

PARIS & DAVIS.

Cooking Stove.

No. 78,688.

Patented June 9, 1868.

Fig. 1.

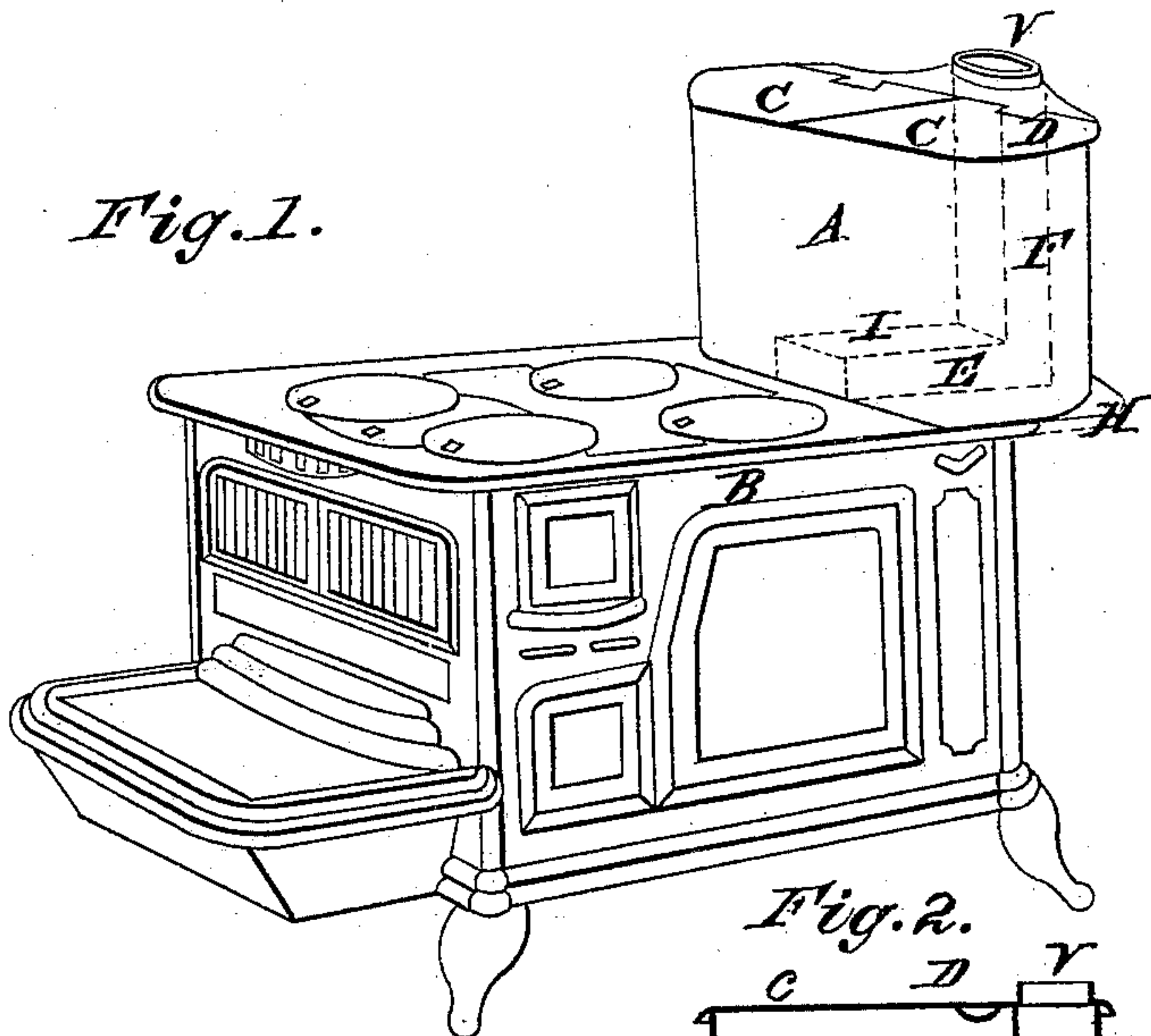


Fig. 2.

