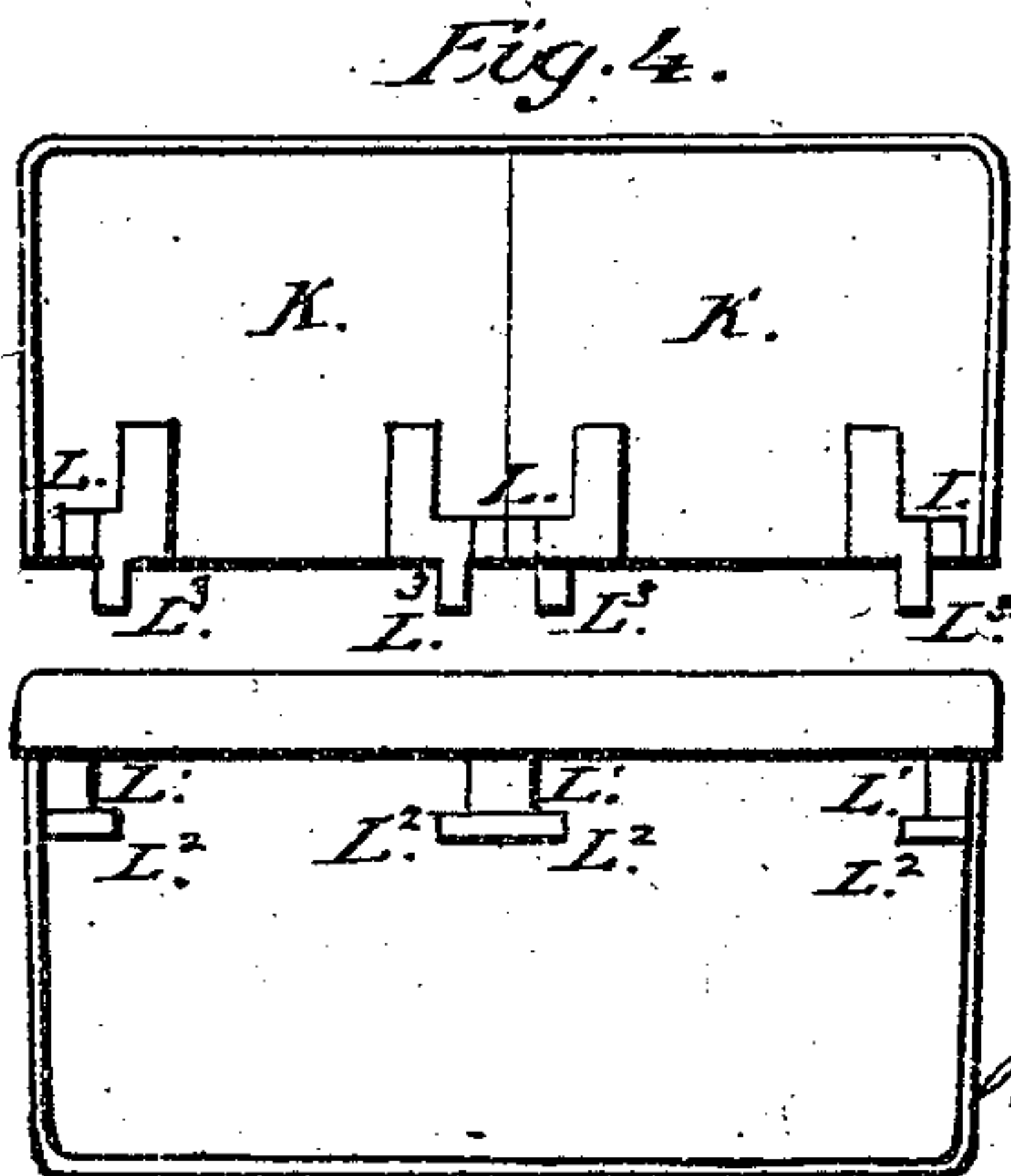
