(No Model.) 2 Sheets—Sheet 1.

C. SHARPE & W. D. COLDREN.

WASHING MACHINE.

No. 500,160. Patented June 27, 1893.

FIG. 1.

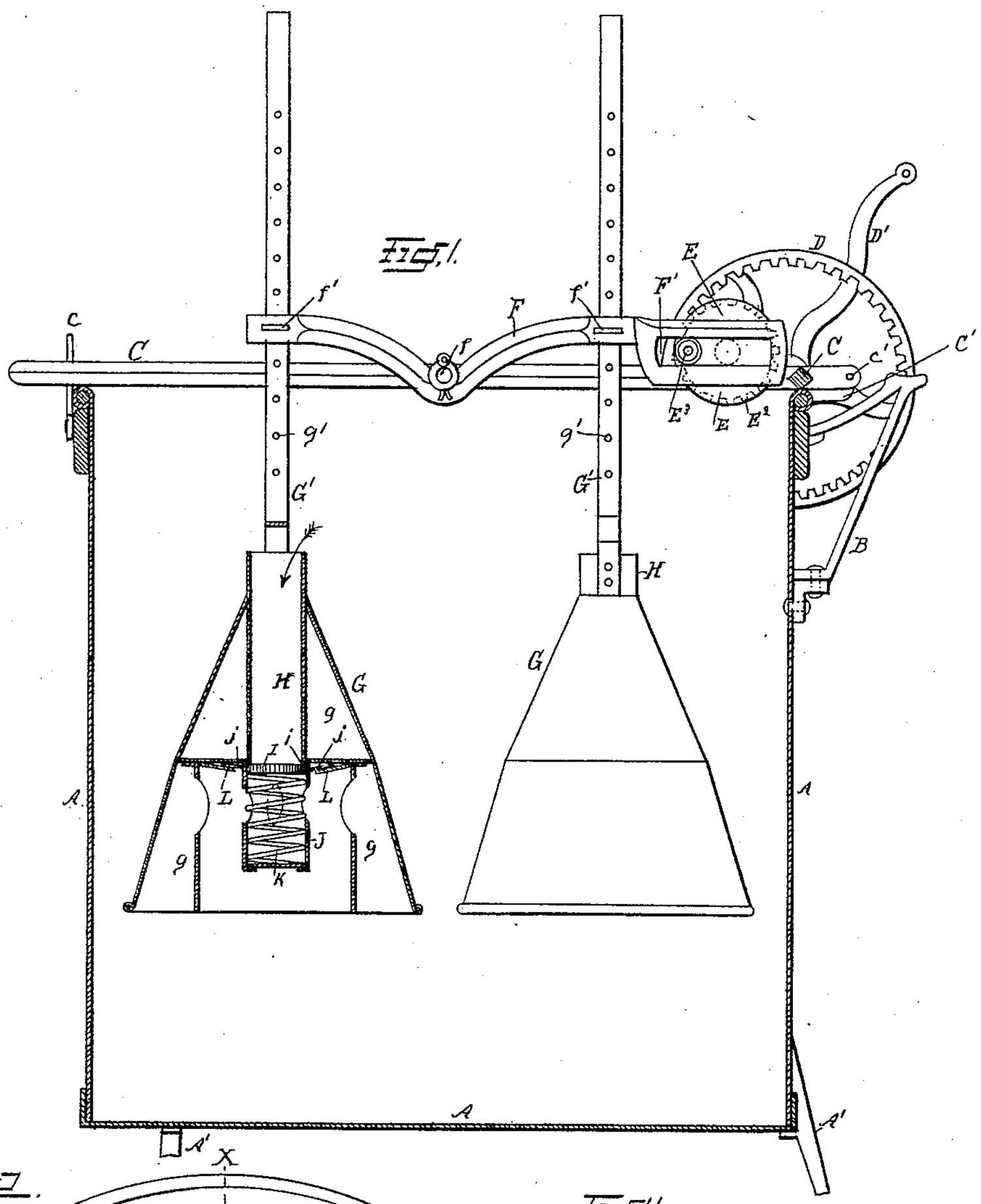


FIG. 2.

