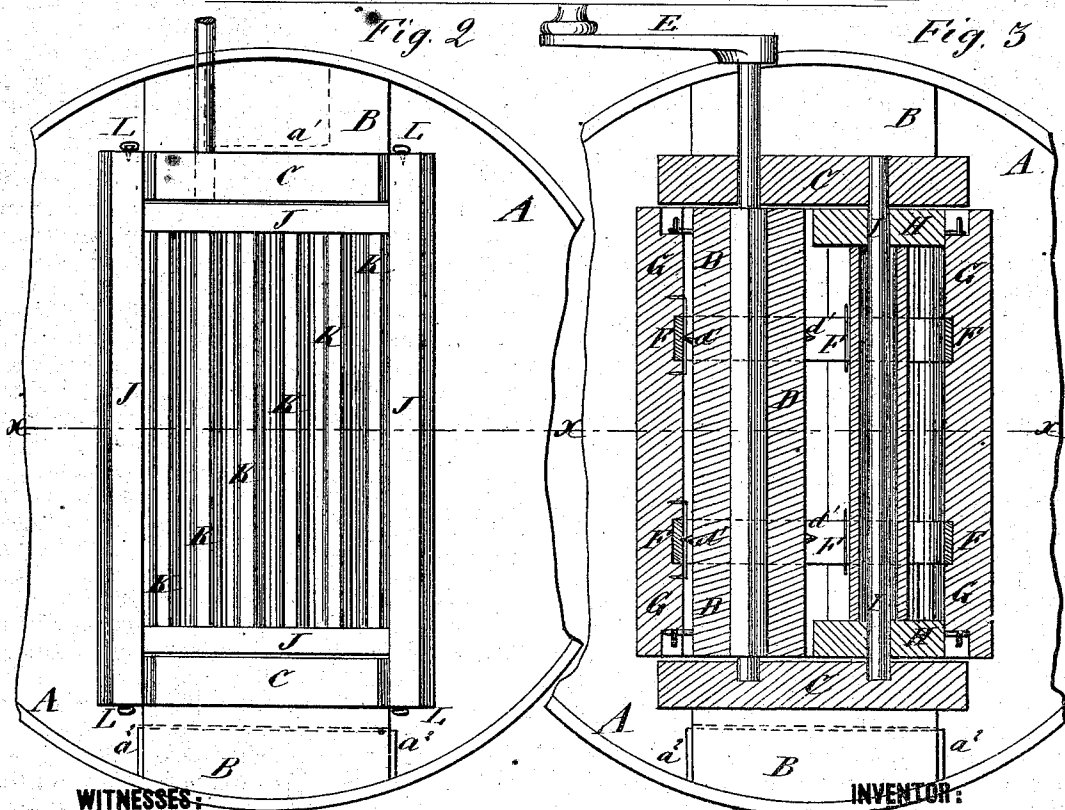
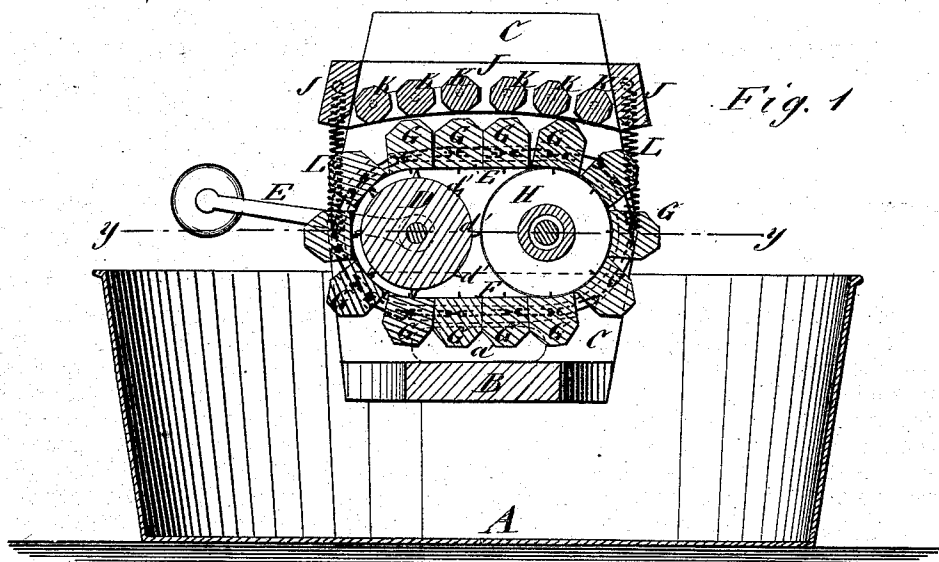


S. W. SHANKS.  
Washing-Machine.

No. 159,613

Patented Feb. 9, 1875.



