

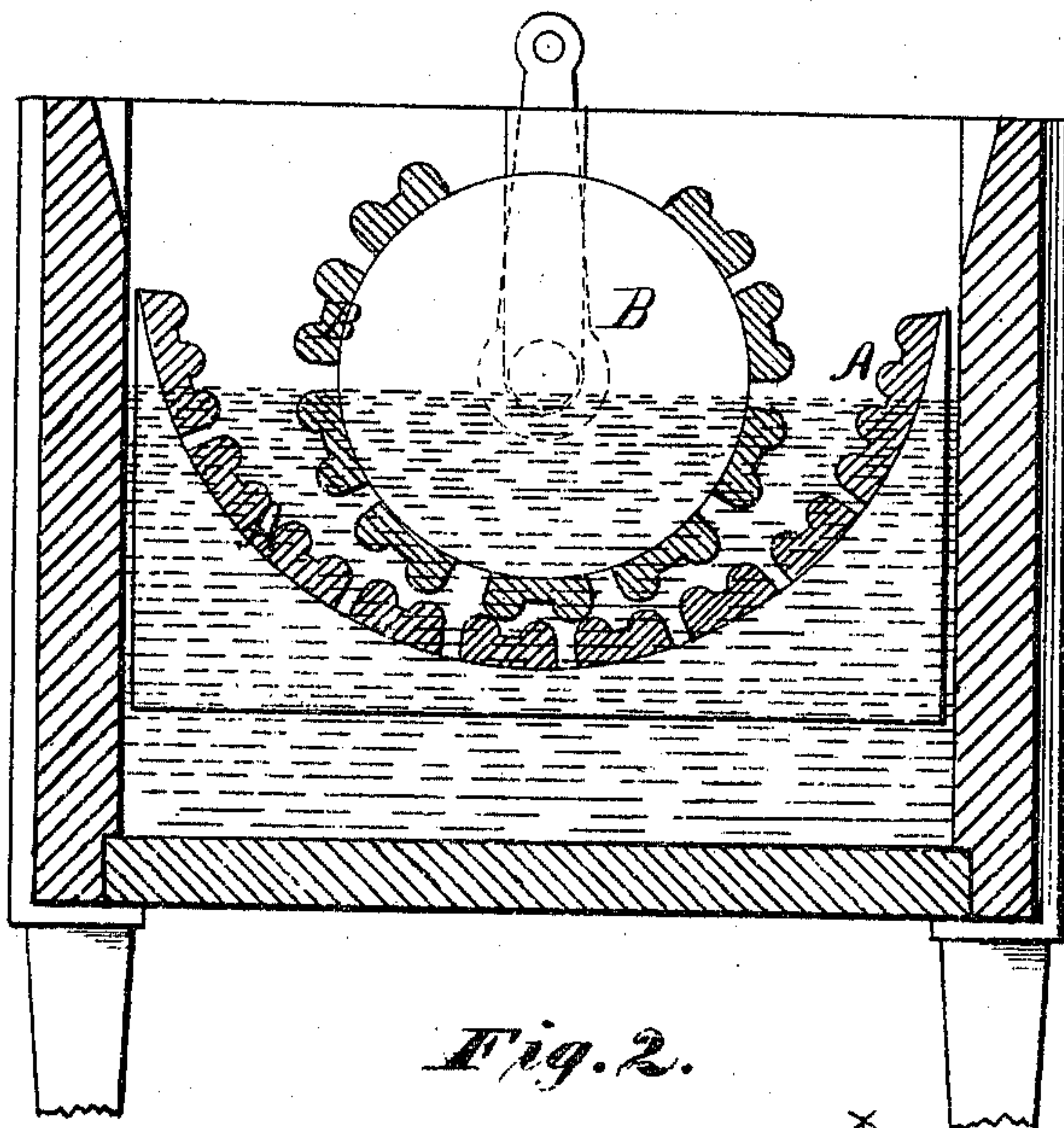
E. B. HULL.

Improvement in Washing-Machines.

