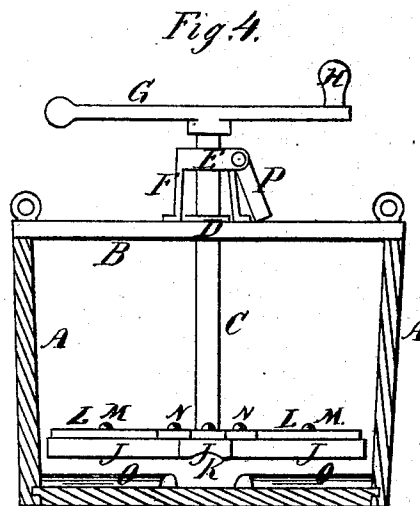
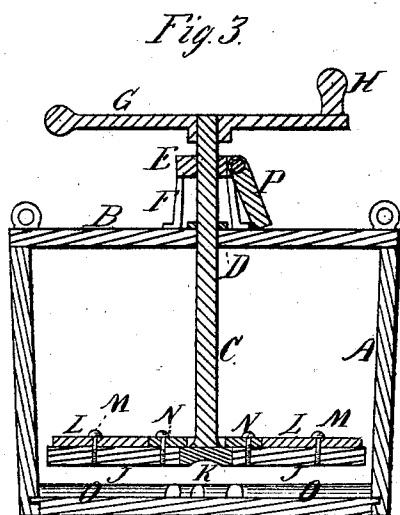
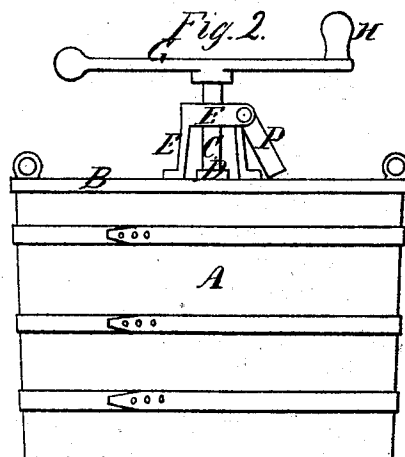
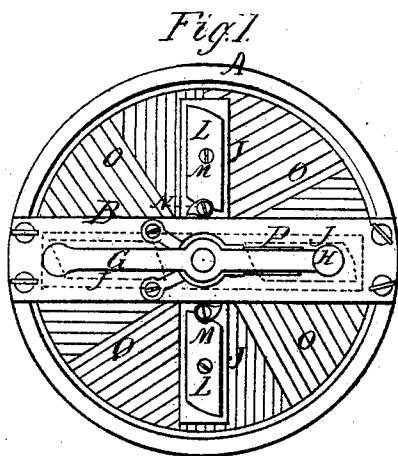


STEPHEN WILLIAMS & HENRY McNEILL.

Improvement in Washing Machines.

No. 120,691.

Patented Nov. 7, 1871.



Scale. 1 foot

Witnesses.

Walter Boswell
 Mary Boswell

Inventors.

Stephen Williams
 Henry McNeill

UNITED STATES PATENT OFFICE.

STEPHEN WILLIAMS AND HENRY McNEILL, OF PHILADELPHIA, PA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 120,691, dated November 7, 1871.

To all whom it may concern:

Be it known that we, STEPHEN WILLIAMS and HENRY McNEILL, both of the city and county of Philadelphia and State of Pennsylvania, have jointly invented a certain new and useful Washing-Machine; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and letters of reference marked thereon.

The nature of our invention consists in combining with a circular vessel, having its axis vertical and provided with a series of stationary rubbers, a concentric shaft capable of rotative or partially-rotative and also vertical motion, and bearing at or near its lower extremity arms or sweeps, to which the articles of clothing are secured by suitable clamps during the process of washing.

Figure 1 shows a plan. Fig. 2 shows a front elevation. Fig. 3 shows a vertical section, and Fig. 4 shows a side elevation, with the tub or vessel in section so as to display the working parts.

The same letters of reference apply to the same parts in the several figures.

A represents a circular flat-bottomed tub; B, a removable board fitted to and extending across it; C, a cylindric vertical shaft concentric with the tub A, and supported by a bearing, D, in the board B, and also by the bearing E in the spider F, and is freely susceptible of both rotary and sliding motion in the said bearings D and E. Across the upper end of the shaft C is firmly secured a two-armed lever, G, having a crank-handle, H, on one end of it, by means of which lever G and handle H the shaft C may be either raised or lowered, or vibrated or rotated, at the pleasure of the operator. Upon the lower end of the shaft C is firmly secured a series of radial arms, J, which are grooved on the under side, as shown at K in Fig. 4. Upon the upper sides of the arms are clamps L turning open a central screw or rivet, M, by means of which clamps the articles to be washed are secured to the arms J. The clamps L are held in position when closed by cams N. The bottom of the tub A is covered

with a series of round-edged slats O, which may be arranged radially, but are preferably placed like the channels of a burr millstone. A prop, P, pivoted upon the spider F, serves to hold up the shaft C when introducing or removing goods.

The operation of this machine is as follows: The tub A is half filled with water containing soap or any other detergent, the shaft C is raised and held up by the prop P, and the articles to be washed are placed with their corners between the clamps L and the arms J, and the clamps are secured by the cams N. The shaft is then lowered by the lever P and a rotative motion imparted to it by the lever G and handle H, which motion is intermitted with a vibrating or semi-rotative motion. The articles attached to the arms are thus alternately whirled through the water and vigorously rubbed between the grooved under sides of the arms J and the stationary round-edged slats O until they are cleaned. The shaft C is then held up by the prop P and the articles removed.

During the operation of rubbing the pressure may be varied, to suit the requirements of the work, by the operator bearing down and up on the lever H.

What we claim as our joint invention, and desire to secure as such by Letters Patent, is—

1. The combination of the clamps and cams L and N with the radial arms, as described and shown.

2. The construction and arrangement of the spider F, having the bearing E for the shaft C and the bearing for the prop P formed therein, in combination with the removable board B and bearing D supporting the shaft C, as shown and described.

3. The double-armed lever G, having a crank-handle, H, formed thereon, in combination with the prop P, revolving shaft C, and grooved arms J, clamps L, and rubbing-bed of slats O, arranged and operating as hereinbefore described and shown.

STEPHEN WILLIAMS.

HENRY McNEILL.

Witnesses:

WALTER BOSWELL,
ANDW. J. BOSWELL.

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