

H. ROSS.
Wash-Boilers.

No. 146,022.

Patented Dec. 30, 1873.

Fig. 1.

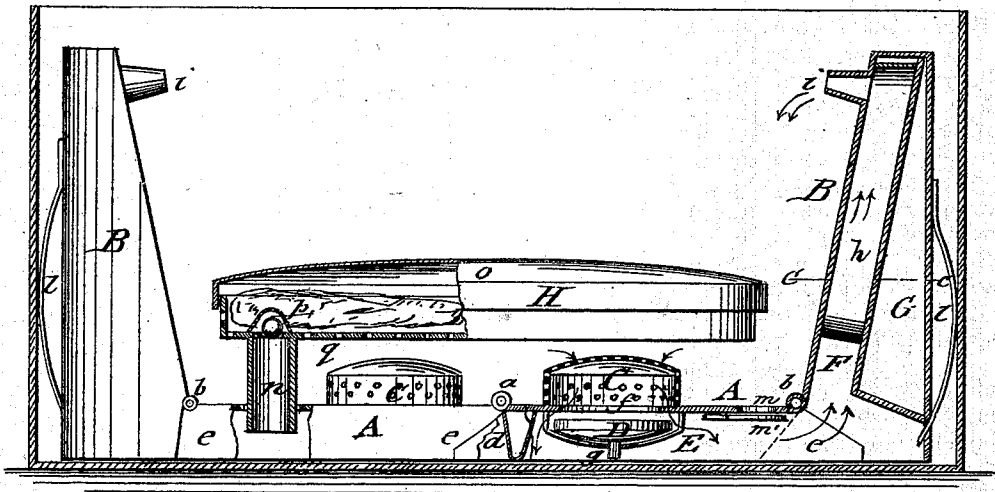
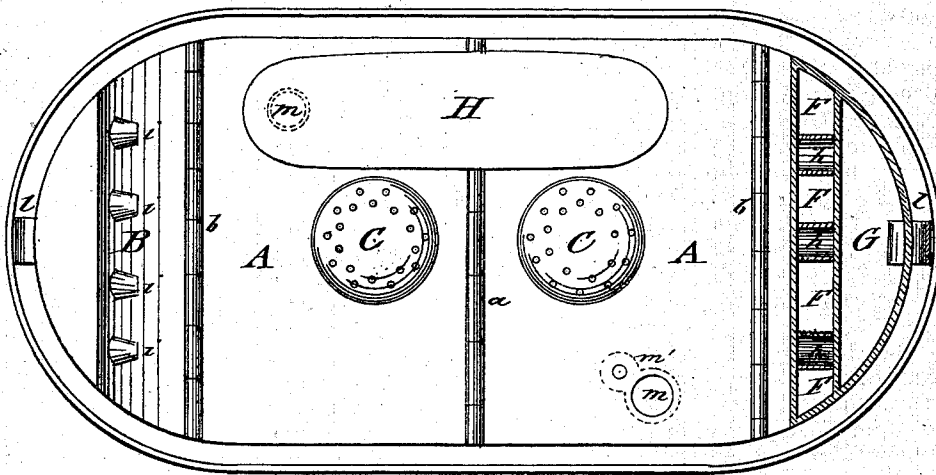


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

HUGH ROSS, OF PLATTSBURG, NEW YORK.

IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. **146,022**, dated December 30, 1873; application filed July 5, 1873.

To all whom it may concern:

Be it known that I, HUGH ROSS, of Plattsburg, in the county of Clinton and State of New York, have invented a new and useful Improvement in Wash-Boilers, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of an oval boiler with my detachable steam washer; Fig. 2, a top view of the same, partly in horizontal section, on the line *c c*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of my invention is to construct an improved detachable steam washer, which may be placed and adjusted into any wash-boiler, doing the washing in a shorter space of time, with less labor and with smaller expense, and combining, at the same time, the advantages of a steam cleaning and bleaching apparatus. My invention consists in a steam washer, which is constructed with a novel arrangement of hot-water passages and side air-chambers, together with valve-connections for the circulation of the boiling water. By means of hinge-connections of the sides and the bottom the washer may easily be inserted into any form of boiler of sufficient size, the bottom being also provided with a central partition for producing the separate action of each half of the washer. The invention further consists in applying to the bottom of the washer a chamber or receptacle to hold the acids or other chemicals for removing stains or bleaching the clothes.

