(No Model.) 3 Sheets—Sheet 1.

W. M. DOTY.

WASHING MACHINE.

No. 461,147. Patented Oct. 13, 1891.

Fig. 1.

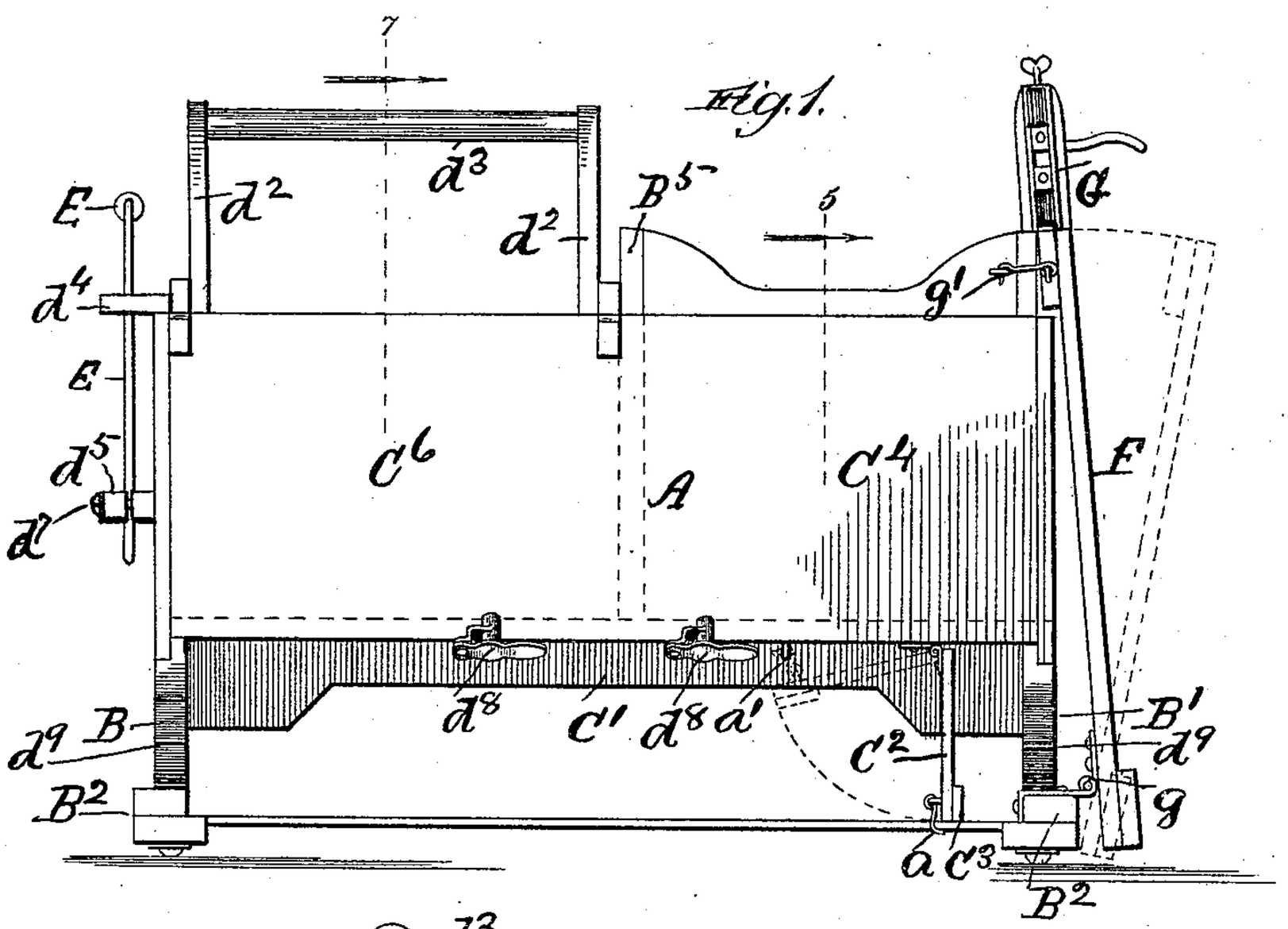


Fig. 2.

