J. MYERS.

WASHING-MACHINE.

No. 186,431. Patented Jan. 23. 1877

FIG. 1.

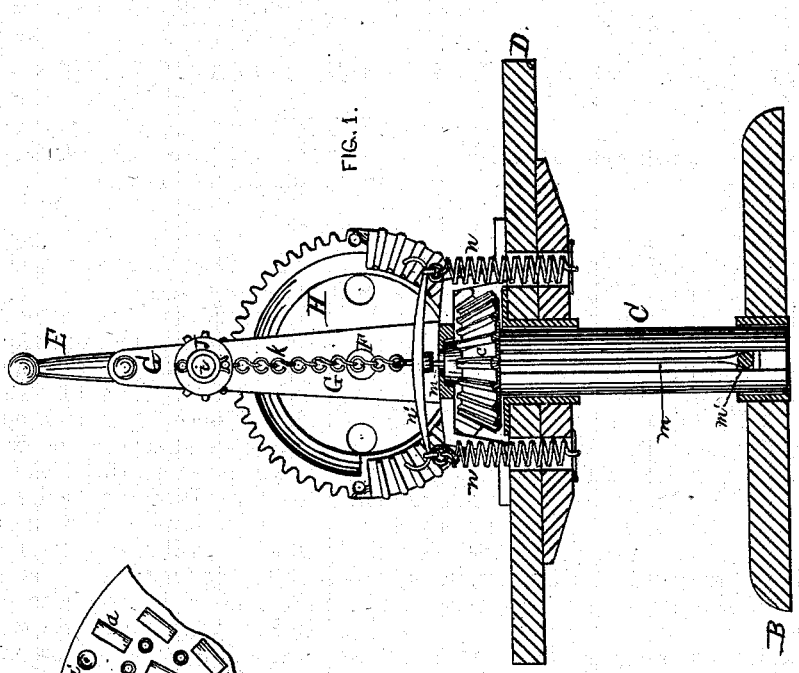


FIG. 3.

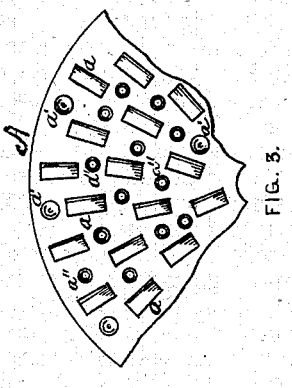
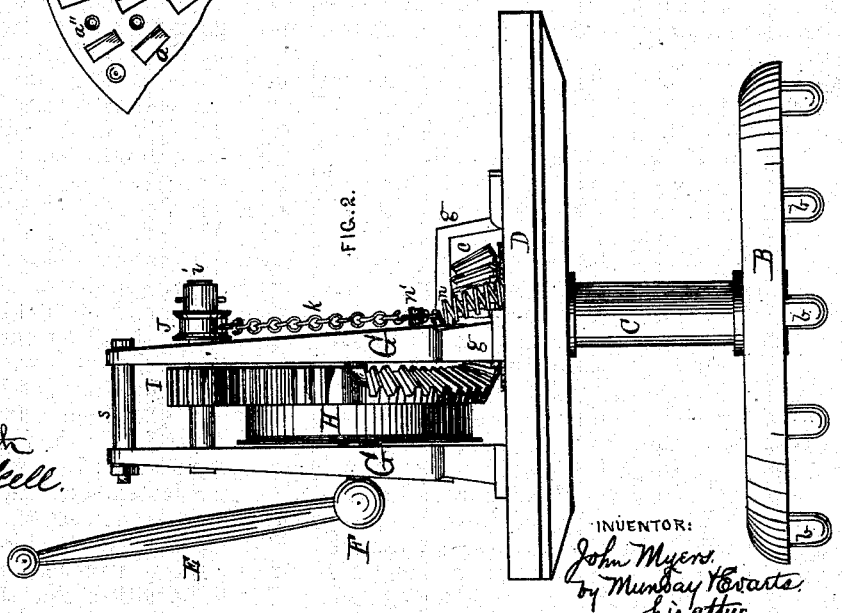


FIG. 2.



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UNITED STATES PATENT OFFICE

JOHN MYERS, OF NORA, ILLINOIS.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **186,431**, dated January 23, 1877; application filed May 31, 1876.

To all whom it may concern:

Be it known that I, JOHN MYERS, of Nora, in the county of Jo Daviess and State of Illinois, have invented certain Improvements in Washing-Machines, of which the following is a specification:

In the accompanying drawing, forming a part of this specification, Figure 1 is a front elevation, partly in section, and Fig. 2 is a side elevation of my improved washing-machine, while Fig. 3 is a plan view of the metallic base, which is placed in the bottom of the tub, or other receptacle, wherein my machine is used, and acts in conjunction with said machine.

