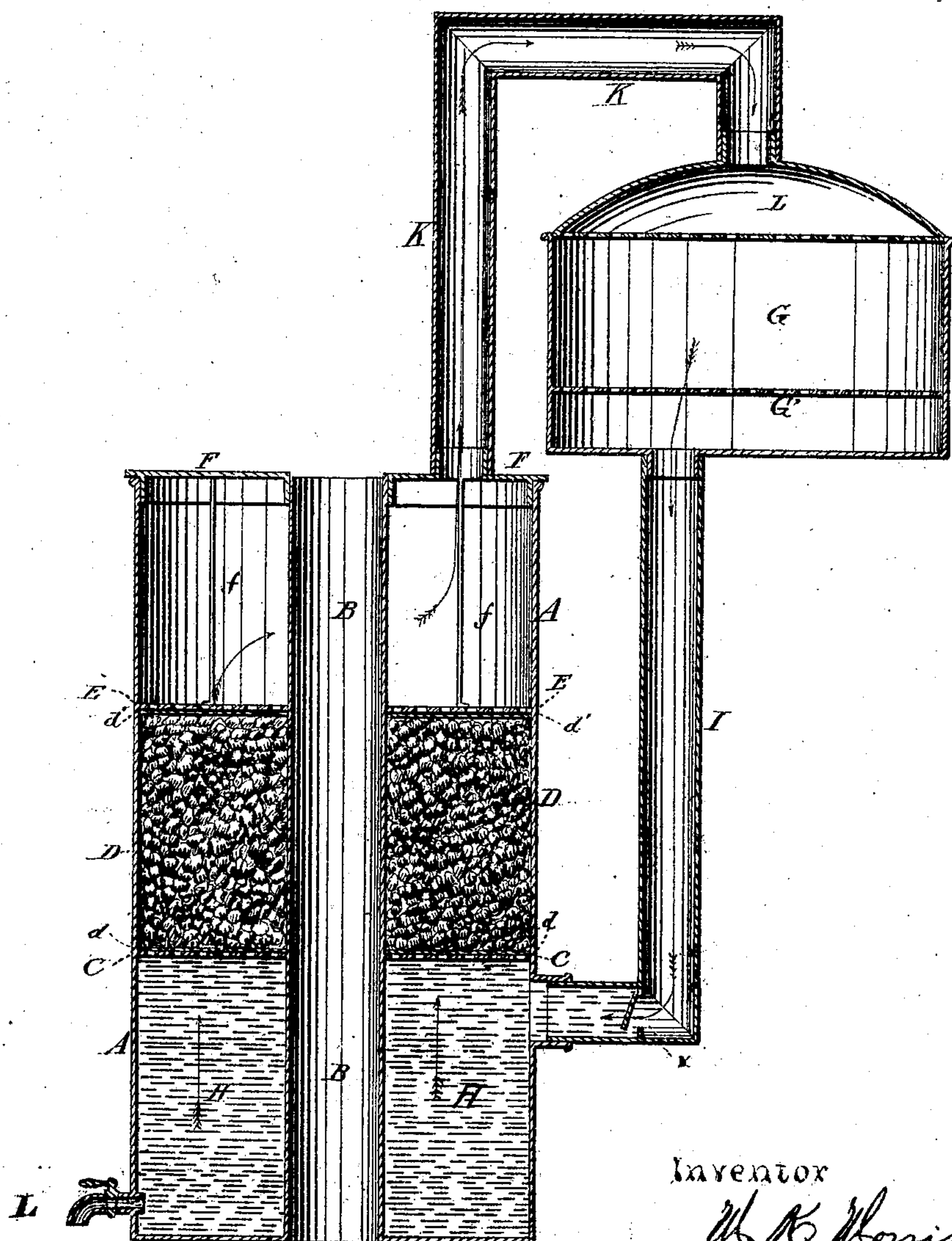


M. K. MORRIS.

Improvement in Washing Machines.

No. 116,209.

Patented June 20, 1871.



Witnesses

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Inventor

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UNITED STATES PATENT OFFICE.

MATTHIAS K. MORRIS, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 116,209, dated June 20, 1871.

To all whom it may concern:

Be it known that I, MATTHIAS K. MORRIS, of Louisville, in the county of Jefferson and in the State of Kentucky, have invented certain new and useful Improvements in Washing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which is shown a vertical central section of my improved device.

