

(No Model.)

C. C. HOWELL.
Washing Machine.

No. 241,218.

Patented May 10, 1881.

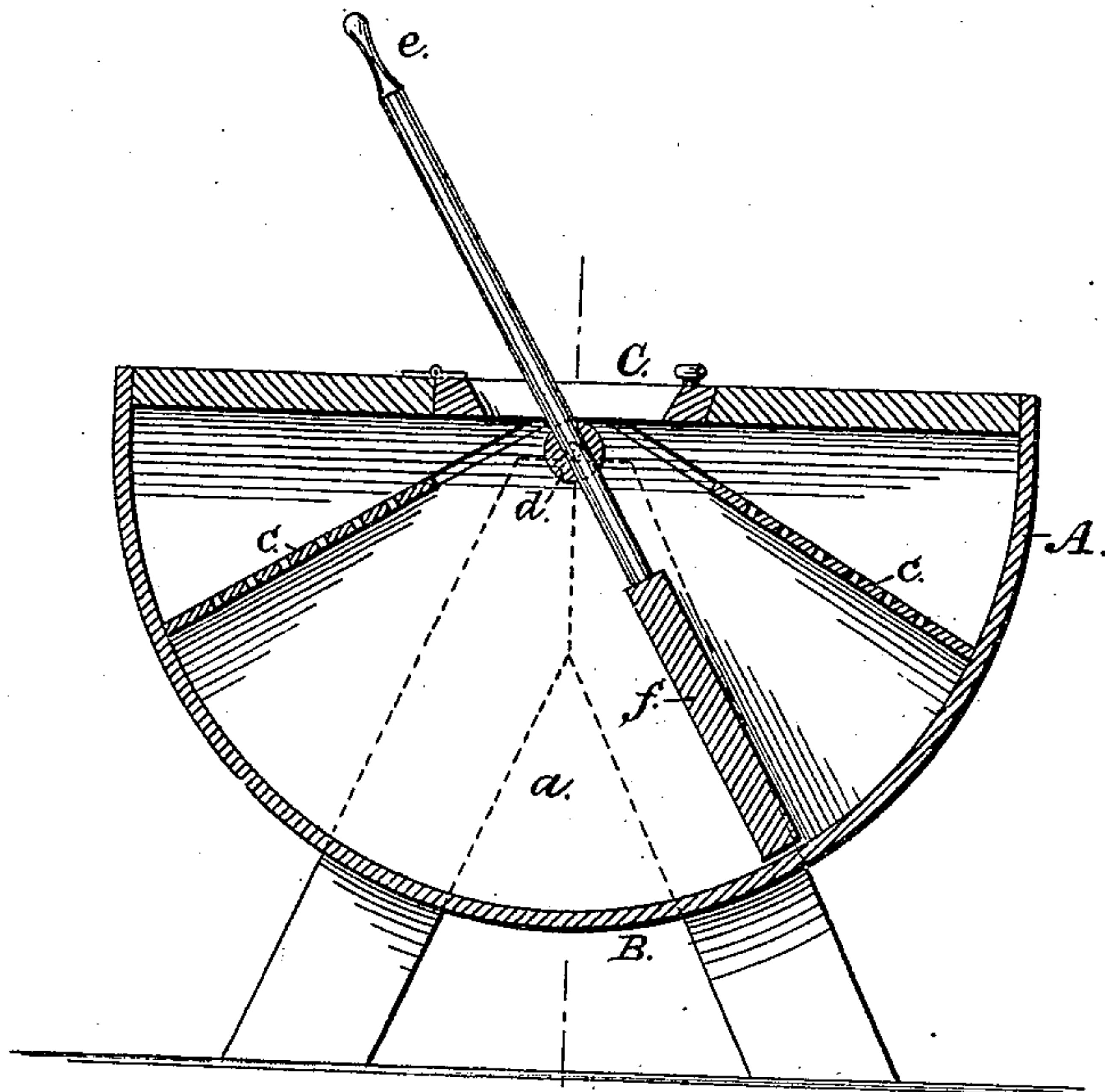


FIG. 1.

