2 Sheets--Sheet 1.

# K. JACOBI.

## Apparatus for Washing Clothes.

No. 152,843. Patented July 7, 1874.

*Fig. 1.*

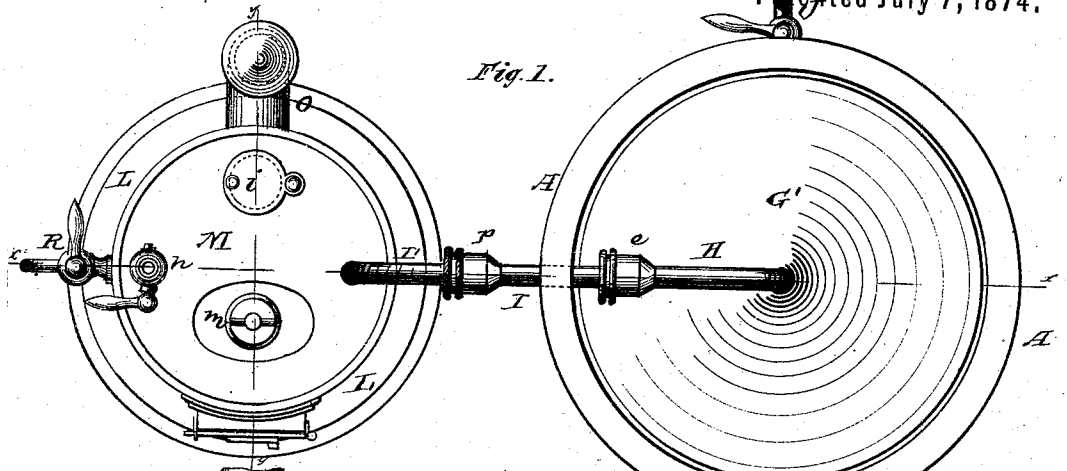
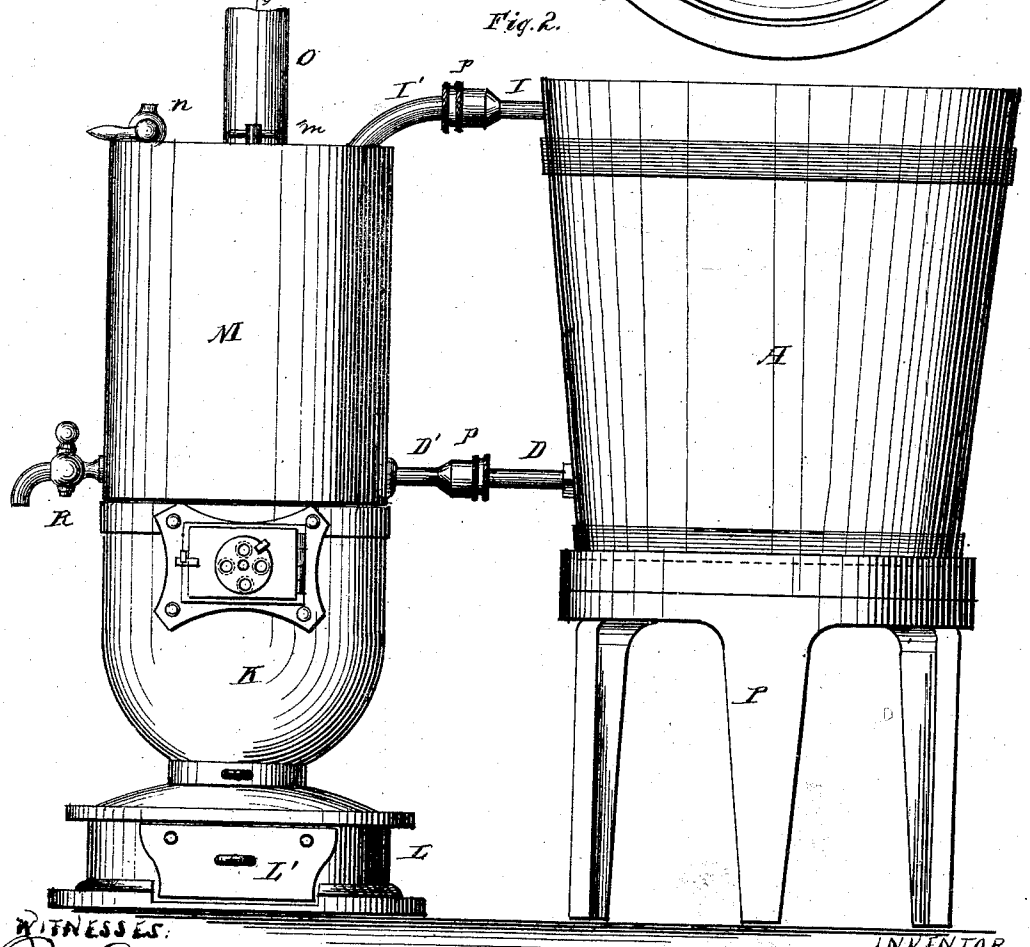



*Fig. 2.*

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2 Sheets--Sheet 2.