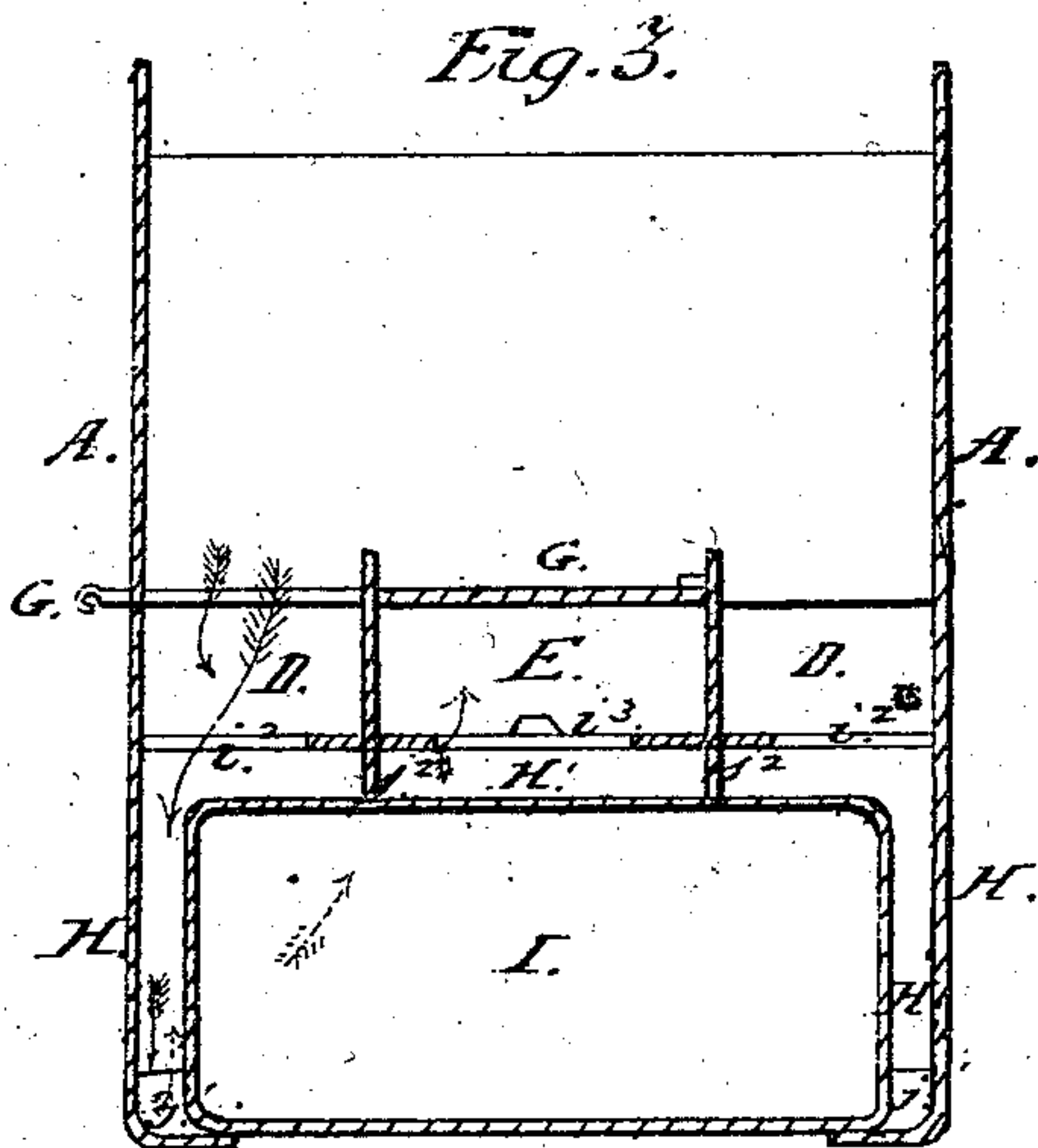
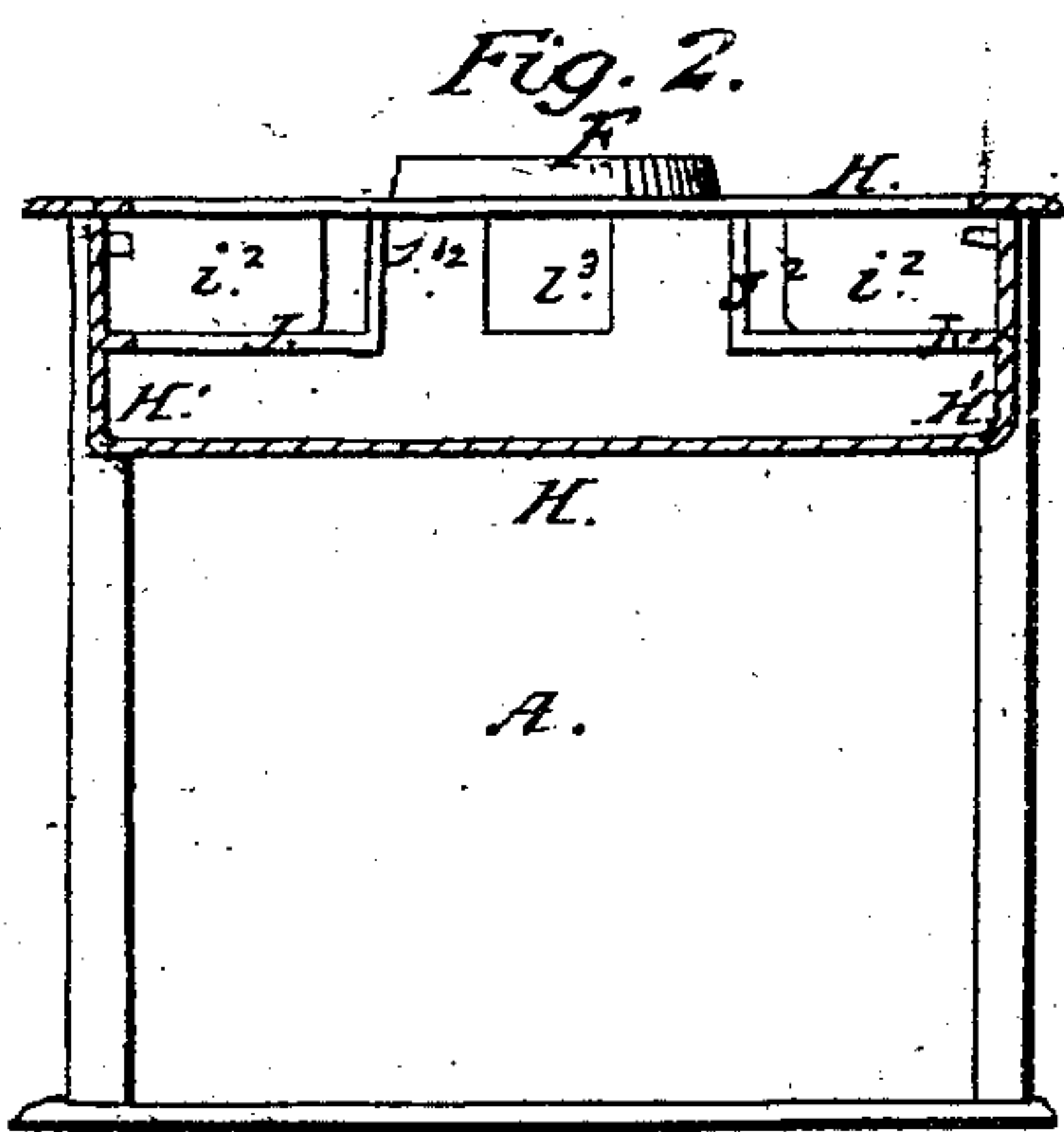