My invention belongs to a class of devices having for its object the cleansing of soiled clothing by means of an intermittent current of boiling water, which is thrown upon the upper side of said clothing and permitted to leach through the same; and it consists, principally, in the employment of a filter within or in connection with a clothes-boiler, substantially as and for the purpose hereinafter specified. It further consists in the peculiar construction of the boiler and filter, substantially as and for the purpose hereinafter set forth. It finally consists in the construction and relative arrangement of the reservoir for containing the clothing to be operated upon, and of the discharge-tube for water from the boiler, substantially as and for the purpose hereinafter shown.

In the annexed drawing, A represents the boiler, constructed, preferably, in a cylindrical form, and provided with a central vertical flue, B, open at both ends. Extending horizontally across the interior of the boiler, at a point about one-third the distance from its upper end, is a reticulated diaphragm, C, which forms a support for, and upon which is placed, a sufficient quantity of charcoal, gravel, or other filtering material, D, to fill the space between said diaphragm and the upper end of said boiler about one-half full. Between the diaphragm C and the filtering material D, and upon the upper side of the latter, are placed layers of suitable textile fabric, *d* and *d'*, respectively, and above the latter is placed a second perforated diaphragm, E, which, while closely fitted to the interior of the boiler, is not connected therewith, but may be removed as occasion requires. The cover F, also made removable, is provided with two or more rods, *f*, which extend vertically downward over, and have their lower ends bearing upon, said upper diaphragm, so

as to hold the same firmly in vertical position and prevent accidental displacement by the action of the water. The reservoir G for containing soiled clothing, constructed of any suitable form or material, is placed at or above the upper end of the boiler, and connected with the space H, at the lower end of the same, by means of a pipe, I, which, extending downward from the bottom of said reservoir, enters said space near its upper end, and at the side of said boiler. A perforated false bottom, G', is placed within said reservoir, a short distance above its real bottom, for the purpose of forming a water-space between the clothing and the upper end of the pipe I, so as to prevent obstruction of the same. Extending upward from the top of the boiler, outward, and then downward directly over the center of the clothes-reservoir, is a pipe, K, having upon its outer end a flaring nozzle, L, which corresponds in size to the interior of said reservoir, and fits loosely within its upper end. The end of said nozzle is plane and reticulated, so that water passing downward through the same would be divided into a large number of small jets, which would pass vertically downward upon the clothes within the reservoir.

The device is now complete, and is operated as follows: The boiler is filled to or immediately above the upper end of the filter with water, and heat applied thereto, so as to cause said water to boil. If, now, the reservoir be partly filled with soiled clothing, and the same packed around or over the false bottom, so as to prevent the free passage of water upward through the same, the accumulating pressure of steam within the boiler will soon force such water as remains above the filter upward through the pipe K, and upon the upper side of said clothing, from whence and through which, by the force of gravity, it will descend into the space H, and force a corresponding portion of the contents of said space upward through said filter.

As the production of steam will not be uniform, but, rather, intermittent, the operation above described will be followed by an interval of inaction, during which sufficient pressure of steam is accumulating to again force water over and upon the clothes, the seasons of activity and quiet thus alternating.

In its passage downward through the clothing the water removes and takes up a portion of the dirt contained therein, which dirt is in turn removed from said water during its passage upward through the filter, so that, as nothing but pure water is thrown upon said clothes, they are soon thoroughly cleansed and require no after rinsing.

It may prove advantageous to place an ordinary clack-valve, *x*, opening inward within the horizontal portion of the pipe I, so as to entirely prevent the upward passage of water through said pipe, and also to extend the pipe K downward to or near the diaphragm E, so that its lower end may at all times be immersed in water, and a smaller quantity of the latter required. A cock, L, placed at or near the lower end of the boiler, permits the foul water and sediment accumulating at that point to be drawn off when desired.

The especial advantages possessed by this device are, that by its use suitable quantities of clean boiling water may be continually thrown upon the upper side of the clothes being operated upon and the same cleansed in much less time than would be possible were said water not purified after having leached through said clothes, and before being returned to the upper side of the same.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In a clothes-boiler in which water is forced or conveyed to or upon the upper side of the clothing being operated upon, a filter for cleansing said water as it leaves said clothing and before it is again returned to the upper side of the same, substantially as and for the purpose specified.

2. The boiler A, provided with the tube B, the fixed and removable diaphragms C and E, respectively, the filtering material D, and the removable cover F, substantially as shown, and for the purpose described.

3. The reservoir G, provided with the perforated false bottom G', and connected with the boiler by means of the pipe H, and the pipe K extending upward from said boiler and provided with the flaring or rose nozzle L, in combination with each other and with said boiler, substantially as and for the purpose shown.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of May, 1871.

MATTHIAS K. MORRIS.

Witnesses:

JOHN DAILEY,

J. G. BLACK.