W. L. HUBBELL.

Improvement in Automatic Circulators for Wash-Boilers.

No. 128,398. Patented June 25, 1872.

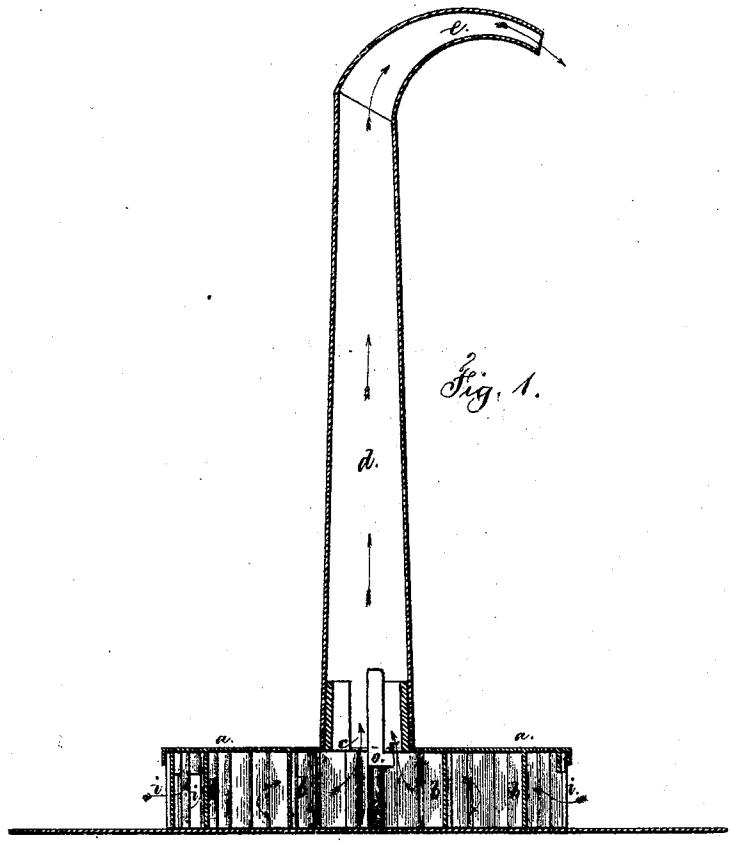

Fig. 1.

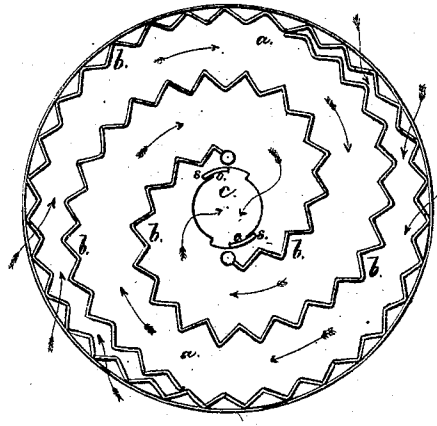

Fig. 2.

Witnesses.

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WILLIAM L. HUBBELL, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN AUTOMATIC CIRCULATORS FOR WASH-BOILERS.

Specification forming part of Letters Patent No. 128,398, dated June 25, 1872.

To all whom it may concern:

Be it known that I, WILLIAM L. HUBBELL, of Brooklyn, in the State of New York, have invented and made an Improvement in Automatic Circulators for Wash-Boilers; and the following is declared to be a correct description thereof.

This invention is for circulating the water and suds through the clothing and articles contained in a wash-boiler. For this purpose I employ a compound corrugated volute chamber beneath a plate, from the center of which rises a circulating tube. This device is movable, and is to be placed upon the bottom of the boiler, so as to prevent the clothes resting upon such boiler where the fire is the hottest, and the action of the heat causes the water to circulate through the double-corrugated volute chamber and rise by the central pipe, discharging the suds upon the clothes. This circulating device is much more simple and efficient than the chambers, double-bottoms, and rising-pipes heretofore employed, because the rising-pipe is central, and the suds and steam concentrate at this rising-pipe and cannot pass out from the circulating-chamber in any other manner.

In the drawing, Figure 1 is a vertical section of said circulator, and Fig. 2 is an inverted plan of the same.

The plate *a* is of suitable size, and, by preference, circular. Below this are the corrugated volute partitions *b b*, forming flanges to the plate *a*, and positioned so as to separate the space into volute channels terminating centrally at the opening *c*, through which the circulating water and suds rise by the stand-pipe *d* and delivery-mouth or nozzle *e*. Around the outer portions of the volute flanges *b b* are openings, at *i i*, for admitting the water into the volute channels. The pipe *d* is united to the plate *a* by hooks *o*, that are made to project downward from the inside of said pipe *d*, through the opening *c*, and hook beneath projections at *s* by giving the pipe *d* a partial rotation. Bayonet-locks have been used upon stand-pipes, but to employ them a hub or boss has been required, into which the pipe is passed, and the projections have been upon the outside of the stand-pipe.

By my present construction less weight of material is required, and the parts can be more easily separated, wiped, and kept free from rust, because the end of the pipe *d* simply rests upon the surface of the plate *a*.

I claim as my invention—

1. The compound volute circulating channels, made by the volute partitions *b* upon the under side of the plate *a*, in combination with the stand-pipe *d* and delivery-mouth *e*, substantially as set forth.

2. The hooks *o* attached to the inner surface of the stand-pipe *d* and projecting below the end thereof, in combination with the wash-boiler circulator-plate *a* with the opening *c*, into which said hooks pass to connect the parts, substantially as set forth.

Signed by me this 21st day of May, A. D. 1872.

WM. L. HUBBELL.

Witnesses:
GEO. T. PINCKNEY,
CHAS. H. SMITH.