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## Apparatus for Washing Clothes.

No. 152,843. Patented July 7, 1874.

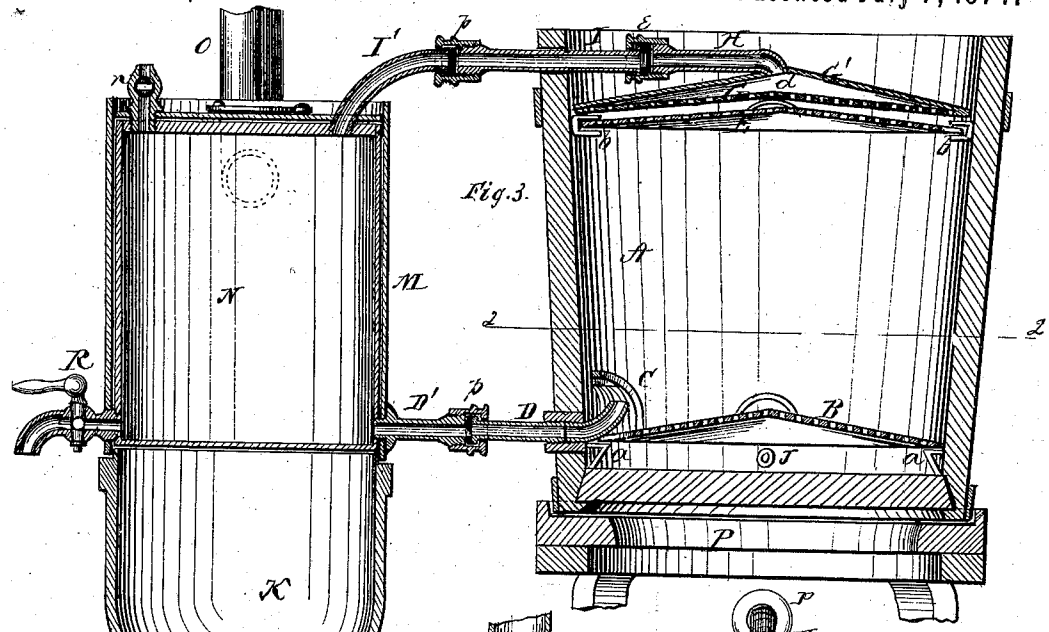


Fig. 3.

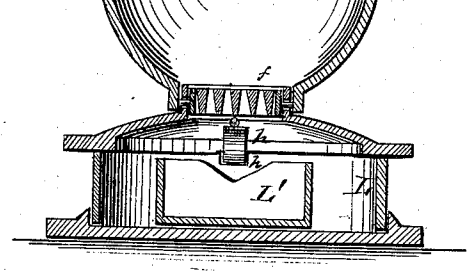
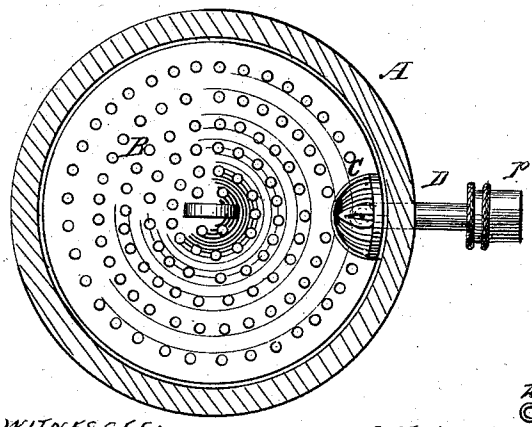


Fig. 5.



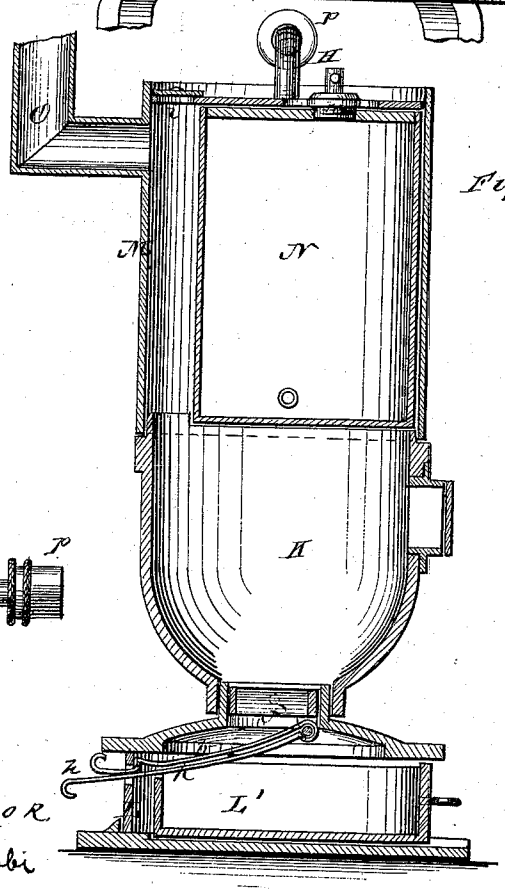


Fig. 4.

