

(No Model.)

F. D. HARDING.
WASHING MACHINE.

No. 411,659.

Patented Sept. 24, 1889.

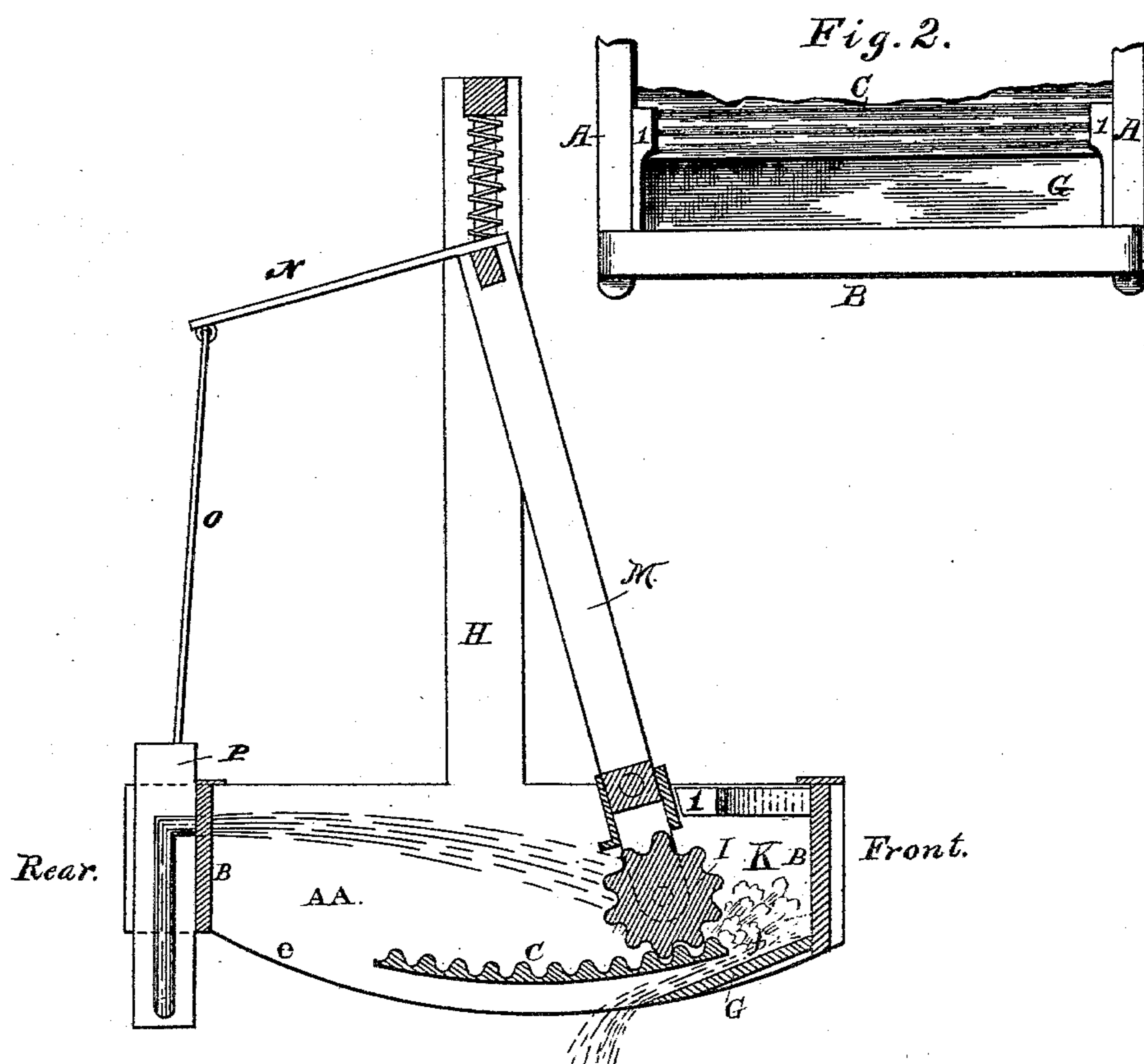


Fig. 1.

Witnesses:

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UNITED STATES PATENT OFFICE.

FRED. D. HARDING, OF BALDWIN, MAINE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,659, dated September 24, 1889.

Application filed June 30, 1888. Serial No. 278,678. (No 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.

The special object of the present invention is to make secure to myself certain new and useful improvements in the construction of that particular kind of washing-machine fully shown and explained by me in a pending application for Letters Patent for improvements in washing-machines filed February 16, 1888, and bearing Serial No. 264,237. In the said application I have described a washing-machine wherein the bottom is grooved or corrugated, similar to the front surface of an ordinary wash-board, and wherein said zinc bottom was to extend from the front rail of the frame of the machine nearly to the back rail, where it was cut away, leaving a narrow opening extending the whole width of the bottom. In the present invention the corrugated or wrinkled bottom is changed in its construction, and instead of covering over the whole bottom, with the exception of the transverse opening adjacent to the rear rail, it covers only the central part of the bottom and leaves a transverse opening adjacent to the front rail corresponding to the opening at the rear rail. I also incorporate in the present invention, an additional feature of a second bottom placed a little under the opening next to the front rail, extending nearly or quite to the center of the machine.