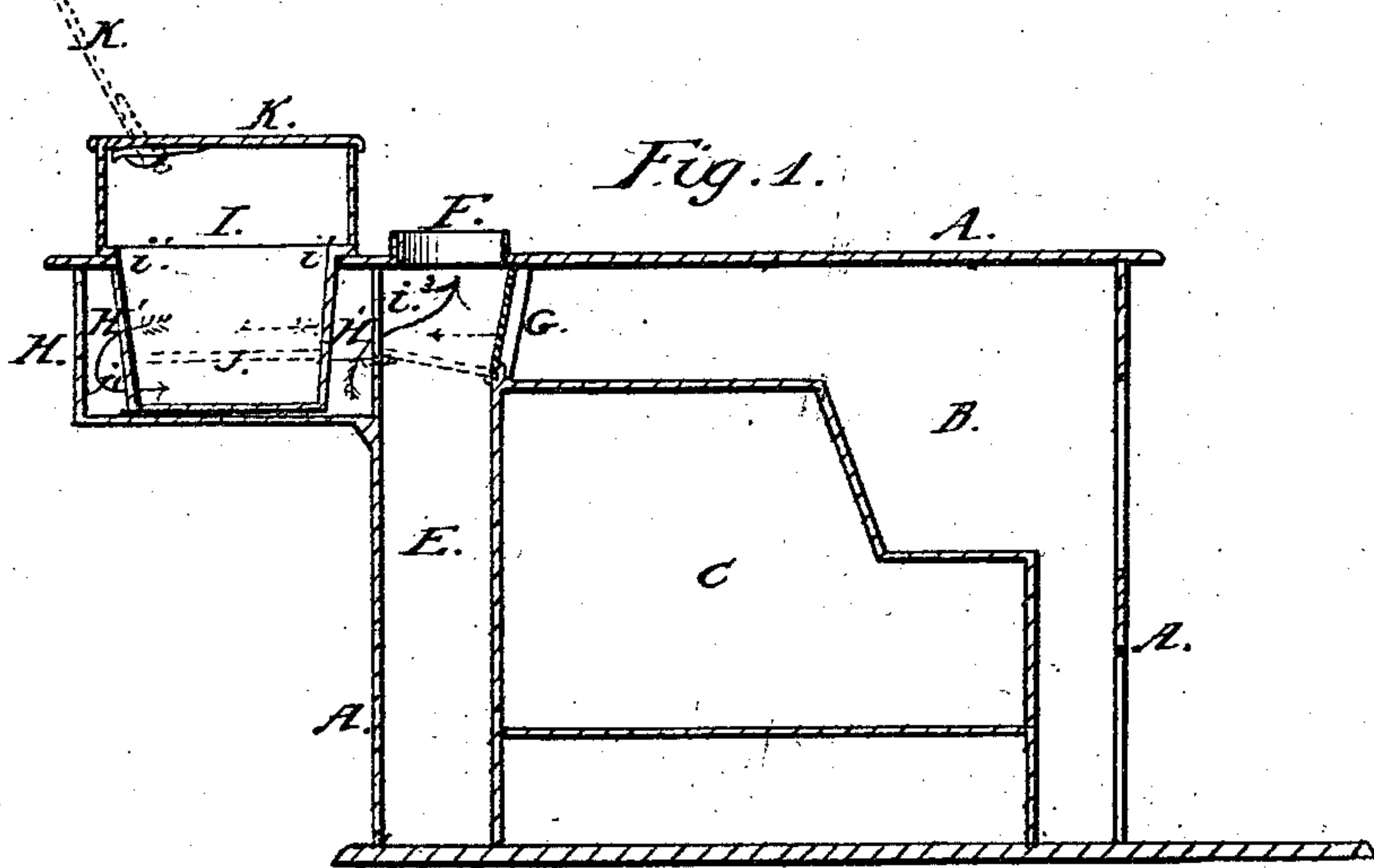