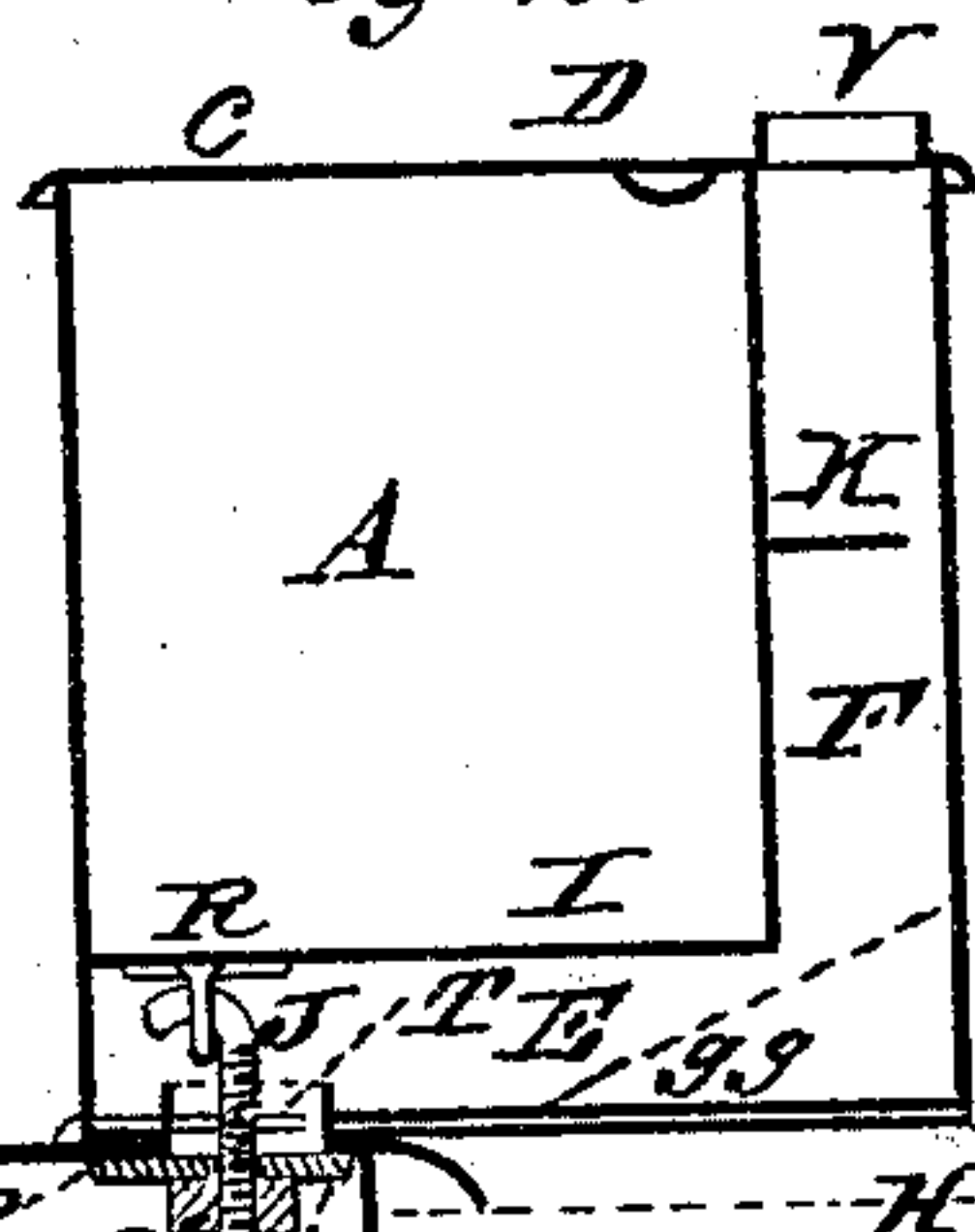


Fig. 5.