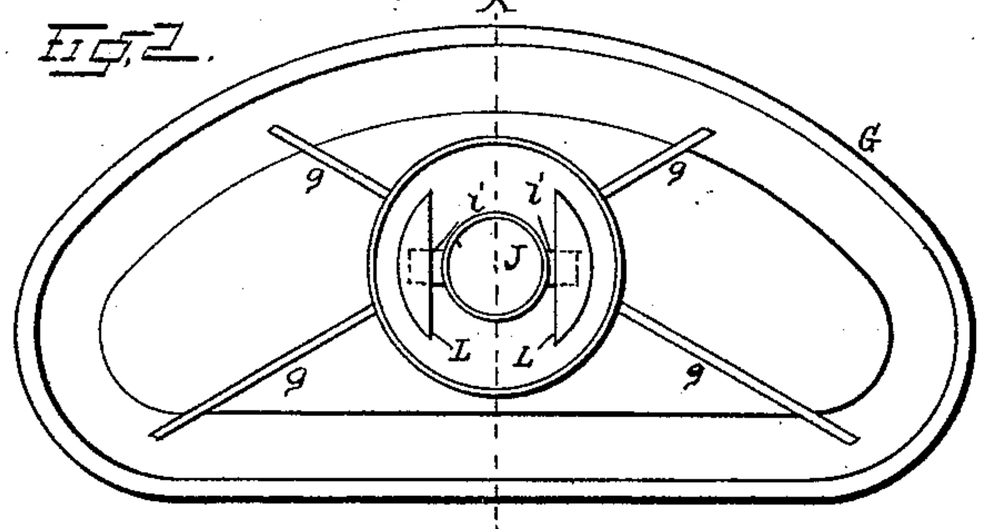
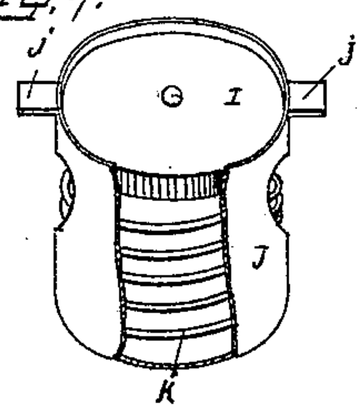


FIG. 4.



WITNESSES:

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H. C. Lord

INVENTORS

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Their ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

C. SHARPE & W. D. COLDREN.

WASHING MACHINE.

No. 500,160. Patented June 27, 1893.

