G. W. WALKER.

Reservoir Cooking-Stove.

No. 217,497. Patented July 15, 1879.

Fig. 1.

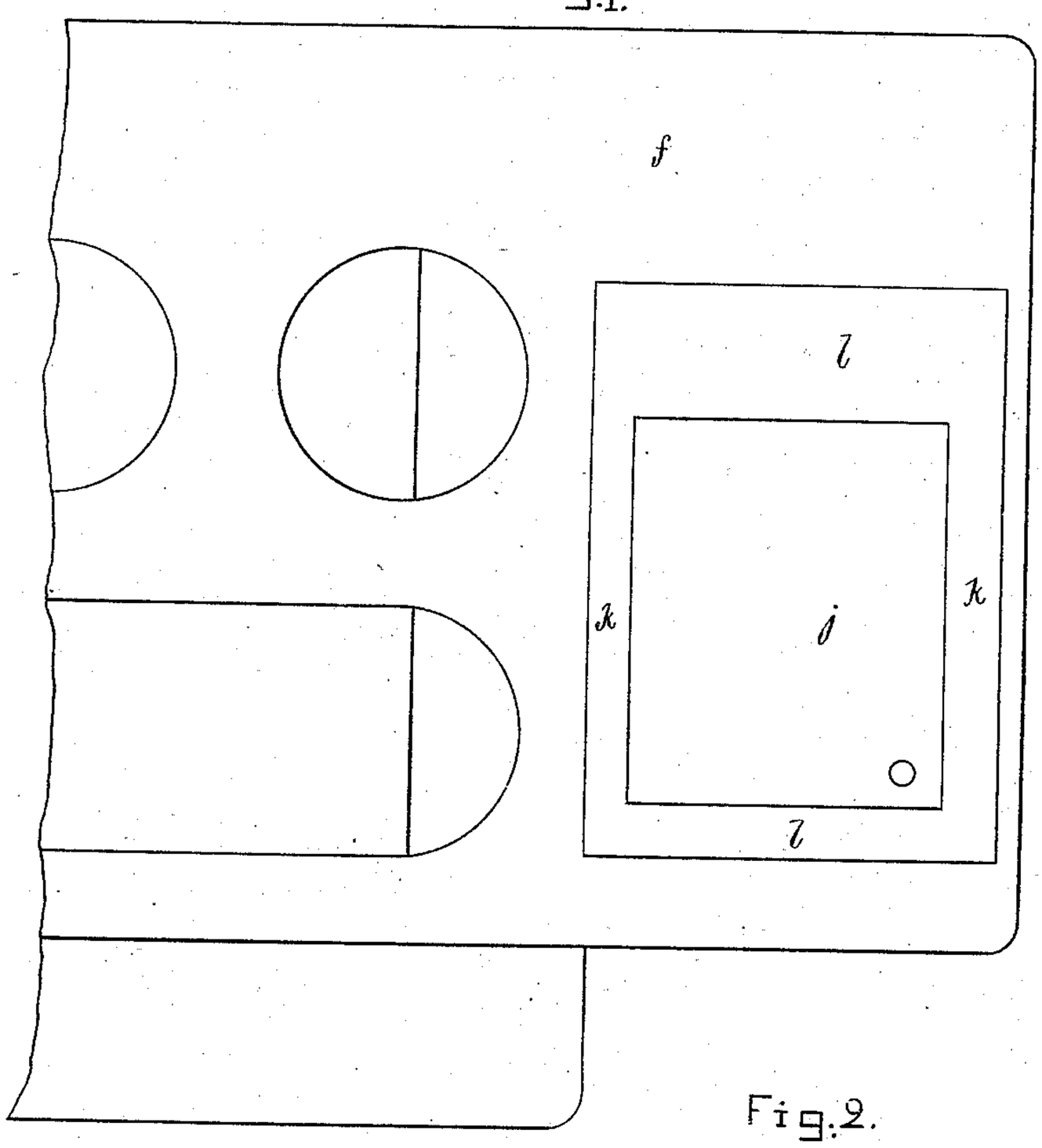
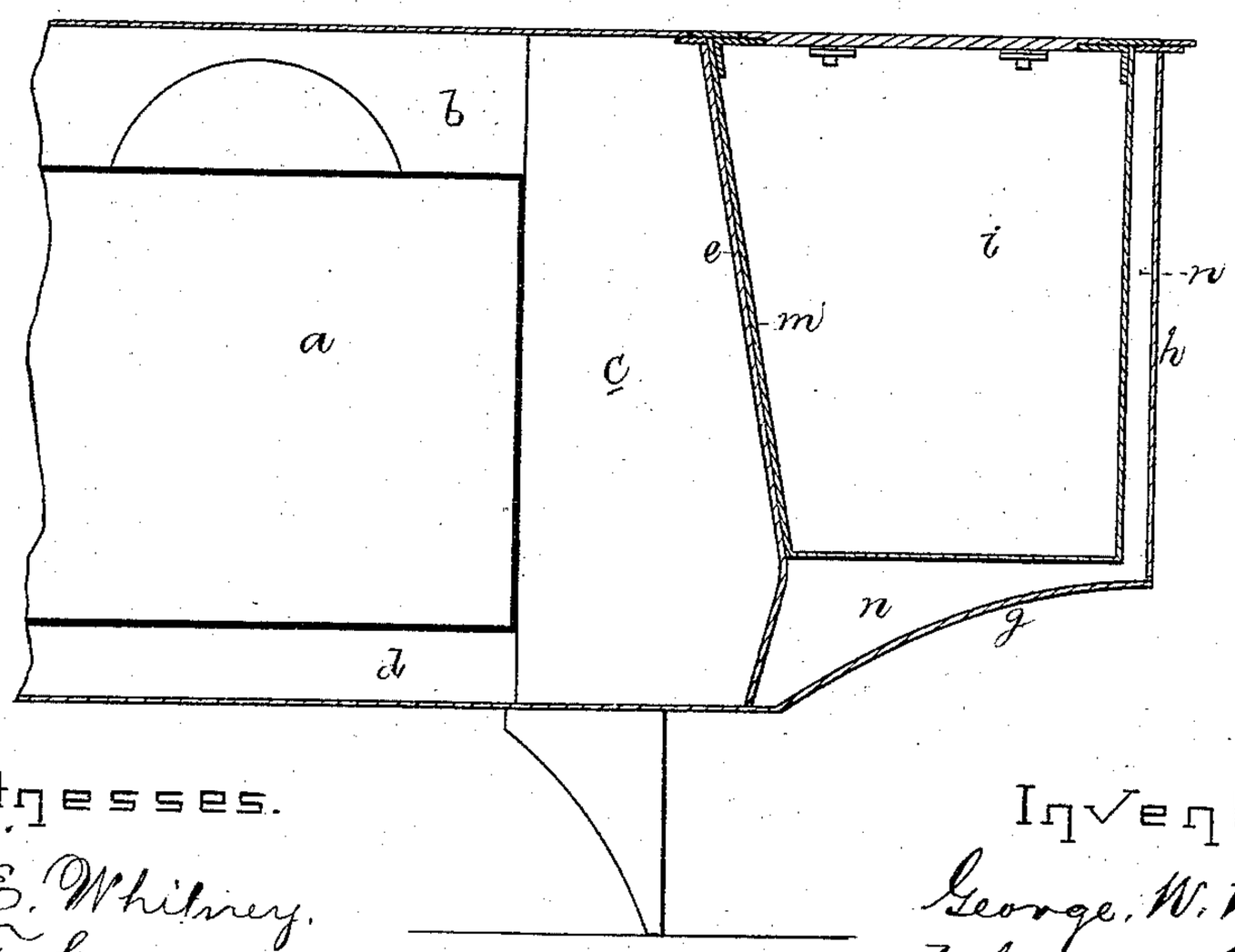


Fig. 2.



Witnesses.