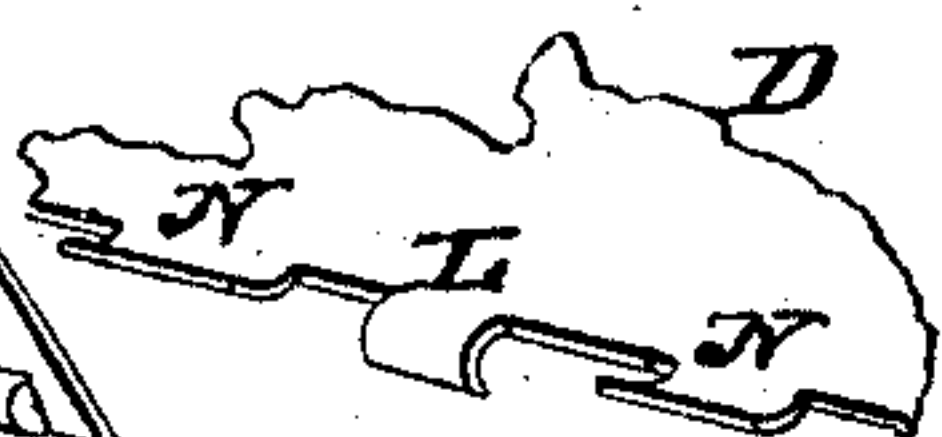


Fig. 4.

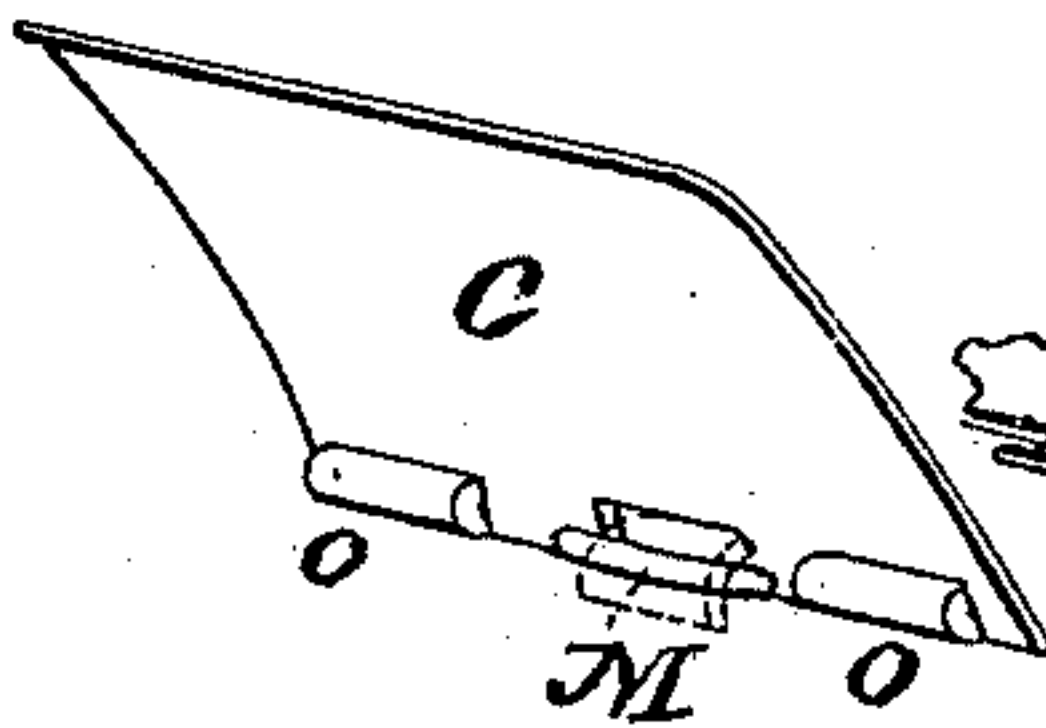


Fig. 3.