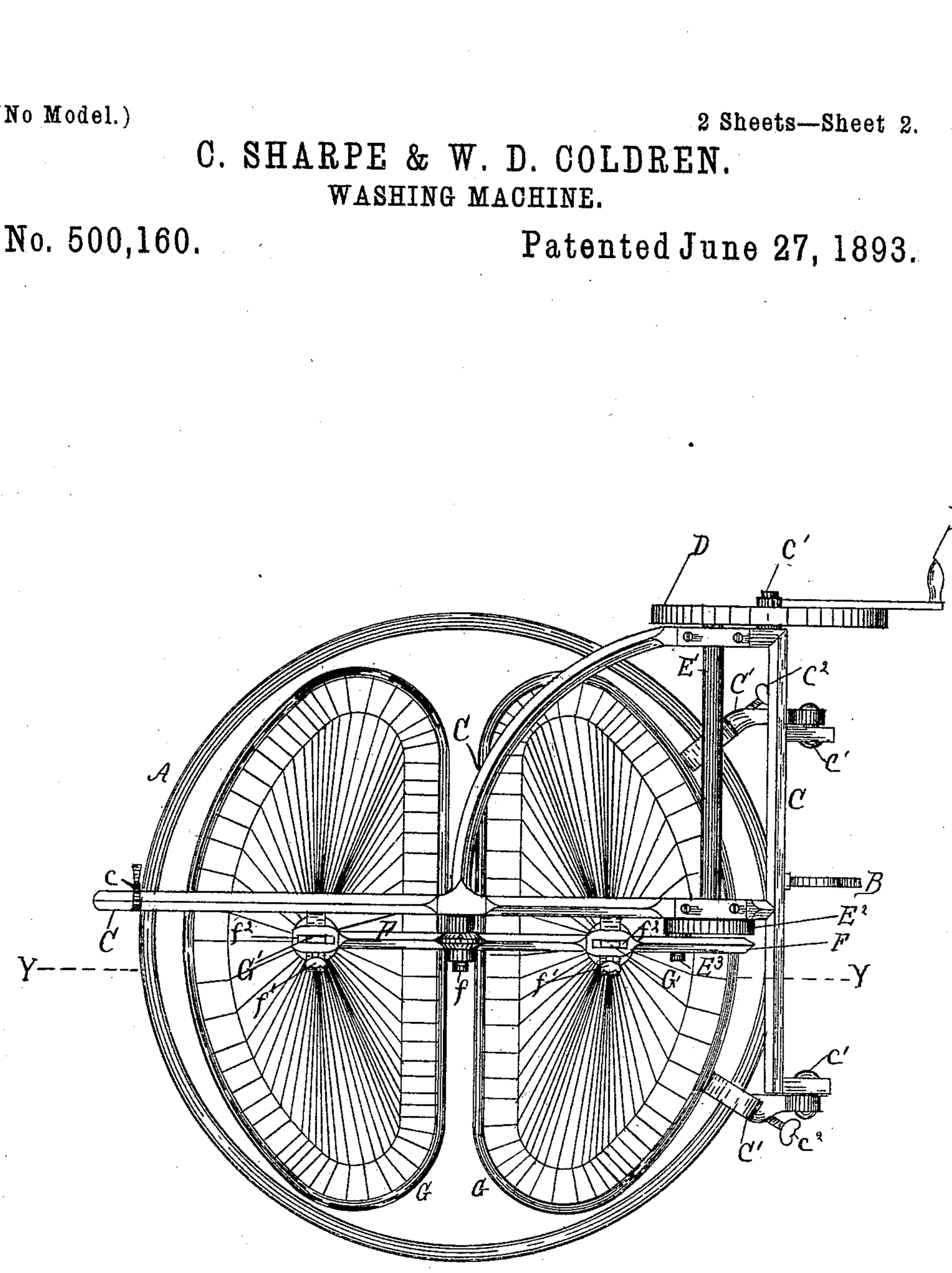

Fig. 3.

Witnesses.
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Chauncey Sharpe
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by Hallock & Hallock
Attys.

UNITED STATES PATENT OFFICE.

CHAUNCEY SHARPE, OF DERRICK CITY, PENNSYLVANIA, AND WILLIAM D. COLDREN, OF JAMESTOWN, NEW YORK.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,160, dated June 27, 1893.

Application filed December 14, 1891. Serial No. 414,978. (No model.)

To all whom it may concern:

Be it known that we, CHAUNCEY SHARPE, residing at Derrick City, in the county of McKean and State of Pennsylvania, and WILLIAM D. COLDREN, residing at Jamestown, in the county of Chautauqua and State of New York, citizens of the United States, have invented certain new and useful Improvements in Washing-Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to washing-machines and consists in certain improvements in the construction thereof—as will be hereinafter fully set forth and pointed out in the claims.

Our invention is illustrated in the accompanying drawings as follows:—

Figure 1 is a vertical section taken on the line *y—y* in Fig. 3, with parts in elevation. Fig. 2 is a plan view, of one of the dashers G, inverted. Fig. 3 is a top plan view of the machine. Fig. 4 is a perspective view of the valve cage, J, detached from the machine.

Like parts in all the figures are designated by the same reference letters, which will be referred to in place in the following general description of the construction and operation of the machine.

A, marks the tub, which may be made of iron, wood or other suitable material. As represented it is made of galvanized sheet iron, and is cylindrical in form, having its upper end open, and it is represented as being provided with legs A′ which are shown broken off.

On one side of the machine and attached to the outer wall thereof, is a bracket B, which serves as a support for the frame C, which supports the operating mechanism, when it is turned back off from the mouth of the tub, the rear cross bar of the frame, C, resting on said bracket, B, when the frame is turned back as stated above.

The operating mechanism is all supported on a frame C, which is pivoted at *c′* on brackets C′ that clamp upon the tub by set screws c^2.

