(Model.)

F. D. HARDING.

WASHING MACHINE.

No. 367,621. Patented Aug. 2, 1887.

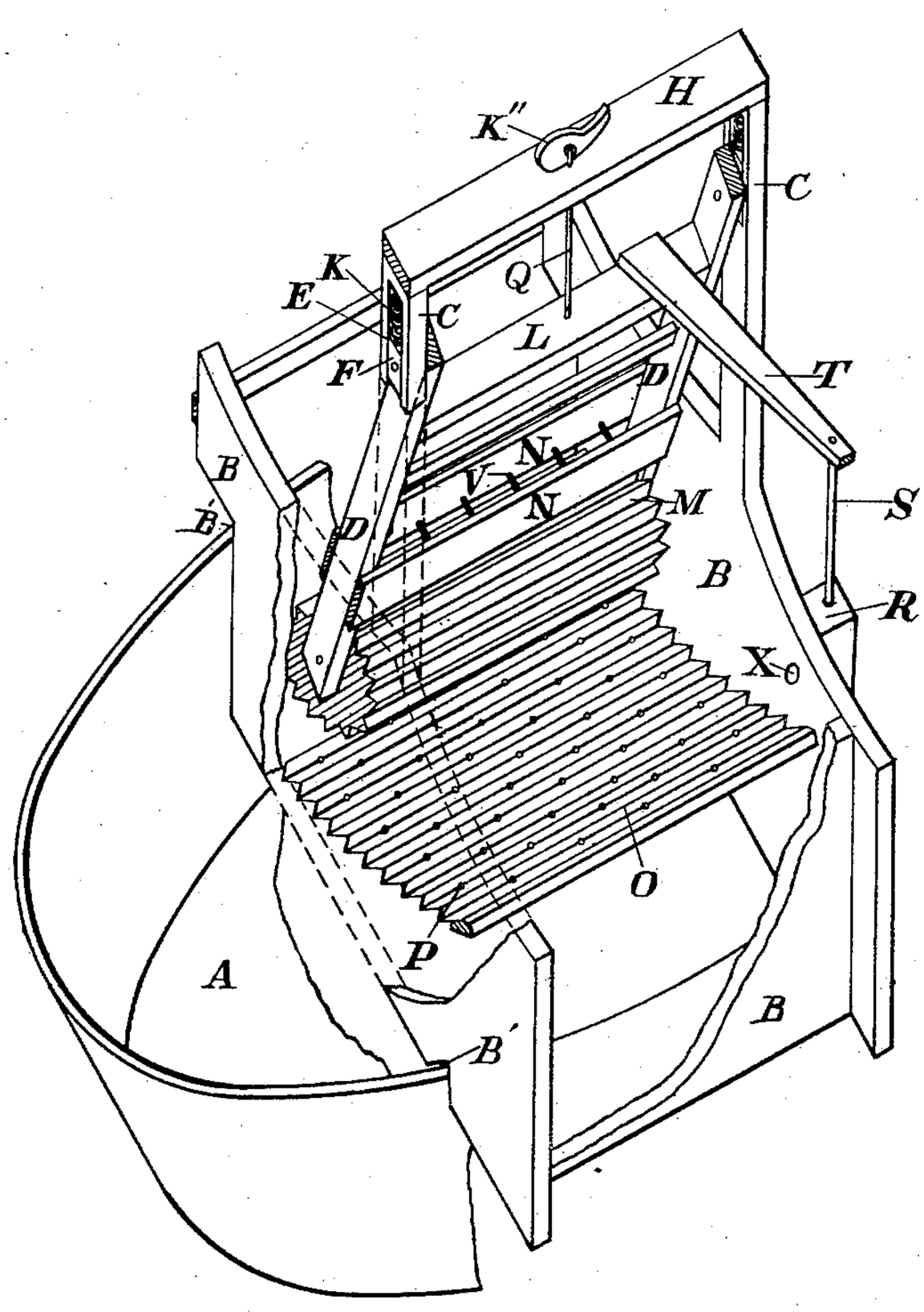

Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

FRED D. HARDING, OF BALDWIN, MAINE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,621, dated August 2, 1887.

Application filed February 16, 1886. Serial No. 192,097. (Model.)

To all whom it may concern:

Be it known that I, FRED D. HARDING, residing at Baldwin, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

In the accompanying drawing is shown a perspective view of my newly-organized washing-machine, partially broken away at one side for the purpose of better showing the full construction.

