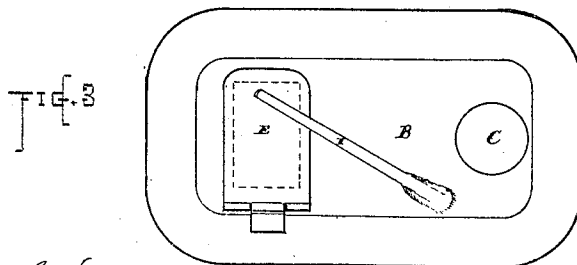
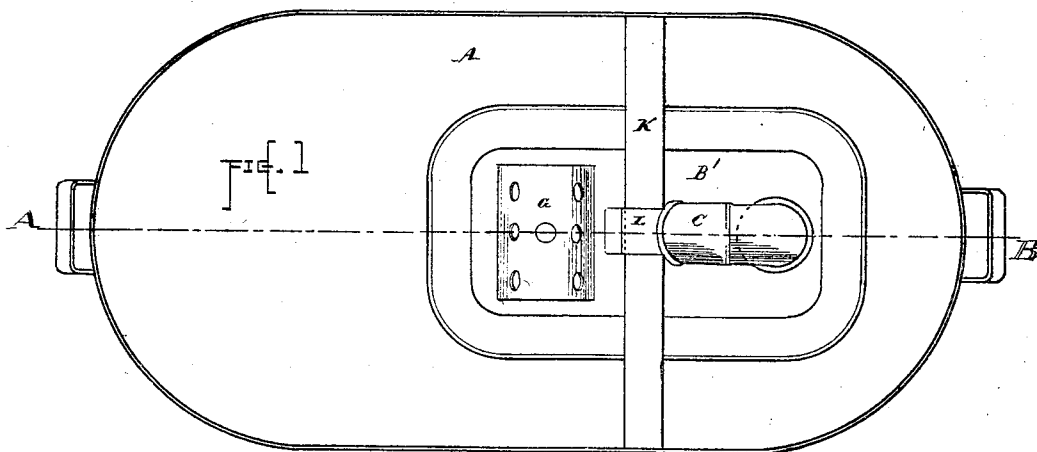
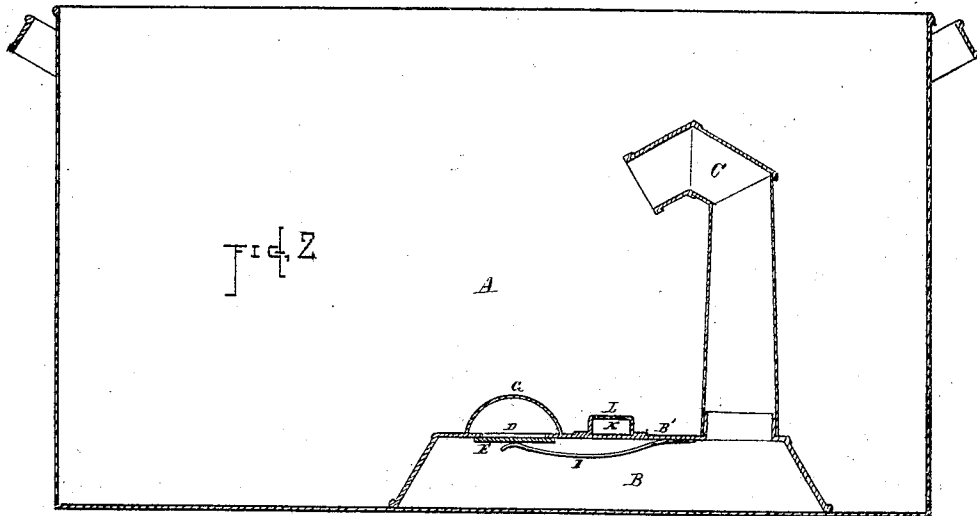


H. B. COMER.
Wash-Boilers.

No. 134,255.

Patented Dec. 24, 1872.



Witnesses

Charles Burleigh
William Warren

Inventor

Henry B. Comer

UNITED STATES PATENT OFFICE.

HENRY B. COMER, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN WASH-BOILERS.

Specification forming part of Letters Patent No. 134,255, dated December 24, 1872.

To all whom it may concern:

Be it known that I, HENRY B. COMER, of the city and county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Wash-
ing Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 represents a plan view of a washing apparatus embracing my improvement; Fig. 2 represents a longitudinal section of the same at line A B, Fig. 1; and Fig. 3 represents a bottom view of the apparatus.

