

(Model.)

E. J. C. KALS.  
WASHING MACHINE.

No. 275,049.

Fig. 1. Patented Apr. 3, 1883.

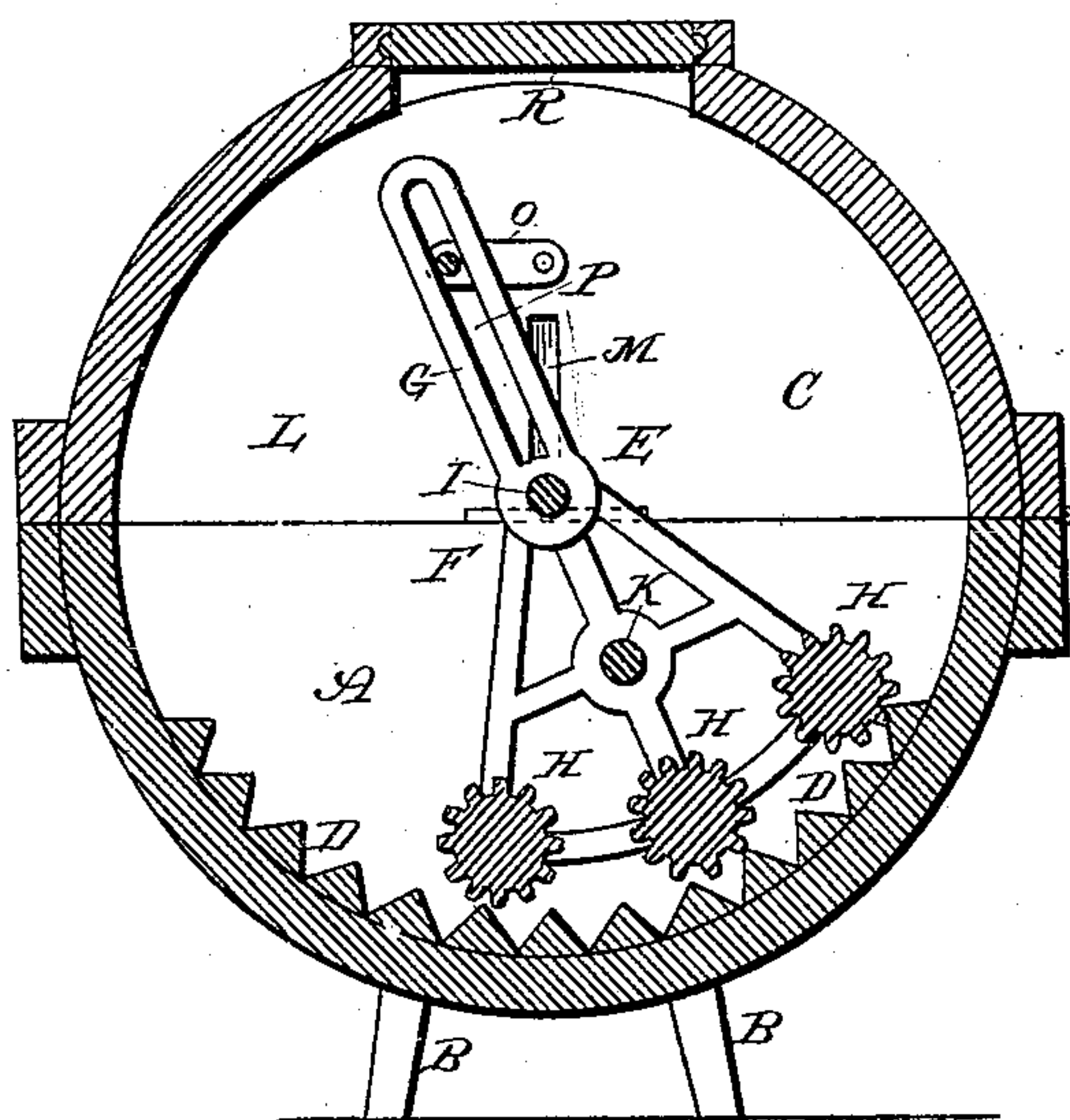
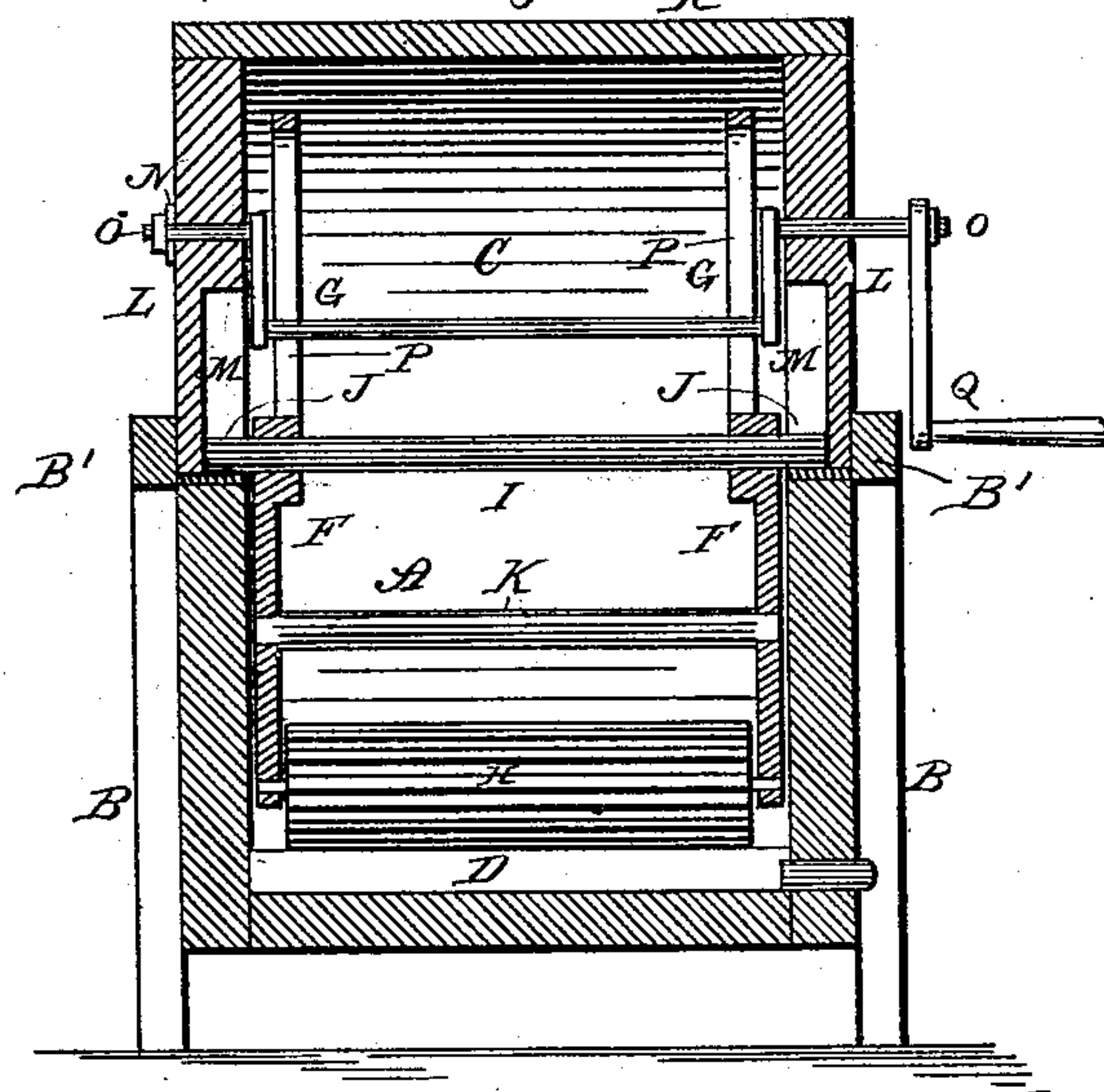


