2 Sheets—Sheet 1.

M. M. SANDERS.
Washing-Machine.

No. 205,424. Patented June 25, 1878.

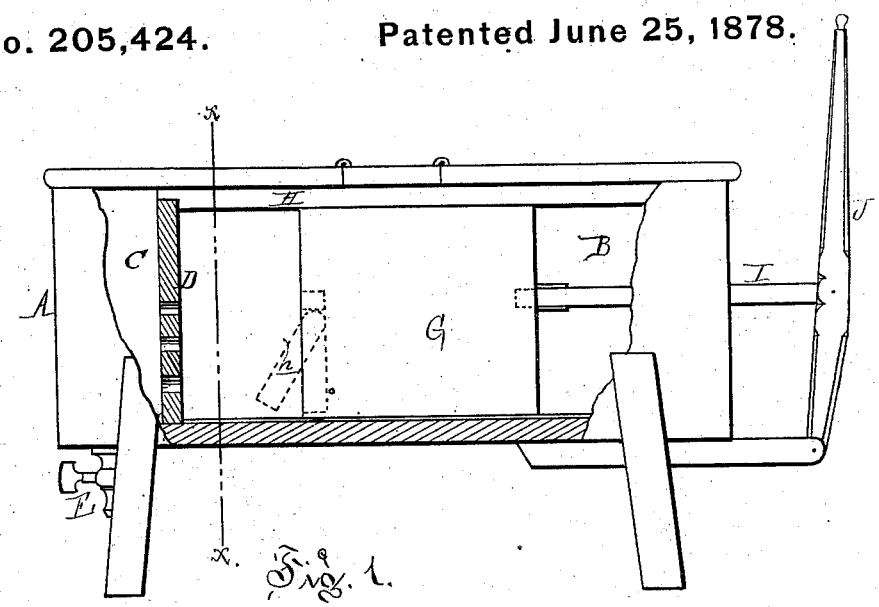

Fig. 1.

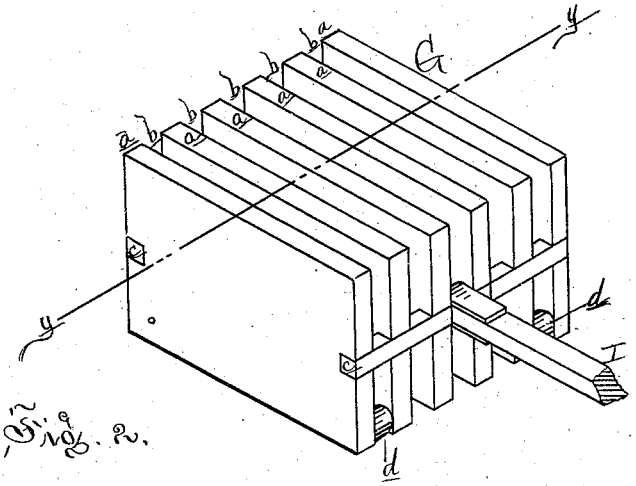

Fig. 2.

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Inventor:
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By Atty
Thos. S. Sprague

2 Sheets—Sheet 2.

M. M. SANDERS.
Washing-Machine.

No. 205,424. Patented June 25, 1878.

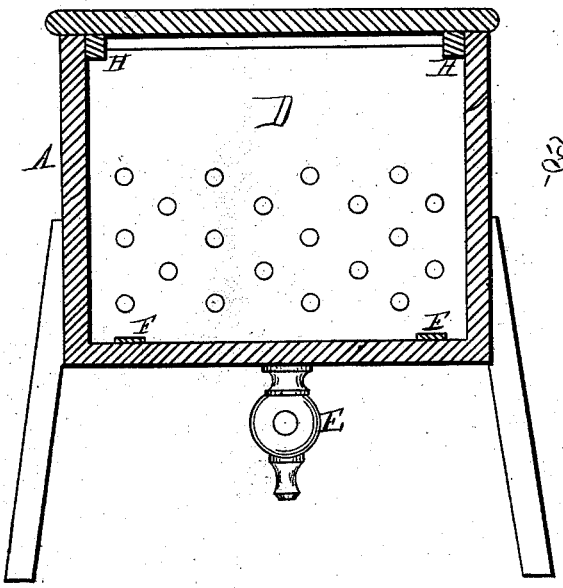

Fig. 3.

