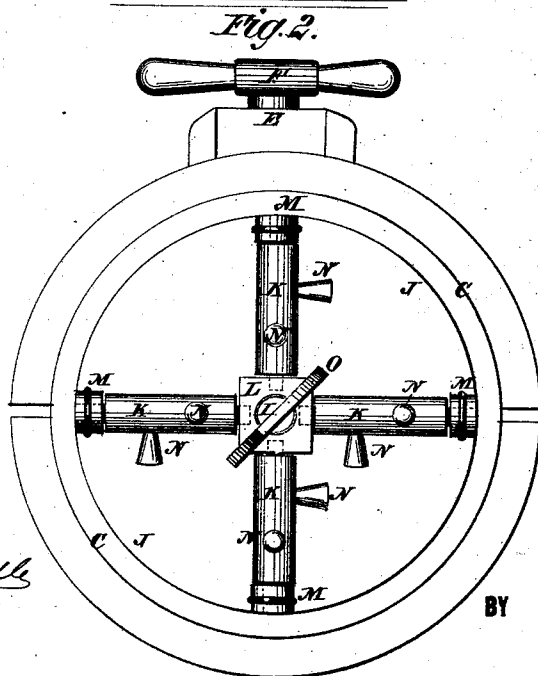
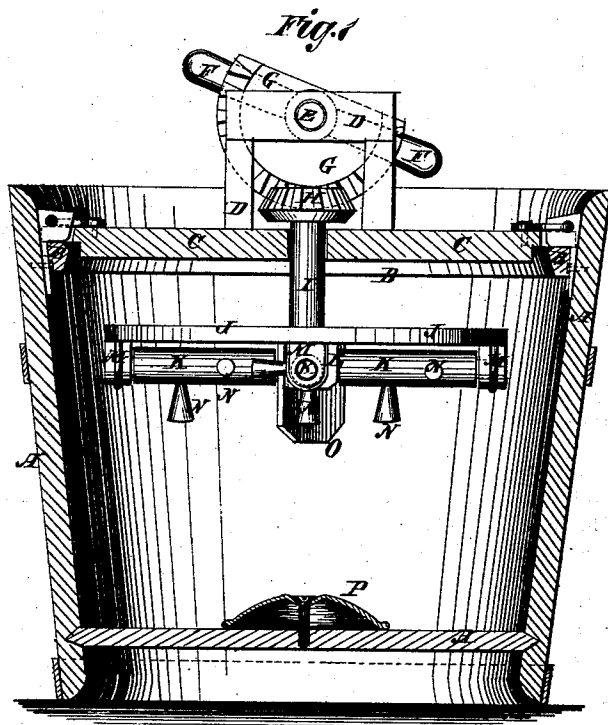


D. KUNKEL.
Washing-Machines.

No.155,873.

Patented Oct. 13, 1874.



WITNESSES:

J. M. Andle
Chiquet

INVENTOR:

D. Kunkel
Munnell

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DANIEL KUNKEL, OF OREGON, MISSOURI.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **155,873**, dated October 13, 1874; application filed May 29, 1874.

To all whom it may concern:

Be it known that I, DANIEL KUNKEL, of Oregon, in the county of Holt and State of Missouri, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification:

Figure 1 is a vertical section of my improved machine. Fig. 2 is an under-side view of the cover and its attachments.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of the washing-machine for which Letters Patent No. 59,235 were granted to me October 30, 1866, so as to make it more effective in operation.

The invention consists in the combination of the rollers and pins with the disk, the shafts, and the gear-wheels, as hereinafter described.

A represents the tub, which is similar to, and may in fact be, an ordinary wash-tub. To the inner surface of the tub A, near its upper edge, is attached a ring-cleat, B, or upon it is formed a rabbet, to serve as a shoulder or ledge to support the cover C. To the upper side of the cover C are attached brackets or small frames D, provided with bearings, in which revolves a horizontal shaft, E, the outer end of which projects at the side of the tub A, and has a cross-bar, F, attached to it to serve as a handle for oscillating the said shaft E. The inner end of the said shaft E projects nearly to the center of the cover C, and has a segmental bevel-gear wheel, G, attached to it, the teeth of which mesh into the teeth of a small bevel-gear wheel, H, attached to the upper end of the short vertical shaft I, which passes down through the center of the cover C, and has a disk, J, attached to its lower end. Upon the lower side of the disk J are placed four small radial rollers, K, at the distance of a quarter of a circle from each other. The journals of the inner ends of the rollers K work in bearings in a block, L, attached to the center of the disk J, and the journals of their outer ends work in bearings M at-

tached to said disk near its outer edge. To each of the rollers K are attached two pins, N, at right angles with each other, as shown in Figs. 1 and 2.

By this construction, as the disk J is turned in one direction, one of the pins N will rest against the said disk J, and hold the other pin N projecting downward vertically, or nearly so, to take hold of the clothes and sweep them through the suds. As the direction of the disk J is changed, the rollers K partially revolve, the projecting pins resting against the disk, and the others projecting to take hold of the clothes in another place and sweep them in another direction through the suds.

To the center of the disk J, or to the center block L, is attached a wing or vertical plate, O, which, as the disk J moves back and forth, keeps the clothes away from the center of the tub, so as to be in proper position to be swept through the suds by the pins N.

To the center of the bottom of the tub A is attached a knob, P, to cause the clothes to move away from the center of the tub when released from the pins N. The knob is struck up from sheet metal, and has a countersunk perforated head to receive the screw by which it is secured to the bottom of the tub.

The cover C may be made in three parts, hinged to each other, so that the side parts may be turned up to enable the clothes to be conveniently put in and taken out.

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

1. The combination of the rollers K and pins N with the disk J, shafts I E, and gear-wheels H G, substantially as herein shown and described.

2. The combination of the plate or wing O with the rollers and pins K N and disk J, substantially as herein shown and described.

DANIEL KUNKEL.

Witnesses:

N. B. DAVIS,
M. H. SOPER.