In the accompanying drawings, Figure 1 shows a longitudinal vertical section of the machine. Fig. 2 is a detail in plan, showing the open top chamber in the forward part.

Similar letters of reference in the two figures indicate corresponding parts.

Referring to the drawings, A A show the side rails of a casing or frame-work for supporting the working and operative parts of a washing-machine. The said rails have straight lines on their top edges and curved lines on their bottom edges. They are joined

together by end rails B B. The top of the casing or frame-work, when the rails are all united, represents a rectangle of any desired dimension. The casing is open at the top. The bottom C, made of any suitable material, is grooved or corrugated similar to the front surface of an ordinary wash-board. The bottom C is centrally located, and is so put on that it leaves a narrow transverse opening *e* at the rear and a corresponding opening *f* at the front, both transverse openings extending the whole width of the bottom.

Rising perpendicularly from the top edges of the side rails, at or near their central points, are standards H, which carry an oscillating frame, which has a corrugated washing roll or rubber I journaled in its lower end, by means of which any garment spread out upon the floor C is washed and rubbed as the rubber moves backward and forward over it when the oscillating frame is vibrated.

G shows an inclined detached bottom or piece extending from the front rail under the bottom C, and so placed and adjusted relative to said bottom C as to come below the narrow transverse space *f* between the front edge of the bottom C and front rail of the machine, and extend rearward and under bottom C far enough to form a way or chute for the escape of water from the chamber K into the tub placed below.

The second bottom, which may be of wood or zinc, according to the desire of the user, is removed from contact with the zinc bottom C, so that any accumulation of water flowing to that end of the machine can readily and easily pass from the washing-surface C to the second bottom G, and thence escape into the receptacle over which the machine is placed.

It will be observed that as the forward movement of the washing-roll is stopped, when the bars M, swinging in the standard H, in the ends of which bars the roll is journaled and by which it is operated, strike against the stops *l*, placed on the inside of the side rails near the front and just over the front edge of the bottom C, there is provided a recess or chamber K between the roll at this point and the front rail over the second bottom G, entirely open at the top. This space constitutes a sort of a pocket or chamber

directly before the person using the machine, and is intended to hold that part of the garment that has been properly washed, the residue being still upon the washing-surface C; or, in case small articles are being washed, some of them can be left here after having been duly scrubbed, and when the space or chamber is filled with them they can be removed.

The changes in construction whereby the chamber K is produced constitute the chief points in the present invention, and the reasons, in addition to what has already been stated, for said changes in construction are as follows: Practice has demonstrated that in some instances, when the washing-roll I is rotating over the garment, water will accumulate between the roll and the front rail of the machine and will not readily pass from the washing-surface C, causing great inconvenience to the operator. Again, the garment will sometimes catch in such a way as to wind upon the roll, also causing much inconvenience. To obviate these difficulties it was found to be necessary to provide some means to take care of the surplus water and prevent the garment from interfering with the operation of the washing-roll. Experiment has fully proved that by cutting away the floor C at the front rail and placing the second bottom G under the opening entirely obviates both of the difficulties mentioned.

To a connecting-piece at the upper end of the swinging bars M is attached a bar N, extending outward, and to the end of said bar is hinged the upper end of the piston-rod O, which acts in the pump P, centrally at the rear of the machine. This pump is adapted to discharge water upon the washing-floor, as is illustrated in Fig. 1.

The action of the pumping mechanism, which is the same as that set out in my other case, need not be explained in this case, further than to say that the jet of water is caused to impinge on the roll as it reaches, or nearly reaches, the stops l in its forward movement, where it is at or over the front edge of the bottom C.

While I have provided the second bottom G, and think it best to use it in the machine, it is obvious that if it is left out the space between the roll in its forward position and the front rail can be utilized to hold the end of the garment which has been washed; or, if desired, the operator can grasp the end of the garment with the fingers of the hand not used in moving the roll, while the thumb is outside the rail, so that the mere removal of this second bottom would not absolutely and essentially change the idea of having the space or chamber K at the front of the machine, nor would it essentially change the construction if the bottom C were carried to the front rail and exit through it were here provided for the water.

Having now described my invention, what I wish to claim is—

1. In a washing-machine, a pumping mechanism operated by the bars on which the washing-roll is carried, a corrugated bottom centrally located and having an opening at the front and rear, and stops near the front end to limit the forward movement of the roll, whereby an open space or chamber is formed at the front of the machine, all combined substantially as and for the purposes set forth.

2. A washing-machine in which are combined the following elements: the frame forming the support for the operative parts, a bottom centrally located and having an opening at the front and rear, a rubbing-roll movable over said bottom and connected with and operating a pumping mechanism to throw a jet of water, as described, and an open top chamber or recess at the front of the machine having the detached inclined bottom G, all substantially as set forth.

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:

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FRED C. ROLLINS.