T. C. EBERHARDT.

Washing-Machines.

No. 146,583. Patented Jan. 20, 1874.

Fig. 1.

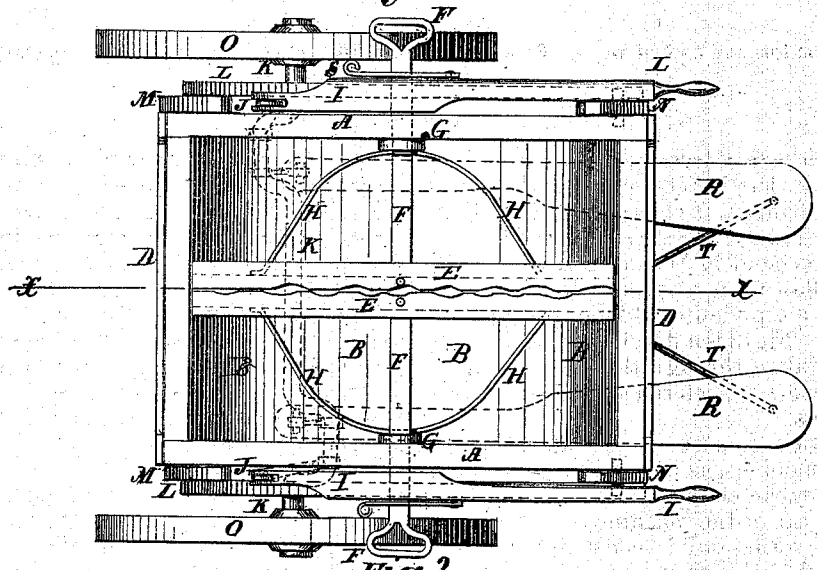
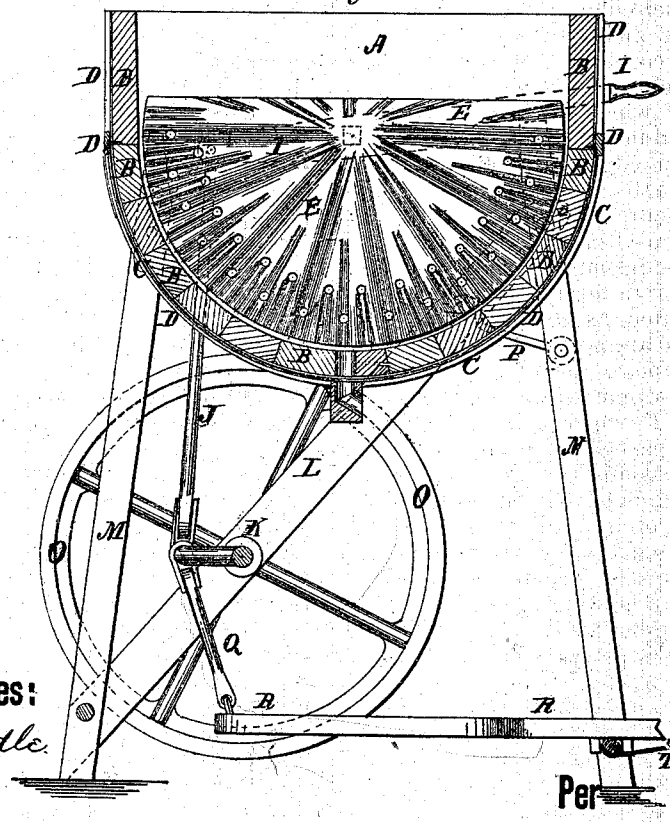



Fig. 2

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# UNITED STATES PATENT OFFICE.

THEOPHILUS C. EBERHARDT, OF HOCHHEIM, TEXAS.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **146,583**, dated January 20, 1874; application filed April 12, 1873.

*To all whom it may concern:*

Be it known that I, THEOPHILUS C. EBERHARDT, of Hochheim, in the county of De Witt and State of Texas, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification:

Figure 1 is a top view of my improved washing-machine. Fig. 2 is a detail vertical section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention consists in the improvement of washing-machines, as hereinafter described, and pointed out in claims.

