

O. S. CAMP.
Domestic Boiler.

No. 24,442.

Patented June 21, 1859.

Fig. 1.

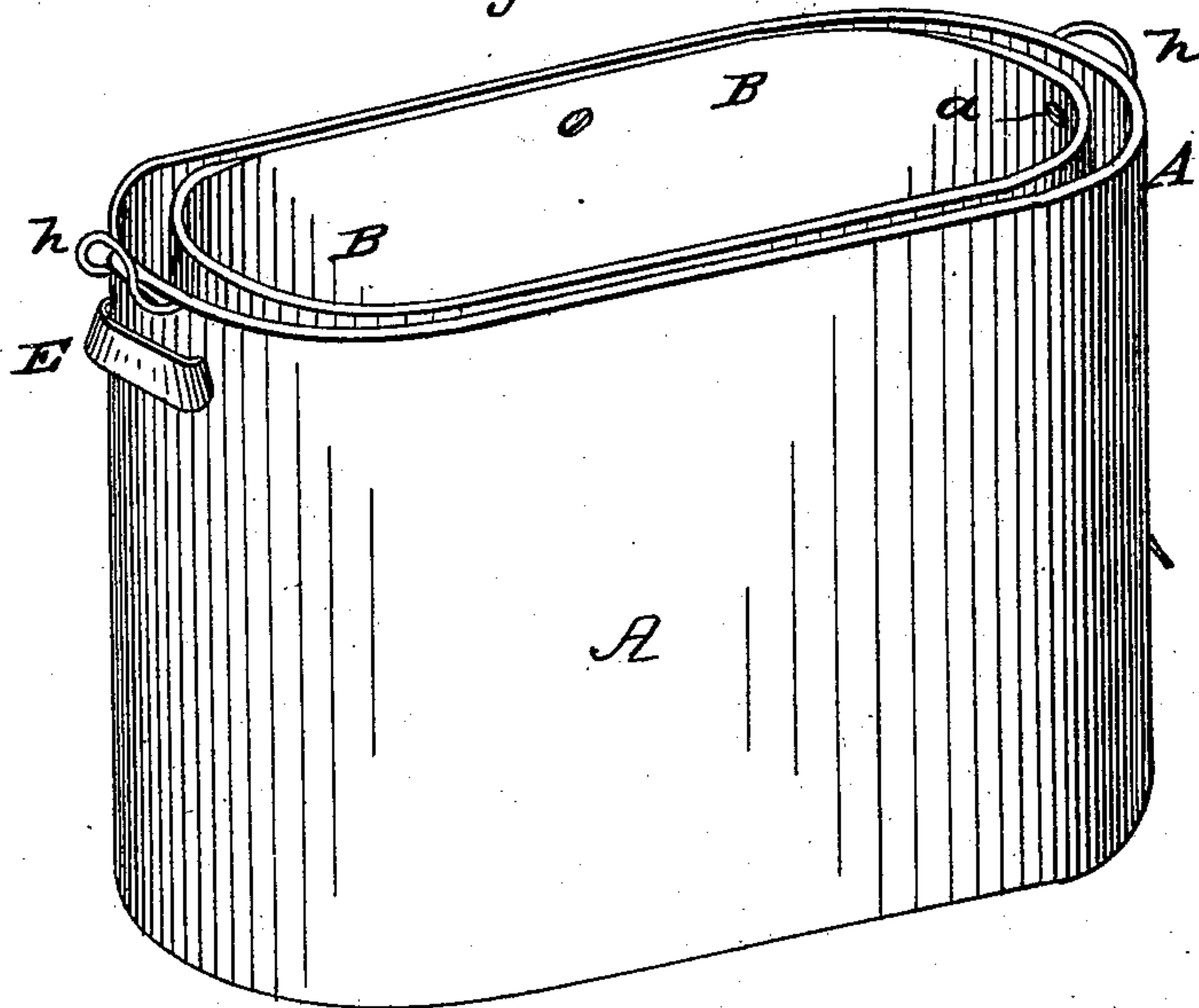
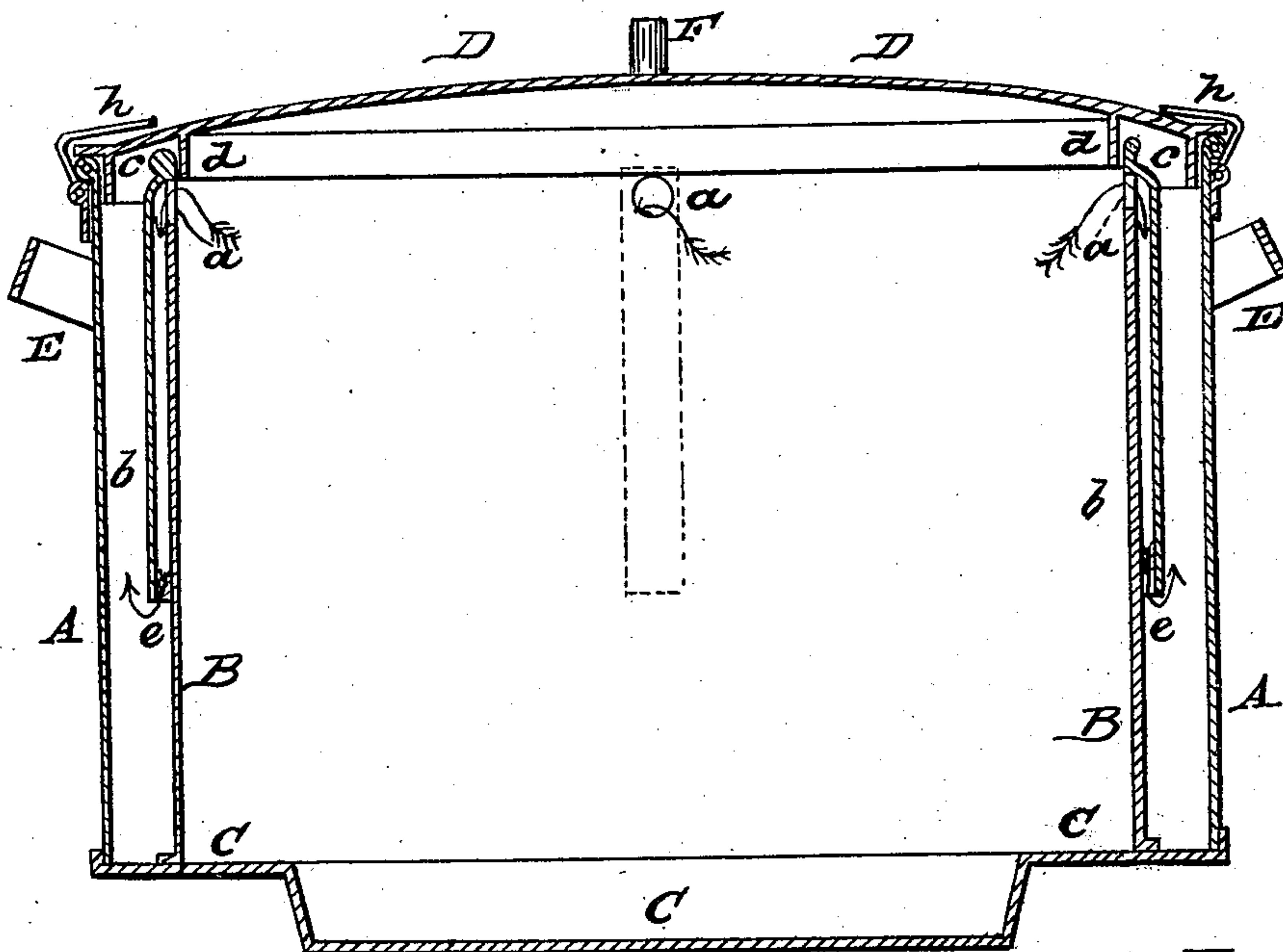


