

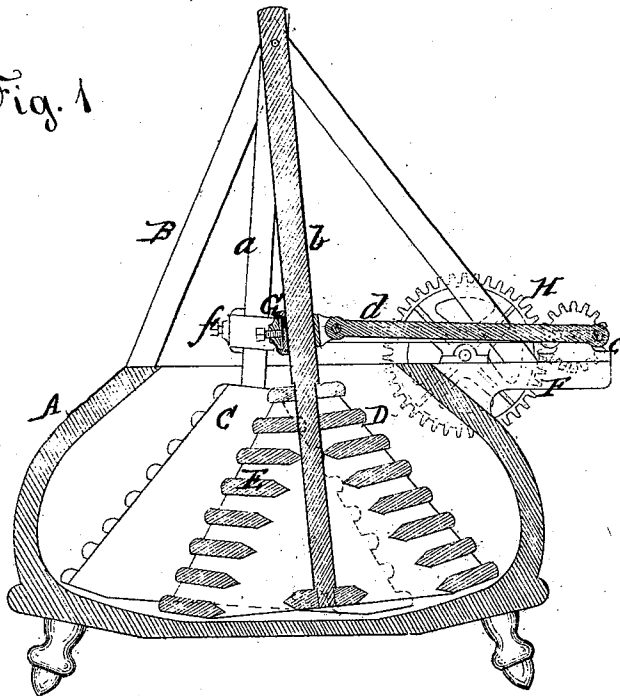
*G. W. Hungerford,*

*Washing Machine.*

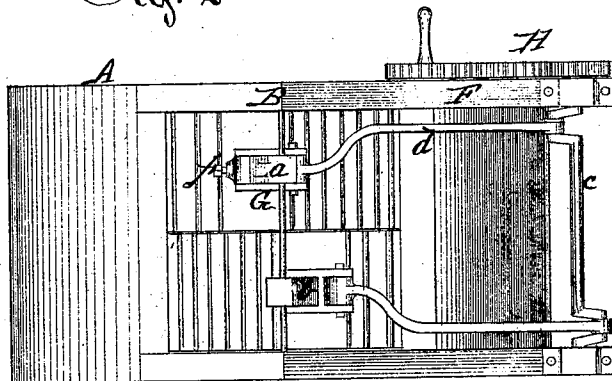
*No. 109517.*

*Patented Nov. 22. 1870.*

*Fig. 1*



*Fig. 2*



Witness:

*Phil. T. Dodge*  
*Thomas Taylor to*

Inventor:  
*George W. Hungerford*  
*By Dodge & Mann*  
*His atty.*

# United States Patent Office.

GEORGE W. HUNGERFORD, OF CHICAGO, ILLINOIS.

Letters Patent No. 109,517, dated November 22, 1870.

## IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, GEORGE W. HUNGERFORD, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Washing-Machines, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to washing-machines, and consists in suspending within a box of novel construction, pendulum-hammers of a peculiar shape, with rods for operating them, so connected to the handles of the hammers as to adjust the stroke of the latter, as hereinafter explained.

In the drawing—

Figure 1 is a longitudinal vertical section of the machine, and

Figure 2 is a top plan view.

In constructing this machine, a box, A, is made, with its sides parallel and its bottom and ends curved, as shown in fig. 1.

On its upper side are mounted standards or framework B, from which are suspended two pendulum-hammers, C and D, within the box, by handles or arms *a* and *b*, as clearly shown in fig. 1.

The sides of the hammers C and D are parallel with each other and with the sides of the box, and between their sides are arranged, at short distances from each other so as to leave an intervening space, a series of boards, E; as clearly seen in fig. 1.

These boards E are also so arranged as to have their outer edges on a line running at an angle with the one made by the handles on which the hammers are suspended, so that, as the hammers are swung in either direction, the line of the outer edges of these boards will be nearly parallel with the end of the box opposite.

The opposite sides of the box A are extended at one end far enough to afford bearings F for a double crank-shaft *c*, as clearly shown in both figures.

To the cranks of this shaft are connected pitman-rods *d*, their opposite ends having pivoted to them sleeves, G, through which the handles of the hammers pass, as clearly shown in fig. 1.

These sleeves may be fixed at different heights on the handles, by means of a gib and set-screw, *f*, as shown in both figures, and in this way the stroke of the hammers be adjusted.

The shaft *c* may have an suitable gearing, H, connected, for convenience in operating.

In operating this machine, the clothes or other articles to be washed are thrown in the box A on either side of the hammers C D, with such water and soap as may be preferred.

The crank *e* is then turned, and in being turned it gives alternate motions to the rods *d*, and through them to the hammers C and D.

These hammers, as they swing back and forth, manipulate the articles being washed, in the same manner as a cloth-fulling mill, forcing the water from them at one time, withdrawing it at another, pressing and relaxing, and then, by reason of the form of the box, turning them over at the same time, and in this way thoroughly washing them.

Having thus described my invention,

What I claim is—

In a washing-machine having pendulum-hammers therein, the sleeves G, when arranged on the pendulum-rods of the hammers so as to be adjustable, substantially as herein described and for the purpose set forth.

GEORGE W. HUNGERFORD.

Witnesses:

WM. H. LOTZ,  
THOMAS ELDRIDGE.