

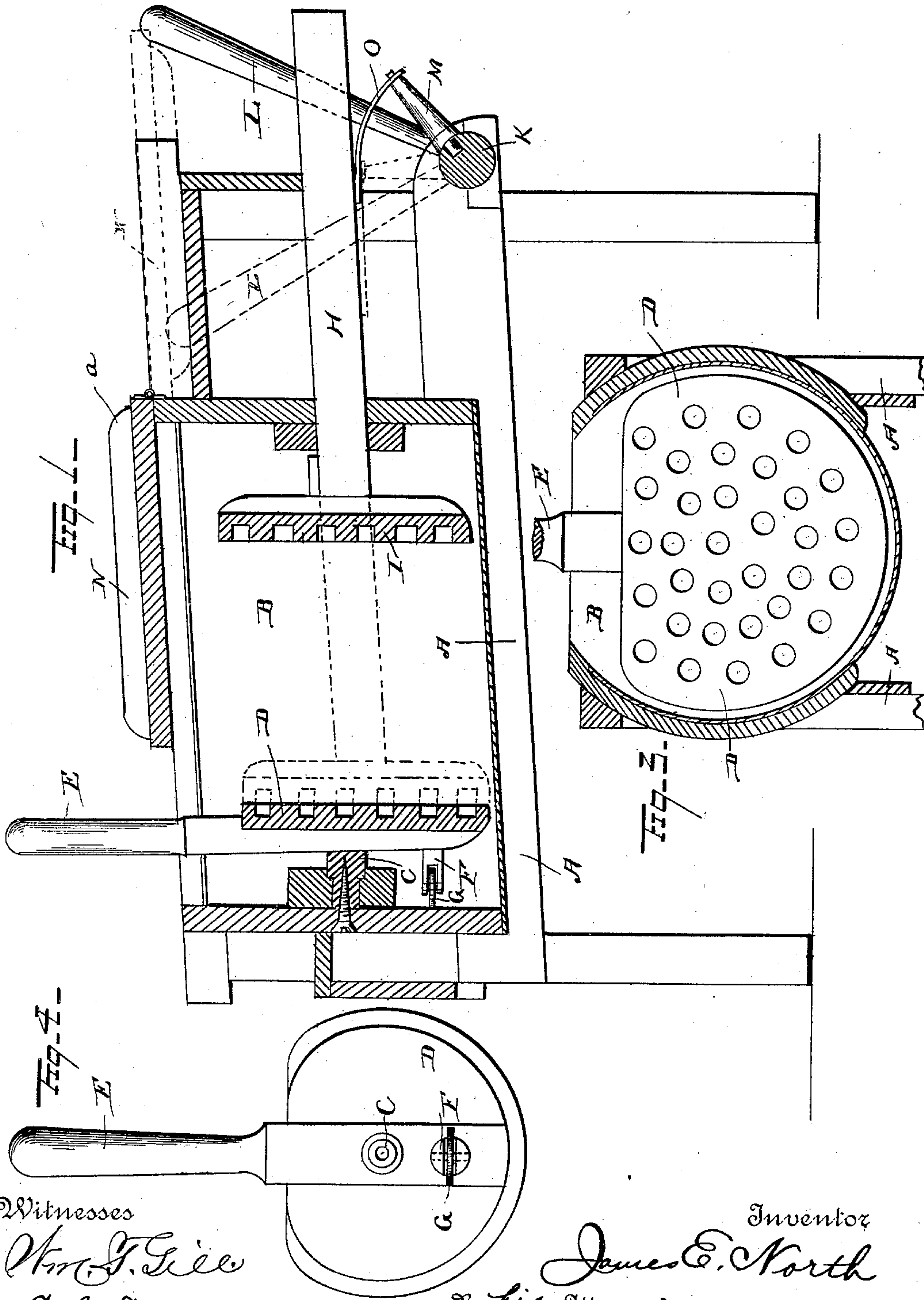
(Model.)

2 Sheets—Sheet 1.

J. E. NORTH.
WASHING MACHINE.

No. 360,461.

Patented Apr. 5, 1887.