N. S. Vedder

Reservoir Cooking Stove.

No 93,929. Patented Aug. 17, 1869.



Witnesses;
Samuel Smith
Chas. A. McQueen

Inventor;
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UNITED STATES PATENT OFFICE.

NICHOLAS S. VEDDER, OF TROY, NEW YORK.

COOKING-STOVE.

Specification forming part of Letters Patent No. 93,929, dated August 17, 1869; antedated July 13, 1869.

To all whom it may concern:

Be it known that I, NICHOLAS S. VEDDER, of Troy, in the county of Rensselaer, and State of New York, have invented a new and useful Improvement in Cooking-Stoves; and I do hereby declare the following to be a full and correct description of the same.

My invention relates to the class known as "reservoir-stoves"; and consists, first, in arranging within a horizontal extension of the stove, in rear of the main diving and return flues, and in communication therewith, certain horizontal partitions, forming, in combination with the water-reservoir, flues or passages, through which a circulation of the hot-air currents may be advantageously established, to heat the water in said reservoir, as will hereinafter fully appear; second, in the special construction of a hinge, by which the lid or cover of said water-reservoir is connected thereto in a most simple and inexpensive manner, and so that when raised or open the drippings of condensed steam or water therefrom will be returned within the reservoir.

In the accompanying drawings, Figure I is a vertical longitudinal section of a cooking-stove, showing my said improvement applied thereto. Fig. II is a rear cross-sectional elevation upon line 1 2 of Fig. I. Fig. III is a sectional plan upon line 3 4 of Fig. I, under a slight modification, to be hereinafter described. Fig. IV is a detail plan of reservoir, with its lid or cover detached and thrown back, so as to show the under side thereof.