When it is desired to remove the frame and the operating parts carried by said frame entirely from the machine the clamping brackets are disengaged from the tub and the frame C, and all the parts carried by it can be taken off.

When it is desired to remove the dashers from the tub the frame C can be turned back on its pivots *c′* and the bracket B, will support it when laid back. This position of the frame is not represented in the drawings. When the frame C is in position for operation it is held in contact with the tub, at its swinging end by a clasp *c*.

On the frame C is a journal spindle C^2 on which is journaled a drive-wheel D. This wheel is flanged and has its cogs on the inside of the flange and a crank is attached to the outer side of the wheel.

A shaft E′ is journaled on the frame C in position to allow a pinion E, thereon to mesh with the gear wheel D. On the opposite end of the shaft E′ from the drive wheel D is a disk E^2 having a pin E^3 thereon. Pivoted on the frame C at *f* is a walking-beam F which has at its long end a slot F′ which receives the pin E^3 on the disk E^2. It will therefore be seen that a rotation of the drive wheel D will cause an oscillation or vibration of the walking beam F. The pivot *f*, of the walking beam is directly over the center of the tub and at equal distance therefrom on each side thereof there are slots f^2, f^2, cut vertically through the beam, and in these slots are secured, adjustably, the dasher-rods G′, by set screws *f′* which enter holes *g′* in the dasher rods.

On the lower ends of the dasher-rods are secured the dashers G, which are substantially semicircular at their base, so that the two nearly fill the circumferential area of the tub, and are conical in form, attaching to the rods G′ at the apex of the cone. These dashers will be commonly made of tin or other sheet metal, and they are braced internally by partitions *g*, which hold the walls against collapsing. Extending down from the apex of the cone is an air duct H, which has at its lower end a valve seat *i*. In Fig. 1, one of the dashers is shown in vertical section on the line *x—x* in Fig. 2, which is a plan view of the dasher inverted. Directly below the air duct H, is a valve I, which seats on the valve seat *i* and is held in place by a spring K which is contained within a cage J. This cage has on

its sides ears *j*—*j* which engage with catches L, L, on the under side of the horizontal partition *g*. To disengage the cage it is only necessary to turn it so the ears *j* will be disengaged from the catches L. This can be clearly seen in Fig. 2. The action of the valve I is such that when the dasher is raised up the valve will open and when the dasher is pushed down the valve will close. When the machine is in operation the dashers will act more as pumps to force air through the clothes than as pounders. They will be adjusted so as to just rest on the clothes when the walking beam is horizontal, and then when the walking beam is vibrated they will alternately press down upon the clothes, but as one goes down on one side of the tub the clothes will be crowded up more or less on the other side and follow up the moving dasher. The upward action of each dasher will open the valve I and air will rush in past it, and then when the dasher descends the contained air will be forced through the clothes. The movement of the walking beam is not sufficient to cause the dashers to pound the clothes but is sufficient to compress the clothes and force air through them and thereby agitate them and cause the water and air to pass through the fabrics and thereby cleanse them.

What we claim as new is—

1. In a washing machine, the combination of a tub, two oppositely acting dashers operating in said tub, a walking beam for moving said dashers oppositely, gearing for moving said walking beam, a frame C, supporting said walking beam and its operating gearing and clamping bracket C′, pivoted at *c′* to said frame C and secured to said tub by clamping screws c^2.

2. In a washing machine, the combination of a tub, clamping brackets C′ detachably secured to said tub, a tilting frame C, pivoted on said brackets, a drive wheel D, journaled on a spindle C^2 which is part of said frame C, a shaft E′ journaled on said frame C, and having a pinion at one end thereof gearing with the drive wheel D, and a crank disk E^2 at the other end thereof, a walking beam F journaled on said frame at the center of the tub and connected with the crank-disk E^2, dasher-rods G′, adjustably connected with said walking beam in slots f^2 at equal distances from the journal of said walking beam, and dashers G, on said dasher-rods.

In testimony whereof we affix our signatures in presence of two witnesses.

CHAUNCEY SHARPE.
WILLIAM D. COLDREN.

Witnesses:
ELEAZER GREEN,
JOHN WOODWARD.