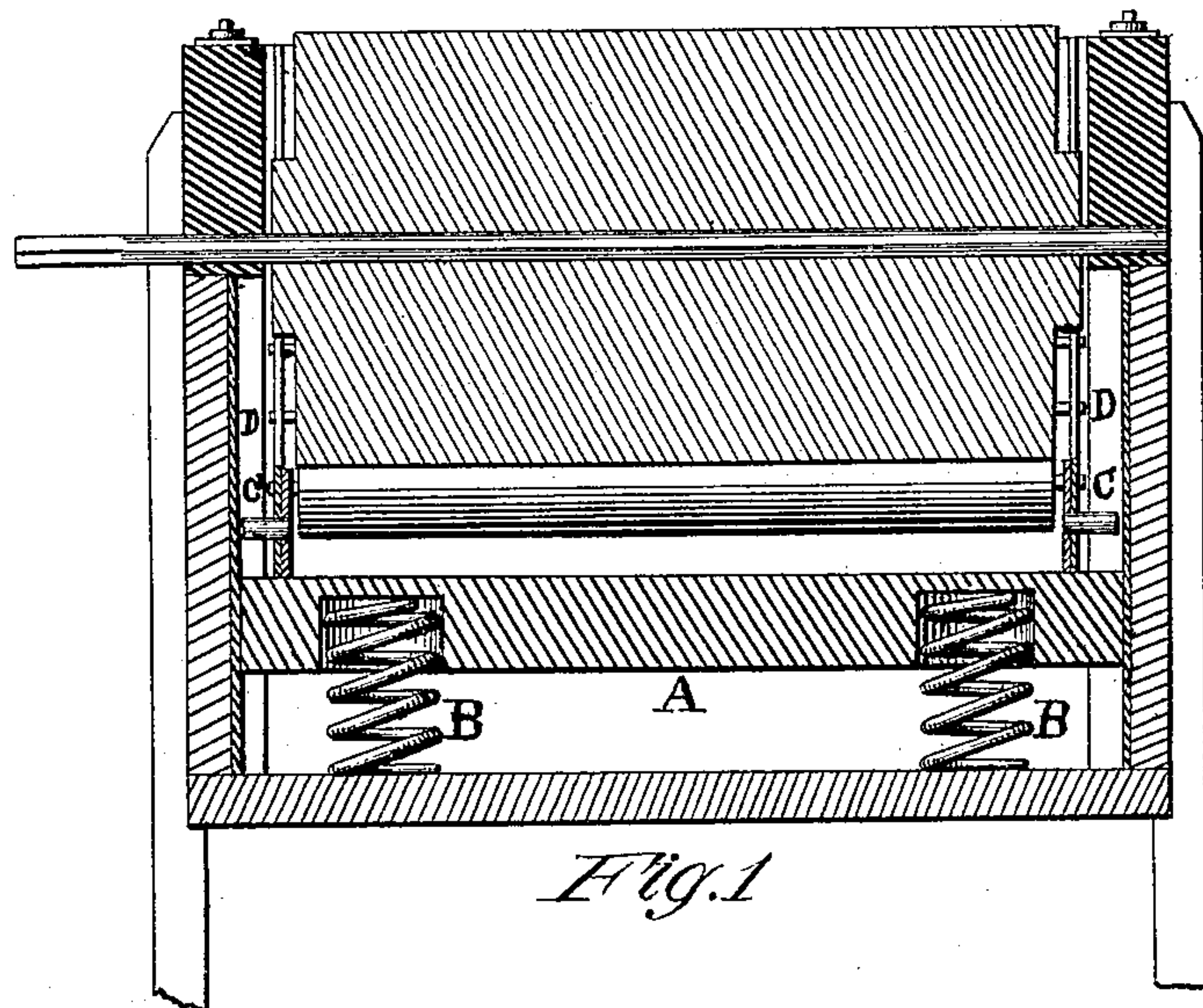


(Model.)