In the drawing, A represents the bottom of the steam washer, which is made of two halves, which are connected, by a central hinge, *a*, and by side hinges *b*, with the side chambers B. A central partition, *d*, runs along-side of hinge *a*, and forms, in connection with the surrounding rim or flange *e* of bottom A, the side chambers B, and the bottom of the wash-boiler, two separate steam and water chambers. Each half of bottom A is provided with a central aperture, *f*, which is supplied on the upper side by a projecting perforated covering C, so that the clothes cannot choke aperture *f* and interrupt the working of the apparatus. A flat circular valve, D, closes the aperture, and is guided vertically in cage E by

a stem, *g*, on its under side. When sufficient steam has been generated in the boiler, (the lid being tightly closed,) the pressure of the same upon the surface of the water and the clothes will cause currents of mingled steam and water to set through the valve-openings, up the passages F, and discharge through nozzles *i*, as indicated by the double arrows. By this means a supply of water is also admitted to the space beneath the bottom A, which becomes heated to a higher degree, and is, in turn, forced upward and discharged through nozzles *i*. Thus a circulation of boiling water is continually kept up. The side chamber B consists of two main parts—the hot-water passages F and the air-chamber G. The hot-water passages are formed by the inner wall of side chamber B, the inner side of the air-chamber G, and by a series of vertically-extending double partitions, *h*, which run up between the spouts *i* at the upper end of the hot-water passages F. The object of the double partitions *h* is to economize the steam developed in the bottom chamber by applying the pressure of the same to a decreased section of water, so that the circulation is accelerated and a smaller amount of fuel required. The air-chamber G is formed by the outer wall of side chamber B and the lateral partition-wall between it and the hot-water passages F, together with a base connection, and serves the purpose of preventing the condensation of the steam passing up in the hot-water passages by the exterior air, so that the washer begins to operate in shorter time than if the whole space were used for the passage of steam and water. The outer wall of air-chamber G is curved in the shape of the boiler, and rests vertically on the bottom of the same when in position for work.

When boiler and washer are manufactured at the same time, corresponding in size, the hinged joints at bottom and sides may be dispensed with and band-springs *l* be applied at the outer wall of the air-chamber G to fit into the boiler.

The bottom A is further provided with small side perforations *m*, which may be closed by pivoted slides *m'*. Into these perforations *m* are inserted the tubes *n*, which carry, at their upper end, and at right angles to them, chambers H, with perforated sides and bottoms *q*

and covers *o*. Tube *n* is closed by a ball-valve, *p*, which is covered and held in position by wire-gauze.

Sponge or other soft material is placed in the chamber *H* and saturated with the acids or other chemicals, for removing stains or bleaching the clothes, when placed on the perforated coverings *C* of the valves, being brought in contact with the chemical ingredients before the regular circulation of steam commences, which will then complete the intended effect.

By means of the central partition of the bottom, in connection with the steam and hot-water passages at the sides and the valves, a continual circulation is kept up through the washer, so that the clothes are washed in comparatively shorter time than with the boilers hitherto in use.

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

1. In combination with a common boiler, the separate steam washer, consisting of hinged bottom *A*, with valves *D*, perforated coverings *C*, cages *E*, and hinged side chambers *B*, substantially as and for the purpose described.

2. The hinged bottom *A*, having central partition *d* and apertures *f m*, and slides *m'*, as set forth.

3. The side chamber *B*, consisting of hot-water passages *F*, with partitions *h*, and air-chamber *G*, as described.

4. The receptacle *H*, for acids or other chemical ingredients, having tube *n*, with ball-valve *p*, and perforated sides and bottom *q*, constructed substantially as specified.

HUGH ROSS.

Witnesses:

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