2 Sheets—Sheet 1.

D. A. COTTER & N. WARRELL.

Washing-Machine.

No. 205,681. **Patented July 2, 1878.**

Fig. 1.

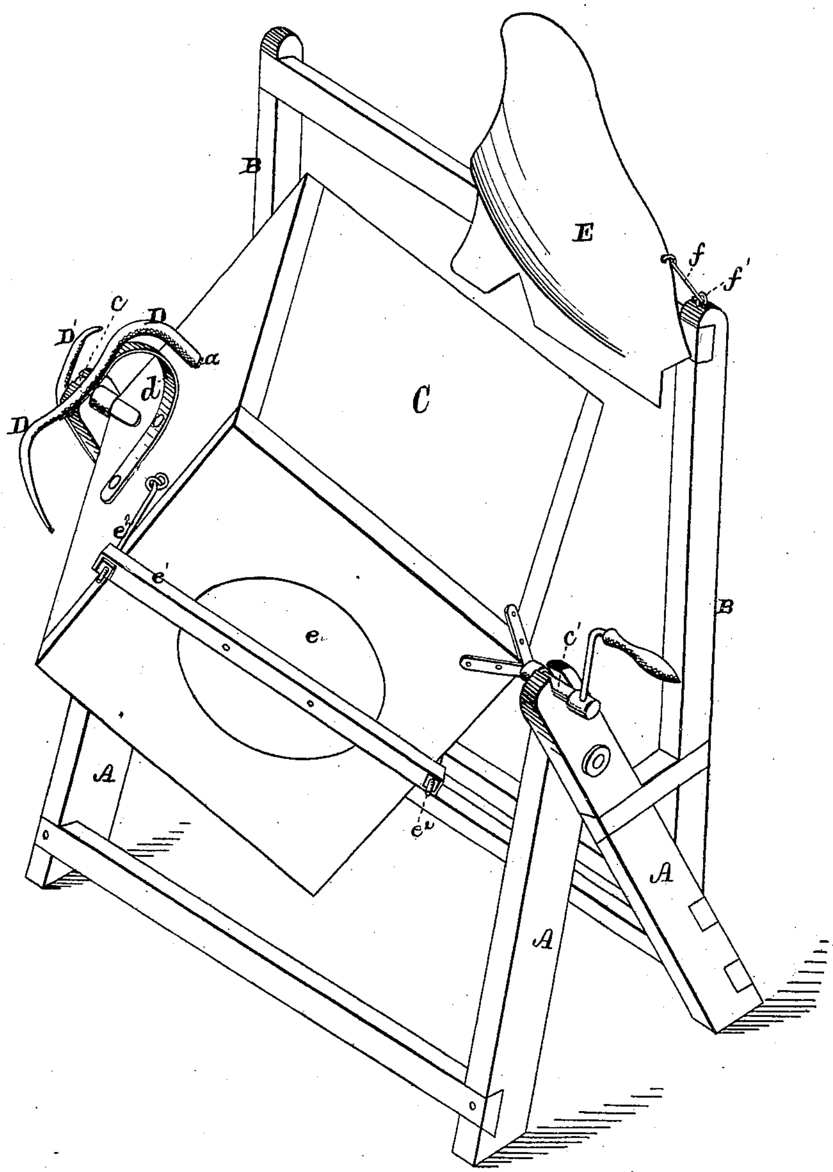

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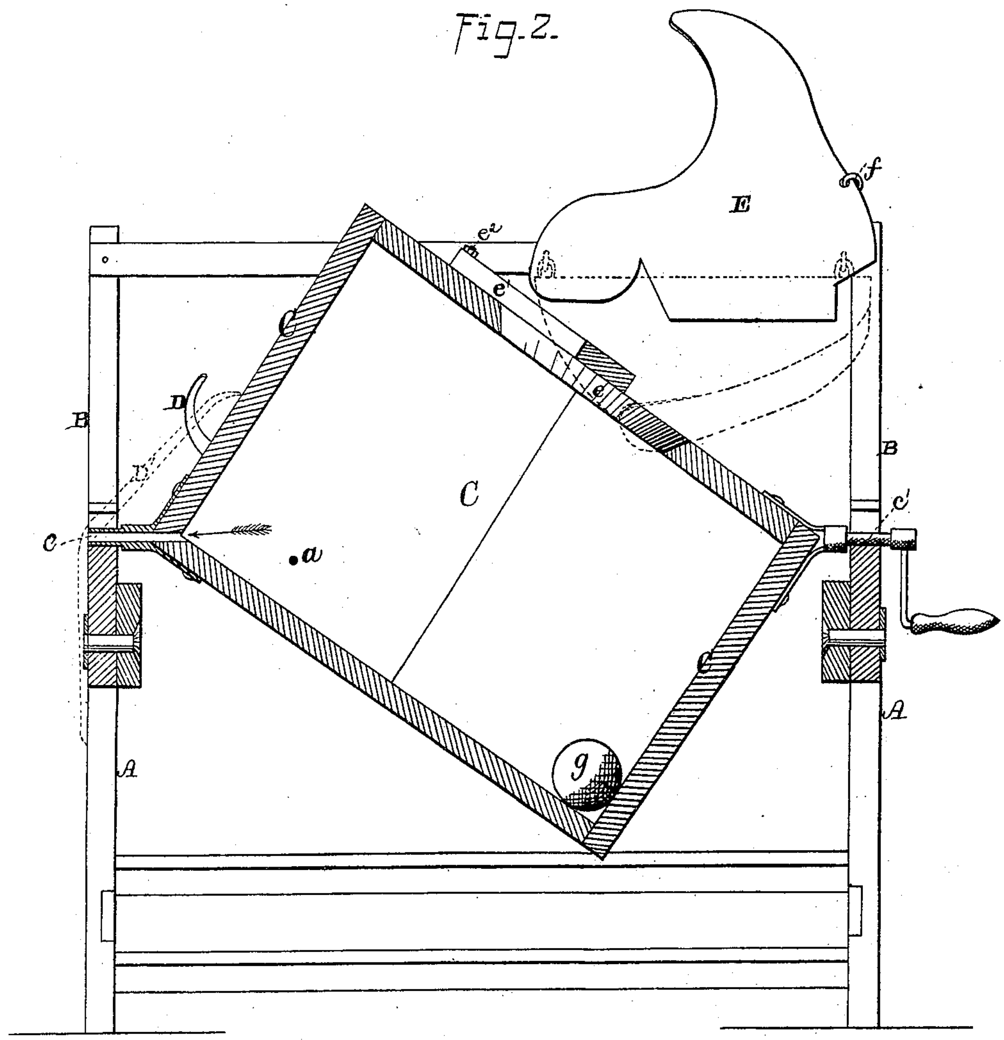
Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID A. COTTER, OF RUSSELL, AND NICHOLAS WARRELL, OF AGENCY CITY, IOWA.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. **205,681**, dated July 2, 1878; application filed September 15, 1877.

