N. A. STRÖMQUIST.

Washing-Machine.

No. 217,715. Patented July 22, 1879.

Fig. 1.

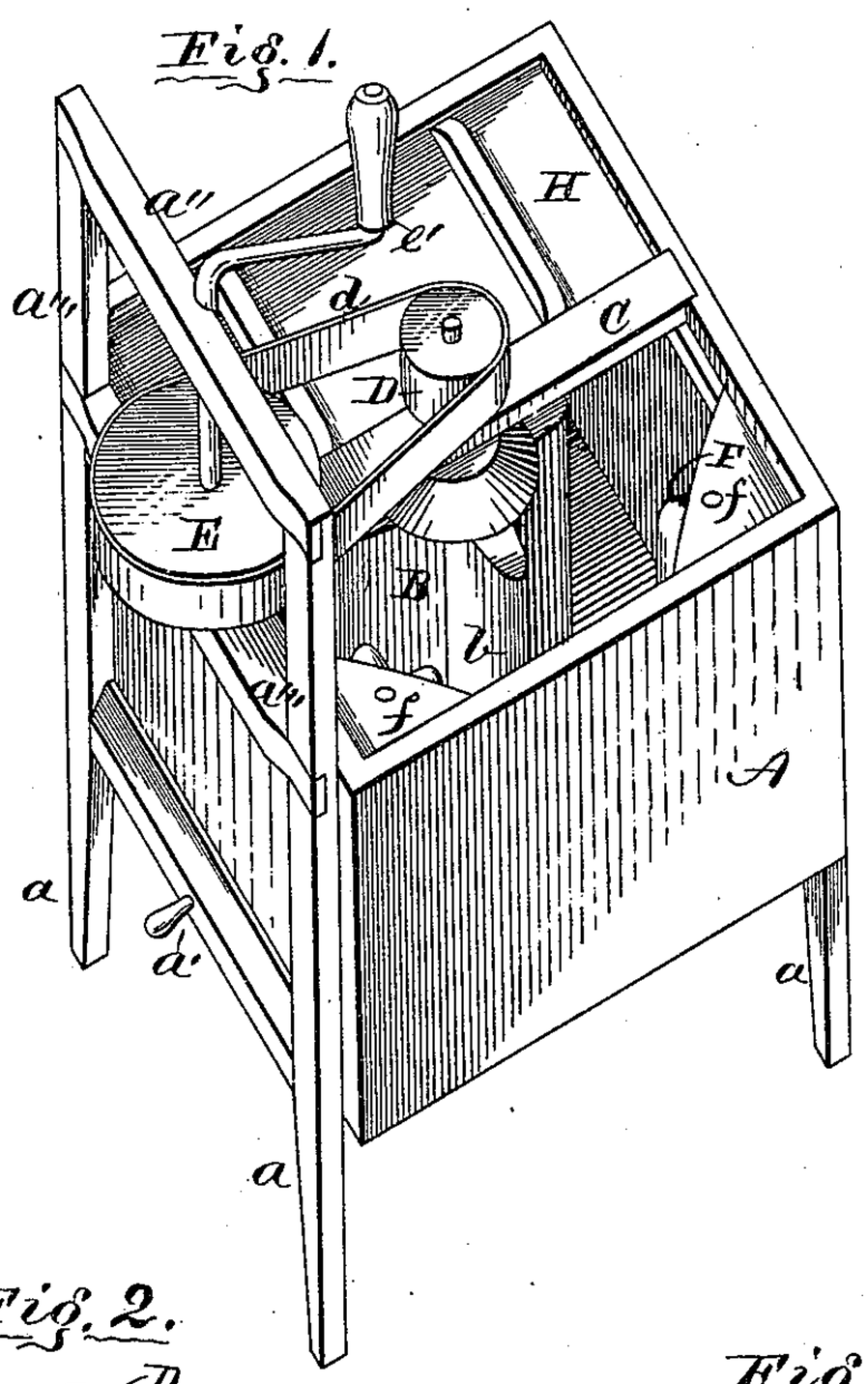

Fig. 2.

