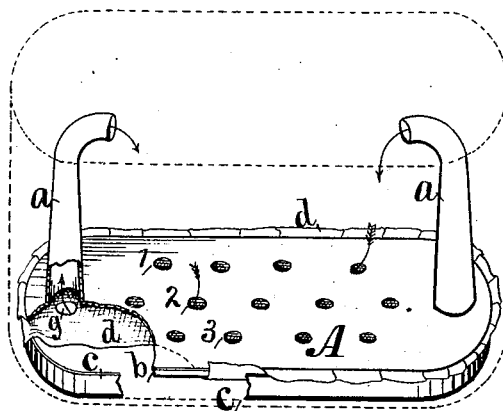


W. P. CASPERSON.
Wash-Boiler.

No. 163,916.

Patented June 1, 1875.



Witnesses.
J. K. Marsh, }
Arthur Wright. }

Inventor,
William P. Casperson,
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UNITED STATES PATENT OFFICE.

WILLIAM P. CASPERSON, OF MONROE, IOWA.

IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. **163,916**, dated June 1, 1875; application filed December 19, 1874.

To all whom it may concern:

Be it known that I, WILLIAM P. CASPERSON, of Monroe, in the county of Jasper and State of Iowa, have invented an Improved Wash-Boiler Attachment, of which the following is a specification:

My invention consists in forming and combining a flexible and movable diaphragm with a boiler attachment in such a manner that the diaphragm will automatically govern the circulation of the water, and consequently act as a strainer and sediment-trap to prevent the extracted dirt from again coming into contact with the clothing, all as hereinafter fully set forth.

My drawing is a perspective view illustrating the construction, application, and operation of my invention.

A is the body of the attachment, designed to enter the boiler. It may vary in size and form to fit boilers of various shapes and sizes. *a a* are common tubular conductors, rigidly attached on the top. *b* is a narrow rim, rigidly attached around the edge and on the under side. 1 2 3 represent a series of perforations to form valves. *c c* is a movable rim, conforming in shape with the body A and its narrow rim *b*, and is designed to clamp and hold a flexible cloth to the under side of the perforated plate A. *d d* is the flexible cloth and movable diaphragm, with its edge clamped between the rims *b* and *c*. It has perforations or openings *g* at each end, designed to register with the bottom openings of the tubular conductors *a* on the top of the perforated body or plate A.

Any pliable and suitable textile fabric that will allow water to strain through, and will catch and retain dirt and sediment, may be used to form my diaphragm. The edges may be hemmed or bound to prevent them fraying and wearing off.

In the practical operation of my invention the diaphragm *d d* is placed under and clamped to the perforated plate A, and the complete attachment then placed in a wash-boiler, and sufficient clean soap-suds put in to cover the perforated body A. The articles to

be washed are then placed loosely on top of the attachment, and the boiler placed on a stove and the water rapidly boiled. When the water begins to boil it will lift and press the flexible diaphragm up against the rigid perforated plate A, and close the series of holes 1 2 3, and thereby force the boiling water and steam up through the openings *g* and the conductors *a a* to the top portion of the boiler, where it will condense, and then percolate down through the meshes of the clothing, to search out and loosen and carry off the dirt. When the condensed steam and water reaches the perforated plate A, and comes in contact with the diaphragm *d d*, it causes the diaphragm to drop and to open the series of valves or perforations 1 2 3. The water thus pressing down will filter and strain through the diaphragm, and enter the chamber or space underneath the diaphragm, clear of dirt or sediment, to be again heated on the bottom of the boiler, and forced up through the conductors to condense and descend as before described. An automatic pulsation and circulation of water and steam is thus produced to cleanse the garments, and to retain the dirt and sediment in the flexible diaphragm, which can be readily removed and cleansed.

I am aware that attachments and false bottoms having conductors and valves for water and steam have been used in wash-boilers; but I claim that my flexible diaphragm, as combined and operated with a boiler, is new and greatly advantageous.

I claim as my invention—

1. In an automatic wash-boiler or boiler attachment, the flexible diaphragm *d d*, substantially as and for the purposes specified.

2. The combination of the perforated plate A, having conductors *a a*, a series of perforations, 1 2 3, and a narrow rim, *b*, the movable rim *c c*, and the movable and flexible diaphragm *d d*, substantially as and for the purposes shown and described.

WILLIAM P. CASPERSON.

Witnesses:

PETER WEEKS,
J. KIPP.