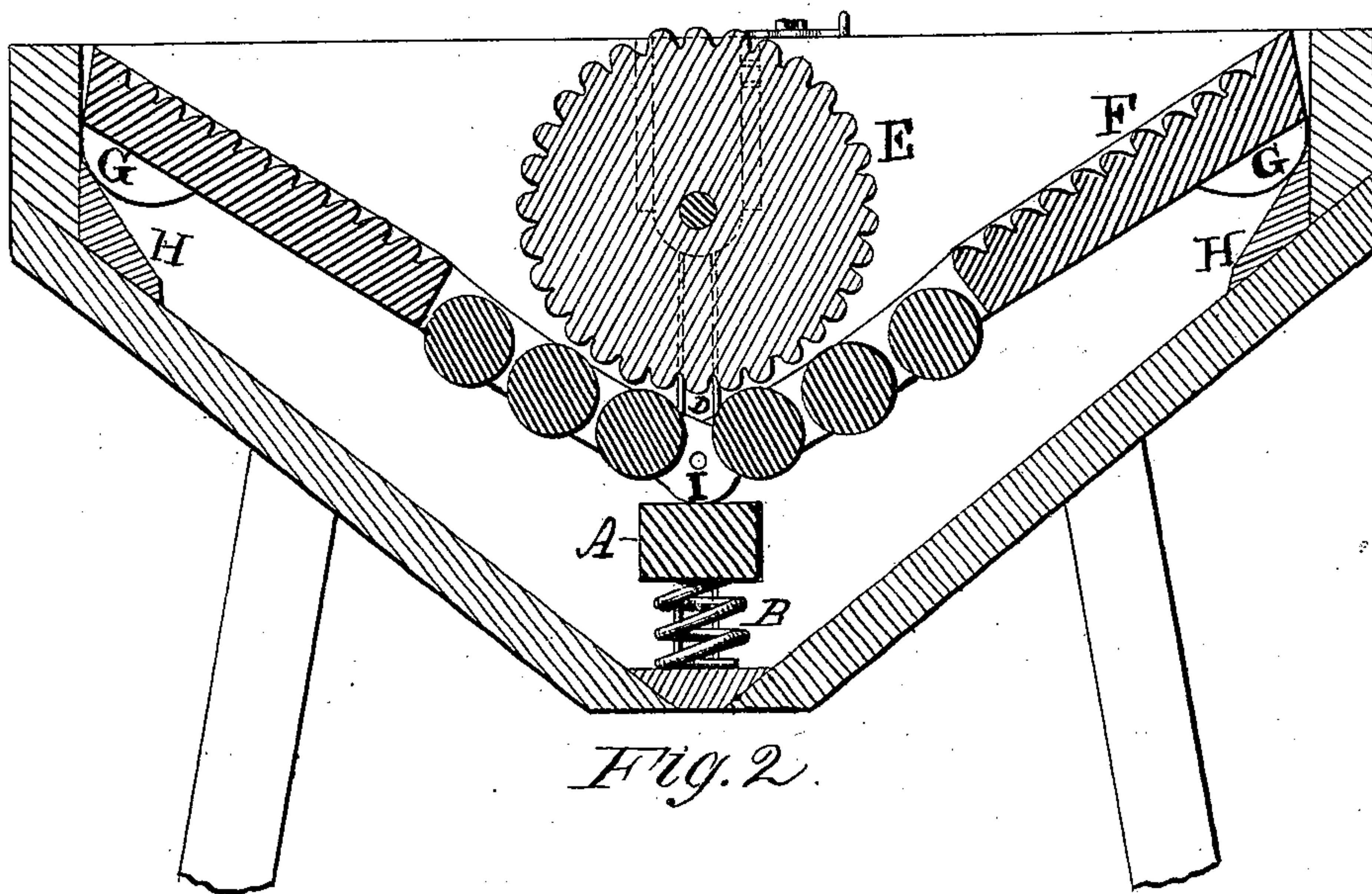
A. HUFFER.  
WASHING MACHINE.

No. 246,777.

Patented Sept. 6, 1881.

