

# J. Q. Leffingwell. Washing Machine

PATENTED

DEC 10 1867.

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Fig. 1.

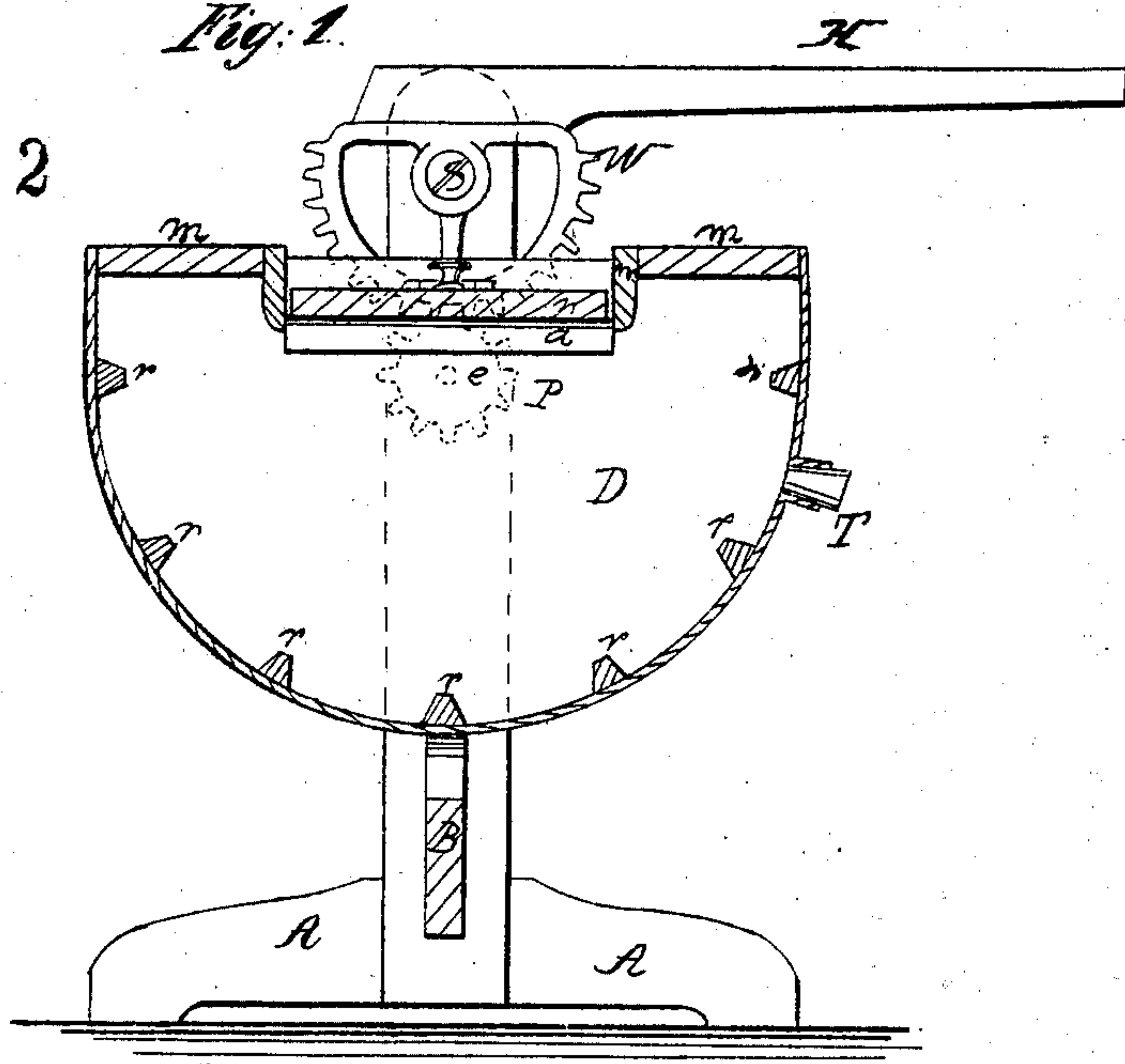
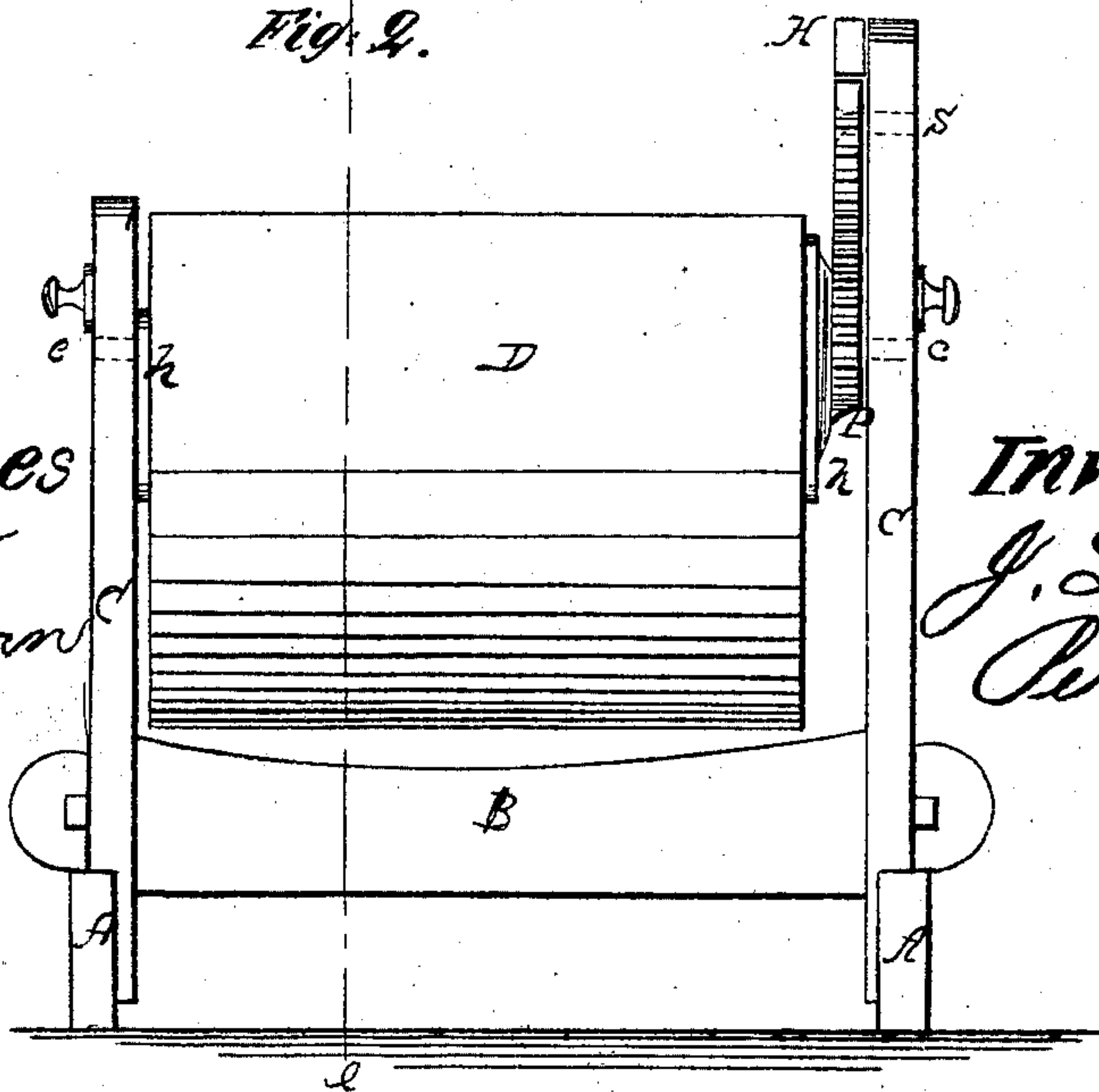