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# UNITED STATES PATENT OFFICE.

KARL JACOBI, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN APPARATUS FOR WASHING CLOTHES.

Specification forming part of Letters Patent No. **152,843**, dated July 7, 1874; application filed May 21, 1874.

*To all whom it may concern:*

Be it known that I, KARL JACOBI, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a washing apparatus, to be used in connection with a boiler and furnace, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view, and Fig. 2 a side elevation, of my entire machine. Fig. 3 is a longitudinal vertical section of the same through the line *x x* of Fig. 1. Fig. 4 is a cross-section of the boiler through the line *y y*, Fig. 1; and Fig. 5 is a horizontal section of the wash-tub through the line *z z*, Fig. 3.

A represents a wash-tub of any suitable dimensions, provided at the bottom with suitable lugs or ledges *a a*, upon which rests a perforated diaphragm, B. This diaphragm is slightly conical or convex on its upper side, thereby increasing its strength, so that it will retain its position when the clothes rest thereon. It is provided with one or more handles, to be easily lifted out and put into the tub. At one side the diaphragm B is cut out and provided with a perforated semi-spherical shield, C, which projects upward from the diaphragm, as shown in Fig. 3. This shield covers the upwardly-bent end of a pipe, D, which passes through and is secured in the tub A about on a level with the diaphragm B, and thus prevents the clothes upon said diaphragm from stopping up said pipe. At a suitable distance from and above the diaphragm B on the sides of the tub are attached double lugs *b b*, in which is secured a slightly-conical perforated diaphragm, E, also provided with one or more handles, to be easily removed and put in, as required. This diaphragm is notched for the passage of the lugs *b*, and then turned in the same, so as to be held by them and prevented from rising. This diaphragm holds the clothes down in the tub, it being placed above them. On top of the lugs *b b* is placed a cover, formed of two slightly-conical disks or diaphragms, G G′, which are securely and firmly united together around the edges. The lower one, G, of these disks is perforated, while the upper one, G′, is solid, and a space or chamber, *d*, is formed between them. From the apex of the upper solid disk G′ a pipe, H, extends to, and is connected by, a coupling, *e*, with a pipe, I, which passes through the side of the tub near the upper edge, and on a vertical line with the pipe D at the bottom of the tub. At the bottom of the tub A is a faucet, J, which enters the tub below the diaphragm B, for the purpose of drawing off the dirty water from the tub.

This completes the construction of the washing apparatus proper, but it must be used in connection with a suitable boiler and furnace; and for this purpose I prefer to use those shown in the drawing, which are constructed in the following manner:

K represents a fire-pot of any suitable construction, provided with a grate, *f*, and secured upon a base, L, in which is an ash-drawer, L′. The grate *f* is pivoted upon journals, and held by means of spring-rods *h h*, which project through and catch in the side of the base, and can readily be released and pulled outward to dump the grate. On the fire-box K is placed a drum, M, within which is formed the boiler N, the products of combustion passing up along one side of the boiler and out through the smoke-pipe O. In the top of the drum is an aperture, *i*, closed by a suitable cover for cleaning out the same. In the top of the boiler N is a man-hole or other aperture, *m*, for filling the same with water, and also a safety-valve, *n*. The boiler is provided with pipes I′ and D′ at the top and bottom, respectively, which pipes are, by couplings *p p*, connected, respectively, with the pipes I and D, as shown in Fig. 3. When this connection is made the tub A should be placed on a suitable bench or stand, P, so as to make the pipe D′ D nearly, if not quite, horizontal.

The boiler is also, at or near the bottom, provided with a faucet, R, for drawing off the water.

The operation of my apparatus is substantially as follows: The clothes are placed in the tub A upon the diaphragm B, and the diaphragm E and cover G G′ are placed in their positions, and the connections with the boiler made as described. The water, being admitted into the boiler, will pass through the pipe D′ D into the tub, and stand therein at the same height as in the boiler. As steam is generated in the boiler it will pass through the pipes I′, I, and H, and through the diaphragms G and E, pass down in numerous jets onto the clothes, and condense. The water, seeking its level, will pass through the pipes D D′ from the tub into the boiler, and in this manner a perfect and rapid circulation is kept up through the clothes, cleansing them in a thorough and perfect manner, the dirt settling down through the diaphragm B to the bottom of the tub, from whence it may be afterward removed through the faucet J.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The tub A, provided with perforated diaphragms B E and annular tight cover G, with perforated bottom, in combination with pipes D, D′, I′, and H, and boiler N, all arranged substantially as and for the purpose herein described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

KARL JACOBI.

Witnesses:
G. J. FERRISS,
S. WOLF.