Witnesses

Wm. F. Giee

E. G. Siggers

Inventor

James E. North

By his Attorneys

C. A. Snow & Co

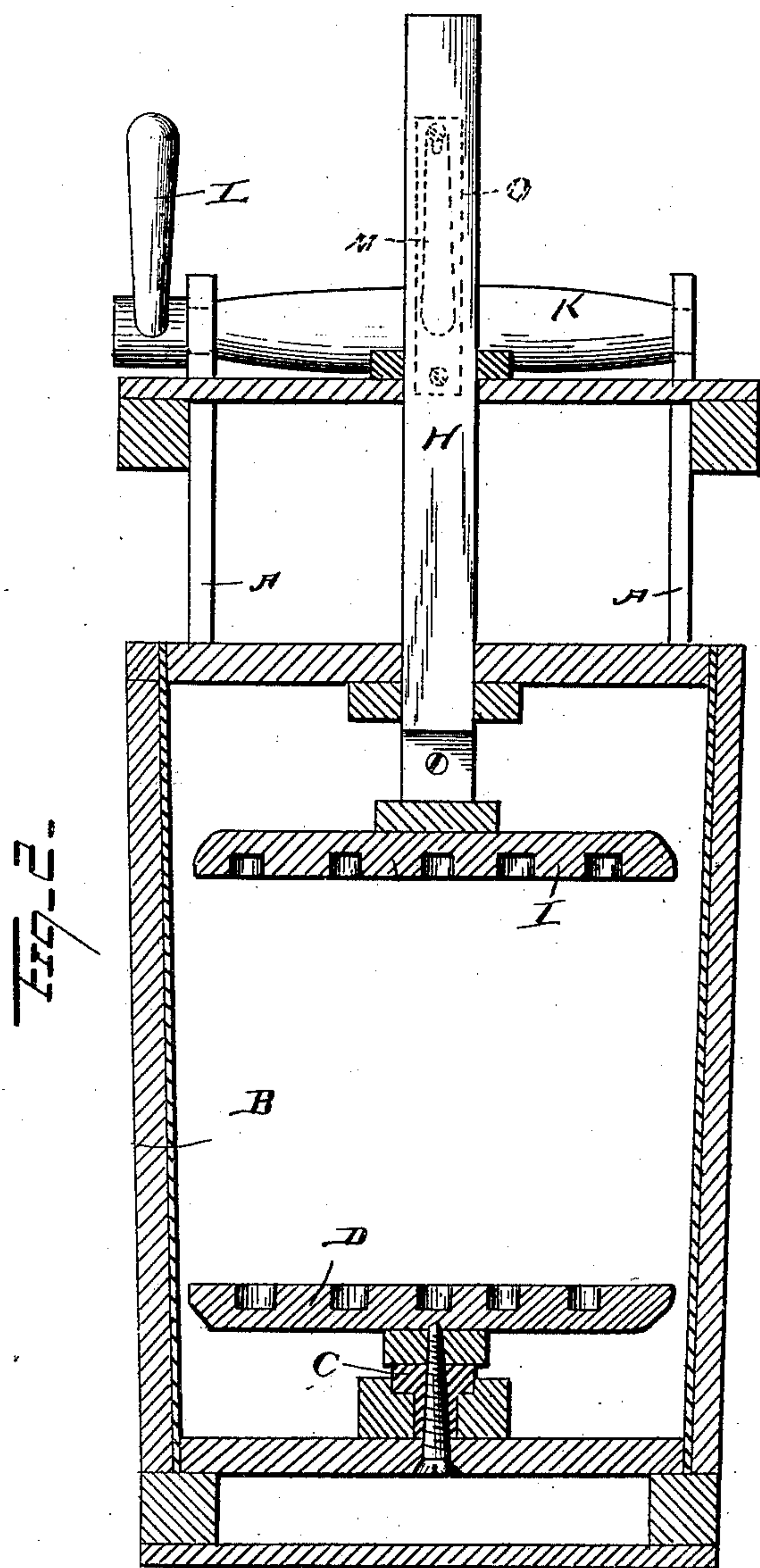
(Model.)

2 Sheets—Sheet 2.

J. E. NORTH.
WASHING MACHINE.

No. 360,461.

Patented Apr. 5, 1887.



Witnesses

Wm. T. Gill
E. J. Siggem

Inventor

James E. North
By *his* Attorneys
C. A. Howarth

UNITED STATES PATENT OFFICE.

JAMES E. NORTH, OF PENN YAN, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 360,461, dated April 5, 1887.

Application filed May 20, 1886. Serial No. 202,788. (Model.)

To all whom it may concern:

Be it known that I, JAMES E. NORTH, a citizen of the United States, residing at Penn Yan, in the county of Yates and State of New York, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification.

