

Z. McKINLEY.  
Wash-Boiler.

No. 217,810.

Patented July 22, 1879.

Fig 1.

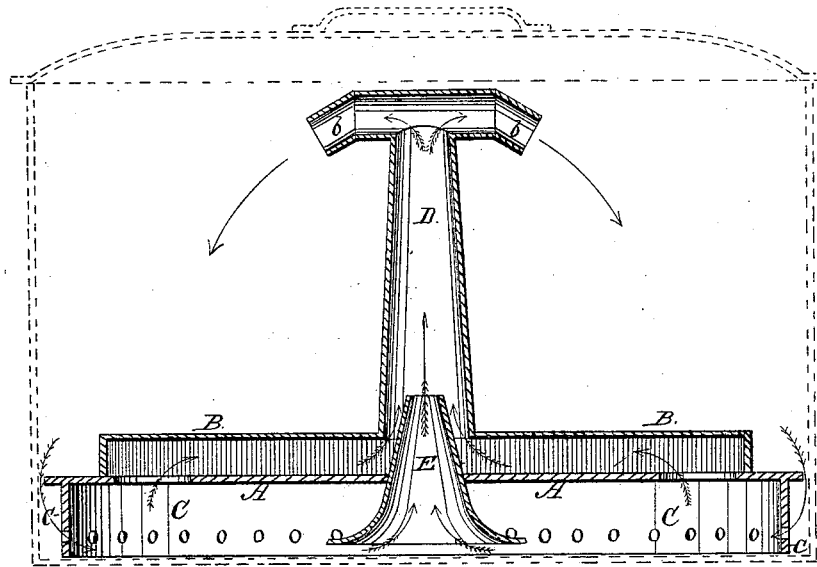


Fig. 3.

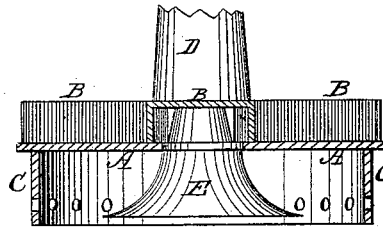
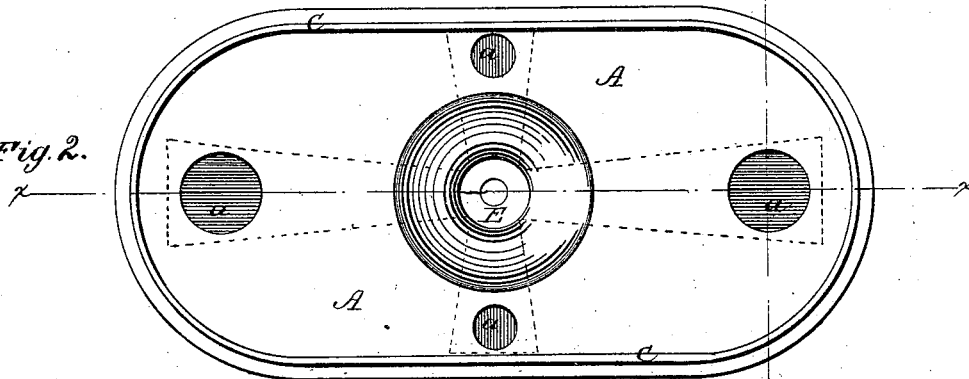


Fig. 2.



WITNESSES:

*W. W. Hollingsworth*  
*Amos W. Hart*

INVENTOR:

*Z. McKinley*

BY

*R. C. [Signature]*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

ZELOTES MCKINLEY, OF CAMDEN, MICHIGAN.

## IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. **217,810**, dated July 22, 1879; application filed May 6, 1879.

*To all whom it may concern:*

Be it known that I, ZELOTES MCKINLEY, of Camden, in the county of Hillsdale and State of Michigan, have invented a new and Improved Wash-Boiler; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in the class of wash-boilers which have such construction that when placed over a fire a circulation of water is induced through the clothes, the hot water from below being raised by the generation of steam and poured over the clothes in a stream or cascade to again find its way back to the chamber in the bottom of the boiler.

My invention consists in the construction of the false bottom of the boiler, as hereinafter described, and as shown in accompanying drawings, in which—

Figure 1 is a longitudinal section of the device, and Fig. 2 a plan view of the same inverted. Fig. 3 is a cross-section of it on line *x x*, Fig. 2.

The false bottom is formed of a perforated horizontal plate, A, having tubes or channels B on its upper side, a vertical perforated rim or flange, C, supporting said plate, a T-shaped tube, D, communicating with the channels, and a tapered bell-mouthed tube, E, communicating with the T-shaped tube. The construction and arrangement of these parts are more particularly described as follows:

The plate A is provided with an opening, *a*, at each end and on each side at points respectively equidistant from each other. A tube, B, extends from each such opening *a* inward to the center of the plate A, where the four communicate with the T-shaped tube D, which is rigidly attached to their adjacent ends.

As shown in the drawings, the plate A forms the under side of the tubes B; but they may be constructed separate or independent of the plate without affecting the operation of the device. In the center of the plate A is fixed the short vertical tube E, whose rapidly-flaring mouth extends down below the same, while its contracted upper end enters the base

of tube D, but is of considerably less diameter than the latter, so that an annular passage is left between them. The flange C has a row of small openings near its lower edge and extending around it.

In practice the false bottom (or its plate A) is made of sufficiently less length and width than the boiler proper, in which it is used, to allow suitable space for passage of the water between them, as shown by arrows in Fig. 1, in which the boiler is represented in dotted lines. This space between the false bottom and sides of the boiler should obviously equal or exceed in cubical capacity the aggregate cubical capacity of the tube E and the four openings *a* in plate A, and also the capacity of the series of apertures in the rim C.

The operation of the device is as follows: So soon as the water is brought to the boiling-point it will rise through the tubes E and D, and discharge through the lateral arms *b b* of the latter upon the clothes resting on the plate A. Quickly percolating through these it will pass off the plate A around its edge and pass through the perforations in the rim C below, where it will divide into different currents, a portion escaping through the holes *a* in said plate, and a portion returning to the starting-point and again entering the bell-mouthed tube. The current through tubes E D is the positive one, and the currents through openings *a* and tubes B are mainly induced currents, being created by the action of the first. The directions of the several currents are indicated by arrows.

The constant and rapid discharge of boiling water upon and its passage through the clothes cleanses them in a comparatively short time.

What I claim is—

The combination, with the plate having openings *a*, the perforated rim C, and channels B, of the bell-mouthed tube E and discharge-tube D, substantially as shown and described.

ZELOTES MCKINLEY.

Witnesses:

FRANK MATHIAS,  
JOHN B. ALWARD.