

A. J. CURTIS.
WASHING MACHINE.

No. 488,543.

Patented Dec. 27, 1892.

Fig. 1.

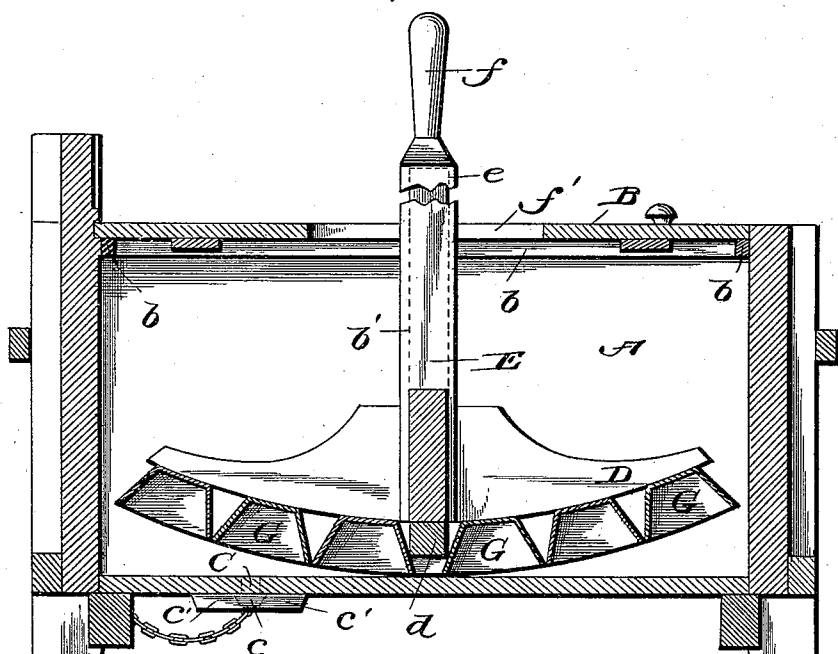
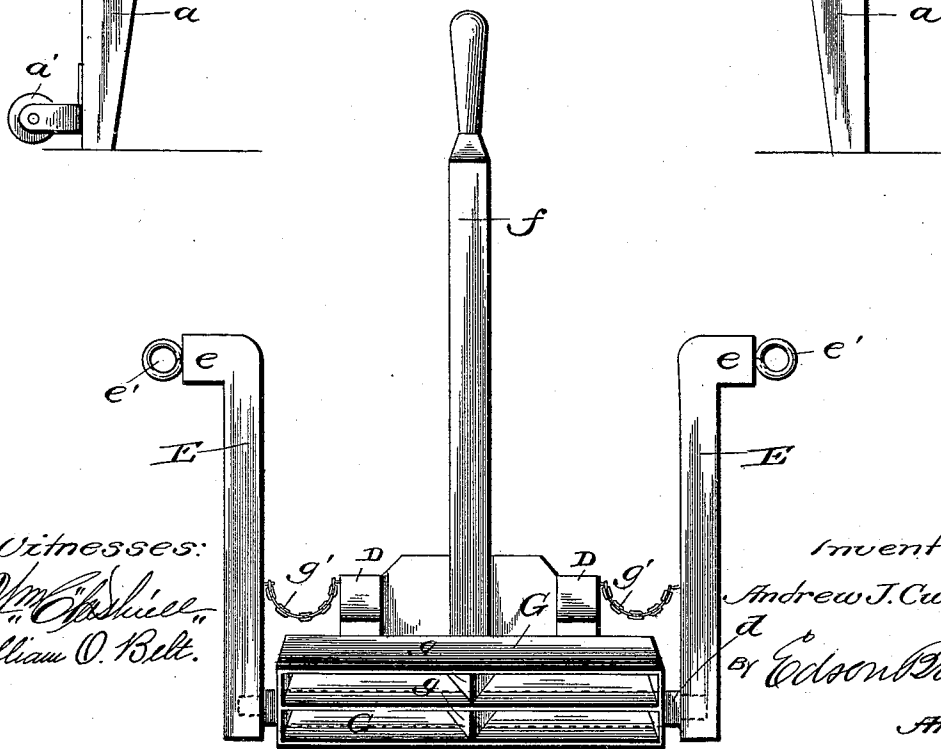


Fig. 3.