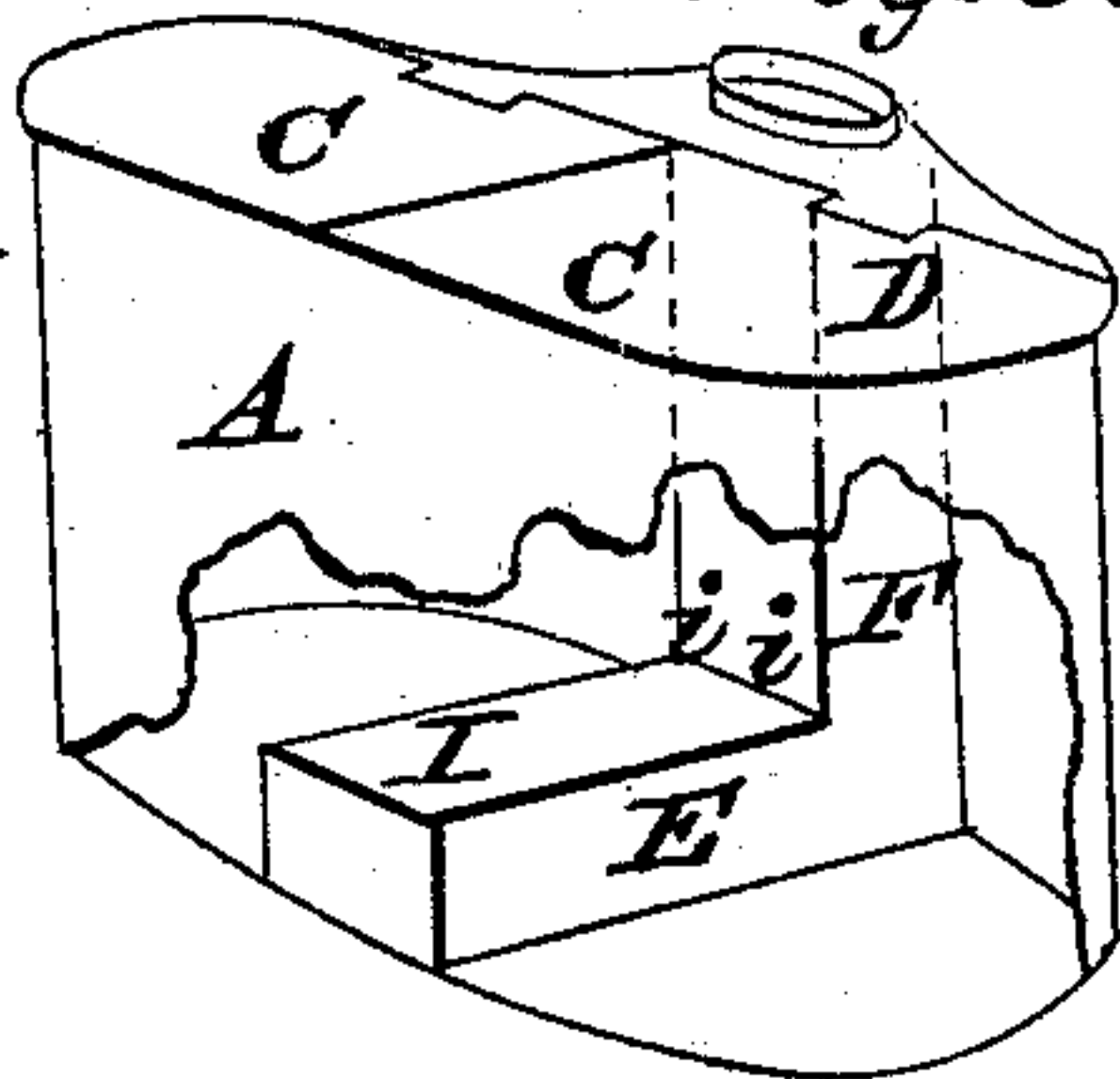


Fig. 6.