My invention relates to an improvement in washing-machines; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claim.

In the drawings, Figure 1 is partly a side elevation and partly a vertical longitudinal section of my invention. Fig. 2 is partly a top plan view and partly a horizontal section of the same. Fig. 3 is a transverse section, and Fig. 4 is a detail view of the rubber.

This invention is an improvement on the washing-machine for which Letters Patent of the United States No. 124,651 were granted to me March 12, 1872.

A represents a rectangular vertical frame, in which is secured a cylindrical horizontal suds-box, B, which is made of wood and lined with zinc. In one end of the suds-box is swiveled a short horizontal shaft, C, to the inner end of which is attached a rotating rubber, D, having an upwardly-projecting handle or lever, E, which extends above the top of the machine. Near the lower end of this handle, which extends across the rear side of the rotating rubber, is secured a horizontally-projecting stud or caster, F, in which is journaled a bearing-roller, G, which bears against the adjacent end of the suds-box. Through the opposite end of the suds-box extends a horizontally-movable piston-rod, H, to the inner end of which is attached a reciprocating piston, I, which corresponds in size and shape with the rubber D. The rubber and the piston are provided on their opposing faces with circular recesses, as shown. The piston-rod H is square and extends through a square opening made in one end of the suds-box, to prevent the piston-rod and the piston from rotating in the suds-box. To the front end of the frame is journaled a horizontal rock-shaft, K, which is provided at one end with an operating-lever, L, and from the center of the said rock-shaft projects a rocking arm, M. The said arm is at-

tached to the piston H by means of a link, O, the ends of which are connected to the piston and to the arm M.

N represents a cover, which is hinged to one end of the suds-box on the upper open side of the same.

The operation of my invention is as follows: The articles to be washed, together with a suitable quantity of boiling suds, are placed in the suds-box between the rubber D and the piston I. The lever L is then operated, so as to cause the piston to reciprocate in the suds-box, and thereby compress the clothes between the said piston and the rubber, and force the water through and through the clothes, and thereby loosen the dirt. This operation is continued for a suitable period of time, and the lever M is then moved inwardly, so as to compress the clothes between the piston I and the rubber D, when the latter is oscillated or rotated, first in one direction and then in the opposite direction, by means of its handle E, thus thoroughly rubbing the clothes in the suds. The function of the roller G is to prevent the rubber from tilting on its shaft and to avoid excessive friction.

I am aware that it is old to provide a washing-machine comprising a rotating rubber and a reciprocating pounder, and this I disclaim. In my machine I provide an oscillating rubber and a reciprocating piston or pounder, both of which are worked by hand. In practice the operator works the oscillating rubber by his right hand and the piston with his left hand, the handles for both being within convenient reach for this purpose. By this arrangement the operator can force the piston-head I in direct contact with the oscillating rubber-head D by positive pressure, so as to hold the clothes while working the oscillating rubber, as is sometimes necessary. When this is done, the friction-roller G materially assists the working of the rubber D. The square shape to the piston-rod H overcomes any tendency of the head I to rotate while the head D is oscillated, which would cause the wrenching or disengagement of the working parts. Flanges *a* are provided on the top of the cover, so that when the latter is thrown back, as indicated in Fig. 1, said flanges serve to support the cover and take the strain off the hinges. Not only does the friction-roller G assist the working of the parts,

but, by reason of the fact that it is arranged on one side of the pivot-point for the rubber D, all strain is taken off the pivot of said rubber by the employment of the friction-roller G in the position shown.

Having thus described my invention, I claim—

In a washing-machine, the combination of a suds-box, a reciprocating non-rotatable piston operating therein and having an angular piston-rod passing through one end of the suds-box, a rock-shaft having a lever and connected by intermediate links with the rod of the piston to operate the same, a swiveled shaft or bearing connected to the opposite end of the suds-box, through which the shaft passes, an oscillating rubber supported on this shaft or

bearing, and having a handle by which it can be oscillated in a plane at right angles to the line of motion of the piston, and a horizontal bracket projecting from the rear side of the oscillating rubber at a short distance from the swiveled shaft or bearing and carrying a friction-roller, which rides against the end of the suds-box to which the swiveled shaft is connected, as and for the purpose set forth.

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

JAMES E. NORTH.

Witnesses:

A. E. CHAPMAN,
J. P. COMINGS.