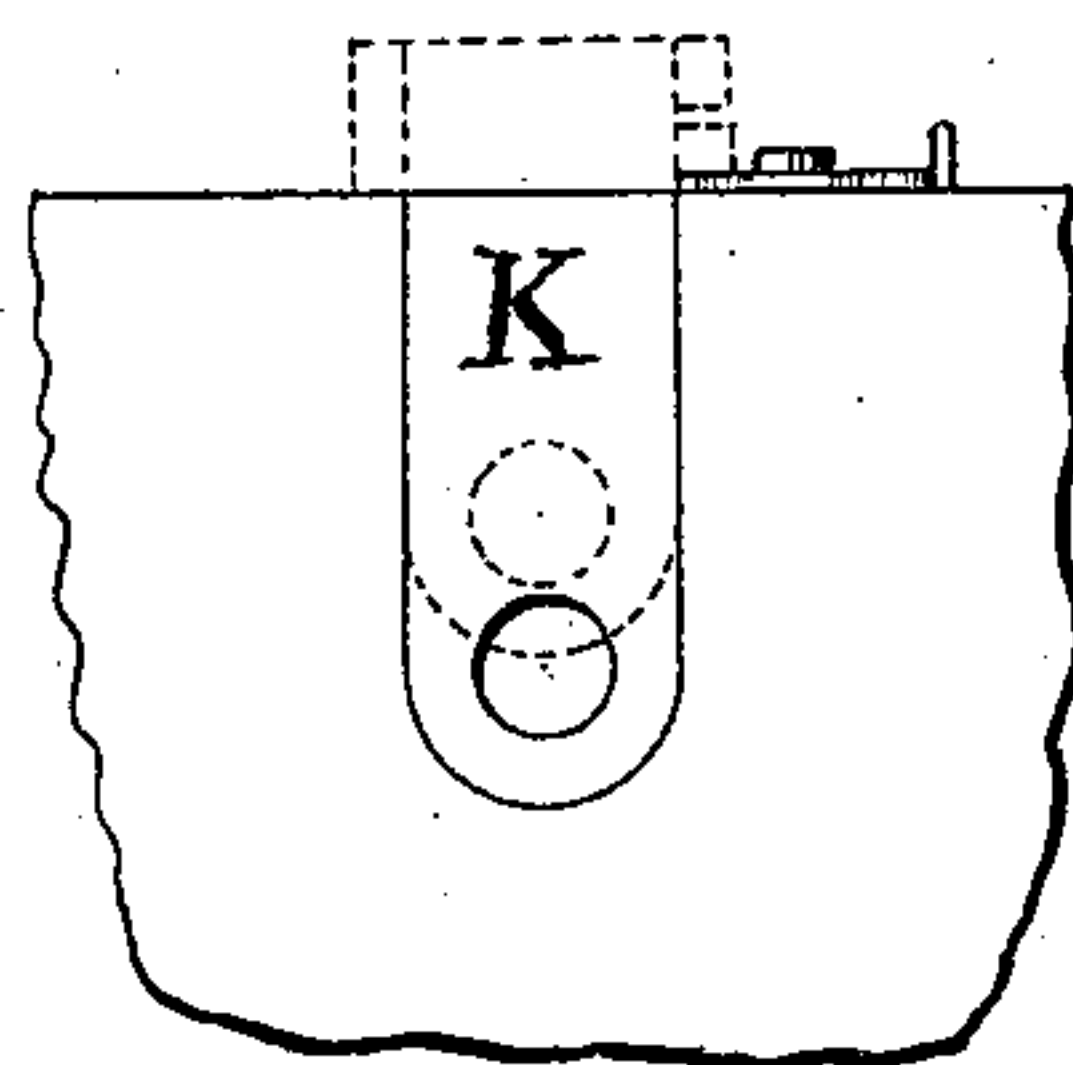


*Fig. 1*



*Fig. 2*

*Witnesses.*  
*Wm. J. Witzrubacher*  
*J. Clarence Lane.*



*Fig. 3*

*Inventor.*  
*Abraham Huffer*

# UNITED STATES PATENT OFFICE.

ABRAHAM HUFFER, OF HAGERSTOWN, MARYLAND.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,777, dated September 6, 1881.

Application filed June 3, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM HUFFER, of Hagerstown, in the county of Washington and State of Maryland, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in washing-machines for which I have received Letters Patent No. 18,642, dated November 17, 1857, in which a fluted cylinder is used in combination with a shallow concave formed by rollers and two ribbed feed-boards and adjusted by four spiral springs.

Now, my late improvement consists in forming a concave in sections, with an adjustable joint in the center, with pins projecting into grooves, so as to move up and down in the center and slide on bearings at the ends of the concave. Underneath the concave is a spring-bar with two spiral springs, and projections working in grooves for adjusting the concave. When in operation the clothes are passed between the cylinder and concave, pressing the lower rollers down from the cylinder and bringing the upper rollers nearer the cylinder by the concave sliding from the top toward the center, guided by the pins projecting into the grooves, producing a downward and clamping motion.

Figure 1 shows a sectional view, with spring-bar A and springs B B for supporting the center of the concave, with joint at pin C working in grooves D D. Fig. 2 is a longitudinal cross-section through the middle of the machine, showing cylinder E and concave F, with bearings at G G, resting on blocks H H, and adjustable joint I, with center pin working in groove D. A is the spring-supported bar, with projections working in groove D, so as to keep the springs B B in their place. Fig. 3 is a side view of the adjustable box K, for raising and lowering the cylinder, as desired for small or large clothing.

With my improvement a small machine can be constructed without the outside water-box, so as to be placed in a common wash-tub when desired.

Having described my invention, what I claim is—

In a washing-machine, the combination, with the cylinder E and spring-supported bar A, of the concave F, composed of ribbed feed boards and rollers, having a central joint, I, and provided with end bearings, G G, adapted to slide on blocks H H, whereby the upper rollers of the concave are caused to approach the cylinder when the lower rollers descend, substantially as shown and described.

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

ABRAHAM HUFFER.

Witnesses:

WM. J. WITZENBACHER,  
J. CLARENCE LANE.