WITNESSES:

C. A. S. S. S.  
A. F. Terry

INVENTOR:

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ATTORNEYS.

# UNITED STATES PATENT OFFICE

SIMON W. SHANKS, OF BENTON HARBOR, MICHIGAN.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **159,613**, dated February 9, 1875; application filed December 28, 1874.

*To all whom it may concern:*

Be it known that I, SIMON W. SHANKS, of Benton Harbor, in the county of Berrien and State of Michigan, have invented a new and useful Improvement in Washing-Machine, of which the following is a specification:

Figure 1 is a vertical cross-section of my improved machine, taken through the line *x x x*, Figs. 2 and 3. Fig. 2 is a top view of the same. Fig. 3 is a horizontal section of the same taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved washing-machine simple in construction, convenient in use, and effective in operation, washing the clothes quickly and thoroughly.

The invention consists in the construction and arrangement of parts which will be hereinafter described, and then pointed out in the claims.

A is a tub, which may be an ordinary wash-tub or a tub made expressly for the purpose. To one side of the tub A is attached a tenon or lug, *a*<sup>1</sup>, to enter a mortise in the end of a cross-bar, B, or in a cleat attached to said cross-bar. The other end of the cross-bar B rests upon a notched cleat or lug, *a*<sup>2</sup>, attached to the side of the tub A, directly opposite the lug *a*<sup>1</sup>. To the cross-bar B, near its ends, are rigidly attached the lower ends of two standards, C. Between the standards C, near one of their side edges, is placed a roller, D, the journals of which revolve in bearings in the said standards. One of the journals of the roller D project, and to it is attached the crank E, by which the machine is operated. To the roller D, near its ends, are attached spurs or teeth *d*<sup>1</sup>, which take hold of the endless bands or chains F, to which are attached a series of slats, G, which are hinged to each other, by wire or other suitable hinges, to keep them from getting out of place upon or straining or stretching the bands F. The slats G are made about an inch square, and have their outer edges beveled off, as shown in Fig. 1, to form a rough or corrugated surface to operate upon the clothes. The endless chain of slats G

also passes around two wheels, H, attached to a shaft, I, the journals of which work in bearings in the standards C, as shown in Fig. 3. By this construction a longer rubbing-surface is formed for the clothes, and the spaces between said slats allow the water squeezed from the clothes to flow off freely. The side edges of the upper parts of the standards C are beveled off to receive the frame J, the side bars of which are slightly inclined or beveled to correspond with the inclined side edges of the said standards C. The cross-bars of the frame J are placed at the inner sides of the standards C, and to them are pivoted the ends of a series of rollers, K, which are made octagonal in form, and the faces of which may be made plain or may be corrugated longitudinally, as may be desired. To the upper ends of the side bars of the frame J are attached the upper ends of four coiled springs, L, the lower ends of which are attached to the lower part of the outer side of the standards C. The springs L hold the upper rubber J K down upon the clothes and at the same time allow said rubber to yield to adapt itself to the varying thickness of the clothes being operated upon. The roller-frame J is connected with the standards C by the springs L independently of other fastening devices or a pivotal connection, so as to enable said frame to rise and fall or to adjust itself at both sides, or wherever the pressure may be applied. The inclined faces of the standards and the oblique position of side bars of the frame will cause the latter to rise and fall without being displaced or twisted.

In using the machine, the clothes are inserted between the lower and upper rubbers, and are carried back and forth between said rubbers by turning the crank E first in one and then in the other direction. Any desired part of the clothes may be rubbed by keeping it under the rollers, occasionally letting it down into the water, and then placing it again under the rollers. The ends of any articles, such as sheets, quilts, &c., or any garment long enough to admit of its being passed around the lower rollers, and its ends being together, may be washed by turning the crank in one direction and letting the clothes pass under

the said lower rollers. Handkerchiefs, stockings, and other small articles may be washed by pinning them to sheets, fastening the ends of said sheets together around the lower rollers, and turning the crank in one direction.

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

1. The combination of the vertically-movable roller-frame J K and springs L, connected thereto at both sides, with the stand-

ards C and apron G F, as and for the purpose described.

2. The combination of the slats G, the flexible connecting-bands F, the spurred roller D, and wheels H, with the frame B C and roller-frame J K, as and for the purpose described.

SIMON WILLARD SHANKS.

Witnesses:

REASON D. SHANKS,  
FRANK A. WHITE.