Fig. 2.



Witnesses:

S. H. Bradley
Thos. D. Evans,

Inventor:

O. S. Camp.

UNITED STATES PATENT OFFICE.

O. S. CAMP, OF FAIRFIELD, IOWA.

BOILER.

Specification of Letters Patent No. 24,442, dated June 21, 1859.

To all whom it may concern:

Be it known that I, O. S. CAMP, of Fairfield, in the county of Jefferson and State of Iowa, have invented certain new and
5 useful Improvements in Boilers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings,
10 in which—

Figure 1, represents a perspective view of said boiler. Fig. 2, represents a longitudinal vertical section through the same.

To enable others skilled in the art to
15 make and use my invention I will proceed to describe its construction and operation.

The boiler represented in the drawings is made with double sides or walls A, and B, one within and equidistant from the other,
20 the bottom C, as well as the cover D, is common to both. The space between the two boilers may be dead air space, or be partially filled with water or steam for a purpose to be hereafter described. The inner
25 boiler B, is furnished near its upper edge with openings *a, a*, from which the closed spaces *b*, lead down into the space between the two boilers, so that if the space between the double walls of the boiler be
30 used as air space and steam be passing through it, the steam shall enter low down, and then rise and pass through said space, or if the space be filled with water so that the steam shall enter the water low down,
35 and thus more uniformly heat it up, as it comes in contact with a greater body of water. In either case the inner wall of the boiler has a heated medium on its outer side which will not convey off its heat as
40 rapidly as the air would do, when used without the outer wall. It is thus a great saver of heat, as it loses little or none by conduction through the metal, there being a non-conducting medium between the inner
45 and outer walls.

D, is the cover common to both boilers, the latter being provided with two concentric flanges *c*, and *d*, which fit against their respective sides A, and B, when the boiler is
50 covered.

h, represents two hinged clamps for the purpose of holding down the cover D, and E, represents the handles of the boiler.

I make the entire boiler of the metal known as galvanized iron, as the same is
55 more economical, durable, and less affected by alkali, acids, and by the fire than tin or copper.

In using this boiler the articles to be boiled together with the requisite quantity
60 of water are put into the inner boiler B, the space between the inner and outer boiler being air space, or partially or entirely filled with water. The water in the inner boiler is heated by the common process of boiling
65 while the air or water in the outer space is heated by steam arising from the boiling water of the inner boiler, which passes through the holes *a*, and down the flues *b*, and through *e*, into the water of outer boiler.
70 The inner boiler is thus surrounded by another boiler of the same temperature which is a non-conductor of heat, and prevents the inner boiler from cooling by conduction through its walls, and thus said boiler if
75 once heated, will require but a small quantity of fuel to keep it at the same temperature. The cover D, must be fitted well to the inner boiler to prevent an easy escape of the steam, and should the pressure of the
80 steam become too high it will escape through the pipe F, which opens inward into the outer boiler. Thus it will be seen that there will be economy in fuel in using this double
85 boiler, as compared with a boiler of the common construction, and a further saving will be effected by making the same of galvanized iron as above described, as it is cheaper and more durable than the other sheet
90 metals used for this purpose.

Having thus described my invention, what I claim is—

A boiler made of double walls, and a single top and bottom, said top having flanges to fit against each wall, and the com-
95 munication between the interior of the inner boiler, and the space between the walls, being made by closed passages, such as described, the whole being constructed as set forth, and for the purpose described.

O. S. CAMP.

Witnesses:

S. M. BRADLEY,
THOS. D. EVANS.