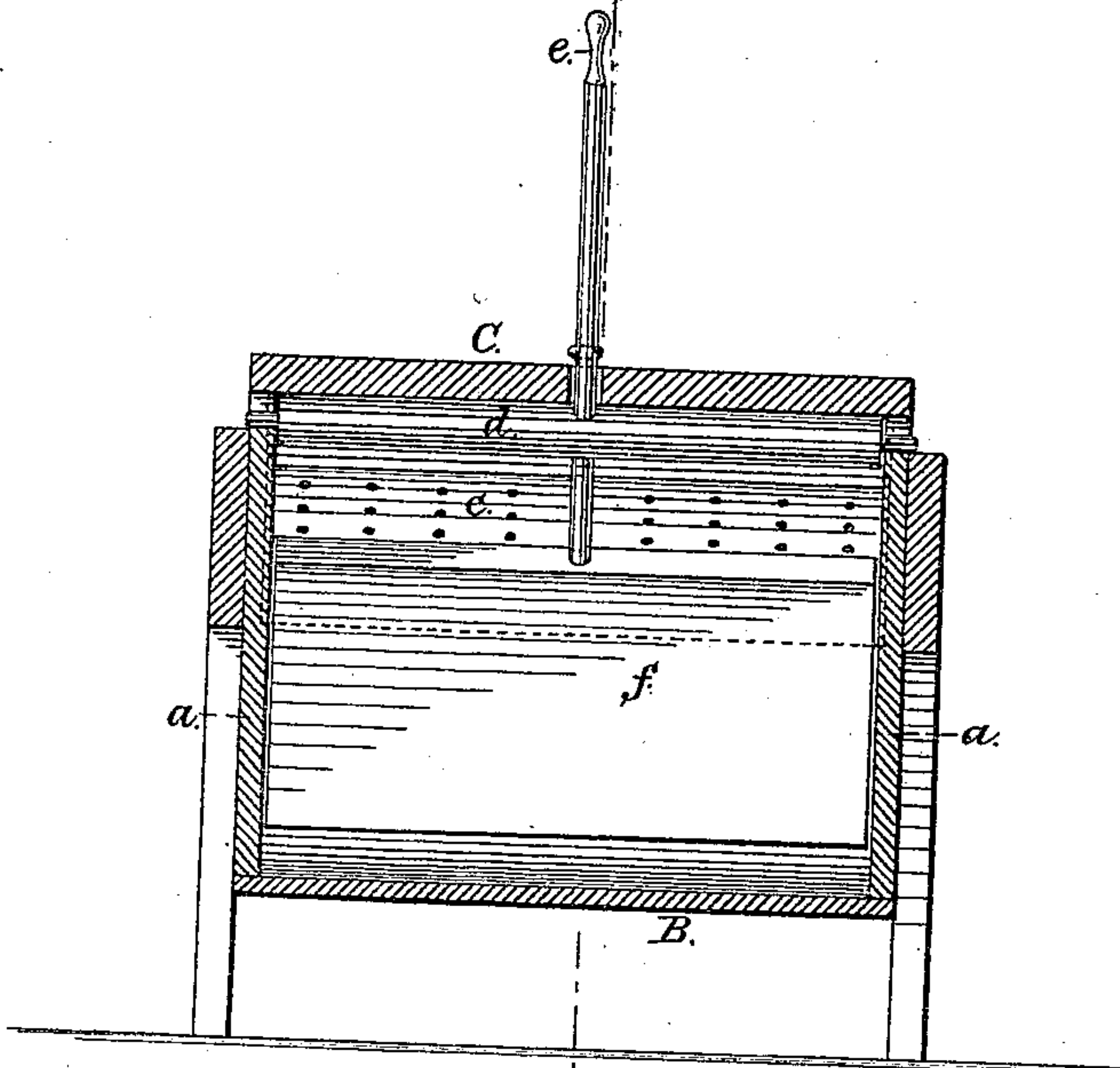


FIG. 2.

Witnesses,

E. F. Benham,

Chas. S. Edgerton

Inventor,

Charlotte C. Howell

by
James H. Price
Attorney.

UNITED STATES PATENT OFFICE.

CHARLOTTE C. HOWELL, OF KOUT'S STATION, INDIANA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 241,218, dated May 10, 1881.

Application filed March 26, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLOTTE C. HOWELL, of Kout's Station, in the county of Porter and State of Indiana, have invented certain new and useful Improvements in Machines for Washing Clothes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view through the central line of the machine. Fig. 2 is a cross-section through the same.

The object of the invention is to provide a cheap, simple, and efficient means for washing dirty clothes; and to that end the invention consists in certain improvements in the structure of a washing-machine, substantially as hereinafter set forth, and more particularly defined by claim.

