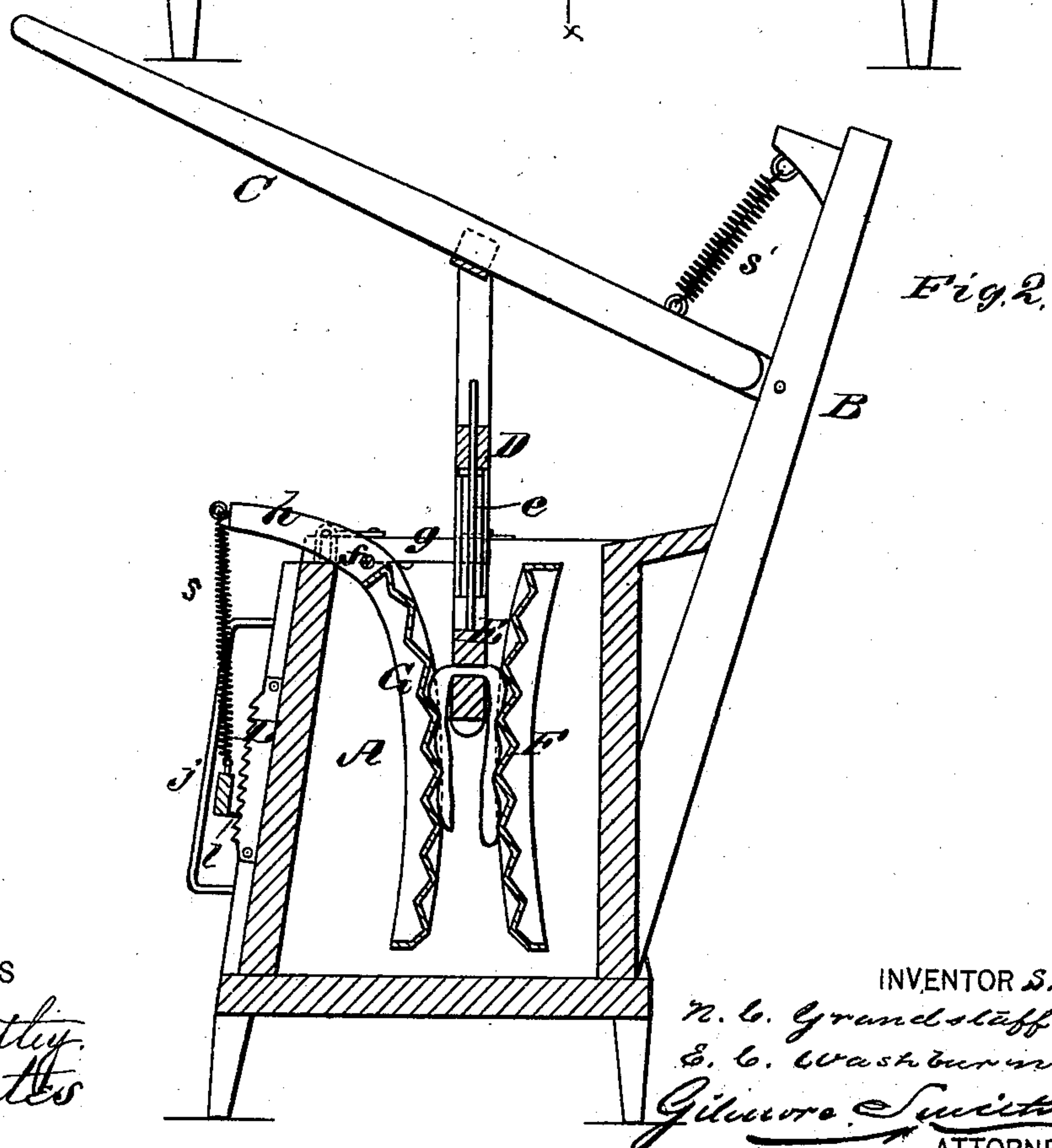
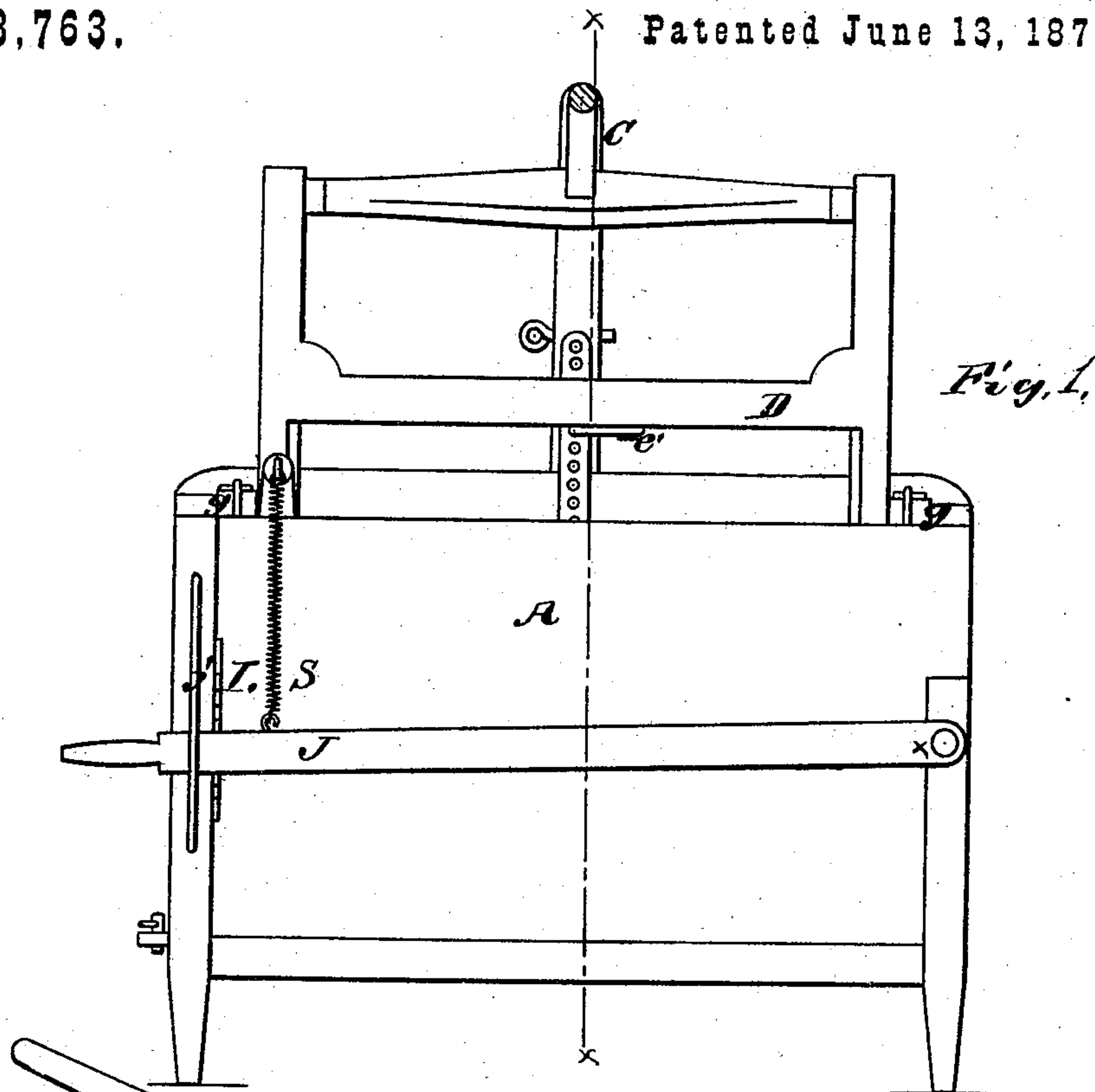


