(No Model.)

W. M. DOTY.

WASHING MACHINE.

No. 282,615. Patented Aug. 7, 1883.

Fig. 1.

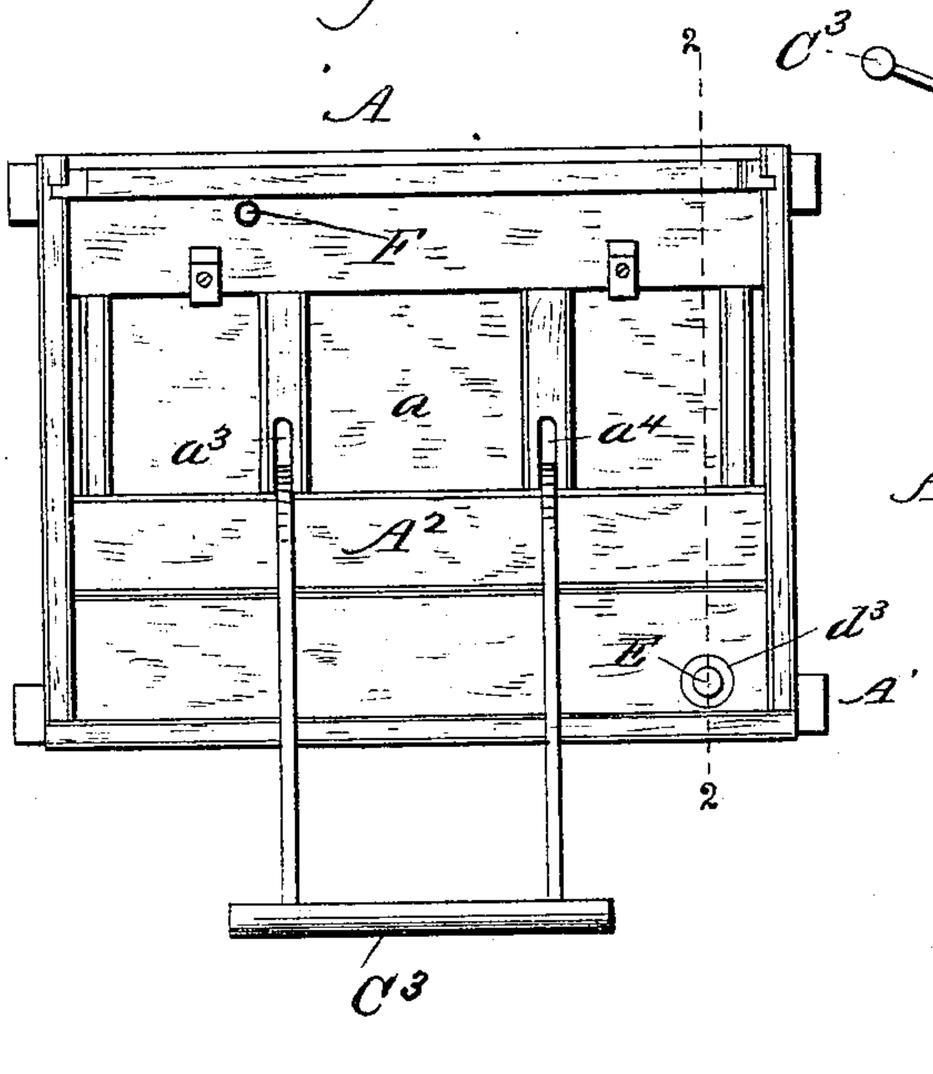


Fig. 2

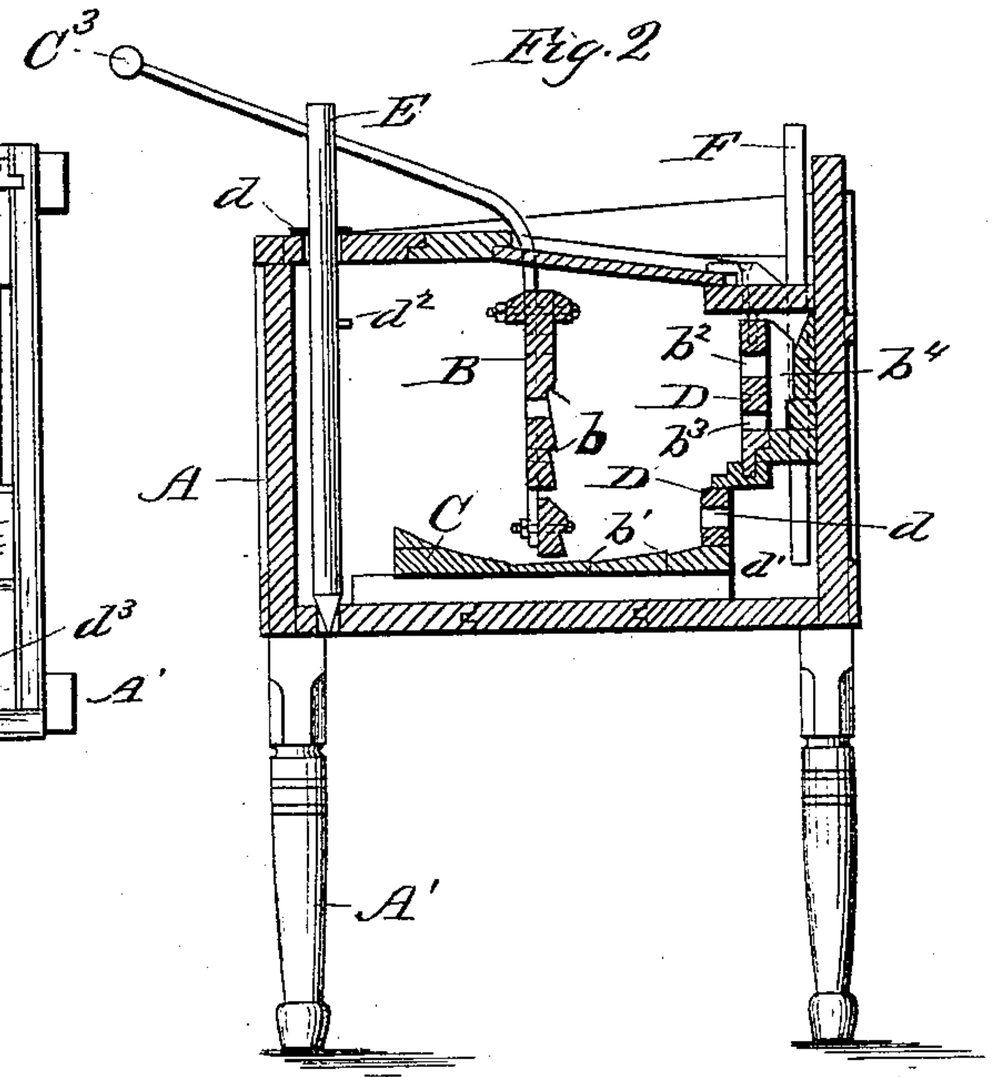


Fig. 3

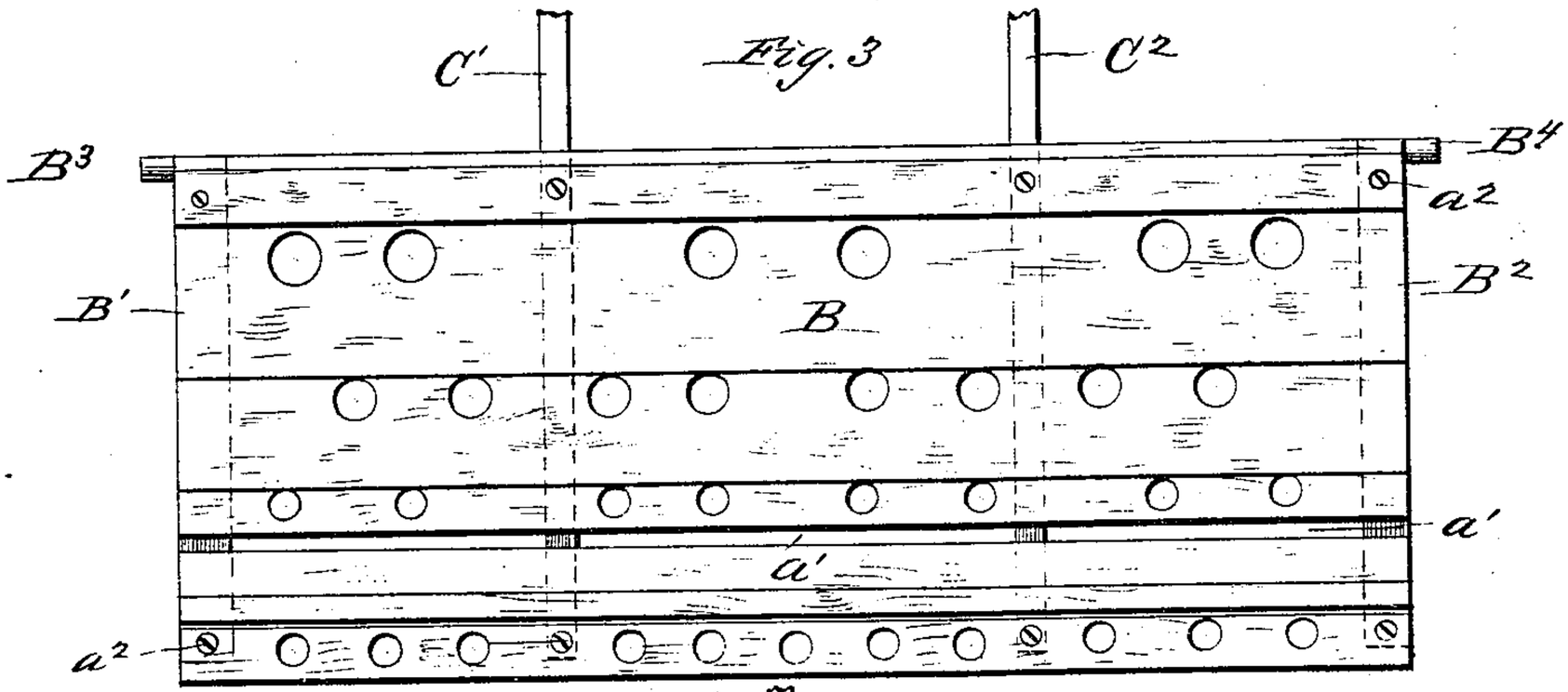
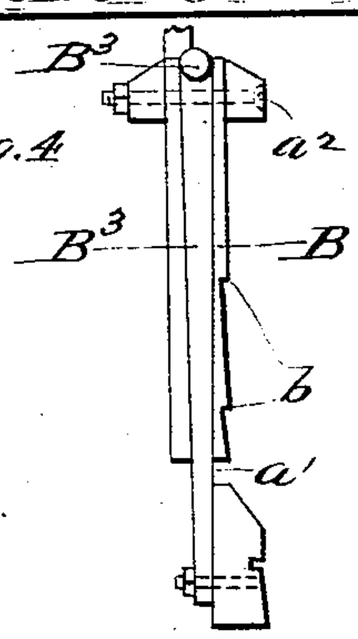


Fig. 4



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WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,615, dated August 7, 1883.

Application filed July 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. DOTY, of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Washing-Machines, of which the following is a description that will enable others to understand and make use of the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, forming a part of this specification.

This invention relates to improvements in that class of washing-machines in which the clothing and suds are kept in motion by means of a perforated dash-board oscillating in a suds-box; and it consists of certain novel features in the construction and operation of the same, as will be hereinafter more fully set forth in detail, and pointed out in the claims.

Figure 1 is a top view of a device embodying my improvements. Fig. 2 is a vertical transverse section in the plane 2 2, Fig. 1. Fig. 3 is a side elevation of the perforated dash-board removed from the suds-box, and Fig. 4 is an end view of the same.

Referring to the drawings, A represents the suds box or receptacle of the machine, constructed of suitable material, and in any desired form, rectangular being preferable.

A′ represents the legs supporting the suds-box, and A^2 the top or cover thereto, which is in several parts, the part *a* being ordinarily removed for the passage of the clothing and for the removal of the dash-board.

