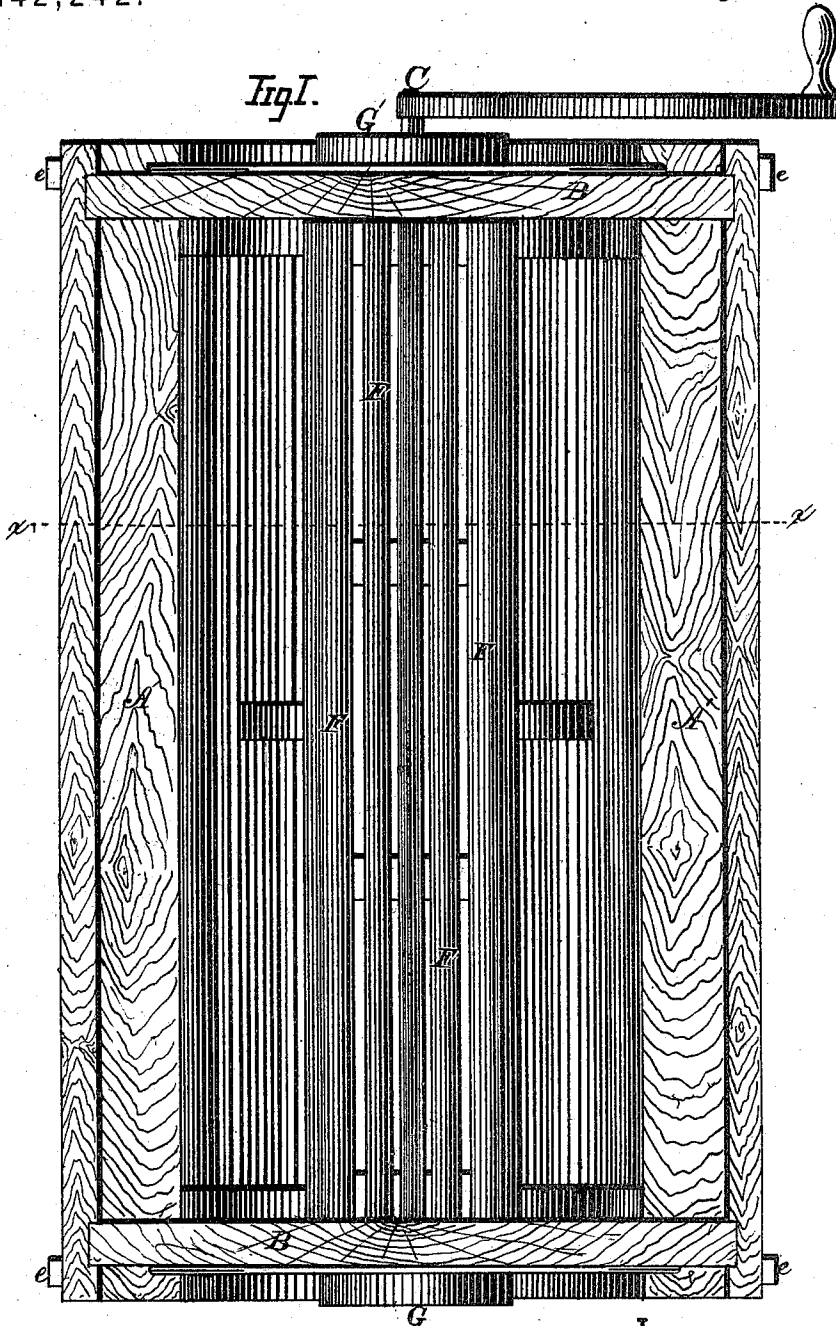


T. F. KIFF.
Washing-Machines.

No. 142,242.

Patented August 26, 1873.



WITNESSES:

James Hutchinson
John R. Young

INVENTOR.

Thos. F. Kiff, by
Orindle and Co. his Attys

T. F. KIFF.
Washing-Machines.

No. 142,242.

Patented August 26, 1873.

Fig 2.

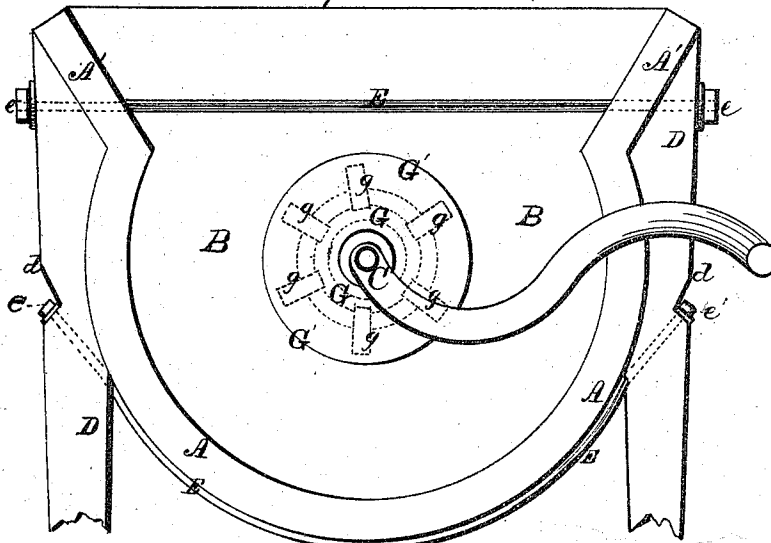


Fig 3.

