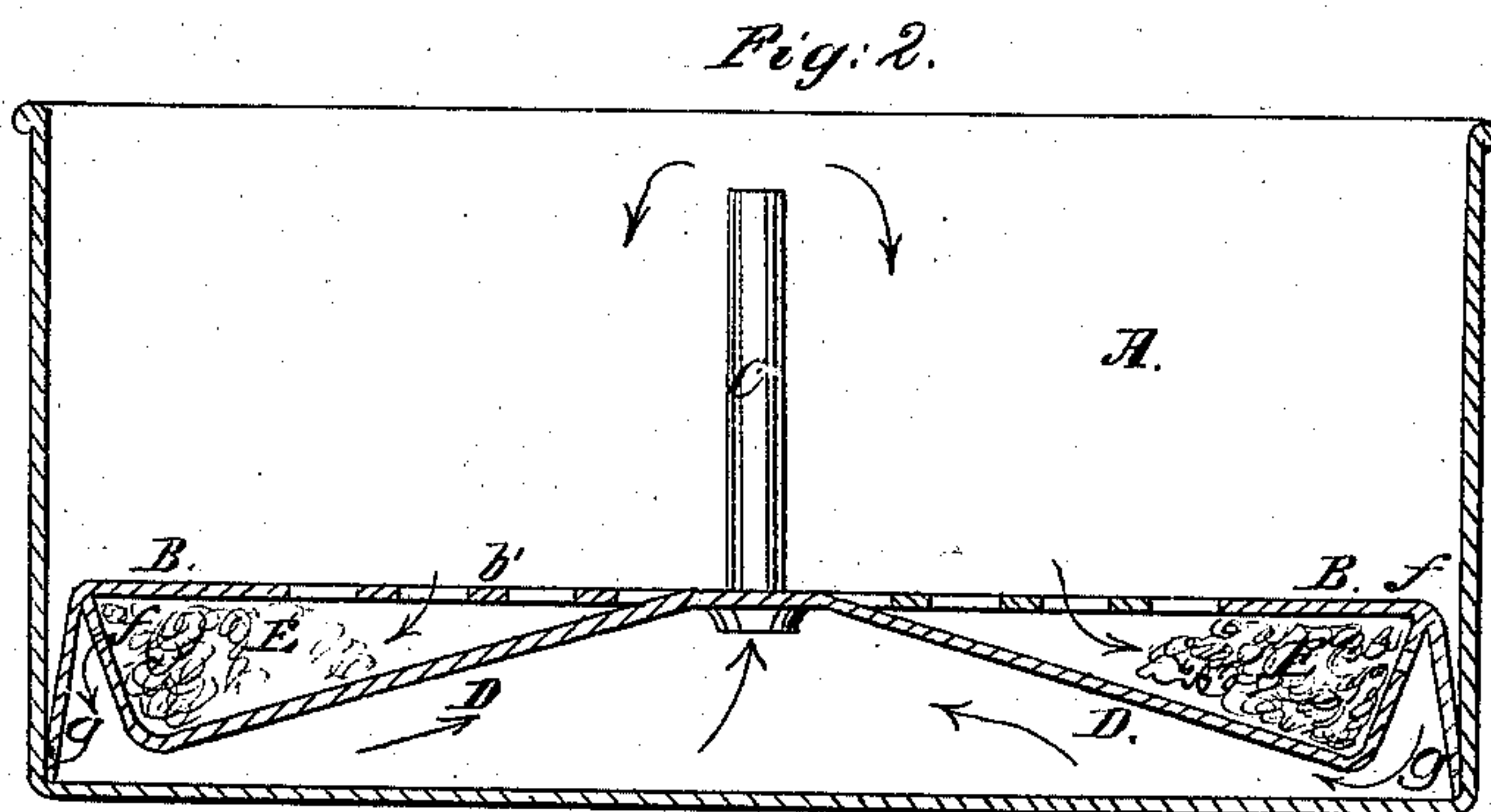
