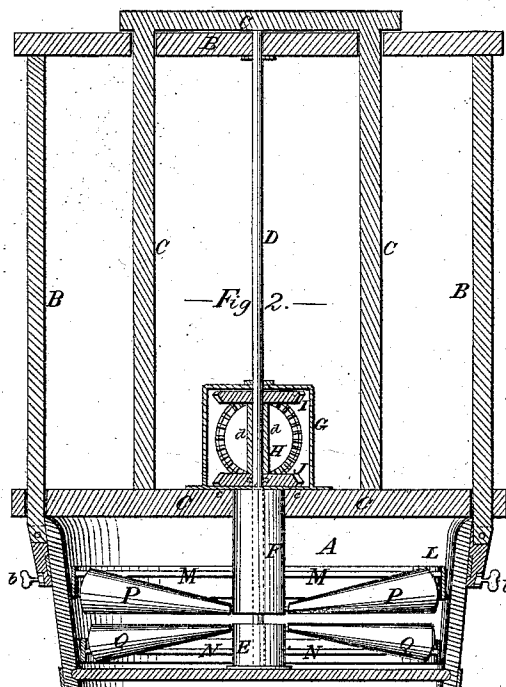
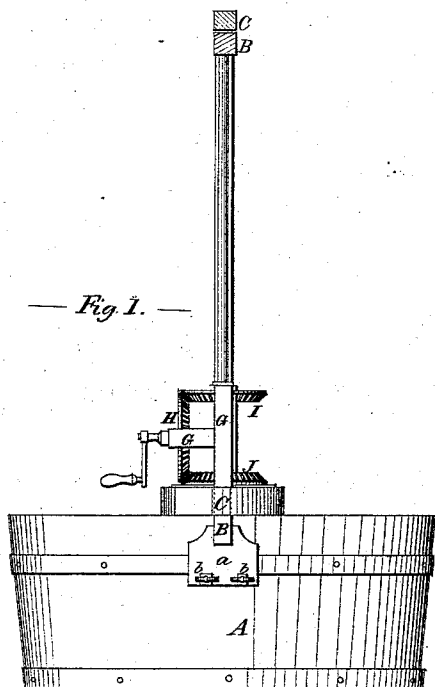


S. M. Namara,

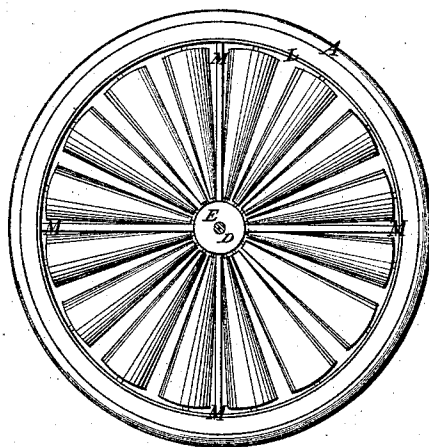
Washing Machine,

N^o 54,576.

Patented May 8, 1866.



— Fig 3. —



Witnesses,
Dr. E. N. Mearns
Dr. H. Mearns

Inventor,
Stephen M. Namara

UNITED STATES PATENT OFFICE.

STEPHEN McNAMARA, OF CHICAGO, ILLINOIS.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 54,576, dated May 8, 1866.

To all whom it may concern:

Be it known that I, STEPHEN McNAMARA, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare and make known that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

My said invention consists in the employment of two circular disks of conical rollers arranged one above the other in such a manner that the contiguous sides of the rollers are parallel, the upper disk being adjustable vertically, and revolving in the opposite direction from the lower disk, so that the clothes lying between said disks are thoroughly washed by the rotation thereof.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe its construction and operation with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a side elevation of my invention in section at the red lines in Fig. 2. Fig. 2 is a vertical central section taken at right angles with the view shown in Fig. 1; and Fig. 3 is a plan or top view of one of the disks of rollers before mentioned.

The same letters of reference in the several figures denote the same parts of my invention.

A represents a circular wash-tub, of the ordinary construction and any suitable size, surmounted by a frame, B, as shown, which is secured to the opposite edges of the tub, as shown; the T-rests *a* being secured to the lower ends of the posts B, which thus rest upon the screws, as shown, and are fastened to the tub by means of the set-screws *b b*, so as to be removable at pleasure.

D represents a rotating shaft having a bearing in the cross-bar B, as shown, and resting in a suitable box in the center of the bottom of the tub A.

E represents a suitable drum or hub, rigidly fixed upon said shaft D, and revolving with it, which forms the support of one end of the radially-arranged axes of the conical rollers Q in the lower disk aforesaid, the other end of said axes being supported in the circular band O, which

is secured to said hub E by means of the radial arms or braces N.

F represents a similar drum or hub, revolving upon said shaft E instead of with it, to which the upper disk of rollers is attached in the same manner as above described.

This revolving hub F rises up through the cross-bar C, having a suitable bearing therein, and has firmly secured to its upper end a bevel-gear wheel, J, as shown, said wheel J forming a shoulder to keep the hub F from sliding through its bearing when the same is raised up, as hereinafter described.

Upon said lower cross-bar, C, is erected the frame C, as shown, the whole device marked C having a vertical adjustment upon and through the fixed frame B, as shown.

The aforesaid gear-wheel J rests upon an iron or other suitable metallic plate, to prevent the wearing away of the bar C by the friction created by its revolution.

G represents a frame to support the crank-wheel H in position, which gears into the bevel-wheels I J, as shown.

I represents a sleeve attached to the upper bevel-wheel, I, whose lower end rests upon the bevel-wheel J, and thus supports the wheel I and keeps it in proper position.

The said upper gear-wheel, I, is secured or arranged upon the shaft D in such a manner that while its rotation will cause the shaft to revolve, yet at the same time it has a free vertical motion upon said shaft even while in motion.

This arrangement is effected in the present machine by means of a longitudinal groove in the shaft, into which a projection upon the wheel enters; but it may be accomplished in any other suitable manner. Thus it is readily seen that by the revolution of the crank-wheel H motion is imparted to the lower disk by means of the bevel-wheel I, and to the lower disk, in an opposite direction, by means of the gear-wheel J. It will also be seen that the upper disk, from its described connection with the sliding frame C, is raised and lowered with it.

Having described the nature and construction of my invention, I will now describe its operation.

Enough water is put into the machine to more than cover the lower disk, and the slide C is then raised up, raising also, as aforesaid,

the upper disk, when the clothes, in proper quantities, are laid upon the lower disk. The upper disk being then allowed to descend by its own weight, presses upon the clothes beneath, and thus produces a suitable amount of friction; and the machine being operated by means of the crank-wheel H, thoroughly cleanses the clothes, the rolling motion of the said conical rollers in opposite directions enabling the cleansing to be thoroughly performed, while at the same time there is no danger of washing or rubbing off the buttons. When the clothes have been washed and rinsed the water may be turned out from the machine and the clothes replaced, and the same operation of the machine will wring them.

Having described the nature, construction, and operation of my invention, I will now specify what I claim therein and desire to secure by Letters Patent—

1. The employment of two disks of conical rollers, arranged and operating substantially as herein shown and described, and for the purposes specified.

2. The combination of the two disks of rollers P Q, the shaft D, and the bevel-wheels H I J, or their equivalents, arranged and operating substantially as described and shown.

3. In combination with the above, the arrangement of the vertically-adjustable frame C, operating as and for the purposes described.

4. In combination with the above, the employment of the tub A and stationary frame B, arranged as and for the purposes specified.

STEPHEN McNAMARA.

Witnesses:

W. E. MARRS,
C. ROWLAND.