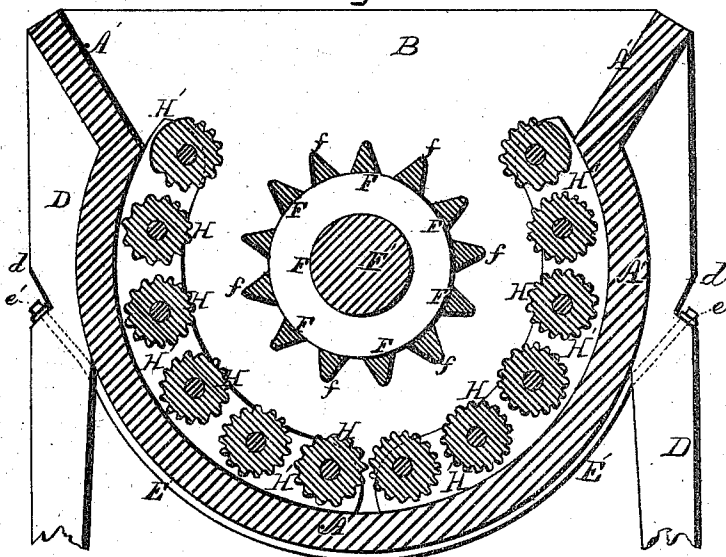
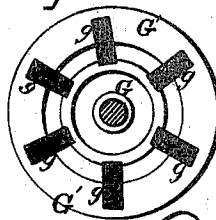


Fig 4.



WITNESSES:

*Jas. E. Hutchinson
John R. Young*

INVENTOR.

*Thos. F. Kiff, by
Orindle and Co, his Attys*

UNITED STATES PATENT OFFICE

THOMAS F. KIFF, OF CINCINNATI, OHIO.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 142,242, dated August 26, 1873; application filed June 7, 1873.

To all whom it may concern:

Be it known that I, THOMAS F. KIFF, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Washing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 shows a top or plan view of my improved device; Fig. 2, an end elevation; Fig. 3, a section on line *x x* of Fig. 1; and Fig. 4, an elevation of the inner side of the journal-box, bearing-springs, and inclosing-disk.

Letters of like name and kind refer to like parts in each of the figures.

My invention has for its object to insure that the clothes in process of washing shall constantly change position and be thoroughly squeezed between the rollers and cylinder, and thereby purged of all dirt and stains, and to accomplish an equal pressure at all times on all the clothes passing through the machine, and to prevent any clogging, or wedging, or injury to the clothes during the process of washing; and it consists in a washing-machine provided with a hollow ribbed cylinder, fluted rollers, and self-adjusting spring journal-bearings, all arranged and combined in the manner hereinafter more fully and clearly set forth.

In the annexed drawings, A represents the tub, with circular bottom and flaring sides A', which serve as suds-boards. Its ends B are vertical, and have apertures through which the shaft C of the cylinder passes. The tub is fastened and secured to standards or legs D, the inner faces of which are, at the top, made to conform to the shape of the tub by the metallic rods E, which pass through the upper ends of said standards and the projecting edges of the tub and outside its vertical ends, and are held by nuts *e*, while other metallic rods, E', the ends of which are also secured by nuts *e'*, fit firmly upon the notches or shoulders in the legs *d*. These rods are curved to fit closely upon the rounded bottom of the tub. F is the ribbed and open cylinder secured upon and revolving with the shaft C. It is made of a series of bars, triangular in section, and placed, with a broad face, upon the disks or annuluses F', which are fixed upon the shaft; thus they have edges

f f projecting radially outward. The shaft passes through the openings in the vertical ends of the tub, and finds bearings in the journal-boxes G, which boxes are contained in recesses formed within a disk, G', and are held in central position by means of a number of springs, *g*, placed at equidistant points around and extending between the inner side of the recess of said disk and periphery of said box. These disks are screwed or otherwise attached to or upon the vertical ends of the tub. A number of fluted rollers, H, are suitably journaled in a frame, H', which frame extends from the suds-board to or near the transverse center of the bottom of said tub, where it meets a corresponding frame that fills the opposite side. The rollers and frames thus readily fit into the tub and upon its curved or rounded bottom.

From this description it will be easy to understand the operation of the machine. The device can be readily taken apart for cleaning or repairing by removing the sets of rollers and unscrewing the fastenings of the rods and of the disks which cover the journal-boxes.

By this device the process of washing can be easily accomplished by any one, the clothes thoroughly cleansed, and that without any harm, or tearing or wearing them—being passed between the corrugated rollers and the edges of the bars on the central cylinder. At every motion of the handle the clothes are subjected to pressure and release, thereby insuring a thorough contact with the water and a cleansing process.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The tub A, fluted rollers H, ribbed open cylinder F, journal-boxes, and detachable springs, all combined and arranged as herein set forth.

2. The washing-machine hereinbefore described, with its curved bottom and flaring edges resting upon and secured to the legs by the straight and curved metallic rods E and E', as set forth.

3. The journal-boxes, with adjustable springs, inclosed in detachable disks and combined with the cylinder, as set forth.

THOMAS F. KIFF.

Witnesses:

WM. TALLMAN,
H. MATHEWS.