

Ball & Phelps

Wash Boiler

N^o 81,460.

Patented Aug. 25, 1868.

Fig. 1.

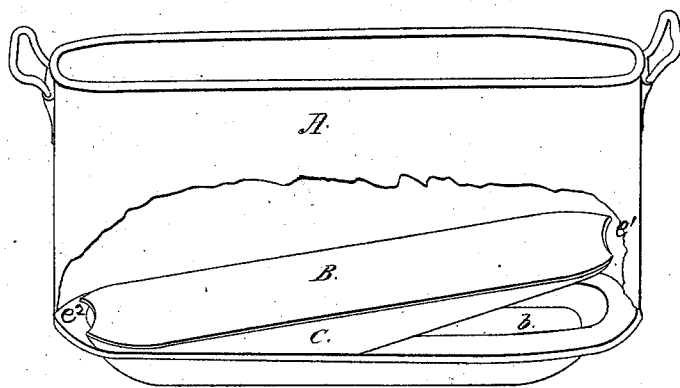


Fig. 2.

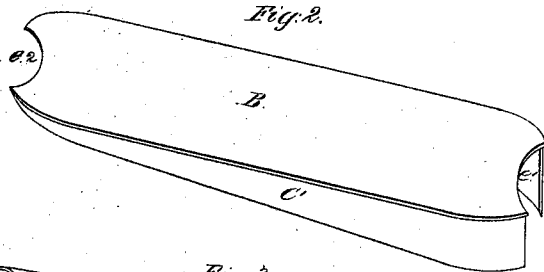
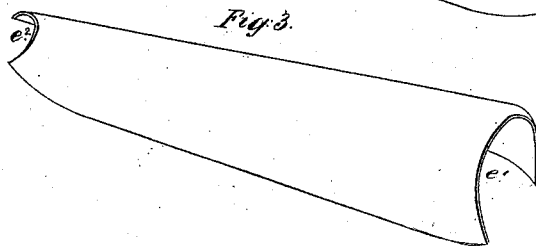


Fig. 3.



Witnesses:

C. L. Cook
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Inventor:

A. T. & J. Ball
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UNITED STATES PATENT OFFICE.

ALEXANDER R. BALL AND WILLIAM M. PHELPS, OF MARSHALL, MICHIGAN.

IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. **81,460**, dated August 25, 1868.

To all whom it may concern:

Be it known that we, ALEXANDER R. BALL and WILLIAM M. PHELPS, both of the city of Marshall, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Boilers for the Washing of Clothes or other fabrics; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a portable wash-boiler with our improvements applied. Figs. 2 and 3 represent modified forms of our improvement detached.

Similar letters of reference refer to like parts in all the figures.

The nature of our invention consists in providing wash-boilers with a loose false bottom, for the clothes or other material or fabrics to rest upon, said bottom being arranged at some little distance above the true one, and at an angle with it more or less acute, as will be hereinafter more fully explained; and the better to enable others skilled in the art to construct and use our invention, we will now proceed to fully describe the same, and the advantages to be derived from its use.

A represents a common wash-boiler, provided with the usual pit or sunken bottom *b*; and B exhibits our inclined false bottom, which is simply a sheet of tin or other suitable material, provided with tapering side flanges, as seen at C, Fig. 1, and C', Fig. 2, the lower edges of which rest on the bottom proper *b* of the boiler, and support the false bottom at the proper height and angle of inclination above.

The clothes, &c., to be washed are placed on top of the false bottom B, and in elevating it above the true boiler-bottom we do not design to raise it so high but that the clothes shall be well covered by the ordinary quantity of suds-water.

We usually fit the false bottom B closely to the sides of the wash-boiler; but for the purpose of permitting a free flow or circulation of the wash-water around the false bottom—that is to say, from below to above, and vice versa, we form spaces at the ends of the sheets by cutting away a portion of the same, as may be clearly seen at *e*¹ *e*².

Our reason for inclining the false bottom, or arranging one end of it higher than the other above the bottom proper *b*, will, perhaps, be best explained in describing the mode of operation, which is as follows: The clothes, &c., to be washed should be first well soaked, as usual, when, the proper quantity of prepared suds-water having been poured in the boiler, the false bottom B is immersed and adjusted in place, and the soaked clothes placed on it and set to boil. As soon as a brisk ebullition commences, the water below the false bottom rises up through the highest opening *e*¹ at the top of the incline, and, permeating the immersed clothes or fabrics, is drawn rapidly through their fibers to the space *e*² at the lowest point of the incline, through which space it is returned to supply the displacement at the opposite end. When the rapid and continuous current thus produced has passed through the body of the clothes for a sufficient time in one direction, the operator, with a stick, may reverse the incline of the false bottom by pushing down the elevated end, which, of course, will elevate the end previously depressed. This reversal of the incline is easily effected, as the false bottom will rock on the apex of the double taper of the side flanges C; and when the bottom is adjusted in place, the action of the boiling current is such as to maintain it there.

When the angle of inclination of the false bottom is reversed, the direction of the boiling current is reversed also, and the hot suds, by the attrition of its rapid motion through the clothes in alternately opposite directions, so act upon every part and fiber of the fabric as to effectually loosen and remove all dirt therefrom. For many purposes, however, we do not deem it necessary to change the direction of the hot-suds current, and in such cases we construct the false-bottom side flanges with one continuous taper, as at C', Fig. 2; and, further, such bottom may be made to fulfill all the necessary conditions without any side flanges joined to the plate, by simply bending a sheet, of a proper taper and of extra width, so as to fit into the boiler, and give the required height and angle of inclination, as may be clearly seen in Fig. 3.

We did not deem it necessary to exhibit the boiler-cover in the drawings, but employ

it while washing precisely as it is used ordinarily.

Having described our invention, what we claim, and desire to secure by Letters Patent, is as follows:

1. The inclined false bottom B, in combination with a wash-boiler, substantially as and for the purpose specified.
2. Providing said inclined false bottom B

with the side flanges C or other equivalent means for reversing its incline, when employed in combination with a wash-boiler, substantially in the manner and for the use set forth.

A. R. BALL.

WM. M. PHELPS.

Witnesses:

C. T. COOK,

OTTO L. JOHNSON.