Witnesses:
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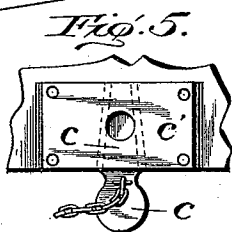
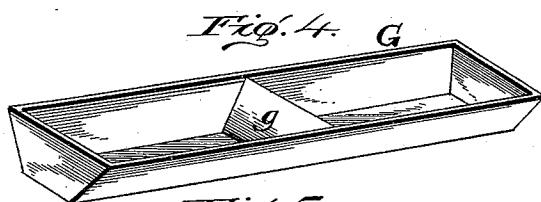
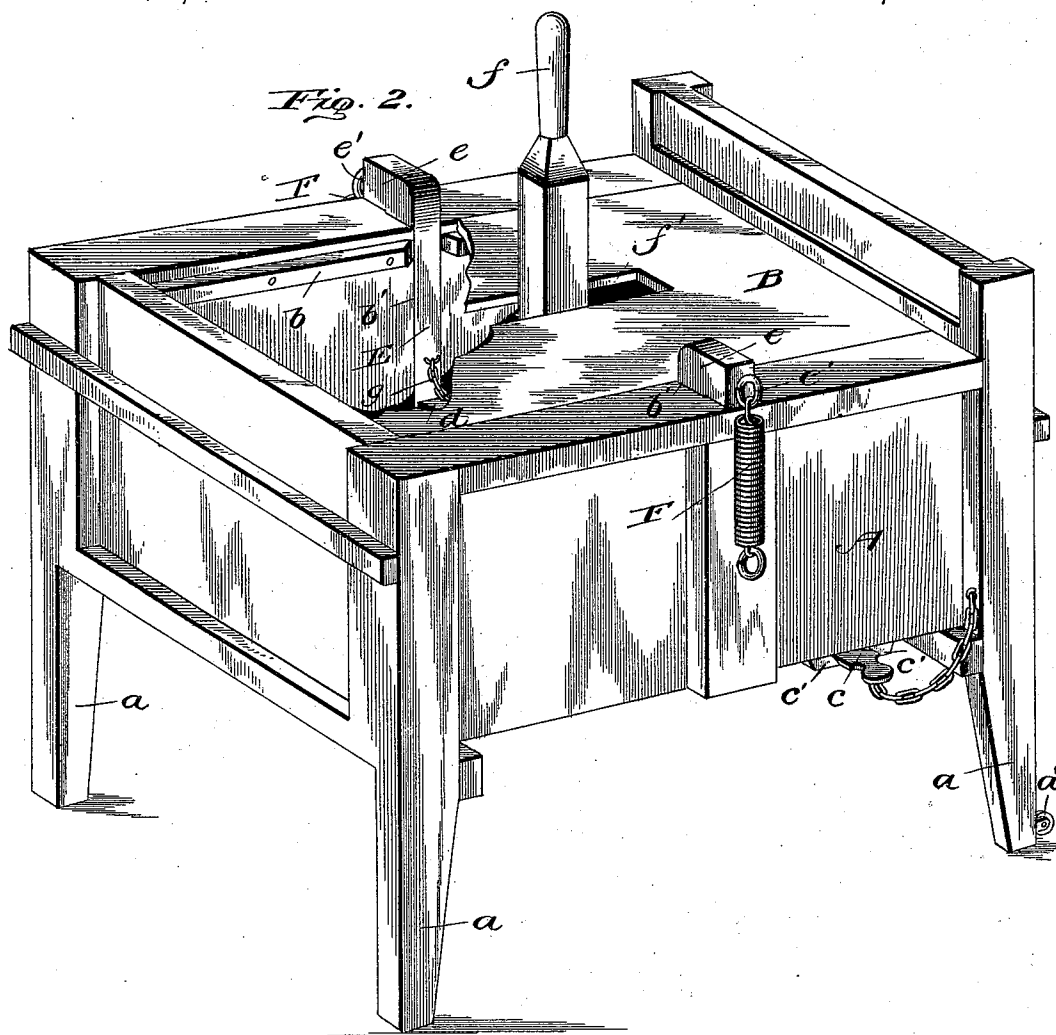
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

ANDREW J. CURTIS, OF EAST WILLIAMSON, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 488,543, dated December 27, 1892.

Application filed June 20, 1892. Serial No. 437,352. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. CURTIS, a citizen of the United States, residing at East Williamson, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in washing machines; and its object is to provide a simple machine which can be easily operated to cause a suction of water through the fabrics or clothes and thereby cleanse the same.

With these ends in view, the invention contemplates a suds-box, having two vertical ways or grooves in the sides thereof, a rubber adapted to operate in the suds-box and having vertical guide stems which fit in the ways or grooves and are movable vertically therein, coiled springs arranged and supported on the outside of the suds-box and attached to the upper protruding ends of the vertical guides to press the rubber in firm contact with the clothes, and the series of elongated cups divided in sections and forming the working face of the rubber.

