

GEORGE W. GREGORY.

Improvement in Washing Machines.

No. 123,475.

Patented Feb. 6, 1872.

Fig. 1.

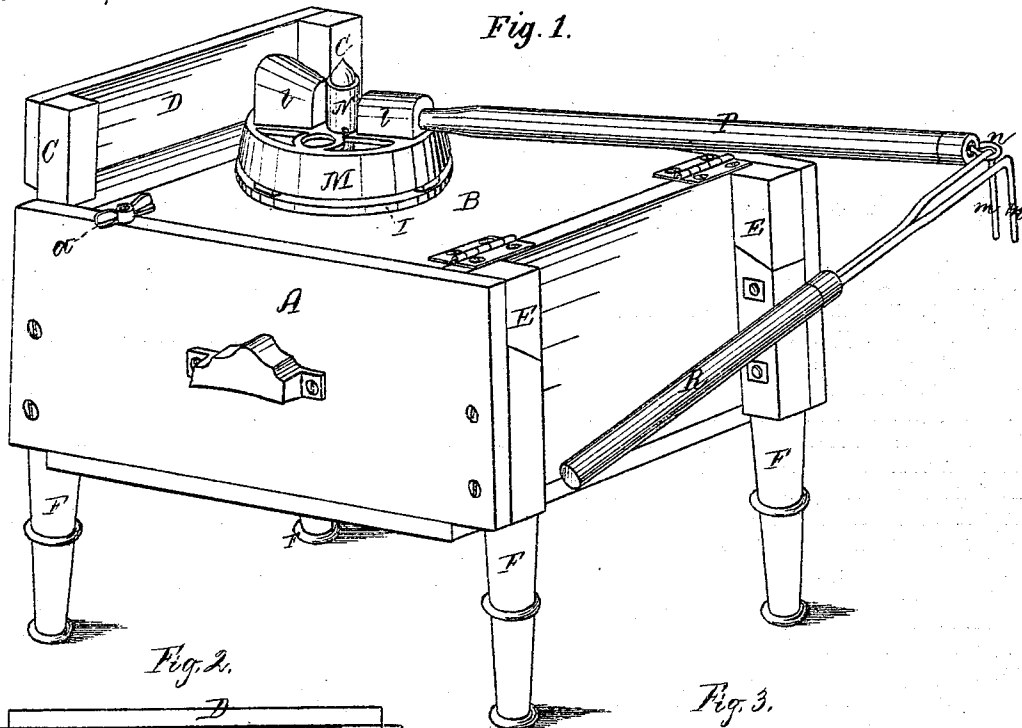


Fig. 2.

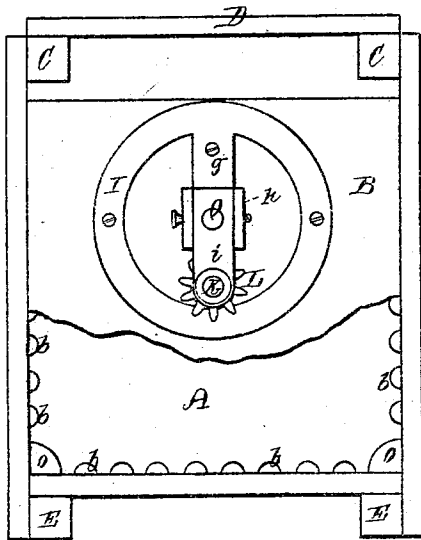


Fig. 3.

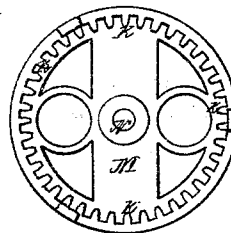


Fig. 4.

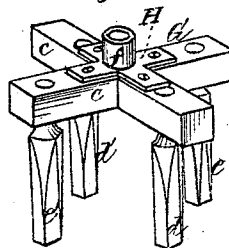
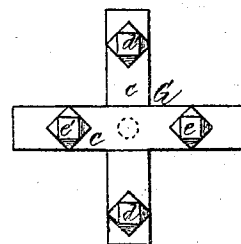


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. GREGORY, OF NEW YORK, N. Y.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 123,475, dated February 6, 1872.

To all whom it may concern:

Be it known that I, GEORGE WILSON GREGORY, of the city, county, and State of New York, have invented a certain new and useful Washing-Machine.

My invention relates to that class of machines in which the clothes to be cleansed are placed within a suitable water-receptacle and operated upon by a rotary beater; and it consists in a novel construction and arrangement of the beater-arms; in the peculiar construction and operation of the gearing for rotating the beater; in a novel method of attaching the legs or supports of the machine to the water-receptacle; and in a lever of peculiar construction for operating the gearing; and I do hereby declare the following specification, taken in connection with the drawing furnished, to be a full, clear, and exact description thereof.

Referring to the drawing, Figure 1 represents a perspective view of one of my washers complete. Fig. 2 represents the same in top view with the operating mechanism and a portion of the lid of the receptacle removed. Fig. 3 is an interior view of the operating gear. Fig. 4 represents a perspective view of the rotary beater. Fig. 5 represents the same in an inverted position, showing more clearly the position of the beater-arms.