To all whom it may concern:

Be it known that we, DAVID A. COTTER, of Russell, Lucas county, and NICHOLAS WARRELL, of Agency City, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Washing-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, 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, and to letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1, Sheet 1, is a perspective view of our improved washing-machine, and Fig. 2, Sheet 2, is a vertical section of the same.

Corresponding parts in the two figures are denoted by like letters.

This invention relates to certain improvements in washing-machines of that class in which the articles are washed by imparting to their containing receptacle or vessel a rapid rotary motion; and it consists of a valve or lever secured upon a spring-support attached to the receptacle and struck or operated by an arm or projection fastened to the supporting-frame, and of means for conveying or returning the water wrung from the articles after washing to the tub or receptacle, substantially as hereinafter more fully set forth.

In the annexed drawing, A A refer to a frame the legs of which are spread apart toward their lower ends, or, in other words, put together in the shape of an **A**, to permit of the attachment thereto, in an upright position, of the legs of a second frame, B B. Upon the upper ends of the legs or standards of the frame A A is hung or journaled a receptacle, C, by means of short journals *c c'* secured thereto at any two of its corners touched by a plane or right line drawn diagonally through it, (the receptacle,) in order to permit of its easy rotation and to give it momentum.

To one of the journals of the receptacle C is attached a crank or other means for its rotation. The other journal may be made hollow or tubular, for the egress of steam or hot air.

D is a cam-shaped lever or valve, secured upon a bent or curved spring-support, *d*, fastened to one side of the receptacle C, one arm of said lever or valve extending down and covering an orifice, *a*, in said receptacle, and its other arm occupying an elevated position, by which, when it is struck by a projection or arm, D′, secured to the frame A, as the receptacle is rotated, its arm covering the steam or air orifice *a* will be elevated therefrom and permit of the escape of steam or hot air. The moment the valve or lever D is released from or passes the arm D′ it (the valve) will be forced back over the orifice *a* by its spring-support *d*, and thus cut off the further escape of steam, &c., until the receptacle has made a second revolution or the valve brought into contact with its operating-arm.

In one end or side of the receptacle C is an opening for the introduction and removal of the articles to be cleansed, whose cover *e* is provided with a bar, e^1, resting upon and reaching across said end of receptacle, and receiving rods e^2 e^3 of the latter, to which they are nutted to secure the said cover in place. Any other means may be adopted to secure the cover.

E is a dished or concaved plate or trough, hinged or pivoted to the upper cross-bar of the frame B B to permit of its being elevated or swung up out of the way when not in use, as shown, in which position it may be held by a hook and staple, *f f′*, or other means, attached respectively to the trough and frame. This trough, when lowered, has its free end resting in the opening of the receptacle C, to conduct or return the water wrung from the articles after washing to the said receptacle or tub.

To assist the washing of the articles, a ball or balls, *g*, of such material or substance to prevent their floating, may be inserted into the receptacle C.

We are aware that the combination, in a washing-machine, of a suds-box, a trough, and supporting-frame for carrying water from a wringer back into the suds-box, broadly, is not new.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In combination with the receptacle C, the valve D, its spring-support *d*, and operating

arm or projection D′, substantially as and for the purpose specified.

2. The receptacle C, having the journals *c c′* and valve D *d*, in combination with the supporting-frame A A, having the valve-operating arm or projection D′, substantially as and for the purpose set forth.

3. In a washing-machine, the receptacle C, in combination with a trough, E, constructed substantially as shown, hinged to the frame B B at one side of the center of the receptacle C, and means to hold the said trough in an elevated position when not in use without detaching it from said frame, substantially as shown and described.

In testimony that we claim the foregoing as our own we hereunto affix our signatures in presence of two witnesses.

DAVID A. COTTER.
NICHOLAS WARRELL.

Witnesses:
JAMES GRAYSON,
JOB CLEVENGER.