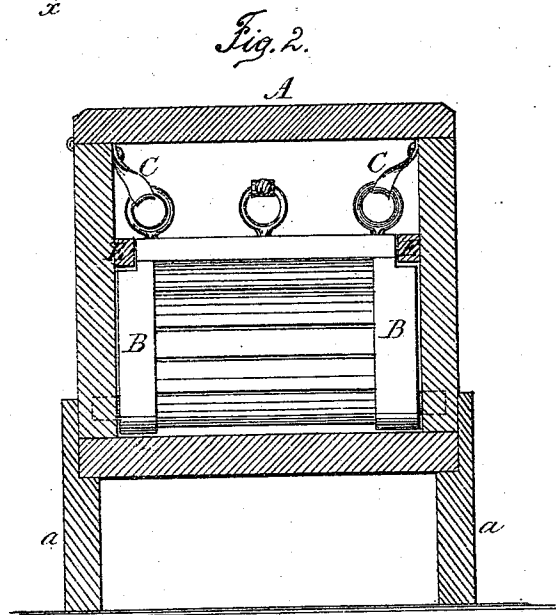
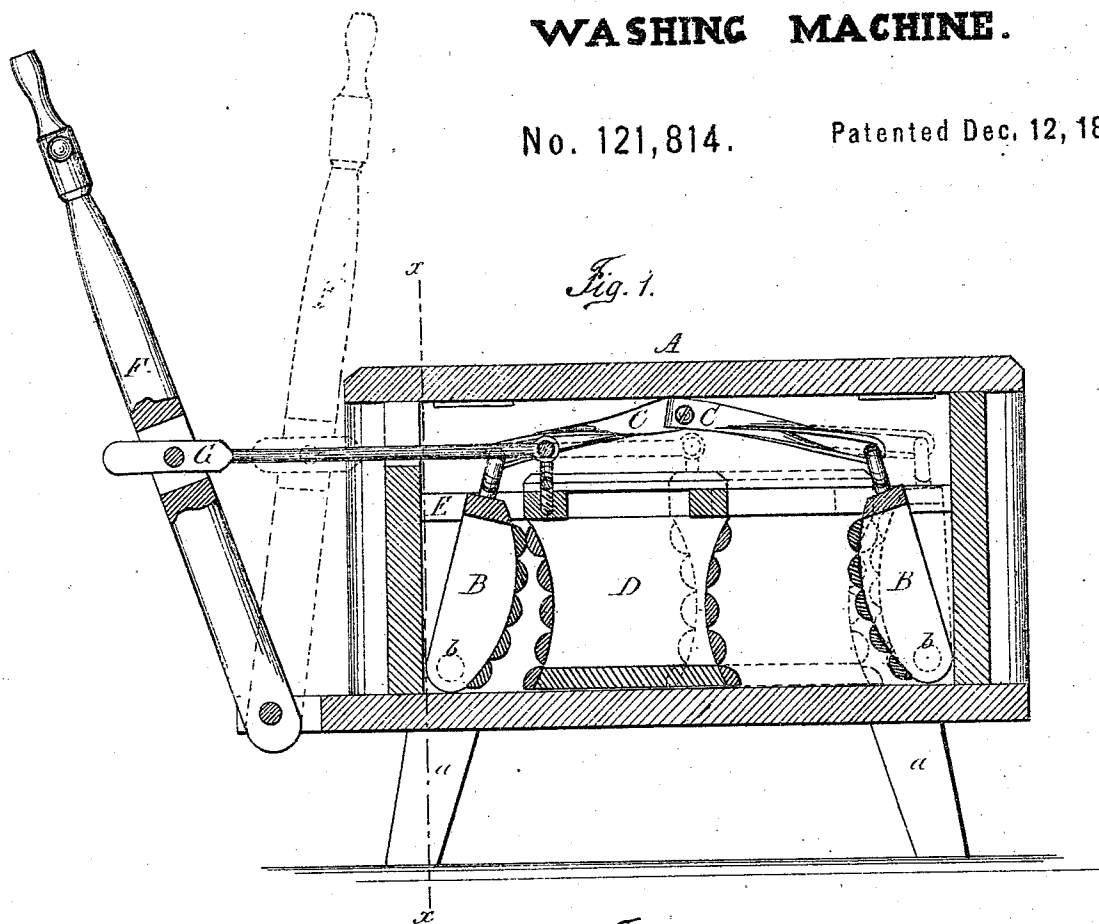


OLIVER J. RIDER AND JOHN C. BRYANT.

WASHING MACHINE.

