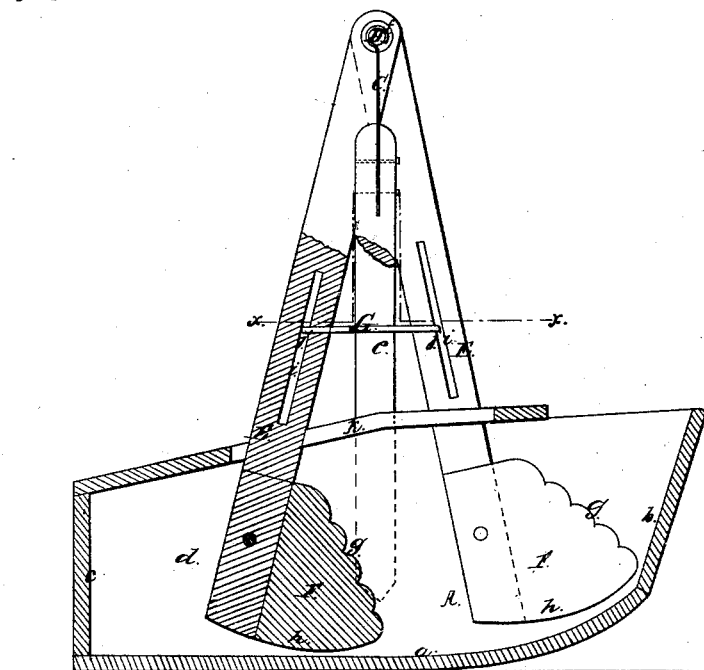


*McKinley & Wilkie*

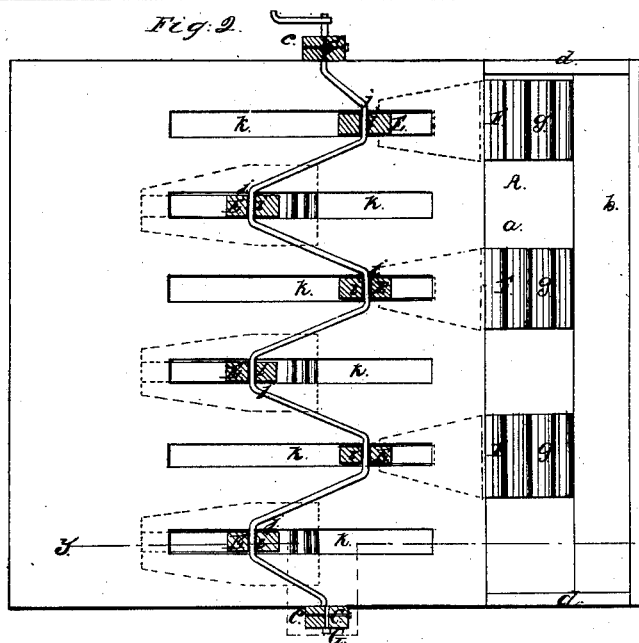
*Washing Machine,*

*N<sup>o</sup> 45,331.*

*Fig. 1. Patented Dec. 6, 1864.*



*Fig. 2.*



*Witnesses:*  
*Ed. C. Hoff*  
*Henry Mori*

*Inventors*  
*E. McKinley*  
*W. Wilkie*  
*per Murray & Co.*

# UNITED STATES PATENT OFFICE.

E. MCKINLEY AND W. WILKIE, OF MAYVILLE, WISCONSIN.

## IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. **45,331**, dated December 6, 1864.

*To all whom it may concern :*

Be it known that we, E. MCKINLEY and W. WILKIE, both of Mayville, in the county of Dodge and State of Wisconsin, have invented a new and Improved Clothes-Washing Machine; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side sectional view of our invention taken in the line *yy*, Fig. 2; Fig. 2, a horizontal section of the same taken in the line *xx*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in the employment or use of two sets of swinging plungers operated by a crank-shaft which has the cranks placed alternately in opposite directions and fitted in oblong vertical slots in the plunger-bars, the latter being suspended on a shaft the bearings of which are at the upper ends of springs, all being arranged in such a manner that the two sets of plungers will by the turning of the crank-shaft be moved simultaneously in opposite directions and alternately act against or upon the clothes in the suds-box, and with a pressure due to the springs to which the shaft of the plunger-bars is connected.

A represents a suds-box the bottom *a* of which is curved upward at its front end, as shown in Fig. 1, *b* being the front, and *c* the back of the suds-box and *d d* its sides, the front *b* being slightly inclined. To each side *d* of the suds-box there is firmly attached an upright, *e*, and these uprights have vertical flat springs *C* attached to them, at the upper ends of which there are bearings *f*, to receive the ends of a shaft, *D*, on which a series of bars, *E*, are suspended loosely. These

bars have plungers *F* attached to their lower ends, one to each, the face sides of said plungers being inclined and fluted horizontally, as shown at *g*, and their bottoms being rounded or curved, as shown at *h*, the bottoms *h* working just clear of the bottom *a* of the suds-box.

Each plunger-bar *E* has a vertical oblong slot, *i*, made in it, in which cranks *j*, on a horizontal shaft, *G*, are fitted, said cranks being alternately in reverse positions, as shown in Fig. 2, so that the two sets of plungers may on turning the shaft *G* be moved simultaneously in opposite directions, the slots *i* admitting of the cranks *j* operating or swinging the plunger-bars *E* as the shaft is turned.

The bars *E* work through slots *k* in the top of the suds-box, and the clothes to be washed are placed in the suds box and are compressed by the plungers *F* against the inclined front *b*, the springs *C*, when the plungers come in contact with the clothes, yielding or giving so as to admit of a complete revolution of the cranks *j* without straining any of the working parts, and causing the plungers to squeeze the clothes, the pressure being proportionate to the strength of the springs *C*.

We do not claim swinging plungers in clothes washing machines, for they have been previously used; but

We do claim as new and desire to secure by Letters Patent—

The combination of the yielding shaft *D*, plunger *F* at the lower ends of the bars *E*, which are suspended on the shaft *D*, the crank-shaft *G*, with the cranks *j* fitted in the oblong slots *i* in the bars *E*, and the suds box *A*, all arranged to operate substantially as and for the purpose herein set forth.

EPHRAIM MCKINLEY.

WASHINGTON WILKIE.

Witnesses:

GOTTLIEB ALBERT,  
HEINRICH BOEHMER.