

W. F. BETHKE.  
Washing-Machine.

No. 219,201.

Patented Sept. 2, 1879.

Fig. 1.

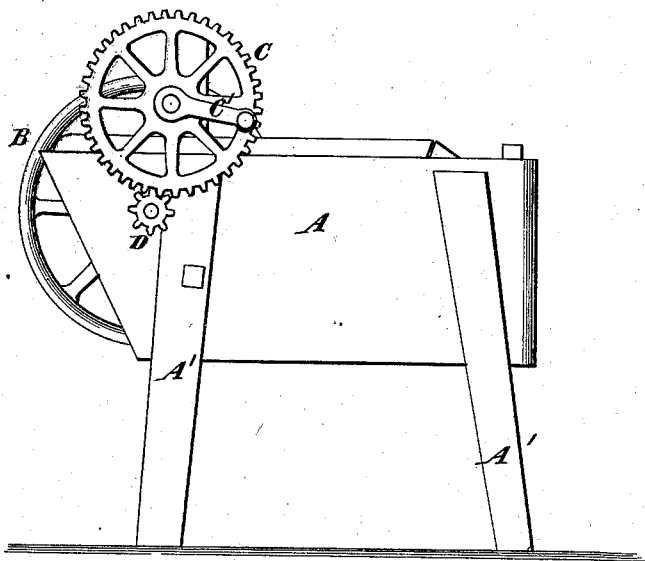


Fig. 2.

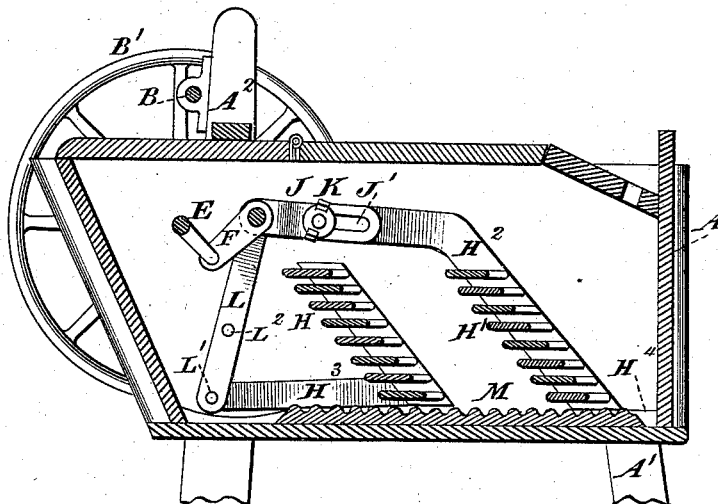
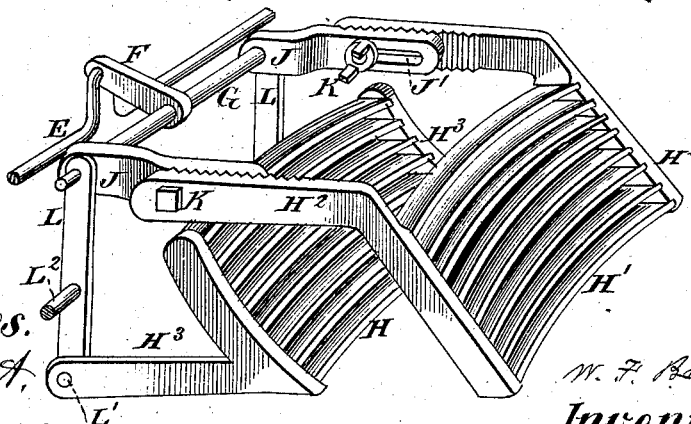


Fig. 3.



Witnesses.

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# UNITED STATES PATENT OFFICE.

WILLIAM F. BETHKE, OF PERU, ILLINOIS.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **219,201**, dated September 2, 1879; application filed May 5, 1879.

*To all whom it may concern:*

Be it known that I, WILLIAM F. BETHKE, of Peru, in the county of La Salle and State of Illinois, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification.

My invention consists of a washing-machine so constructed that the oppositely-reciprocating wash-boards shall pass close to and immediately above a corrugated board placed in the bottom of the machine.

In the annexed drawings, making a part of this specification, Figure 1 is a side elevation. Fig. 2 is a longitudinal vertical section of the machine. Fig. 3 is a perspective view of the wash-boards and mechanism for operating them.

The same letters are employed in all the figures in the indication of identical parts.

A is the body of the machine, supported on legs A<sup>1</sup>, two of which are extended above the machine, as shown at A<sup>2</sup>, to afford bearings for the shaft B, which carries the fly-wheel B' and driving-pinion C, which is operated by the crank C'.

The driving-pinion C operates the spur-pinion D, carried on the crank-rod E, which is connected, by the link F, to the rod G.

H H<sup>1</sup> are the wash-boards, shaped as shown, and constructed of separate slats, and fastened into grooves in the side frames H<sup>2</sup> H<sup>2</sup>. The upper ends of the side frames H<sup>2</sup> are corrugated to receive corresponding corrugations on the arms J J, which are slotted, as shown at J', the two being held together by means of the thumb-screws K K.

The arms H<sup>3</sup> H<sup>3</sup>, operating the board H, rest upon ways H<sup>4</sup>, placed in the bottom of the machine, and are pivoted to the swinging arms

L L, the upper ends of which support the cross-rod G. The arms L L are also pivoted to the sides of the machine at L<sup>2</sup>, so that they oscillate freely.

M is a corrugated board, placed in the bottom of the machine, over which the clothes are made to pass as the boards H H<sup>1</sup> are moved backward and forward.

The operation of the machine is as follows: Power being applied to the driving-pinion, motion is conveyed, through the spur-pinion, to the crank-rod E, and, by means of the link F, to the cross-rod G, thus moving the boards. The board H being connected with the arm L below the pivot L<sup>2</sup>, as the rod G is made to approach the crank-rod E it is forced forward, while the board H<sup>1</sup>, being connected through the arms J J directly to the rod G, is drawn backward, thus giving the boards a reciprocating movement alternately in different directions, forcing the clothes backward and forward over the corrugated board in the bottom of the machine, the distance between them being regulated at pleasure by means of the thumb-screw and slots.

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

In combination with the oppositely-reciprocating wash-boards H H<sup>1</sup>, the corrugated board M, placed in the bottom of the machine, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM F. BETHKE.

Witnesses:

JOHN C. WALKER,  
JOHN KELLOGG,

750 mords.