Fig. 2.



Witnesses  
Thos. Froese  
Wm. Spurr

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Per *[Signature]*  
Attorney

# United States Patent Office.

J. Q. LEFFINGWELL, OF NEVADA, IOWA.

*Letters Patent No. 72,052, dated December 10, 1867.*

## IMPROVED WASHING-MACHINE.

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, J. Q. LEFFINGWELL, of Nevada, in the county of Story, and State of Iowa, have invented a new and improved Washing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a vertical cross-section of my improved washing-machine through the line *x x*, fig. 2.

Figure 2 is an end elevation of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement in washing-machines, and consists of a vibrating semi-cylindrical box, operated by means of a lever-handle and gearing, as will be more fully shown.

A is the base; B, a cross-piece; *c c'*, uprights, for holding the box D, which latter is the body of the machine, and contains the clothes. It consists of a semi-cylindrical sheet of zinc, or other metal nailed or otherwise secured to semicircular heads. The top consists of the parts *m m'*, which are higher than the door *n*, which latter is hinged to a strip, *a*, attached to one head of the said box. The door *n* is thus lowered below the adjacent parts to prevent the water from dashing out between the door and top when the machine is vibrated rapidly to its full extent. W is a toothed segment or half wheel, oscillating on a pivot-bolt or screw, *s*, in the upright, *c'*, and its teeth engage with those of a pinion or cog-wheel, P, or segment of the same, which forms part of a metallic plate, *h*, firmly attached to one head of the box D. From the centre of the segment P springs a gudgeon, *e*, which has a bearing in the upright *c'*, as shown dotted in the figures. The opposite end of the box D is supported by a plate, *h'*, and gudgeon *e'*, as shown. A lever, H, is attached to the toothed segment W, as shown, for the purpose of vibrating the box D. T is a cock, for discharging water from the box.

The advantages of this arrangement of the gearing of a washing-machine consist in the swinging motion communicated to the box D, with a very slight exertion of power on the lever, and small vibration of the same compared to that of the box D. The semi-cylindrical form of the box allows the same to be swung with slight exertion, as the centres of gravity of the box and its contents are near to its axis of rotation, and uniformly distant from it at any point of vibration. The clothes, partially suspended by the water, are rotated and rubbed by the ribs *r*, as the box is swung to and fro, whereby the dirt is thoroughly loosened and removed from the clothes. The box D may be made of zinc, or wholly of wood, or of both combined. The raised part *m m'* receives the force of the water, and deflects it downward again, so that but little if any escapes between the door and the parts *m'*, and if any does so escape, it is retained on the door, and prevented from splashing out on the floor by the rocking of the machine. In connection with the advantages before mentioned, are those of simplicity, cheapness, and durability.

I claim as new, and desire to secure by Letters Patent—

The combination of the semi-cylindrical box D, segment W, pinion P, parts *m m'*, lever H, and ribs *r*, as herein described, for the purpose specified.

J. Q. LEFFINGWELL.

Witnesses:

WM. J. HART,

R. H. MITCHELL.