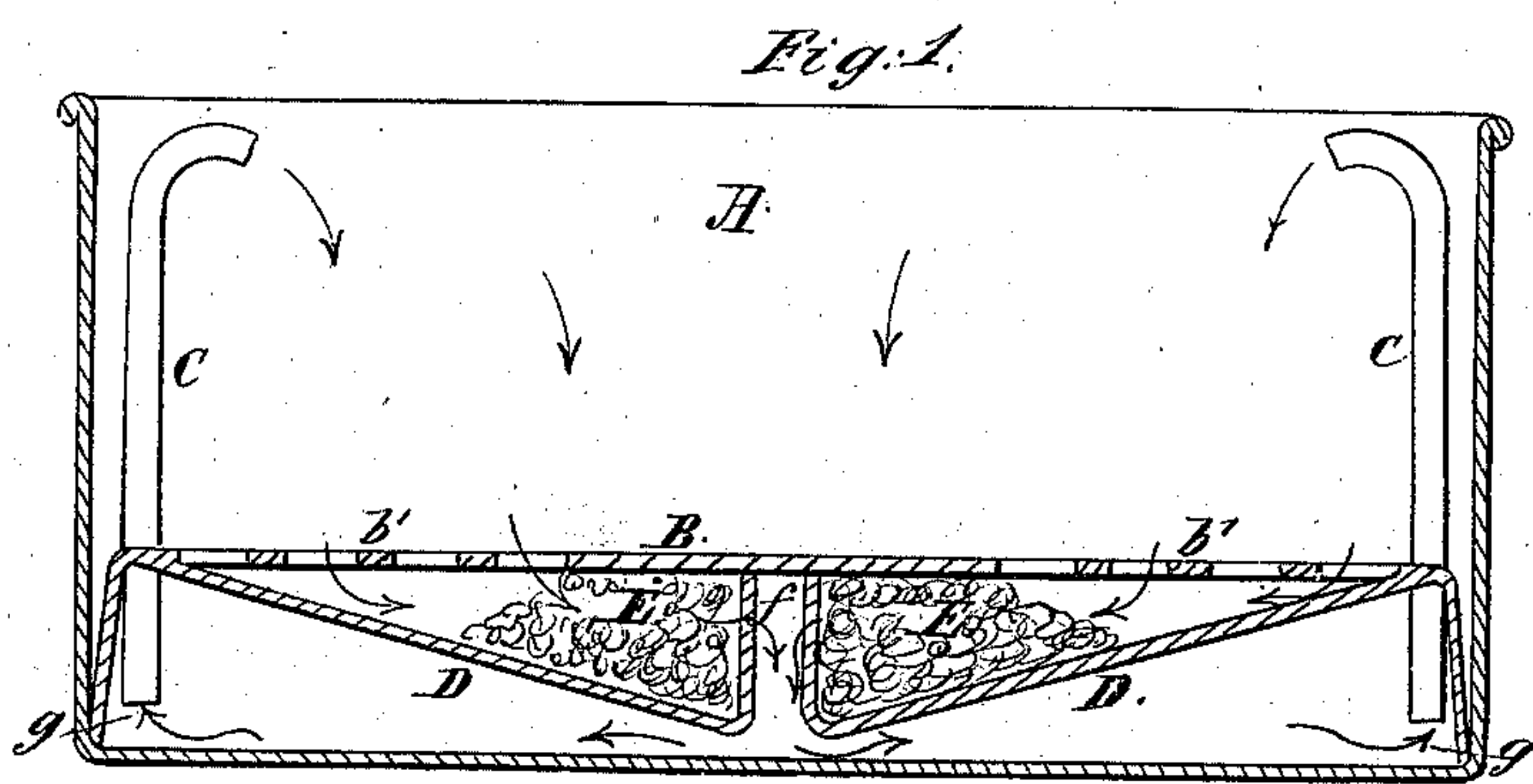