Like letters of reference made use of in the different figures of said drawing indicate like parts wherever used.

This machine belongs to the same class of washing-machines as those described in the Letters Patent to me dated July 6, 1875, and numbered 165,358 and 165,359, and may be regarded as an improvement on such previous machines.

Before the machine is placed in the tub or box where the washing is to be performed, a metallic base-plate, A, conforming in size to the follower of the machine, such follower carrying the rubbing parts, is placed in the bottom of the tub or box. This base-plate, between which and the follower, the clothes are operated upon, has some peculiarities of construction which give it advantages over the base-plate described in my previous patents. It is provided with numerous rectangular elevations, *a*, having their tops rounded off so that they may present no sharp corners, and placed, many of them, on radial lines from the center of the plate, and many of them turned slightly, so as to lie across such radial lines, no two of them being at the same distance from the center. While they are distributed over the plate in a manner approximating evenness, yet the spaces intervening between are of irregular shape and size. Circular depressions *a'* are also distributed over the surface at intervals, and the plate is perforated with numerous small holes, *a''*, to permit free circulation of the water. These features will all be understood from Fig. 3, which shows a segment of the plate, the remaining portion being similar, and they are all impressed upon the plate by stamping.

B is the follower, provided upon its lower surface with numerous downwardly-projecting knobs, *b*, by which the clothes are agitated and rubbed. This follower is keyed upon a slotted shaft, C, in such manner that it turns with said shaft, but is free to slide up and down the same, the shaft having a bearing in the cover D of the machine.

The follower is actuated by a mechanism which I will now describe. A lever, E, by which the machine is operated, is attached to the shaft F, having bearings in the standards G G, resting upon the cover D, and affixed thereto in some secure manner. Upon the shaft F, and between the standards G G, is a gear-wheel, H, the upper half thereof being made with spur-gearing, while the lower half is made with bevel-gearing. The bevel-gear part meshes into a bevel-pinion, *c*, upon the upper end of the slotted shaft C, while the spur-gearing meshes into a spur-pinion, I, upon the shaft *i*, which in like manner as the shaft F has its bearings in the standards G above the wheel H, and one end of it projects beyond the standard and carries a pulley, J. A chain, *k*, is attached to the periphery of the last-mentioned pulley, and is wound up on the latter when the latter revolves. Depending from this chain is a rod, *m*, which extends downward through the standard and pinion *c*, and through the slot to the follower, the latter being attached to it by the cross-rod *m'* passing through the slot from side to side.

When the chain *k* is wound up on the pulley J, it raises the rod *m*, and with it the follower. When it is unwound from said pulley, the parts return partly from their own weight, and partly by reason of the pressure of the coiled springs *n* fastened at their lower ends to the cover, and at their upper ends each to an end of the cross-bar *n'*, which, at its center encircles, and is attached to, the rod *m*.

It will be noticed that the lever E and wheel H can be moved through a half-circle only, and that consequently the follower can be moved through a partial revolution only, unless the extent of that movement be increased by varying the relative sizes of the gearing H and *c*. It will be further noticed that, by giv

ing the proper tension to the chain, the follower may be raised and lowered with each full movement of the lever in either direction.

By the means I have described the follower is not only given a curvilinear horizontal reciprocating motion, but also a vertical reciprocating one, by which means the clothes are not only rubbed, but pounded as well. This I find to be a great improvement in the art.

The standards should be preferably tied by a bolt, *s*, at the top, as shown in Fig. 2, and that one of them over the slotted shaft is supported upon a triangular support composed of three parts, *g*, as shown in the drawing, that it may span over the pinion *c*.

Having thus fully described my invention, what I claim as new is—

1. The combination of the lever E, shaft F, bevel part of wheel H, pinion *c*, slotted shaft C, and follower B, whereby circular motion is imparted to said follower, substantially as set forth.

2. The combination of the lever E, shaft F, spur part of wheel H, pinion I, shaft J, chain *k*, rod *m*, cross-piece *m'*, and follower B, substantially as specified, whereby the follower is raised.

3. The combination of the springs, cover, and cross-bar, with the rod *m*, cross-piece *m'*, and follower B, substantially as set forth.

4. The combination of the lever E, shaft F, compound gear-wheel H, pinion *c*, slotted shaft C, pinion I, shaft J, chain *k*, rod *m*, cross-piece *m'*, coiled springs *n*, and cross-bar *n'*, with the follower, B, whereby the variety of motions described are imparted to said follower.

JOHN MYERS.

Witnesses:

MANLER WAY,

WILLIAM H. BOWMAN.