My invention also consists of the construction and arrangement of parts which will be fully pointed out and claimed hereinafter.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of my improved machine, Fig. 2 is a perspective view. Fig. 3 is a detail view of the rubber, and Fig. 4 is a detail view of one of the cups which form the face of the rubber. Fig. 5 is a detail view showing the arrangement of the plug *c*.

Referring to the drawings, in which like letters of reference denote corresponding parts in the several figures, A designates the suds-box of my improved machine, which suds-box is preferably mounted on suitable legs *a*, two (or more) of which are provided with castor wheels *a'* arranged on the legs so as to be out of contact with the floor or ground so that the machine will not move while being used, but when it is desired to move the machine, one end thereof is raised sufficiently to throw the weight of the machine upon the castor-wheels

on the legs at the other end so that it can be readily pushed to the desired place.

It will be understood that the machine may be constructed light enough to be easily lifted and carried about without detracting from its strength and durability.

One end of the suds-box is provided with a vertical ledge adapted to receive a wringer if it is desired to attach the same to the suds-box; and this box is closed by a tight fitting cover B which rests upon narrow strips *b* fastened on the inside of the box and fits flush with the top of the sides and ends thereof. Instead of the strips, the cover may be arranged to rest in seats formed in the sides and ends, as preferred. To prevent the water from squirting out from the suds box when it is withdrawn therefrom I place the escape opening C in the bottom of the box, near one side thereof, so that the water will flow in a straight vertical stream into a suitable receptacle; and this opening is closed by a tapering plug *c*, having beveled edges, which plug is arranged to slide in suitable sockets or guides *c'* secured on the bottom of the suds-box adjacent to the opening.

In the middle of the sides of the suds-box, on the inner opposing faces thereof, are vertical ways or grooves *b'* formed in the sides; but these ways or grooves may be made by strips secured on the sides if preferred.

The rubber is adapted to fit snugly in the suds-box, and it comprises the two parallel segmental pieces D, to the faces of which the cups are fastened. These pieces are suitably secured together and a cross-piece *d* projects beyond these segmental pieces D. Pivotaly secured to the ends of the cross-piece *d* are vertical guide stems or bars E, E, which are arranged to fit in the ways or grooves *b* in the suds-box and are adapted to move vertically therein; and the upper ends of these guides are provided with right angled lugs *e* which rest upon the top of the sides of the suds-box when the machine is not in use. The rubber is firmly pressed against the clothes by coiled springs F which are fastened at their lower ends on the outside of the box and to staples *e'* in the lugs *e* on the vertical guides. By this means the rubber is always held in an operative position by the coiled springs and

the springs being on the outside of the suds box they are not subjected to the action of the water which is liable to corrode the springs. As the handle or lever *f* is reciprocated back and forth, the ends of the rubber rise and fall successively; and the rubber is retained in place by the guide stems or bars which move vertically in the ways or grooves as the rubber is moved. The lever *f* is secured to the rubber in any suitable manner, and it projects upward through a longitudinal slot *f'* in the cover, which permits it to be moved back and forth.

The face of the rubber is composed of a number of cups *G* which are of such length that they fit readily in the suds-box; and these cups are divided by partitions *g* into any number of sections.

As the rubber is operated over the clothes in the suds-box the springs *F* give the desired pressure of the rubber on the clothes which secures the desired suction of the cups to draw the water through the clothes to cleanse them. I am aware that it is not broadly new to cleanse clothes by suction, and claim only the particular devices herein shown and described for accomplishing that purpose. The cups for causing the suction may be made of any suitable material and likewise the other parts of the machine.

When the machine is to be used the coiled springs are detached from the staples on the guide stems, and the rubber removed entirely from the suds-box. To keep the guides substantially in their proper position I provide short chains *g'* which are fastened to the guides and to suitable places on the rubber.

The suds-box is filled partially with clothes and the rubber and cover replaced; after which the springs are connected and the lever operated. The cups cause a suction of water through the fabrics as the lever is moved, and the water thus drawn through the clothes serves to thoroughly cleanse the same.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fall within the scope of the same.

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

In a washing machine, the combination of a suds box provided on its inner surface with parallel vertical ways or grooves, a rubber arranged within said box and pivotally connected to the lower ends of vertical guide bars arranged in the ways or grooves in the box, said guide pieces being provided at their upper ends with laterally projecting lugs which extend across the upper edges of the sides of the suds box, and coiled springs detachably connected to said lugs, and rigidly attached to the outside of the suds box, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. CURTIS.

Witnesses:

C. K. KNAPP,
LEWIS H. CLARK.