To make the body A of the machine or tub proper, two equal and parallel semicircular wooden side pieces, *a a*, are arranged so that their right-line upper edges shall be in the same horizontal plane, and corresponding parts of their curved lower edges be exactly opposed. To these curved edges the tub-bottom B, preferably composed of short wooden cross-pieces, is fastened, the several parts being securely jointed together to render the bottom perfectly water-tight. In lieu of the wooden bottom one of sheet metal in continuous piece, or in sections riveted, soldered, or otherwise held together, may be used. The tub is conveniently mounted on legs attached to the side pieces, *a a*, and has a hinged cover, C, to inclose the top, suitably slotted, to allow for the play of the dash-staff *e*.

Opposite and parallel-inclined grooves *b b* are cut on the inner faces of the side pieces, *a a*, into which grooves the edges of the perforated end boards or baffles, *c c*, slide, to retain said baffles firmly in place during the operation of the machine. The baffles *c c* are numerously perforated with fine holes to allow for the free passage of water throughout their entire surface, except for a slight distance above their lower edges. This portion is left imperforate, and the lower edge of the baffle is made to fit close in contact with the bottom of the tub.

Midway of the upper edges of the side pieces, *a a*, journal-bearings are made for the reduced

ends or journals of the rocking cross-piece or roller *d*, said journals being kept in place by the tangent contact of the hinged lid C above them.

A mortise is cut through the center of the roller *d*, into which the staff *e* of the dash is fitted, one end of the staff projecting above the tub to form an operating-handle, and its opposite end beating the dash-board *f*, that is made solid and of such size and shape as to fit closely to the interior walls and bottom of the tub. By this provision the dash-board tends to force the volume of water and the clothes within the tub bodily before it at each alternation of the dash.

The several parts being combined as hereinbefore described, and a suitable quantity of clothes and wash-water distributed on both sides of the dash within the tub, the operator grasps the handle of the dash-staff and vibrates it firmly to and fro, thus causing the solid dash-board *f* to closely traverse the curvilinear path of the tub-bottom, and alternately pressing the clothes and contained water against the opposite inclines *c c*. The movement of the dash-board, the curvature of the tub-bottom, and the incline of the baffles all unite to tumble, roll, or rub the clothes, and to expose fresh surfaces for washing, and at the same time to return the clothes in position for the next stroke of the dash. The dash being solid and comparatively close-fitting to the tub-walls, forces a large volume of water through the fabric, as the clothes rest against the baffles, toward the end of the stroke, and this water carries the dirt from the meshes of the fabric through the perforations of the baffles into the pocket-like chambers behind them. Here the mechanical impurities settle to the bottom behind the baffles, which, being imperforate at such portion, tend to shield the collected dirt, grit, &c., from the cross-currents and to prevent a return into the larger volume of water next in contact with the clothes. When washing is completed the cover is thrown back, the staff and dash, with attached roller, are removed, the clothes taken out, and finally the baffles withdrawn from their seats to allow for thorough cleansing of the tub.

Heretofore washing-machines have been made with a curvilinear tub-bottom, inclined

end baffles, and vibrating dash; and I do not wish to claim such structure broadly; but in some of said machines the end baffles and the dash are made of a series of slats set edgewise
5 to form a rack-frame, which rapidly chafes the clothes and tends to knot and tear the same. No provision is made to prevent return of the impurities to the general volume of wash-water, nor is the open form of dash adapted to force
10 the water through the meshes of the fabric. Other machines have the plain board perforated baffles, but the perforations are large rather than small and numerous, so that the edges tend to chafe and wear the clothes forced
15 through them by the inrush of water, nor are the perforations located with reference to trapping the mechanical impurities of the wash-water. On the contrary, both the baffles and the curvilinear bottom, on which rest the

clothes, are indiscriminately perforated and 20 necessitate a lower closed chamber to retain the water. The water is thus in larger volume than can be effectively used, making the machine heavier to handle and involving more parts and cost in its structure than the simple 25 compact form devised by me.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a washing-machine, the combination, with the tub having water-tight curved bottom, of 30 the solid vibrating dash, and the inclined end boards or baffles, provided with a series of fine perforations, all substantially as herein set forth.

CHARLOTTE C. HOWELL.

Witnesses:

DANIEL WOOD,
AMELIA WOOD.