S. A. Goodwin,
Wash Boiler,
N^o 83,278, Patented Oct. 20, 1868.



Witnesses:

Geo. Lotheran
Geo. D. Eversen.

Inventor:

S. A. Goodwin

United States Patent Office.

S. A. GOODWIN, OF BUFFALO, NEW YORK.

Letters Patent No. 83,278, dated October 20, 1868.

IMPROVEMENT IN WASH-BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, S. A. GOODWIN, of the city of Buffalo, in the State of New York, have invented an Improvement in Wash-Boilers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to the class of wash-boilers in which the washing-water, or alkaline-solution, is carried up, by the force of heat or steam, from a chamber under the clothes, through a tube or tubes, to the top of the boiler, and discharged upon and over the clothes, and allowed, by specific gravity, to percolate through them to the said chamber, to be again forced up, in the same manner, in a continuous circulation.

The substantial part of this invention is the discovery and application of a new or additional element, principle, or method in this process, to wit, the separation from the solution of the insoluble parts of the dirt discharged from the clothes, by filtration, automatically, at some point or points on the line of circulation. This object is accomplished by a mode of construction and arrangement of parts whereby advantage is taken of the circulation of the solution to pass it through a filter, that it may be filtered automatically, and without labor.

To enable others skilled in the art to make and use my invention, I will proceed to describe it, with reference to the drawings, in which—

Figure I represents a vertical longitudinal section of a boiler, with my improvements.

Figure II, a modification of the same.

A is a portable wash-boiler, of the usual oblong form.

D D are inclined plates, covering the bottom of the boiler, and forming, in connection with the bottom and with the hoop or rim *g*, a chamber, in which the steam is generated.

B is a plate, extending across the boiler transversely, and forming, in connection with D D, triangular-shaped chambers E E, for the filtering-substance.

The end of D is bent up, and attached to B, having apertures or perforations *f*.

b' are bars, extending across the hoop *g*, for the support and drainage of the clothes.

C C are tubes, connecting the chamber below the clothes with space above them.

Sponge, or other suitable filtering-substance, is placed in the chambers E E.

The operation is as follows: When the washing-solution is placed in the boiler, and the clothes are evenly

spread upon the bars *b'* and plates B, the boiler is then placed upon the stove, and, steam being generated in the chamber under the plates D D, the water, mixed with steam, is forced up the tubes C, and falls on to and over the clothes, and percolates through them, and through the bars *b'*, and through the filter, in the direction of the arrows, through the perforation F, into the chamber from which it started, when it is again forced up the tubes C, in a continuous circulation. It is apparent that each time the water passes through the filtering-substance it must leave all or a portion of the insoluble dirt discharged from the clothes, whereby it is kept comparatively clean. If desired, only a portion of the water may be thus filtered at each circulation, by causing the other portion to pass into the chamber beneath the filtering-chamber, without entering or going through the last. This may be done by making small apertures, on opposite sides, in the rim or hoop *g*.

Fig. II is a modification of Fig. I, and differs from it in having the plates D D inclined toward the centre of the boiler, instead of toward the sides, and the corresponding change of position of the filtering-chamber, and having one tube in the middle of the boiler, instead of one at each end.

This improvement may be applied to any form of boiler, whether portable or stationary, of the class referred to, and may be found valuable for washing other articles, as well as clothes.

I do not limit myself to the particular mode of construction above described, for it is evident that this invention can be applied in various ways, without any essential change.

I am aware that filtration has been accomplished by means of gauze within the tube or pipe, and also by means of a cloth diaphragm, extending across the boiler.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In connection with wash-boilers of the class above mentioned, the filtration of the washing-water automatically, as herein set forth.

2. The inclined imperforated plates D, bars *b'*, plates B, and rim *g*, combined together, and arranged with the boiler A and pipe or pipes C, substantially as and for the purpose described.

S. A. GOODWIN.

Witnesses:

GEO. SOOTHERAN,
GEO. D. EMERSON.