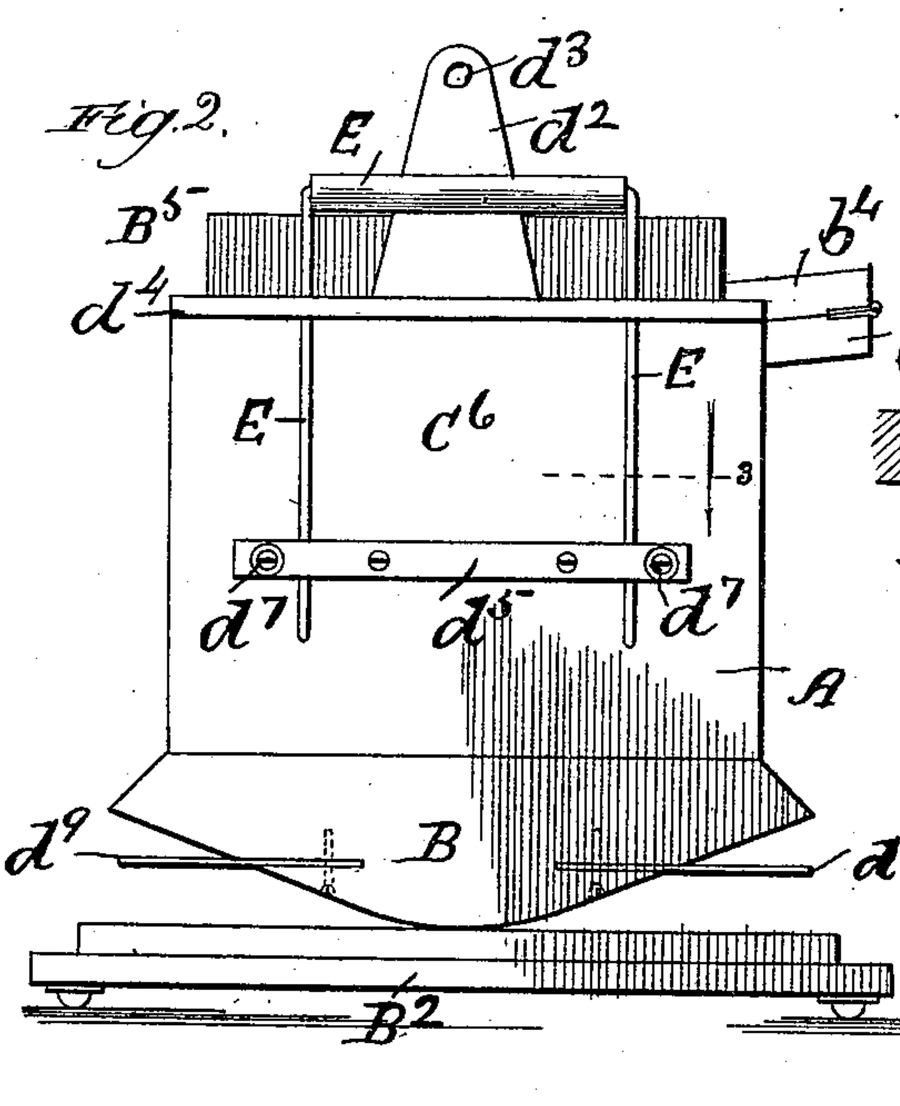
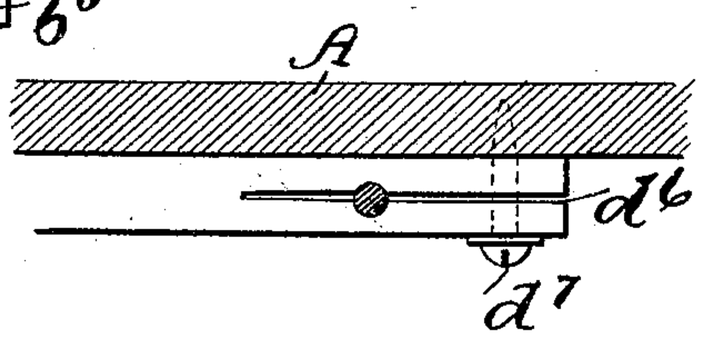


Fig. 3.



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(No Model.) 3 Sheets—Sheet 2.

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Fig. 4.