No. 121,814.

Patented Dec. 12, 1871.



Witnesses:

H. C. Elliott  
W. Allen

Inventors:

O. J. Rider  
J. C. Bryant  
By *Knights*

# UNITED STATES PATENT OFFICE.

OLIVER J. RIDER AND JOHN C. BRYANT, OF WELLINGTON, MISSOURI.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 121,814, dated December 12, 1871; antedated November 25, 1871.

*To all whom it may concern:*

Be it known that we, OLIVER J. RIDER and JOHN C. BRYANT, of Wellington, in the county of La Fayette and State of Missouri, have invented a new and Improved Washing-Machine, of which the following is a specification:

Our improved machine is made with a hollow reciprocating beater having ribbed concave surfaces, working between two wash-boards, which are pivoted in the ends of an oblong tub by means of dowel-pins inserted near their lower edges, and are constructed with ribbed convex surfaces, against which the concave surfaces of the beater act. The beater is moved backward and forward by means of a lever and connecting-rod, and the boards are drawn toward the center by means of rubber-band springs, causing their upper parts to come first in contact with the reciprocating beater at each stroke and exert a slight frictional action as well as pressure upon the clothes, as will be hereinafter explained. The reciprocating beater, being made hollow, may receive clothes for the purpose of soaking them before they are washed.

Figure 1 is a central longitudinal section of our improved machine. Fig. 2 is a transverse section of the same on the line *x x*, Fig. 1.

A may represent an oblong tub, supported upon feet *a*. At or near each end of this tub boards B B are pivoted by means of dowel-pins, *b*, leaving their upper edges free. C C are gum-elastic bands or similar springs, attached at or near the mid-length of the tub A, and at their outer ends to the upper edges of the boards B, so as to tend to draw the said bars inward toward the longitudinal center of the tub, as indicated in Fig. 1. The inner or working faces of these boards have a convex form and are made up of a series of ribs or corrugations, as represented. D represents a hollow reciprocating beater, the working-faces of which are made concave to adapt them to fit the convex surface of the boards B B, and are similarly corrugated or ribbed. This beater works between or beneath suitable guides E E, and is moved back and forth along the tub by means of a lever, F, and connecting-rod G, so as to press it in contact with the two boards B B alternately. The ribs or slats which form the working-surfaces of the beater D and of the boards B B

are placed with sufficient intervals between them to permit the free passage and circulation of water. The internal cavity of the beater D constitutes a convenient receptacle for clothing, which may be placed therein to be soaked while other garments are in the course of washing.

The suds-box or tub being supplied with water to the requisite height, clothing is placed in each end of it, between the boards B and beater D. The beater is then moved to and fro by means of the hand-lever F, causing it to press against the boards B B alternately. By the illustration given in Fig. 1 it will be seen that the upper edges of the beater and the respective boards are first brought together, and as the board is pressed outward by the stroke of the beater the clothing which is pressed between them is forced downward over the corrugated surfaces and subjected to a slight rubbing as well as a strong squeezing action, which ejects the water with which it was soaked, and presses the said water through the interstices between the slats. As the beater again recedes the spring draws the board inward, the clothing falls over, is again soaked with water, and presents at each stroke a new surface to the action of the beater. This effect is increased by the return motion of the upper edge of the board under the action of the springs. Our gum-elastic springs, while they are very simple and cheap, are adapted to perform this function in the most perfect manner. They are, at the same time, free from any liability to derangement, and cannot possibly cause any injury to the clothing. The dotted lines in Fig. 1 illustrate the respective positions of the beater and one of the boards as the former reaches one extremity of its stroke. The convex surfaces of our boards B, working within the concave surfaces of the beater, produce a combined rubbing and squeezing action upon the clothes, which serves to rapidly cleanse the most soiled garments. If any parts of the garments are insufficiently cleansed by the ordinary stroke or motion of the lever they can be pressed against the wash-board, and by giving a succession of short strokes with the lever they are subjected to a rapid rubbing and -pressing action, which will quickly cleanse the unwashed parts.

We claim as our invention—

1. The combination of the hollow slatted beater D, with concave surfaces, and the slatted convex boards B B, when constructed and arranged to operate substantially as described.

2. The combination of the dowel-pins *b* and gum-elastic springs C with the boards B B, as and for the purposes described.

3. The combination of the hollow beater D, the

convex boards B B, springs C, lever F, and connecting-rod G, all constructed and arranged to operate as and for the purpose set forth.

OLIVER J. RIDER.

JOHN C. BRYANT.

Witnesses:

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