(No Model.)

S. B. & T. M. RALEY.

WASHING MACHINE.

No. 589,194. Patented Aug. 31, 1897.

Fig. 1.

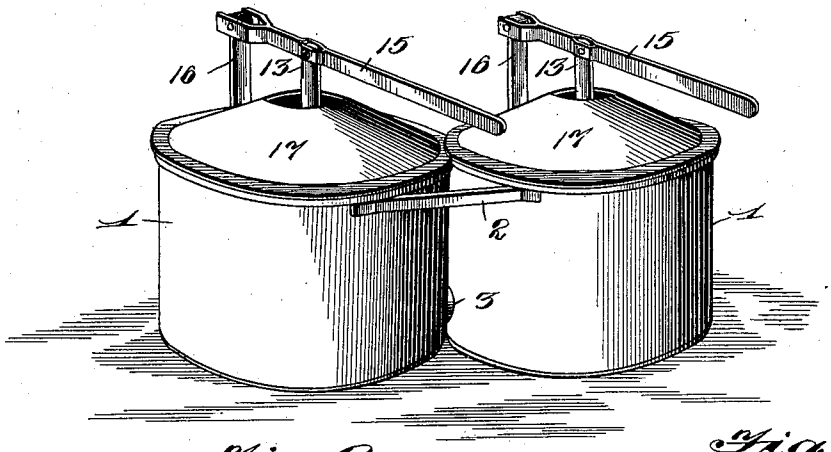


Fig. 2.

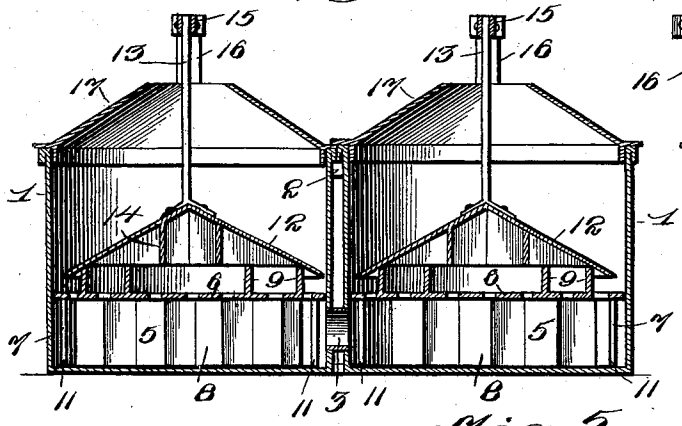


Fig. 3.

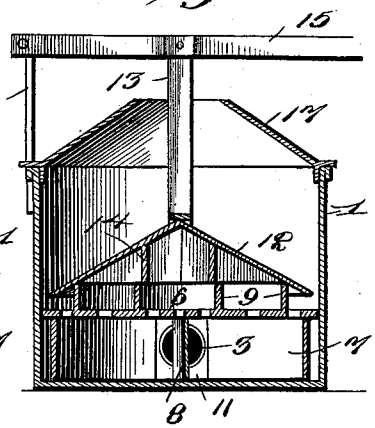


Fig. 5.

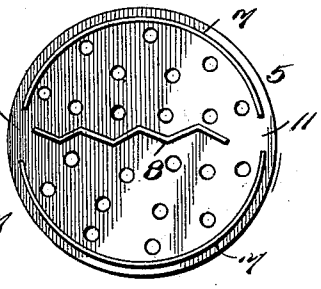


Fig. 6.

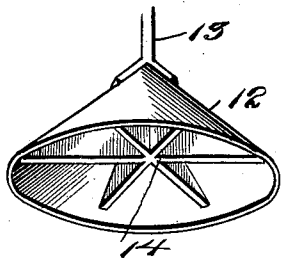
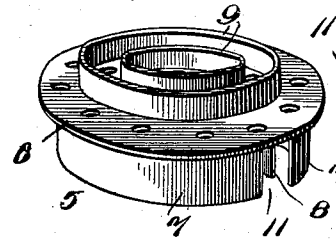


Fig. 4.



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UNITED STATES PATENT OFFICE.

SYLVESTER B. RALEY AND TIMOTHY M. RALEY, OF ABILENE, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 589,194, dated August 31, 1897.

Application filed June 13, 1896. Serial No. 595,428. (No model.)