N. C. GRANDSTAFF & E. C. WASHBURN.

WASHING-MACHINE.

No. 178,763.

Patented June 13, 1876.



WITNESSES

*M. S. Utley.*  
*E. H. Bates*

INVENTOR S.

*N. C. Grandstaff.*  
*E. C. Washburn.*

*Gilmore & Switzer Co.*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

NOBEL C. GRANDSTAFF AND ERASTUS C. WASHBURN, OF NELSONVILLE,  
OHIO.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **178,763**, dated June 13, 1876; application filed  
April 15, 1876.

*To all whom it may concern:*

Be it known that we, NOBEL C. GRANDSTAFF and ERASTUS C. WASHBURN, of Nelsonville, in the county of Athens and State of Ohio, have invented a new and valuable Improvement in Washing-Machine; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of our washing-machine; and Fig. 2 is a transverse vertical sectional view through line *x x*.

This invention has relation to machines for cleansing fabrics, and to that class of washing-machines wherein a vertically-reciprocating rubber is employed in combination with two wash-boards, one of which boards is adjustable.

Our object is to improve this class of machines by combining with the adjustable wash-board a tension-spring, a lever, and a rack, whereby the said wash-board can be pressed with any desired degree of force against the rubber, as circumstances may require.

In the annexed drawing, A designates a wash-box of rectangular form, which is provided with a shelf, and also with a faucet. B designates a standard to which a lever, C, is pivoted—that is, held up by a spring, *s'*. Lever C has secured to it a rocking-bar, which forms part of a sash, D. Sash D has a vertically-adjustable clamping-bar, E, applied to it, which can be fixed at any desired point of adjustment by means of a perforated rod, *e*, and a hook, *e'*. F designates a concavo-convex wash-board, which is preferably constructed of galvanized sheet metal, corrugated as shown, and which is rigidly fixed to the ends of the wash-tub. G designates a concavo-convex wash-board, which is free to articulate about a horizontal rod, *f*, which rod has its bearings on the ends of the wash-box

A, and is held down in place by means of hinged bearers *g* provided with hooks and staples. By raising the bearers *g* the wash-board G can be removed. At one end of this movable or vibrating wash-board is an arm, *h*, which is curved so as to extend over one side of the wash-box, and which is connected to a hand-lever, J, by means of a helical spring, S. Lever J has its fulcrum at *x*, and near the free end of this lever is a guard-staple, *j*, which is fixed to the wash-box A. L is a rack, which is fixed rigidly to the wash-box, with which rack engages a flange, *l*, which is secured to the free end of lever J.

The operation of our invention is as follows, to wit: The sash D is thrown up in a convenient position to clamp the fabric to be cleansed. The sash is then brought down between the wash-boards F G with the fabric confined in it, as described. Lever J is then depressed and the flange *l* is engaged with the rack L in a position to give the proper degree of pressure to the fabric confined in the sash between the two wash-boards. The attendant with his hands upon the lever C gives a vertical reciprocating motion to the sash D. When the fabrics are cleansed the sash is thrown up, and they are removed from it by releasing the clamp in the sash D.

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

The reciprocating sash D, having adjustable clamping-bar E, rod *e*, hook *e'*, and lever C, with spring *s'*, in combination with the fixed wash-board F, and pivoted wash-board G, provided with the arm *h*, spring *s*, lever J, and rack L, substantially as described, and for the purpose set forth.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses:

NOBEL C. GRANDSTAFF.  
ERASTUS C. WASHBURN.

Witnesses:

W. C. HICKMAN,  
CHAS. C. JONES.