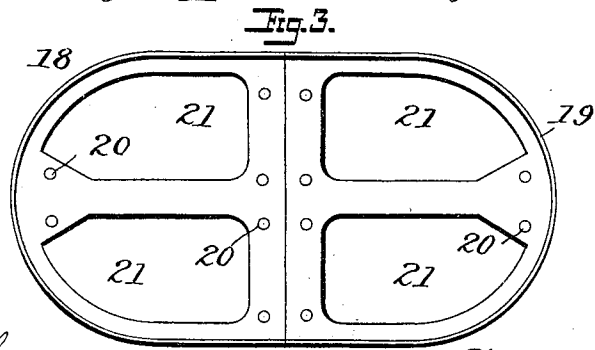
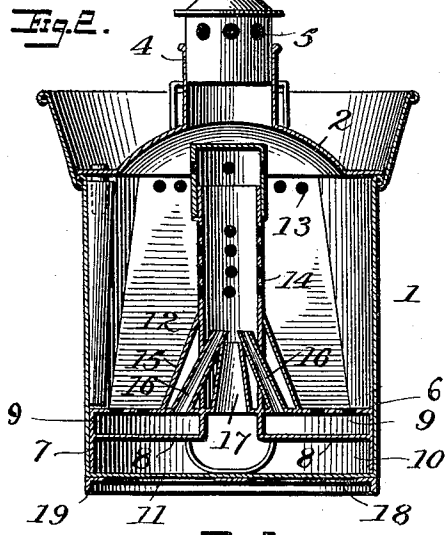
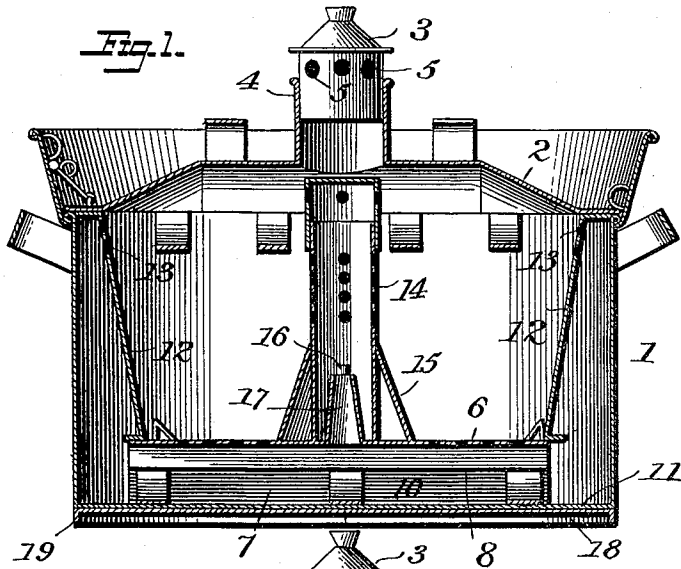


(No Model.)

D. J. H. DAVIES.  
WASHBOILER.

No. 520,589.

Patented May 29, 1894.



Witnesses  
*Jno. G. Hinkel*  
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# UNITED STATES PATENT OFFICE.

DAVID J. H. DAVIES, OF WILKES-BARRÉ, PENNSYLVANIA.

## WASHBOILER.

SPECIFICATION forming part of Letters Patent No. 520,589, dated May 29, 1894.

Application filed July 19, 1893. Serial No. 480,916. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID J. H. DAVIES, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Washers, of which the following is a specification.

My invention relates to steam washers and more particularly to improvements upon the washer patented to me April 9, 1878, by Letters Patent No. 202,243. While the said patented machine has proved very successful in its original form, experience in its manufacture and use has demonstrated to me that it could be improved somewhat in respect to its operation and durability by certain changes in construction, which changes constitute the present invention and will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a longitudinal vertical section through the center of my improved washing machine. Fig. 2 is a transverse vertical section of the same taken through the center, and Fig. 3 is an inverted plan view of the bottom.

The boiler 1 may be of any convenient shape and size, preferably oblong with rounded ends as shown in Fig. 3. The lid 2 is of the usual form excepting that it is preferably provided with a safety valve consisting of a cap 3 resting on a tubular extension 4 and having openings 5 which are ordinarily closed by the extension 4. When the steam pressure increases to a certain pressure the cap 3 is raised as shown in Fig. 1 and the excess of steam escaping through the openings controls and regulates the action of the power applied in drawing the water down through the contents of the washer.

Within the boiler 1 is placed a false bottom 6 supported upon downwardly projecting flanges 7. Two additional partition plates 8 lie between the main and the false bottoms and divide the space into two upper chambers 9, and a lower chamber 10, which extends over the entire bottom of the boiler and along the middle it extends from the main bottom 11 up to the false bottom 6 between the plates 8. At each end of the boiler is a vertical casing 12 open at its lower end and extending

from the false bottom nearly to the lid and having openings 13 near its upper end. At the center of the boiler there is a vertical perforated standpipe 14 resting on the false bottom 6, and supported by a hollow conical base or cone 15, which rises from the false bottom. Within the conical base 15 are two conical fountain tubes 16 rising from the false bottom at a more acute angle than the cone 15 and opening at their lower ends into the chambers 9. Between the tubes 16 is a third conical fountain tube 17 having its lower end opening into the chamber 10. The tubes 16 converge together and have their upper ends located on opposite sides and above the upper end of the tube 17, as shown, all three of them discharging within the tube 14. The false bottom on which they rest is perforated so that the water when drawn can enter freely into the spaces 9 beneath said perforated bottom. I find that this series of fountain tubes gives a more uniform and powerful action to the boiling water and steam than the single tube, causing the water to rise in greater quantities up through the vertical casings 12 and also through stand-pipe 14 from which it is sprayed upon and into the clothes, and thereby reducing the labor, the wear, and the time necessary to perform the washing. I also find that with this new arrangement when the fire becomes very hot there is no danger of boiling over. With the proper amount of heat the upward pressure of the converging tubes causes them to act on the principle of an ejector, and the water ejected from each tube aids in drawing the water through the other tubes, and downward through the clothes. With the most furious fire however the water cannot boil over for the reason that it becomes controlled and regulated by the powerful action of the fountain tubes 16, combined with the action, for that purpose, of the conical tube shown in my former patent.

I have found that in a well made steam washer, the boiler bottom often burns out from contact with excessively heated stoves before the remaining portions of the machine begin to wear out. To obviate this I have provided my improved boiler with an additional skeleton bottom 18, preferably of wrought iron, and having a flange 19 turned

up along its outer edge to the extent of about one-eighth of an inch. The skeleton bottom is fastened to the boiler bottom by means of rivets 20 sufficient in number to unite the two together rigidly. These rivets may be soldered on the inside to prevent leakage. The skeleton bottom is preferably made in two sections as shown and while it protects the main bottom of the boiler from wear it cuts off very little heat as large sections of it are cut out leaving spaces 21 through which the heat strikes directly upon the boiler bottom.

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

In a steam washing machine the combination of the boiler, the perforated false bottom,

the partition plates 8 dividing the space beneath the false bottom into chambers 9 and 10, the central fountain tube resting on the false bottom and communicating with the chamber 10, the side inclined and converging fountain tubes communicating with the chambers 9, and the central perforated stand-pipe, said fountain tubes having their upper ends located close together within the stand-pipe, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID J. H. DAVIES.

Witnesses:

W. L. RAEDER,  
D. O. COUGHLIN.