Fig. 3.

Witnesses:
M. H. Barringer.
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UNITED STATES PATENT OFFICE.

NELS A. STRÖMQUIST, OF ONEIDA, ILLINOIS.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **217,715**, dated July 22, 1879; application filed October 22, 1878.

To all whom it may concern:

Be it known that I, NELS A. STRÖMQUIST, of Oneida, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a perspective view of a washing-machine embodying my invention. Fig. 2 is a vertical sectional view in the line *x x* in Fig. 3. Fig. 3 is a horizontal sectional view in the line *x x* in Fig. 2.

This invention relates to washing-machines; and consists in a central paddle-wheel journaled in a square box, and rotated by a hand-crank and suitable gearing, and other paddle-wheels, journaled one in each corner of the square box between triangular-shaped blocks, which act as guides for the clothes, and also as guards to prevent the clothes being drawn into the corners of the box, as hereinafter more fully set forth.

Referring to the drawings by letters, each letter indicates the same part in the different views.

Letter A represents a square or rectangular box, supported on legs *a*, and provided with a hole and plug, *a'*, to draw off the water. B is a paddle-wheel, with a series of radial paddles, *b*, and with journals *b'* at its upper and lower ends, the lower journal stepped in a block in the bottom of the box A, and the upper journal seated in a transverse bar, C, which is removably attached to the box, so that the paddle-wheel may be readily removed by lifting the bar C from its place. The upper journal, *b'*, has a pulley, D, on its upper end, which is geared by a belt, *d*, with a driving-pulley, E, the shaft *e* of which is formed into a hand-crank, *e'*, and is journaled to the box A, and the bar *a''* supported on standards *a'''*.

Letters F represent four smaller paddle-wheels, one of which is placed in each corner of the box A, as shown at Fig. 3 of the drawings, and journaled at their lower ends in the box, and at their upper ends in corner brackets *f*. The wheels F are placed so as to leave considerable space between them and the wheel B.

On each side of each wheel F is a triangular block, G, as shown in Fig. 3. These triangular blocks G are placed sufficiently near the paddle-wheels F to prevent the clothes from being drawn into the space between the paddle-wheels F and the blocks G and becoming entangled therein.

It will be observed that in the rotation of the paddle-wheels F in one direction one of the two triangular blocks lying on each side of one of the paddle-wheels F will act as a guide, while the opposite triangular block will act as a guard to prevent the clothes from being drawn into the corner of the box. If the motion of the corner paddle-wheel were reversed, the functions of the opposite blocks would be reversed, the guide becoming the guard and the guard the guide.

It will also be observed that there is an open space between the blocks on each inner face of the square box, so that the capacity of the box is but slightly decreased.

A lid, H, is placed on each side of the bar C, one of which is shown in place at Fig. 1 and one removed.

In operation, suitably-prepared water is placed in the box A, and the cloth to be washed placed between the wheel B and the wheels F. The wheel B is then rotated by the crank *e'*, and the cloth will be carried around by the motion of the water and the wheel B, and will be dashed against the paddles of the wheels F as it passes around, and thereby thoroughly cleansed, and the paddles of the wheels F, yielding as the wheels rotate, will prevent any damage to the cloth. The guards G will cause the water and the cloth to always act on the wheels F, to rotate them in a direction opposite to the direction of rotation of the wheel B.

I am aware that a wash-tub has heretofore been provided with a central revolving paddle-wheel and revolving rollers and corru-

gated sections arranged at the sides of the tub, and I therefore lay no claim to such invention.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the square or rectangular box A, guides and guards G, central paddle-wheel, B, and paddle-wheels F, located in the corners of the box, between said guides and guards, substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

NELS A. STRÖMQUIST.

Witnesses:

CHAS. CARLTON,

LEWIS BURT.