The object of my present invention is to furnish a thoroughly practical washing-machine for general household use which shall be simple in construction, efficient in operation, easily kept in repair, and so inexpensive in its prime cost as to be within the reach of all; and the novelty consists in the construction of the several parts and in their combination with each other, all as will now be more particularly described, and pointed out in the claims.

Referring to the drawing, A represents the partial outlines of an ordinary wash-tub, over which is placed my machine.

The letter B indicates a box or the main frame of the machine, having notches B′ cut in its lower sides to correspond with and fit over the edge of the tub A.

C C are standards rising perpendicularly from the sides of the frame B, and between these standards is located what I have denominated a "swinging frame." D indicates this frame. Said frame is designed to swing backward and forward between the standards C C, like a pendulum, upon pivots or journals which find suitable bearings in boxes F F, which slide in slots E E, cut in the standards C C. L are strengthening cross-bars, which serve as convenient handles for operating the swinging frame D. Located within the slots E E, and compressed between the tops of the slots and the sliding boxes F F, in which are journaled the pivots of the frame D, are stout spiral springs K, which exert a very decided thrust or pressure upon the boxes and cause a roll, M, journaled at the lower end of the frame D, to press hard upon the floor O of the main frame B. A cross-bar, H, extends from the top of one standard to the other. L is also a cross-bar. These two cross-bars are connected by a rod, Q, which tends to keep the spring K properly compressed. K″ is a cam for elevating the swinging frame D.

The floor O is curved to correspond with the sweep of the swinging frame D. This floor is of zinc, and its surface is wrinkled or corrugated similar to the front of an ordinary wash-board. The roll M, which is also of zinc, is corrugated to correspond with the floor O, over which it is intended to travel backward and forward as the swinging frame D is vibrated. The floor O is perforated, as shown at P, to permit the free passage of water through it. At one side of the box or main frame the letter R represents a pump, which may be of any convenient design, which at its lower end is placed in the wasb-tub A.

S is a pump piston-rod rising upward and joined to the end of an arm, T, which projects horizontally from the cross-bar L, extending between the sides of the swinging frame D. Thus when the frame D is swung backward and forward the outer end of the arm T rises and falls to correspond with the motion of the frame, and consequently the piston S rises and falls in the barrel of the pump R. This causes the water in the tub to rise in the pump and escape through the orifice X out upon and spread over the floor O. As before stated, the floor is perforated. Thus the water, as soon as it spreads over the floor, runs through the perforations into the tub, ready to be again taken up by the pump. By this arrangement a small amount of water can be kept in constant circulation, and while the frame D is in vibration a continuous stream of water will be pouring from the orifice X over the floor O.

The operation of the machine is very simple. The tub A is partially filled with water. The machine is then placed over the tub in the position shown in the drawing. The garment to be washed is laid upon the floor O. The operator then grasps one of the cross-bars and swings the frame D to and fro, causing the wrinkled roll M to pass rapidly backward and forward over the garment and press and work it against the wrinkled floor O.

As the frame D is vibrated, the pump R is set in operation, and water is raised from the tub and discharged through the orifice X upon and over the garment lying on the floor O. The roll M, which is working under the direct pressure of at least fifty pounds, rubs and scrubs the garment similar to the action of hand-work in rubbing a garment over the surface of an ordinary wash-board.

To reduce the labor of operating the machine to the lowest degree possible, I provide an arrangement for automatically supplying soap.

Two parallel side bars, N N, are attached to the edges of the swinging frame D near its lower end. These side bars at their lower edges are then connected by a series of parallel wires, V. The whole construction provides a box or trough for holding and retaining bars of soap.

The bottom of the trough is tangent, or nearly so, to the roll M. Thus when the roll is turning the soap is gradually eaten or worn away by reason of the roll's wrinkled periphery wearing against the soap bars.

Although in the drawing I have shown the pump mechanism R as located at one side of the main frame B, still I do not confine myself to that arrangement, as practical operation has demonstrated that the pump mechanism can be located at any part of the frame, provided its position is such as to efficiently draw the water from the tub and fully discharge it over the bottom O.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the tub A, the box B, notched in its under side at B′, whereby it fits securely over the edge of the tub, and provided with a fixed curved and corrugated floor, O, and having a swinging frame and roll, M, and the pump R, substantially in the manner and for the purpose set forth.

2. In combination with the tub A, the box B, notched at B′ and supported thereby on the edges of the tub, and having the orifice X above the curved and corrugated floor, and the pump R, having the piston S, operated as described.

In testimony that I claim the foregoing as my own I have affixed my signature in the presence of two witnesses.

FRED D. HARDING.

Witnesses:

GEORGE F. EMERY,

HERBERT G. BRIGGS.