Fig. 2.



Witnesses:

J. W. Garner  
P. S. D. Haines

Inventor:

E. J. C. Kals  
by E. H. Snow & Co.  
attorneys.

# UNITED STATES PATENT OFFICE.

EMIL J. C. KALS, OF YOLO, CALIFORNIA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 275,049, dated April 3, 1883.

Application filed January 30, 1882. Renewed January 27, 1883. (Model.)

*To all whom it may concern:*

Be it known that I, EMIL JOHN CRISTIAN KALS, of Yolo, in the county of Yolo and State of California, 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 appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a longitudinal vertical sectional view. Fig. 2 is a vertical cross-section.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to washing-machines; and it consists in certain improvements in the construction of the same, which will be herein-  
after fully described, and particularly pointed out in the claim.

In the drawings hereto annexed, A represents the tub or suds-box of my improved washing-machine, which is preferably semi-cylindrical in shape, as shown, and supported upon legs B B, which project above the rim or top of the box, forming braces B', as shown in Fig. 2.

C is the cover, which may be hinged at one end of box A, the bottom of which is provided with transverse slats or corrugations D.

E is the rubbing-frame, which consists of two side pieces, F F, having upward-projecting slotted arms G G, and provided at their lower ends with bearings for the shafts of several fluted or corrugated rollers, H H, of which two, three, or more may be used. The sides F F are connected by a shaft, I, the ends of which extend beyond said sides, as at J, so as to form spindles for the rubbing-frame. One or more braces, K, may also be employed to space and connect the sides of the rubbing-frame.

The sides L L of the top or cover C are provided with centrally-located vertical recesses M, forming bearings for the spindles J of the

rubbing-frame, which is thus permitted to slide vertically, so as to accommodate any quantity of clothes that may be placed in the box. The central portions of the sides of the cover, which are weakened by the formation of the slots M, are located adjoining the braces B' at the upper ends of the legs, which prevent the sides of the cover from being broken or injured by any uneven movement of the shaft I. The sides L L of cover C are also provided, a short distance above the recesses M, with bearings N for a crank-shaft, O, the crank of which works in the slots P of the upward-projecting arms G of the sides of the rubber-frame. When the shaft O is revolved, which may be done by means of a suitable crank or handle, Q, it serves to reciprocate or oscillate the rubbing-frame, between the rollers H of which and the corrugated bottom of the suds-box the clothes placed in the latter are thoroughly rubbed and cleansed. The top or cover C may be provided with a slide, R, through which the progress of the washing may be inspected.

My improved washing-machine is simple, durable, easily operated, and may be constructed at a small cost.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

As an improvement in washing-machines, the suds-box A, having legs B, extending above the rim of said box to form braces B', in combination with the cover C, having recesses M, the vertically-sliding shaft I, having spindles J, journaled in the recesses M, the oscillating rubbing-frame E, and operating mechanism, all combined and operating substantially as set forth.

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

EMIL JOHN CRISTIAN KALS.

Witnesses:

J. CRAIG,  
BYRON BALL.