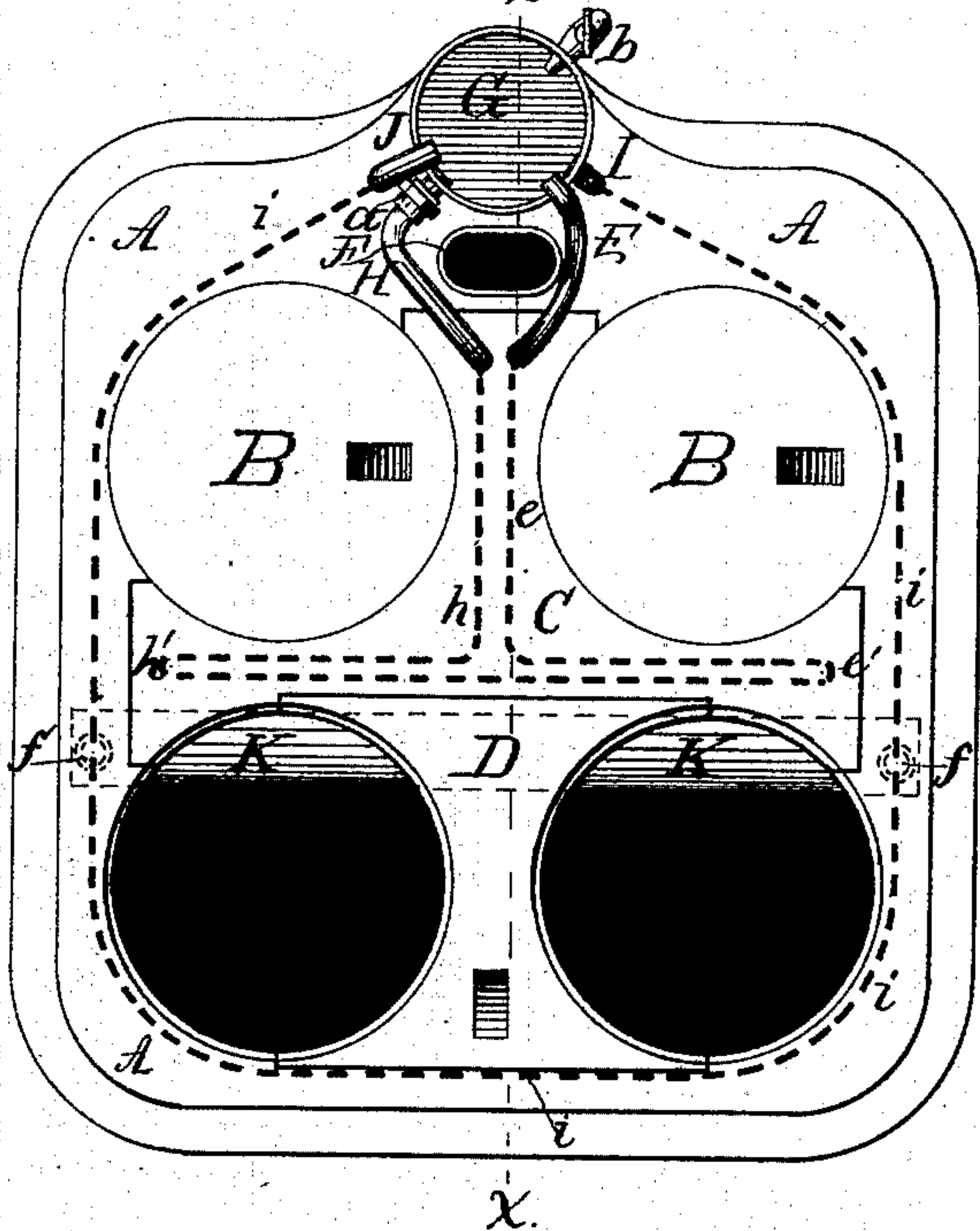


Fig 2.