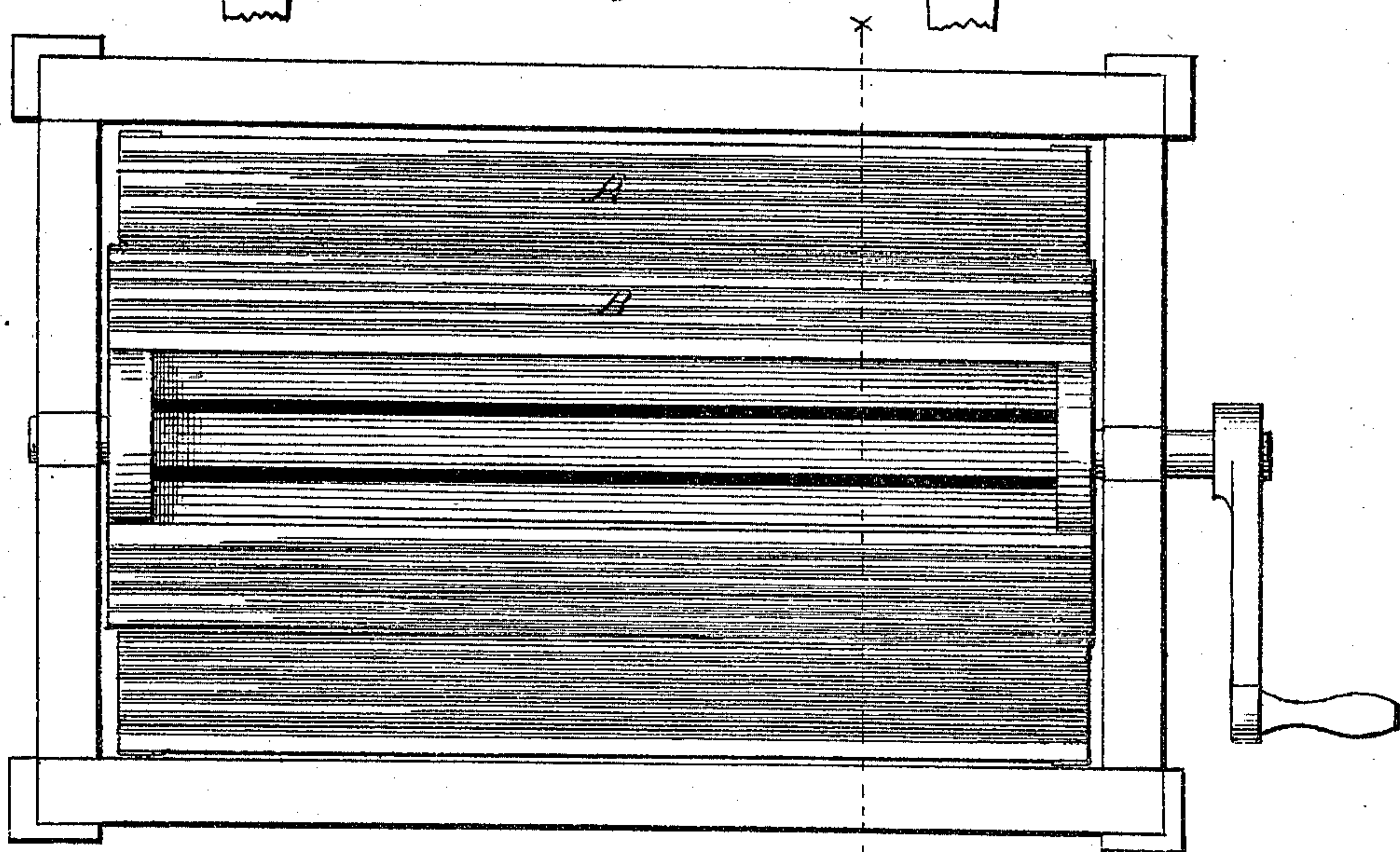
No. 128,881.

Patented July 9, 1872.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*B. R. Jones*  
*Wm. Anderson*

*Inventor.*

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# UNITED STATES PATENT OFFICE.

ELIZABETH B. HULL, OF CLINTON, ILLINOIS.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 128,881, dated July 9, 1872.

### SPECIFICATION.

*To all whom it may concern:*

Be it known that I, ELIZABETH B. HULL, of Clinton, in the county of De Witt and in the State of Illinois, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 represents a sectional elevation of my improved washing-machine. Fig. 2 is a plan view of the same.

The same letters of reference are employed in both figures in the designation of identical parts.

This invention relates to that class of washing-machines embodying in their construction two rubbing corrugated or otherwise-roughened surfaces, between which the clothes are scoured to remove the foreign matters in them. One or both of these surfaces are usually fastened to springs in the suds-box, so that they may bear with a proper degree of pressure upon the clothes between them, as well as yield to unelastic objects passing between them. My improvement consists in the use of a loose roughened concave, depending upon its buoyancy in the suds alone for its upward pressure and action upon the clothes, thus dispensing with the use of springs for that purpose. It further consists in the combination, with such buoyant concave, of a slotted rotating cylinder for the reception of shirts and the like, the wristbands and collars of which, needing considerable rubbing and scouring, are drawn through the slots in the cylinder, and thus carried with it over the entire surface of the concave.

To enable those skilled in the art to make and use my invention I will proceed to more specifically describe its construction and operation.

In the machine illustrated in the annexed drawing the buoyant rubbing-surface is con-

cave upon its upper side, and consists of corrugated bars of wood secured to suitable end pieces, also of wood, the whole device conforming to the contour of the suds-box, in which it loosely fits. This concave A may be made of sheet metal, if preferred, and the required degree of buoyancy obtained by making it hollow, which may also be resorted to in a wooden one in case it should not bear up with sufficient force when made solid. The upper rubbing-surface B is a slotted hollow cylinder, composed of corrugated bars with intervening spaces and a suitable opening upon one side for the introduction of clothes. The bars are secured at each end to circular heads having journals projecting outward, by which the cylinder is sustained in suitable bearings in the ends of the suds-box. One of these journals projects through its bearing for the reception of a winch, by which the cylinder may be rotated or oscillated.

Clothes to be washed are placed between the two rubbing-surfaces, sufficient suds having been prepared in the suds-box for the immersion of the clothes. If any portions of the latter require an extra amount of scouring to cleanse them, they are placed in the slotted cylinder, and the parts needing this action are drawn through the slots in the cylinder. Thus such portions are subjected not only to the friction of the rubbing-surfaces, but also, in addition thereto, to the friction of the suds through which they are whirled, and a thorough cleansing will be the result.

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

1. In a washing-machine, a buoyant curved rubbing-surface, as and for the purpose shown and specified.

2. The combination of the buoyant concave A and the slotted corrugated cylinder B, substantially as and for the purpose specified.

ELIZABETH B. HULL.

Witnesses:

CHARLES H. DENNETT,  
ANSEL B. HULL.