This invention relates to that class of washing apparatus wherein is used an internal chamber for the generation of steam when the apparatus is in use, said chamber having a discharge-pipe extending to a position above the clothes in the boiler, and from which pipe the steam and hot water are thrown upon the clothes, the chamber being also provided with an inlet-passage and valve for permitting the discharged water to re-enter the internal chamber, thus producing continuous action. The object of my invention is the improvement of the valve action so as to render the apparatus more rapid, sure, and effective in its operation than the apparatus heretofore in use; and also to provide a simple and convenient device for securing the washer-chamber and discharge-pipe in place within the boiler, said device to be applicable to any ordinary wash-boiler without requiring any alteration to be made in the boiler, or any addition thereto of holding ears or lugs.

The construction of my improved washing apparatus will readily be understood from an examination of the accompanying drawing, wherein A denotes the boiler, of ordinary form. B denotes the internal steam-generating chamber, which, in the present instance, is made with inclined sides to give a large area of heating-surface, and which form also permits of the sides and top of the chamber being stamped from metal in a single piece. C indicates the discharge-pipe, extending upward from near one end of the chamber B, and having its upper extremity turned over so as to direct the stream of hot water and steam upon the clothes to be washed. D indicates the inlet-opening

to the chamber B; E, the stop-valve thereto; and G, an arched guard-plate, to prevent the clothes from resting upon and interfering with the action of the valve E. The stop-valve E is formed of a flat piece of metal or similar material, and is hinged at one side to the chamber-plate, so that it can swing upward and close the opening D, as illustrated. A spring, I, is arranged within the chamber B, the end of which rests against the back of the valve, and presses it upward against the sides of the opening, so that it will require considerable force to open the valve, and when opened it will close instantly as the force is removed.

When the apparatus is in use, the boiler being placed over a fire, and the clothes and water being placed in the boiler, the operation is as follows: The heat upon the bottom of the boiler generates steam in the chamber B. This steam finds exit through the discharge-pipe C, and the rapid generation of the steam causes a current of steam and hot water to be thrown from the upper end of the pipe upon the clothes. The water being expelled from the chamber by the steam produces a partial vacuum therein, and the suction of the vacuum and pressure of the water on the outside of the valve overcome the force of the spring I, open the valve, and allow a quantity of water to enter the chamber. This water reduces the vacuum, when the valve is instantly closed by the spring I, and from the water thus let in steam is generated, and the water is in turn expelled through the discharge-pipe, as above described, again producing a vacuum, which causes the reopening of the valve to let in more water. The operation is thus carried on continually while the apparatus is in use.

By constructing and arranging the valve as above described its action downward, or to open, is by the spring I delayed for a longer time, while its action upward is much quicker than the corresponding actions of a float-valve or a valve acting solely by the pressure of the water or steam; consequently a greater amount of water is discharged from the chamber B before the valve opens, and a more perfect vacuum is obtained therein. Then, as the valve opens, the water passes into the chamber more rapidly, and the valve, closing quickly, prevents any of the water from returning

past the valve. The result is that I obtain a more powerful and copious discharge of water and steam from the pipe C upon the clothes, and a proportional gain in the useful effect of the apparatus. Another advantage is that there is no liability of the valve becoming displaced when emptying water from the boiler or removing the clothes therefrom.

To secure the chamber B and its pipe C in position within the boiler A, I use a transverse bar, K, which passes through and is fitted in a loop, L, fixed to the upper plate or case B' of the chamber, as shown. This bar K is formed of wood, and is made slightly longer than the width of the boiler, so that when the parts are placed in position the sides of the boiler will bind or press slightly upon the ends of the bar; then when the water is put into the boiler the fiber of the wood swells and causes the ends of the bar to adhere to the metal of the boiler with sufficient force to hold the parts firmly in position.

It will be seen that this device, while it is simple and inexpensive, permits of the cham-

ber B being used with any ordinary wash-boiler, and this too without injury to the boiler, and without requiring any alteration to be made either in the boiler or other parts of the apparatus.

Having described my improvements in washing apparatus, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with the internal steam-generating chamber B in a washing apparatus having an inlet-opening, D, of the stop-valve E, actuated by a spring, I, substantially as and for the purpose set forth.

2. The combination, with the chamber plate or case B' and boiler A in a washing apparatus, of the bar K and loop L, for securing the parts in position, substantially as shown and described.

H. B. COMER.

Witnesses:

CHAS. H. BURLEIGH,
WILLIAM WARREN.