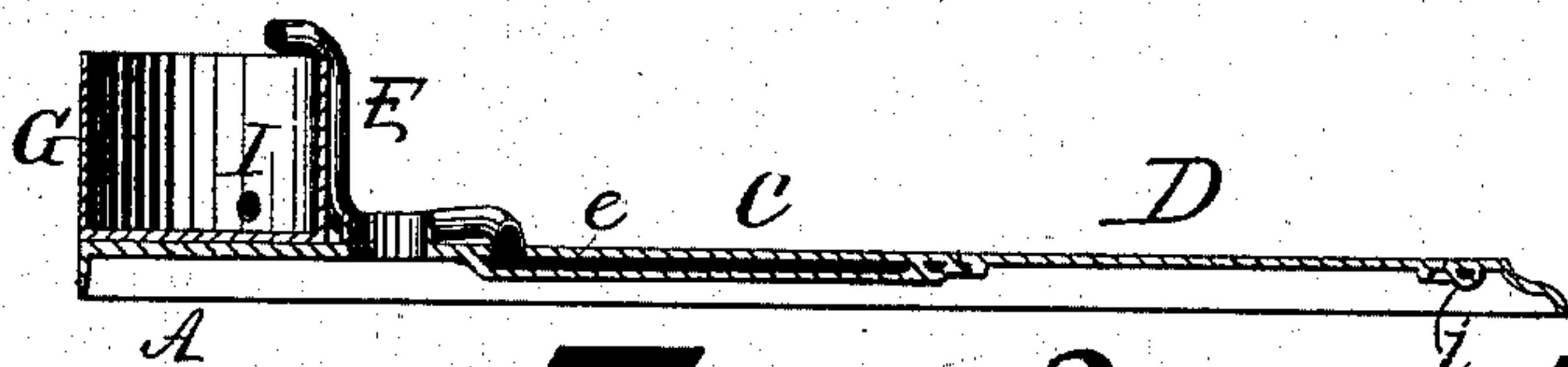


Fig 3.