N. E. Whitney.

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UNITED STATES PATENT OFFICE.

GEORGE W. WALKER, OF MALDEN, MASSACHUSETTS.

IMPROVEMENT IN RESERVOIR COOKING-STOVES.

Specification forming part of Letters Patent No. **217,497**, dated July 15, 1879; application filed January 13, 1879.

To all whom it may concern:

Be it known that I, GEORGE W. WALKER, of Malden, county of Middlesex, and State of Massachusetts, have invented an Improvement in Stoves, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to an improvement in stoves or ranges, and has special reference to the hot-water chamber thereof and the means employed to keep it hot.

My invention consists in a stove or range provided at its rear or back with a space extending from the bottom to the top of the stove, and separated from the flue-space by an inclined dividing-plate, directly against which the copper or other tank or vessel which contains the water to be heated rests, the said vessel being inclosed within the said chamber, and being heated by conduction alone, the heat being supplied to the inclined back plate, which constitutes one side of the main flue, and being taken up by the tank, which rests against its other side.

The flue-space hereinbefore referred to is located between the back plate and the oven, and is greatly enlarged by the provision of the inclination of the back plate, whereby a larger heating-chamber is provided adjacent to the tank-chamber.

In this my invention the products of combustion do not come directly in contact with the outside of the hot-water tank, as heretofore common when such tanks are placed in openings in the flue-spaces, and consequently the tanks may be made from much thinner stock, or stock of less weight, and are not so quickly worn out, for the action of the products of combustion upon the usual copper tanks is quite injurious.

Figure 1 represents, in top view, a portion of one end of a range provided with a water-tank constructed in accordance with my invention; and Fig. 2 is a vertical section thereof.

In the said drawings, *a* represents the oven; *b*, the flue-space about it; *c*, the flue-space back of it; *d*, the flue-space below it; *e*, the back of the stove, and *f* the top plate, which is extended at the back end of the stove, as shown, and has below it suitable side plates and a bottom and end plates, *g h*.

The space between *e h g* and the side and top plates forms a chamber, *n*, in which is placed or set the hot-water tank *i*, provided with a cover, *j*, the tank having side and end flanges, *k l*, (see Fig. 1,) to rest upon the top plate.

The end or back plate, *e*, of the stove is inclined ordinarily toward its lower end, thereby increasing the area of the flue-space for the rapid passage of the expanded or hot gases arising from the products of combustion generated by the fuel in the grate, (not shown;) and the said inclined back plate, heated quite hot by the direct contact with it of the said products of combustion, is made by conduction to give up its heat to the side plate, *m*, of the hot-water tank *i*, which, placed within the chamber *n*, is pressed closely in contact with the opposite side of the said inclined back plate, *e*. In this way it is obvious the products of combustion have direct course or way, and are not permitted to come against or injure the tank. The weight of the water in the tank *i* presses its side *m* closely in contact with the plate *e*.

I do not claim, broadly, a chamber entirely inclosing the water-tank, whereby the tank is heated by radiation rather than by the direct contact of the products of combustion.

Nor do I claim a stove having a water-tank with a portion of one of its sides inclined and fitting against an inclined portion of the upper part of the stove adjacent to the flue-space. Such stove differs from my invention in that it does not contain a chamber located entirely within the stove-shell, and separated from the flue-space by an inclined back plate extending from top to bottom of the shell.

Having described my invention, I claim—

1. The combination, in a stove or range, of the inclined back plate, *e*, extending from the top to the bottom plates of the stove or range, the enlarged flue-space *c*, and the inclosed water-tank *i*, having one side, *m*, inclined from the top of the tank to the bottom thereof, so as to impose its entire surface against the inclined back plate, substantially as described.

2. In a stove or range, the combination of

the enlarged and tapering flue-space *c*, the chamber *n*, the inclined back plate, *e*, separating the two the entire depth and width of the chamber, and the water-tank *i*, having the inclined side *m*, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. WALKER.

Witnesses:
G. W. GREGORY,
L. F. CONNOR.