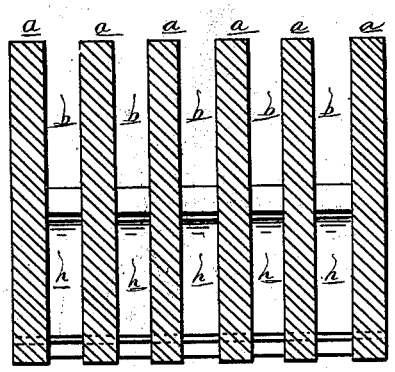

Fig. 4.

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UNITED STATES PATENT OFFICE.

MERVIN M. SANDERS, OF NEW BALTIMORE, MICHIGAN.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **205,424**, dated June 25, 1878; application filed March 7, 1878.

To all whom it may concern:

Be it known that I, MERVIN M. SANDERS, of New Baltimore, in the county of Macomb and State of Michigan, have invented an Improvement in Washing-Machines, of which the following is a specification:

The nature of my invention relates to certain new and useful improvements in that class of washing-machines which operate as beaters, and not as rubbers or by friction; and the invention consists in the novel construction and arrangement of the various parts, as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation, with a portion of the case removed to show the interior arrangement of parts. Fig. 2 is a perspective view of the sliding beater detached. Fig. 3 is a cross-section on the line *x x* in Fig. 1. Fig. 4 is a similar view on the line *y y* in Fig. 2.

Like letters refer to like parts in each figure.

In the drawings, A represents a rectangular tub or case, divided into two chambers, B and C, the former being the operating-chamber and the latter a well. The division-wall D is perforated in its lower half, to allow the water used to pass freely from one chamber to the other.

E is a faucet or cock, by means of which the water is drawn from the machine at will.

In the bottom of the case there are metallic rails or plates, of non-corrosive material, upon which the beater travels. These rails or plates are shown in Fig. 3, and are marked F F.

G is the beater or compressor, made of wooden plates *a*, secured together, leaving spaces or intervals *b* between them by the transverse ties *c*, and the whole is mounted upon non-corrosive metallic wheels *d*, which are to run upon the tracks F. Pivoted at their upper ends, and between the lower half of the plates *a* in the operating face of the beater, so as to fill the spaces or intervals between said plates, are the valves *h*, so arranged and constructed that when the machine is in use, and the beater pushed toward the partition-wall D, the valves will completely close the lower half of the intervals, and, with the front edges of the plates, present the appearance of a solid wall, and when the beater is retracted the resistance of the water will compel said valves to open, as shown in dotted lines in Fig. 1. Guides H, one secured to each inner side of the tub and near the top, prevent the beater from floating in the water.

To the beater, and to the end opposite to the operating face, is pivoted, in any convenient manner, the arm I, to which, outside the case, is pivoted the operating-lever J.

The machine thus constructed is ready for operation. The clothes to be cleansed are placed in the chamber B, between the beater G and the division-wall D, with a suitable supply of water, and soap, if wanted. The beater is then forced against them, compressing them against the division-wall, and forcing the water through them and the perforations in said wall and into the well C, thereby raising the water in the well above the level of the water in the chamber B, the compressed clothing lying against the perforations confining the water in the well until the beater is retracted, when the pressure of the water in the well will, in its escape, turn the clothes partially over, so as to present the edge of the compressed pile to the action of the beater in its next reciprocation. In the retraction of the beater the valves open, and allow of such retraction without withdrawing the water.

If desired, any known mechanical arrangement may be adopted, in combination with the operating lever and arm, to lengthen or shorten the stroke of the beater, so that the machine will operate upon the finest as well as the coarsest fabrics.

I am aware that it is not new to provide the horizontally-reciprocating plunger of a washing-machine with a pivoted valve, which opens on the back stroke of the plunger, and allows the water to pass through, but closes and drives the water before the plunger in its forward movement, for the same is shown in patent granted August 10, 1875, to Joseph Hollingsworth.

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

1. In a washing-machine, the reciprocating beater G, constructed of vertical wooden plates *a*, extending nearly the entire height of the box, and provided with valves *h*, one between each pair of plates, pivoted so as to close the

lower half of the spaces between such plates, constructed and arranged substantially as described and shown.

2. In a washing-machine, the wall D, dividing the box into two parts, and perforated only in its lower half, in combination with the reciprocating beater G, constructed to form a number of vertical spaces *b*, and provided with valves *h*, closing the lower half of these spaces, constructed and arranged substantially as described and shown.

MERVIN M. SANDERS.

Witnesses:
CHAS. J. HUNT,
H. S. SPRAGUE.