Like letters refer to like parts in each of the figures.

A represents a cooking-stove, of common construction, except in the special features in which my invention consists. B is the fire-chamber; and C, the oven. D D are the diving-flues, passing down at the back of the oven, and under the same; and E is the return-flue, carrying back to the smoke-pipe F the hot-air currents carried down by the flues D D in a common and well-known manner. G is the damper, by which the hot-air currents are made to descend the diving-flues, or allowed to pass directly out through the smoke-pipe. H represents the rearward extension to receive the water-reservoir. Its top is formed by an extension of the top-plate of the stove, provided with a suitable aperture for the reception of the water-reservoir I.

The vertical depth of the extension is such

that it may receive about one half of the water-reservoir, the other half projecting above the top plate, and enlarged laterally, so as to form a shoulder, i^1 , to bear upon the top plate and support the reservoir in position.

That part of the reservoir projecting within the extension H is sufficiently contracted in its dimensions to leave a surrounding chamber or flue, H', except as in the modification shown in Fig. III, when it only extends around three sides of the reservoir, in which case the reservoir itself is made to form the fourth and rear side of said extension, as clearly represented.

The chamber H' is brought into communication with the diving and return flues D D and E by proper openings through the back plate of the stove, as shown at i^2 i^2 and i^3 .

J J represent horizontal partition-plates, dividing the chamber H' into upper and lower flues, to determine the circulation of the hot-air currents therein. They extend across so much of the front of chamber H' as is covered by the diving-flues, and across the ends thereof, stopping short, however, so as to leave a space, j^1 , for the circulation of the hot-air currents around their ends.

The division-plates between the return and diving flues are made to extend across the front part of chamber H' to the water-reservoir, and connect with plates J, as shown at j^2 , so as to divide said chamber and direct the hot-air currents, as will be presently described.

When the damper G is in the position, as shown by full lines in Fig. I, to turn the hot-air currents down the diving-flues, a certain portion of said hot-air currents will pass into chamber H', by reason of its communication with said flues, being prevented from directly entering the return-flue by the partition-plates J and j^2 , and, therefore, obliged to pass along the top of plates J, and around the water-reservoir, until, reaching the spaces j^1 , they are turned downward and returned, still passing around the water-reservoir to the smoke-pipe or return-flue, as is clearly indicated by the arrows. During this passage their heat will be imparted to the water in the reservoir, thereby fulfilling the desired object of the construction.

The area of the opening i^3 to the return-flue should be contracted to such relative proportion to the area of the openings i^2 i^2 to the diving-flues as to insure a proper draft to establish the above-described circulation.

When the damper G is in the position shown by red lines in Fig. I, the hot-air currents will mainly pass directly out at the smoke-pipe, without action upon the reservoir.

The water-reservoir may or may not be made an accompanying part of the stove. If not, its place should be supplied by appropriate covers, to close the aperture in the top plate of extension H for its reception. Said covers should be of such character as to admit of the use of any of the ordinary stove-furniture upon said extension.

I will now describe my improved hinge for the cover or lid of the water-reservoir. Said lid is shown at K, and is made in two parts, though it may be made in one, if desired.

L represents semi-cylindrical bosses upon its hinged edge, and L¹ corresponding lugs, with semi-cylindrical notches, upon one side of the reservoir. L² are lateral projections from lugs L¹, under which forward hook-projections L³, from bosses L, engage when said bosses rest within said notches. The bosses and notches form the hinge proper, upon which the lid swings in opening and closing, though, when in an intermediate position, the same may be readily removed.

The axis of the hinge being below the inner

face of the lid when closed, when the lid is open the plane of its inner face will stand within the side of the reservoir, so that any steam which may condense thereon will be returned into the reservoir.

The more surely to accomplish this result, the projections L¹ and L² are, by construction, made to prevent the opening of the lid farther than slightly beyond the perpendicular, as shown by red lines in Fig. I.

This construction makes a very cheap and durable hinge, not liable to get out of order from rust or corrosion, a difficulty heretofore experienced in the use of common hinges in this construction.

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

The arrangement of the partition-plates J and j² within the rearward extension H, forming horizontal flues, and in relation to the water-reservoir I, directing the heated air over and under the said plates into the return-flue, substantially as and for the purpose set forth.

NICHOLAS S. VEDDER.

Witnesses:

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