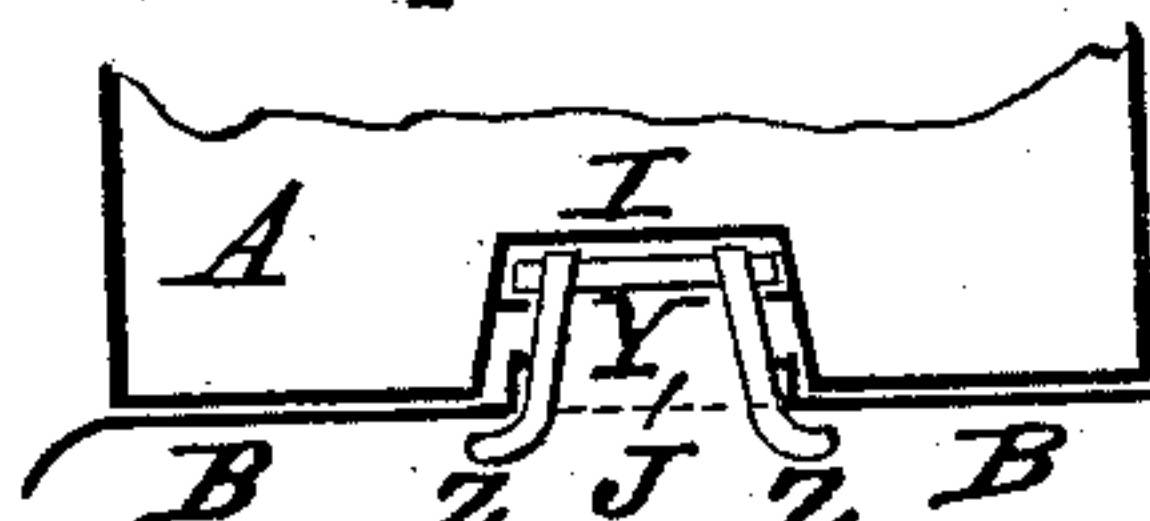
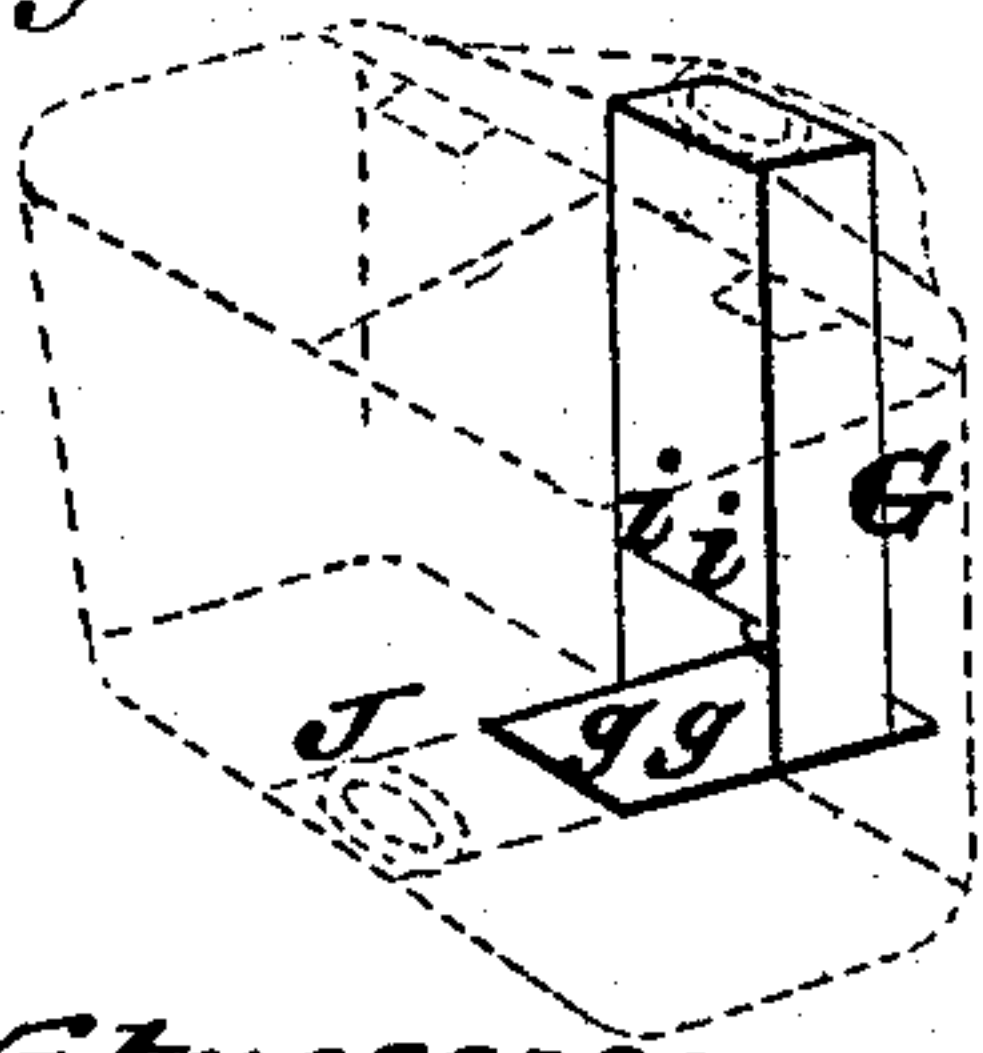


Fig. 7.