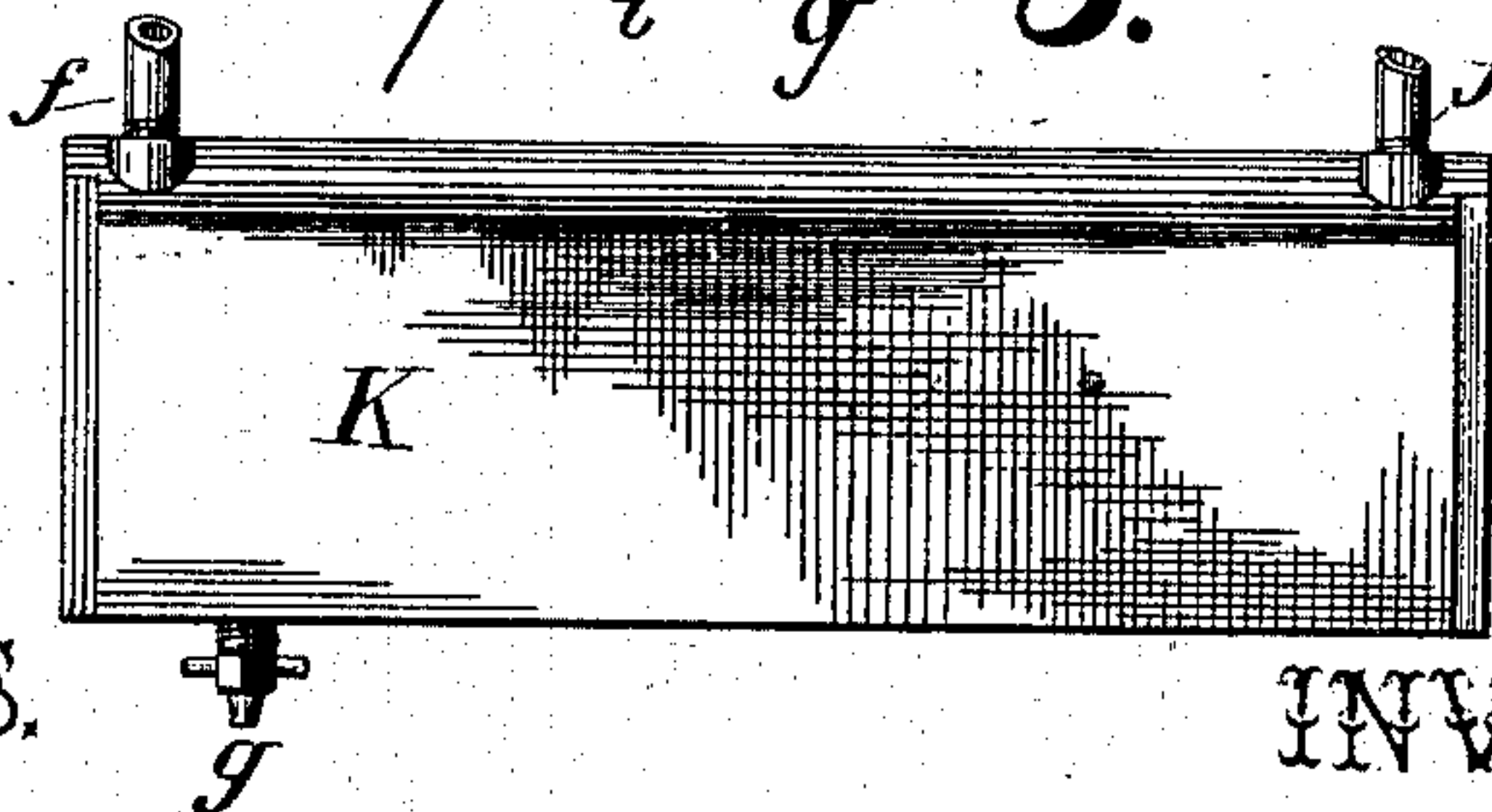


Fig 4.



WITNESSES.

S. E. E. Stevens

P. E. Stevens

INVENTORS.

Newton Cooper.

Thomas Erskin Conwell.

PER. *W. X. Stevens.*

ATTY.

UNITED STATES PATENT OFFICE.

NEWTON COOPER, OF MAYSVILLE, KENTUCKY, AND THOMAS E. CONWELL,
OF ABERDEEN, OHIO.

COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 277,009, dated May 8, 1883.

Application filed October 30, 1882. (No model.)

To all whom it may concern:

Be it known that we, NEWTON COOPER and THOMAS ERSKIN CONWELL, citizens of the United States, residing respectively at Maysville, in the county of Mason and State of Kentucky, and Aberdeen, in the county of Brown and State of Ohio, have invented certain and useful Improvements in Cooking-Stoves; and we do hereby declare that the following is a description thereof.

Our invention relates to that class of cooking-stoves in which a lining of cast-iron or fire-brick is used to protect the stove from being burned out, and upon which a vessel of water is permanently kept; and it has for its object to provide means whereby the top and lining of the stove may be prevented from warping by unequal heating or by sudden and local cooling, and whereby a reservoir of water may be constantly kept hot for use.

To this end our invention consists in the construction and combination of parts forming the top and lining of a stove, and a water-reservoir, hereinafter fully described and set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a stove-top, showing our invention. Fig. 2 is a longitudinal vertical sectional elevation of the stove-top and reservoir at *x x*, Fig. 1. Fig. 3 is a front elevation of the fire-back, and Fig. 4 is a transverse vertical section of the same.

A represents the top of a cast-iron stove, provided with a water-passage (shown by the heavy dotted line *i i'*, Fig. 1, and in section at *i*, Fig. 2) formed on its under side by laying a core in the molding-sand, as usual for such purposes, and casting the water-passage in the body of the stove-top. This passage extends all around the inside opening of the stove where the top is exposed to the greatest heat, and is intended to be supplied with water to absorb and distribute the heat, thereby preventing the stove from being warped in that locality.