The dash-board B is of a rectangular form, and is constructed in two parts, separated so as to leave the longitudinal passage *a′*. The two parts composing the dash-board are secured in relation to each other by means of the end cleats, B′ B^2, having the bearing-pins B^3 B^4 formed integral therewith. The bolts a^2, or other fastening devices for securing the cleats B′ B^2 to the dash-board, are inserted in each corner, near the upper and lower edge, as shown in Fig. 3 of the drawings. This arrangement is to allow the two parts forming the dash-board to contract or expand on the inner edges at *a′*, and not widen or narrow the body as a whole, and thereby maintain at all times the same relative distance between the lower edge of the dash-board and the false bottom C. This guards against the possibility of the dash-board shrinking away from the bottom, so as to allow small articles of clothing to get underneath and disarrange and destroy the efficiency of the mechanism, or expanding and coming in contact with the false bottom and causing the same objectionable result. The dash-board is provided with bearing-boxes in each end of the suds-box, is made removable, and may be readily taken out at any time for repairs or other purposes without disengaging any other part of the mechanism.

The lower ends of the curved operating-levers C′ C^2 are rigidly secured to the upper and lower edges of the dash-board, and from thence extend upward through the elongated apertures a^3 a^4, and project beyond the front side of the suds-box, and are connected by means of the handle C^3, by means of which an oscillating motion is imparted to the dash-board. The dash-board is provided with numerous perforations for the circulation of the suds, and the surface next the clothing is cut or grooved out to form the sharp projecting edges *b*, which prevent the clothing from sliding up the dash-board as the same is being moved to agitate the washing. The false bottom C is cut away in a similar manner, leaving sharp edges *b′*, which prevent the mass of clothing from sliding back, but allow the same to turn or roll over as the dash-board is rocked back and forth. The false bottom C rests upon three cleats placed transversely on the bottom proper of the suds-box—one at each end and one in the middle—leaving spaces between these cleats for the free circulation of the suds underneath the false bottom.

The upper partition, D, is provided with a line of perforations, b^2, near the top, and with another row, b^3, near the bottom. The compartment b^4, back of this partition, is filled with suds as the mass of clothing is forced upward, and as the dash-board recedes on the return-stroke the water from the compartment b^4 rushes out through the lower perforations, b^3, and permeates the mass of clothing, the suds rushing through the perforated dash-board at the same time and striking the clothing on the opposite side. This partition is made removable, so that the capacity of the suds-box may be increased when washing unusually large articles. The lower end is provided with a tongue which rests in a groove in the imperforate partition D^2. This partition forms the

bottom of compartment b^4, and its outer end rests upon a lower partition, D′, which rests upon the top of false bottom C. The lower partition, D′, is also provided with a longitudinal row of perforations, *d*, which communicate with the compartment *d′*, the suds circulating through here from underneath the false bottom and striking the mass of clothing from another point. The heaviest dirt and sediment removed from the clothing remains underneath the false bottom. By this arrangement the position of the mass of clothing is constantly being changed and turned over and the suds forced through the same and the dirt driven out. By raising the plug E the suds escape through an aperture in the suds-box, the lower end of the plug being conical, so as to be easily withdrawn. The stop d^2 prevents the same from being raised too high, leaving the extreme point of the plug in the opening, so that the plug will always close the aperture when forced down. A flexible band, d^3, encircles the outward-projecting end of this plug. This band is secured to the exterior top of the suds-box, and has a close frictional contact with the plug, holds the same at any point to which it may be raised, and prevents the escape of water and steam from the suds-box around the upper end of the plug.

The pipe or tube F, inserted so as to discharge into the compartment *d′*, is for the purpose of injecting steam into the suds-box at this point, the partition preventing the live steam from having contact with and injuring the clothing, and also preventing the clothing from coming in contact with or in any manner clogging the pipe.

I am aware that vertical perforated partitions have been placed at the end of a suds-chamber, for the suds to pass through when the clothes are forced against it by the dash-board, but am not aware that a compartment has been formed above the bottom of the chamber, to hold suds which fall upon the top of the clothes when the dash-board is withdrawn from the vertical partition.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a washing-machine, the combination of a compartment placed at one end and above the bottom of the chamber, and having its inner wall, D, perforated, a sub-compartment having an inner perforated wall, D′, and communicating with the space below the false bottom, said false bottom, and a dash-board suspended in said chamber, for the purpose set forth.

2. The combination, with the suds-box A, of the plug E, provided with the stop-pin d^2 and the flexible packing-ring d^3, substantially as described.

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