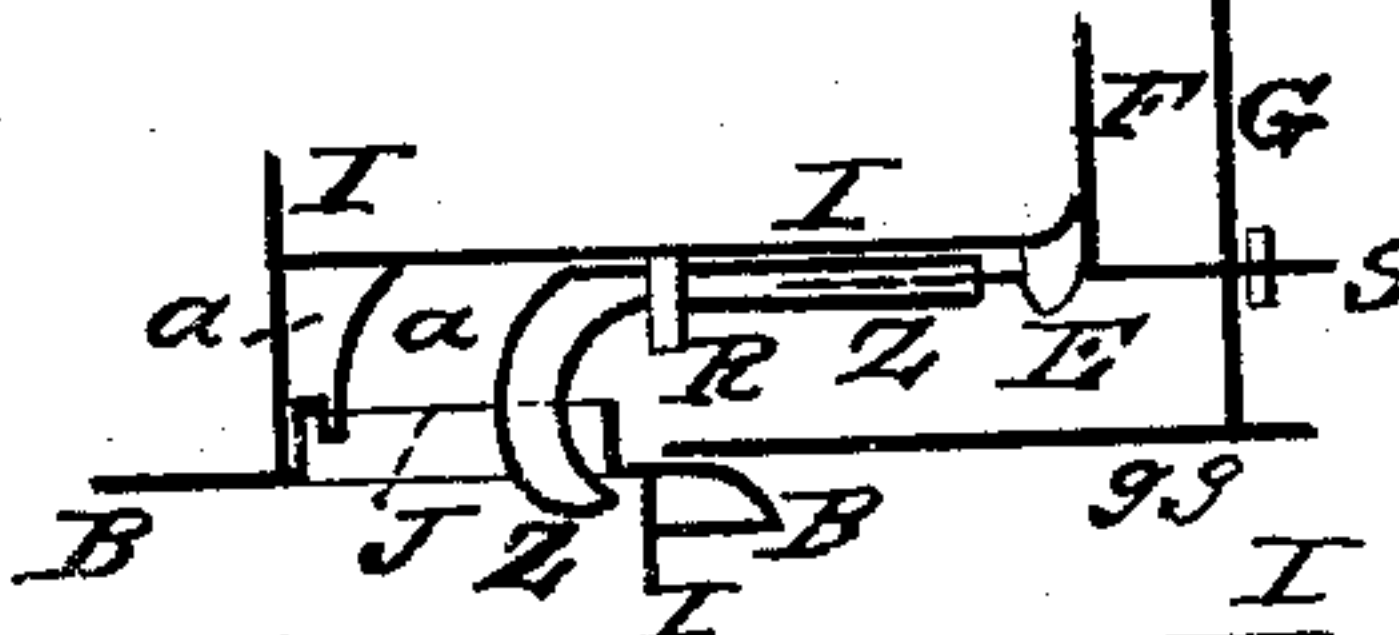


Fig. 8.

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# UNITED STATES PATENT OFFICE

DANIEL E. PARIS AND CHARLES S. DAVIS, OF TROY, NEW YORK, ASSIGN-  
ORS TO D. E. PARIS, OF THE SAME PLACE, AND CLEMENT OLHABER,  
OF CINCINNATI, OHIO.

## IMPROVEMENT IN HOT-WATER TANKS ON COOKING-STOVES.

Specification forming part of Letters Patent No. 78,688, dated June 9, 1868.