I is a short elbow of common iron pipe, fitted into the stove-top in the usual way to meet passage *i* and connect the same with the water-reservoir G, into the side of which it enters near the bottom to receive water therefrom to be circulated around the stove-top in passage *i*.

J is a pipe-elbow, fixed at its lower end in the stove-top to communicate with pipe, and bent at its upper end over the edge of the reservoir G to discharge the water heated in passage *i* into the reservoir, that the water may be exposed to the air to keep it cool enough to remain liquid rather than to pass off as steam, which it would do if not kept in circulation.

C represents the cross-piece of the stove-top between the holes, usually cast separate from the main top. We provide this portion with the same style of water-passage, *e h*.

E is the discharge-pipe, connecting with the end *e*.

H is the inlet, connecting with the reservoir like pipe I, but further provided with a pipe-union, *a*, which may be unscrewed when it is desired to remove the part C from the stove, both pipes E H being permanently secured thereto. The water enters pipe H, passes along *h* to *h'*, across to *e'*, and back by *e* and E into the reservoir.

If desirable, the front cross-piece, D, may also be furnished with a passage for water; but as this piece is often removed from the stove in common use, it may not be worth while to sacrifice convenience to economy in trying to save it from warping. As water expands into steam under normal pressure at a heat of 212° Fahrenheit, and as iron does not become red hot under 875° of heat, it will be seen that so long as water is kept in these passages the stove cannot be overheated in that locality. At the same time the water will be heated and may be used from the reservoir for any purpose. There should always be enough water kept in the reservoir to cover both inlet-pipes.

The reservoir should not be so near the pipe F of the stove or any heat-flue as to be heated thereby, as it is not desirable to have the water heated by other means than the pipes described.

b is a faucet for drawing water from the reservoir.

K is a fire-back, (shown as a representative of the stove-lining.) This lining is hollow, (see Fig. 4,) and its interior is connected with the water-circulating passage in the stove-top by any means usual for similar purposes. Fire-bricks made hollow for this purpose should be

glazed internally to prevent their absorbing water and then being burst to pieces by the formation of steam in their pores when heated.

The lining-pieces K may be connected with the reservoir G by other pipes than those cast integral with the stove-top by passing said pipes through suitable openings in the stove near the reservoir and thence forward to the lining. In this case one pipe will communicate with the reservoir above and the other below the water-level, as described of pipes J and I.

We are aware that water-pipes have been placed contiguous to the under sides of stove-tops and to the rear sides of stove fire-backs, but not entering the body of either, and we do not claim the same. In our invention the water enters directly into the body of both the top and fire-back.

What we claim as our invention, and wish to secure by Letters Patent, is—

1. In a stove, the top plate or cover having one or more passages cast therein, and located in the region most exposed to heat, in combination with a reservoir for containing water placed on or above the stove-top, one end of said passage or passages being connected with the reservoir at or near its bottom to receive

water therefrom, and the other end of the passage communicating with the top of the reservoir by a pipe connected with or contiguous to the reservoir to return water into it, as shown and described.

2. The stove-top A, having the passage or passages *i i' j* cast therein, in combination with the reservoir G and pipes I and J, communicating therewith, as shown and described.

3. The stove-top A, the reservoir G, and the cross-piece C, having passages *h h' e' e* therein, in combination with the inlet-pipe H, provided with the union *a*, and the pipe E, both communicating with the reservoir, as shown and described.

4. A range or stove back made hollow, in combination with a stove-top having water-passages formed therein, and pipes connecting the interior of said hollow back with said water-passages, as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

NEWTON COOPER.
THOMAS ERSKIN CONWELL.

Witnesses:

THOMAS E. PICKETT,
J. F. BARBOUR.