The box or tub of the machine is made semicylindrical in form, and is constructed as follows: A are the ends of the box or tub, which are vertical and semicircular in form. B are the staves, which are arranged between the ends A, around their curved edges, and which are covered upon their outer sides by a zinc plate, C, the edges of which are bent inward or flanged and inserted in grooves in the edges of the ends A, to which edges the said plate is secured with copper nails. The edges of the plate C are further secured by narrow laths or strips of wood D, secured in place by nails or wood-screws. E are rubbing-boards, which are made semicircular in form, and the faces of which are corrugated, as shown in Fig. 2. The rubbing-boards E are perforated, to allow the water to flow through them freely. The rubber-boards E are supported and oscillated by the square shafts F, which are rigidly attached to the middle part of their outer sides. The square shafts F pass out through the square holes of the sockets G, and have handles formed upon or attached to their outer ends. The outer surface of the sockets G is made cylindrical in form, and the said sockets are placed on bearings inserted in holes in the ends A of the box. The rubbing-boards E are forced forward and held to their work by the bent springs H, the middle parts of which are secured to lugs formed upon the lower part of the inner ends of the sockets G. The ends of the springs H rest against the outer sides of the rubbing-boards E, and are bent or curved outward, so as to slide upon the boards E, when said boards are drawn outward or apart by means of the handle of the shafts F. The rubbing-boards E are held in place, when drawn apart or outward, by latches S, pivoted to the levers I, and which drop into cross-slots in the square shafts F. By this construction the rubbing-boards, shafts, sockets, and springs all move together, so as to always retain their proper relative positions. To the outer ends of the sockets G are rigidly attached levers I, the forward ends of which extend into such a position that they may be conveniently grasped by a person standing at the front of the machine to operate the rubbing-boards by hand-power. To the rear ends of the levers I are pivoted the upper ends of the connecting-rods J, the lower ends of which are pivoted to the cranks formed upon the shaft K. The shaft K works in bearings in the inclined bars L, the lower ends of which are attached to the lower ends of the rear legs M of the machine, and their upper ends are secured in place by the bolts or screws that pivot the upper ends of the forward legs N to the forward part of the ends A of the box. To the ends of the crank-shaft K are attached fly-wheels O, to give steadiness of motion to the machine, and to carry the cranks past their dead-centers when the machine is in operation. The bearings of the crank-shaft K are arranged so low down upon the bars L that when the lower ends of the front legs N are thrown outward the fly-wheels O will rest upon the floor and serve as wheels, for convenience in moving the machine from place to place. The pivoted legs N are provided with stop-pins attached to the box, to limit their movement in either direction, and the said legs are held in place, when arranged for supporting the machine in working position, by a hook, P, pivoted to the leg N, and hooking into a staple attached to the brace L. The lower ends of the legs N are connected by a cross-bar. The lower ends of the rear legs M are connected by a cross-bar, and their upper ends are rigidly attached to the ends of the box. The cranks of the shaft K project from its opposite sides, and to them are pivoted the upper ends of the connecting-rods Q, the lower ends of which are pivoted to the ends of the treadles R. The treadles R rest upon and are pivoted to the cross-bar of the legs N by means of cleats attached to, or grooves formed in, their lower sides, so that they can be readily disconnected from the legs

N, to allow the lower ends of the said legs to be thrown outward.

By standing upon the treadles R and throwing the weight upon the treadles R alternately, the machine may be operated by foot-power, and by, at the same time, taking hold of the levers I, the machine may be operated by both hand and foot power.

It will be observed that the machine may be run forward and backward with equal facility, so that the motion may be occasionally reversed, to facilitate the washing of the clothes.

The free ends of the treadles R are supported from the cross-bar of the pivoted legs N, when the machine is being transported upon the wheels O, by short chains T.

The box A B C D should be provided with a stop-cock for drawing off the water when desired.

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

1. The sockets G, having lugs attached to the middle of springs H and above the middle of disks, as described, to cause the said springs to act in concert with the square shafts F in the horizontal support of the rubbing-disks.

2. The combination of the levers or arms I, connecting-rods J, crank-shaft K, fly-wheels O, connecting-rods Q, and treadles R with the sockets G, square shafts F, and rubbing-boards E, substantially as shown and described.

3. The combination of the crank-shaft K and fly-wheels O with the pivoted legs N, the fly-wheels serving also the purpose of transporting-wheels, substantially as specified.

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Witnesses:

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