*To all whom it may concern:*

Be it known that we, DANIEL E. PARIS and CHARLES S. DAVIS, both of the city of Troy, Rensselaer county, and State of New York, have invented new and useful Improvements in Water-Reservoirs for Stoves, which invention we have duly assigned to DANIEL E. PARIS, of Troy, New York, and to CLEMENT OLHABER, of Cincinnati, Ohio; and we do hereby declare that the following is a full, clear, and accurate description of the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, like letters representing like parts, in which—

Figure 1 is a perspective view of a cooking-stove, with the reservoir in position. Fig. 2 is a sectional side view, showing the reservoir, together with the stove-top, and one mode of attachment. Fig. 3 is a perspective view of the horizontal flue in the bottom of the reservoir, and also of the perpendicular flue on the back of the same. Fig. 4 is a perspective view of one of the covers to the reservoir, showing the slot in the center of the same. Fig. 5 shows a part of the back piece D, to which the pipe-collar V is attached, as seen in Fig. 1. Fig. 6 shows the back flue-piece G, which forms three sides of the perpendicular flue F, and a part of the bottom of the horizontal flue E, by the projecting foot or base piece *g g*. This last part, however, may be separate, as seen in Figs. 6 and 8. Fig. 7 shows a different mode of attaching the reservoir A to the stove-top B, through the pipe-collar J, by means of the cross-bar Y and the two sliding hook-pieces Z Z, seen again, somewhat modified, in Fig. 8.

We now proceed to describe more particularly our invention, together with the principles involved in the same.

It has long been desirable to construct a reservoir that could be attached to a common stove-top without any changes whatever in the stove itself—that is, people who are using a stove without a reservoir often want to get one to put onto the stove just as it is. Some people who cannot afford to buy a stove with a reservoir, afterward become able, and desire

one. They live, perhaps, a great way from where the stove is made, and it is not reasonably possible for them to send it back to the manufacturer to have a reservoir attached, which could only be done heretofore by changing the top of the stove, and the back plate also.

The object secured by this invention is the attachment of the reservoir to any common stove-top, giving just as good an article as can be made in any other way, for it will heat as well, if not better, and it looks as well also. Thus utility and symmetry are both secured, as follows:

Heretofore the exit-passage for the smoke and products of combustion has been below the top plate B, through a sink in the center of the dotted plate H, formed below the extreme bottom of the reservoir, while in this the exit-passage is through the ordinary pipe-collar J into the lateral flue E, formed in the center of the reservoir, by raising the whole or a portion of the bottom I upward sufficiently far to form a flue or exit-passage of greater or like capacity with the pipe-collar J, which shall conduct the products of combustion into the upright flue F, or some equivalent therefor, and thus off into the exit-pipe.

By this means the heat is thrown upward toward the center of the body of water in the reservoir, and passes along underneath it, and then up at the side of it, through the flue F, into the exit-pipe. Thus a good part of the surface of the reservoir containing the water is exposed to the direct heat of the flues, for the water is heated from the sides of the flue E as well as from the top of the same, unless the whole bottom be elevated, in which case the whole bottom surface is exposed to the heat, and which is then confined, or conducted rearward by the outer shell or surrounding wall of the reservoir.

In case the whole bottom be elevated, a flue-piece similar to that seen in the back flue F at K, Fig. 2, may be used to spread the heat, and cause it to follow around the outer part of the bottom of the reservoir on its way to the exit-pipe. The sides of the flue F, seen in Fig. 6 at G, may be spread so as to inclose or



encase a large part of the back side of the reservoir, so as to secure a larger heating-surface for the flue, if so desired, and the plate K (seen in Fig. 2) may then be lengthened horizontally, and, if desired, carried backward, so as to touch the back plate G at its rear side, thus compelling the heat to divide and spread over any desired surface on the upright rear part of the reservoir; but this arrangement will not, it is believed, be necessary in ordinary stoves, in order to get a sufficient amount of heat, for the only advantage gained would be to increase the heating-surface.

The foot or base piece *g g*, which may be separate and movable, or cast solid with the piece G, forms, as will be seen in Fig. 2, a part of the bottom of the horizontal flue E, but it need not be longer, nor project farther forward than simply to meet and join with the rear molding of the stove-top B, for the stove-top itself will form the bottom of the flue E so far as it extends rearward beyond the pipe-collar J. The plate I, seen in Figs. 1 and 2, joins the back plate G at *i i*, seen in Fig. 6. In place of the plate *g g*, the whole top of the stove may be extended rearward, as shown in the dotted lines under the reservoir in Figs. 1 and 2, but in that case the extension-piece H would have to be made to fit every separate stove, while the sliding piece *g g* will fit any kind of stove of any size or shape.