To all whom it may concern:

Be it known that we, SYLVESTER B. RALEY and TIMOTHY M. RALEY, citizens of the United States, residing at Abilene, in the county of Taylor and State of Texas, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines and to provide one which will be simple and inexpensive in construction and capable of thoroughly and rapidly washing clothes and other fabrics without wearing, tearing, or otherwise injuring them and at the expenditure of a minimum amount of labor.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention. Fig. 2 is a central longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail perspective view of one of the clothes-supports. Fig. 5 is a reverse plan view of the same. Fig. 6 is a detail perspective view of one of the plungers.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 1 designate a pair of cylindrical boilers constructed of sheet metal or other suitable material, secured together at their contiguous sides and supported by horizontal braces 2, arranged adjacent to the upper edges of the boilers. The boilers are provided at their adjacent sides, a short distance above their bottoms, with registering openings, in which is secured a short tube 3, affording a communication between the boilers and permitting water during the operation of washing to pass from one cylinder into the other.

The clothes to be washed are held in each cylinder above the opening by a circular clothes-support 5 to prevent the opening from becoming clogged and interfering with the operation of the machine. Each clothes-support, which conforms to the configuration of its boiler, consists of a horizontal plate or diaphragm 6, provided at intervals with perforations, depending supporting-flanges 7 and 8, which rest upon the bottom of the boiler, and vertically-disposed concentric ribs or rings 9, mounted on the upper face of the perforated plate or diaphragm to support the clothes above the perforations thereof to prevent the same from becoming clogged and forming stationary pounders which coöperate with movable plungers or pounders 12, hereinafter described.

The depending flanges 7, which are located near the periphery of the horizontal plate or diaphragm, are curved and have their terminals separated and provide an open space or longitudinal passage 11, which is located at the opening formed by the tube 3. The supporting-flange 8 is corrugated or crimped and is disposed longitudinally of the washing-machine, extending diametrically across the perforated plate or diaphragm.

During the operation of washing the machine is placed upon a stove or other heating apparatus to boil water within the cylinders, and water is forced through the clothes alternately from one cylinder into the other by means of a pair of plungers 12. The plungers 12, which are provided with vertical stems 13, consist of conical shells and are provided with radial webs or flanges 14 to enable them to operate as clothes-pounders. The radial webs or flanges are centrally connected and are secured at their upper edges to the inner faces of the conical shells, and their lower edges terminate short of the lower edges of the conical shell, in order that the upwardly-extending rings 9, which are of less diameter than the base of the cone, may project into the latter on the downstroke of the plunger.

The upper ends of the stems of the plungers are pivoted to the levers 15, which have their rear ends bifurcated and fulcrumed on arms or supports 16, mounted on the boilers at the rear sides thereof and extending vertically from the same.

Each boiler is provided with a cover 17, having a central opening for the passage of the stems, and the covers are conical to prevent

water from splashing through the openings and to raise them in the center to permit a full stroke of the conical plungers.

The plungers are alternately operated and are adapted to force water through the clothes from one boiler into the other, and by this operation the clothes and other fabrics may be rapidly and thoroughly washed without injuring them.

It will be seen that the washing-machine is exceedingly simple and inexpensive in construction, that it is capable of easy operation, and that it is adapted to wash clothes rapidly and thoroughly without injuring them. It will also be apparent that the clothes are supported above the bottoms of the boilers and that they are prevented from clogging the perforations of the diaphragms or plates and the opening between the boilers.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What we claim is—

1. In a washing-machine, the combination of a pair of separate boilers secured together and provided with a communicating opening, clothes-supports arranged within the boiler, provided with perforated horizontal plates and having upwardly-extending concentric rings mounted on and projecting from the upper faces of the plates, and the reciprocating plungers provided with conical shells and having radial flanges terminating short of the lower edges of the shell to permit the rings to project into the plungers, substantially as described.

2. In a washing-machine, the combination with a plunger, of a clothes-support comprising a horizontal plate provided with perforations, concentric rings mounted on the upper face of the plate and projecting therefrom, the depending supporting-flanges secured to the edges of the plate conforming to the configuration of the same and having their ends separated to provide opposite openings, and the diametrically-disposed supporting-flange provided with crimps or corrugations and arranged in line with the said openings, substantially as described.

3. In a washing-machine, the combination of a pair of separate boilers provided near their bottoms with a communicating opening, clothes-supports comprising a horizontal plate provided with perforations, concentric rings secured to and extending upward from the upper face of said plate, the depending marginal supporting-flanges secured to the edges of the plate and having their ends separated to provide opposite openings, one of the openings being located opposite the communicating opening of the boilers, and the crimped or corrugated diametrically-arranged supporting-flange secured to the plate and arranged in line with the said openings, and the reciprocating plungers having conical shells greater in diameter at the base than the concentric rings, said plungers being provided within the shells with radial flanges terminating short of the lower edges of the shells to permit the rings to project into the same, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

SYLVESTER B. RALEY.
TIMOTHY M. RALEY.

Witnesses:
H. L. BENTLEY,
W. A. FLINT.