A represents the water-tank or receptacle, into which the clothes to be cleansed are placed. It may be made of any suitable material, and should be constructed water-tight. The sides of the tank, as shown in Fig. 1, incline inward toward the top, thereby preventing the rising of the water. The form of the tank is quadrangular. Suitable means should be provided for drawing off the water after the operation of washing is completed. A lid, B, is hinged to the top of the tank, and buttons or clasps *a* are employed for holding it in a closed position during the operation of washing. To uprights C, placed at one end of the tank, a board, D, is attached, upon which a wringer may be clamped. The sides of the tank extend a short distance beyond each end, and in the space so formed at each corner a strip or block, E, is placed, the lower side of which is provided with an inclined surface. It is evident that the ends of the tank may be extended instead of the sides. F in each case represents one of the legs or sup-

ports of the water-tank. The upper end of each leg is preferably beveled, or so shaped as to correspond with the form of the lower end of the blocks C and E, with which it is placed in contact, as clearly shown in Fig. 1. The legs F are held in position by suitable screw-bolts passing through their upper ends and the sides of the tank, and the upper end of the legs, owing to their fitting under the blocks, are given additional security. The legs are of such length that when removed they will fit into the tank. It is usually the custom in machines of this class to attach the wringer-board to the upper ends of the legs at one end of the machine. In such cases upon removing the legs from the machine the wringer-board is of necessity removed with them. It is evident that this disadvantage is easily remedied by constructing the legs in the manner shown and described by me. Upon the interior of the tank and along the sides thereof a series of vertical strips or ribs, *b*, are arranged at equal distances apart, which form the rubbing surfaces for the clothes. Larger strips *c* are placed in each corner of the tank, and during the operation of washing they prevent the wadding of the clothes in the corner. G represents the beater. It consists of the cross-piece *c* forming the frame, to the lower side of which the arms *d d' e e'* are attached. These beating arms are of the peculiar form shown, and are arranged upon the cross-pieces *c* at unequal distances from the center, the arms marked *d d'*, as shown in Fig. 5, being further from the central point than those marked *e e'*. By cutting the beaters in the form shown I am enabled to have eight abrading edges, over which the clothes being washed pass, instead of four as usual; and this is a great desideratum, and these edges being increased in number enable the clothes to be cleansed in a correspondingly less time. By arranging the beaters at different distances from the center of the cross-pieces the clothes are moved in an irregular path and subjected to an alternate squeezing and rubbing action by the beaters furthest from the center, which assists very much in cleansing them. An iron cross-plate, H, preferably galvanized and provided with a socket, *f*, is attached to the top of the cross-piece *c*, which is secured by a drive-pin to the shaft K of the small cog-wheel, which passes

down through the top of the lid of the machine. I represents a circular frame placed upon the upper side of the lid B. It is provided with a cross-piece, *g*, upon which a block, *h*, is mounted, through which a round hole is made to support the foot of the upright shaft upon which the shell-wheel revolves. An arm, *i*, is attached to said block having two flanges extending down its sides and secured thereto by a drive-pin. The arm *i* is provided with two shaft-holes, through one of which the upright shaft passes and the other supports the top of the small cog-wheel shaft and keeps it in place so as to mesh in with the shell-wheel cogs. *K* is a vertical shaft; its lower end is attached to the socket *f* upon the beater, while the upper or opposite end passes through an opening in the lid B, and upon it a small gear-wheel, *L*, is mounted. The shaft passes through the gear, and is supported in bearings in the cross-piece *g* and arm *i* of the frame I. *M* represents the driving-gear. It consists of a circular shell provided upon its interior with the teeth *k*. Upon the inner side of the shell and at its center a vertical socket, *N*, is formed, which is placed upon and supported by an upright shaft or pintle, *O*, secured within the recess in the block on the frame I, and which serves as a pivot upon which the gear revolves. When the driving-gear is placed upon the pintle *O*, the teeth *k* connect with those of the pinion *L*. The gear *M* is formed upon its upper side with sockets *l* for the reception of the ends of the handle *P*. *R* represents the operating or compound lever, which is provided at one end with the hooks *m m*, which are arranged to connect with an eye, *n*, or other suitable device upon the outer end of the handle *P*. This lever makes it much easier to operate the machine, and enables an operator to remain seated, and

by this arrangement the machine can be driven by dog-power.

It will be seen that when the several parts of the machine are in their positions, as shown in Fig. 1, by operating the lever *R* motion is communicated to the running-gear *M*, the teeth of which connecting with the pinion *L* upon the shaft *K* cause a constant movement of the beater *G*. The arms of the beater acting upon the clothes within the tank, cause them to strike against the ribs *b*, thereby performing the operation of washing. By the peculiar construction of the driving-gear, as shown, the entrance of dirt between the teeth of the gearing is, in a great measure, prevented. The operating-lever *R*, which is provided with the hooks *m m*, is highly useful for the purpose of handling the clothes.

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

1. The circular shell *M*, having internal gear-teeth and handle-receiving sockets, when combined with the beater and the pinion, substantially as described.
2. The quadrangular inclined-sided tank, ribbed and provided with the large corner pieces, in combination with the octangular beaters, substantially as described.
3. The detachable hooked operating-lever combined with the handle, as described.
4. The detachable legs or supports for the tank, cut so as to engage with the blocks and of a length not greater than the interior length of the tank, as and for the purposes specified.

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