An equivalent for the back flue F may be had by extending the bottom flue E backward sufficiently far to receive a pipe-collar, as in Olhaber's patent of November 19, 1867, thus omitting the back flue F entirely, which latter is similar to Pratt's patent of December 11, 1866, and as such is not here claimed.

The covers to this reservoir are new in their arrangement, as regards the way in which they are attached to the back piece D, which is bolted permanently to the top edges of the reservoir, while the covers are attached to the piece D without any mounting or drilling, being simply locked together by means of the concave prongs N N, the convex half rounds O O, the crooked hook L working through the elongated slot M, as shown in Figs. 4 and 5. By this means the two pieces are locked together before the back piece G is permanently attached to the reservoir, and then, after it is attached, the covers are held permanently in their place, and a perfect easy movement is obtained, and the arrangement is such that any moisture dripping from the covers will fall into the reservoir, and the whole is accomplished without any drilling or mounting, and both pieces are just as easily cast as though their edges were plain.

The other new feature here is the manner of attaching the reservoir to the stove-top, which is done through the ordinary pipe-collar J of a cooking-stove or range, and by either of the following ways or their equivalents:

In one mode an ear or lug is cast on the

bottom of the reservoir at R, Fig. 2. Then a hole is drilled through it, into which the bolt S is inserted, and bent downward through the pipe-collar J passing through the cross-piece P P, and is then fastened by a nut and screw, or otherwise, below said cross-piece, and thus the reservoir is held firmly in its place, and prevented from tipping over backward. A small ear, or its equivalent, cast on the inside of the pipe-collar, which is represented at T in Fig. 2, may serve instead of the cross-piece.

Another mode of attachment is shown in Fig. 7, which is preferable, perhaps, as it would probably be stronger and more durable. It consists of the cross-bar Y, placed close up under the bottom plate I, and supported by a small lug or pin, cast on either side of the side walls to the flue E, on which cross-bar the pieces Z Z slide inward and outward. There are hooks cast or made at the lower ends of the pieces Z Z, which catch under the stove-top at each side of the collar or opening, as seen in Fig. 7, and are kept spread apart by notches on the cross-bar Y, by nibs or notches cast on the bottom plate I, or by any other means desired. A modification of this mode of attachment is seen in Fig. 8, where the rib *a a* takes the place of one of the hooks Z, which keeps the reservoir from going forward, while the hook Z holds the reservoir down in its place, and being movable by means of the nut and screw S, Fig. 8, is graduated to any sized pipe-collar, while the sliding piece *g g* is also graduated to any size of collar, whether round or oval. An equivalent may be had for any of these fastenings. The principle is that the reservoir is fastened to the stove-top by means of some device that shall connect with the bottom of the reservoir, and reach down into or through the pipe-collar, and fasten to or underneath the same, substantially as herein described and shown, and which is done with or without any previous drilling or preparation made to receive the reservoir.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The horizontal flue in or under the bottom of the reservoir, formed by elevating a part or the whole of the bottom above the outer lower edges of the reservoir sufficiently high to allow the products of combustion to pass rearward under the same into the exit-pipe, substantially as described.

2. The base slide or bottom piece *g g*, or its equivalent, made either permanent or movable, and forming the rear part of the bottom to said horizontal flue, and connecting both with the reservoir and the back flue-piece G, or its equivalent, substantially as herein described and set forth.

3. The self-mounting cover or covers C C, together with the back piece D, formed with the concave prongs N N, the convex half-



rounds O O, the crooked hooks L, and the elongated slot M, or their equivalents, so arranged and hung that the drip of the cover shall fall back into the reservoir.

4. The attaching, fastening, or supporting a reservoir to or by a stove-top by means of bolts, pins, bars, hooks, or lugs, inserted in or

through the ordinary pipe-collar or exit-passage opening of the top plate of the sieve.

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