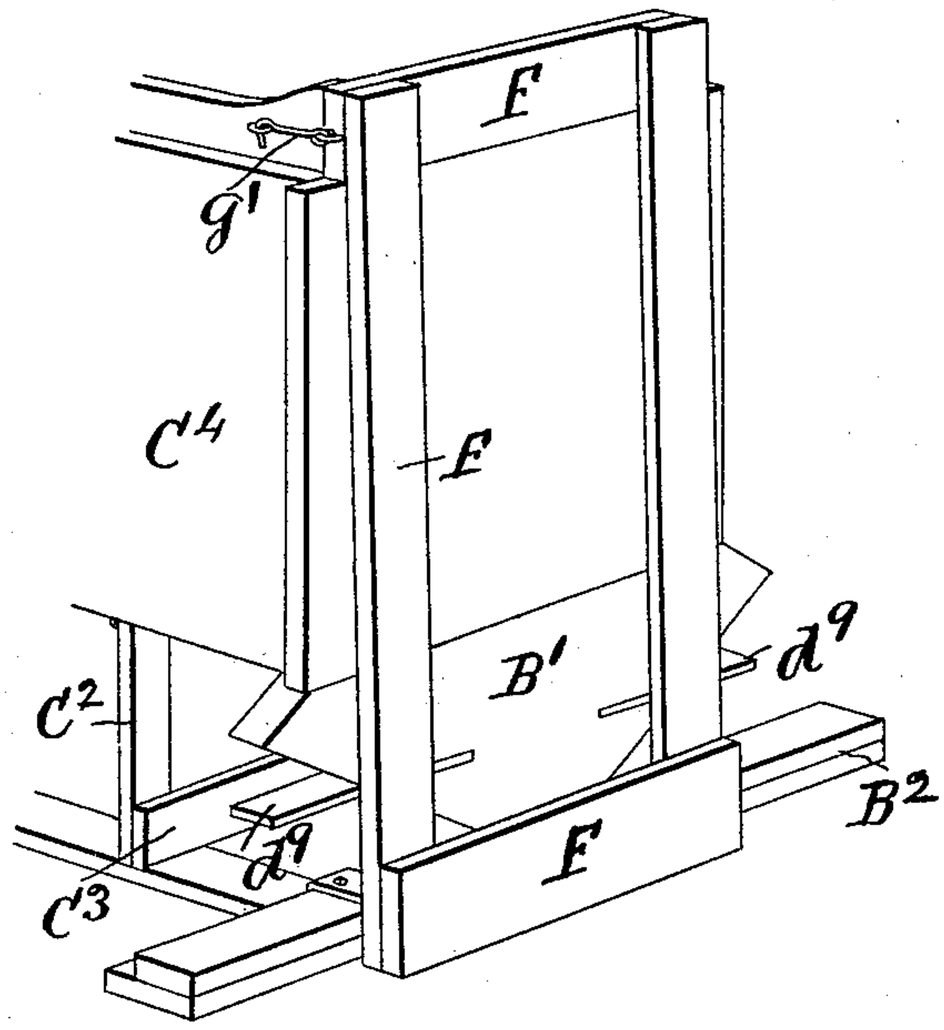


Fig. 5.

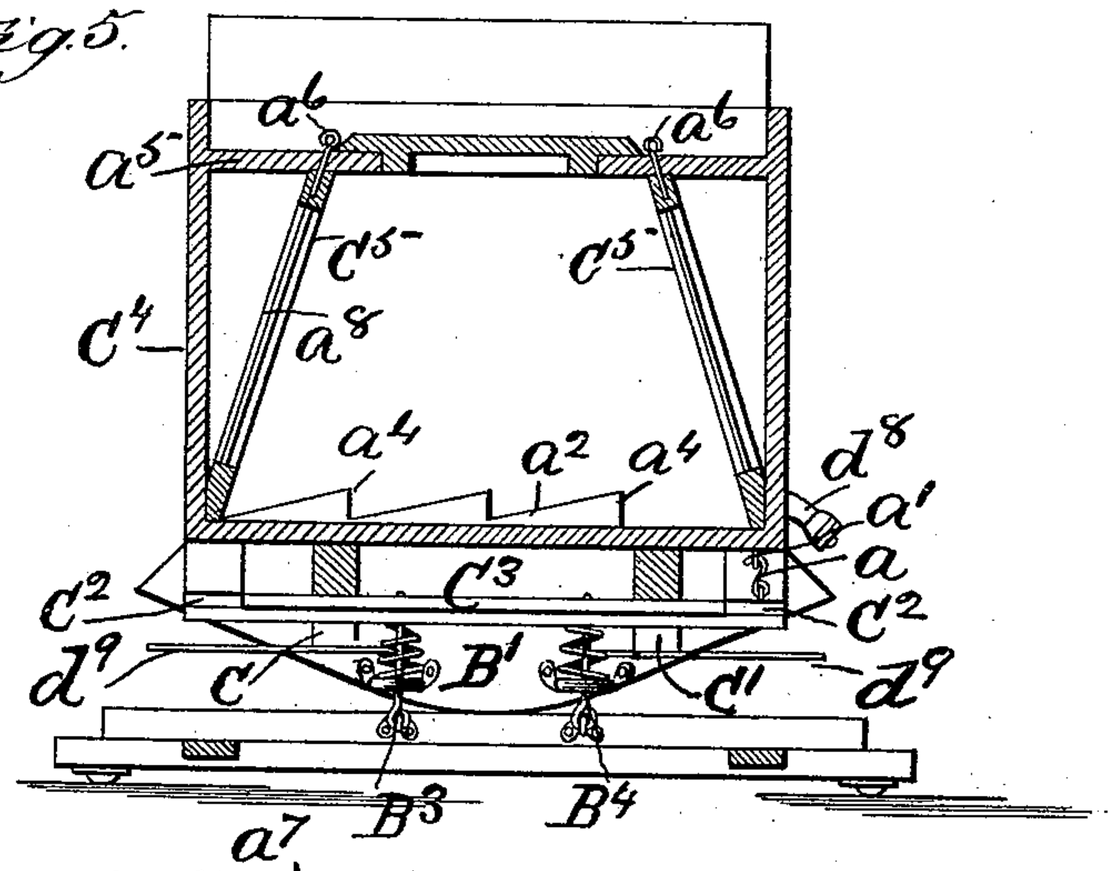
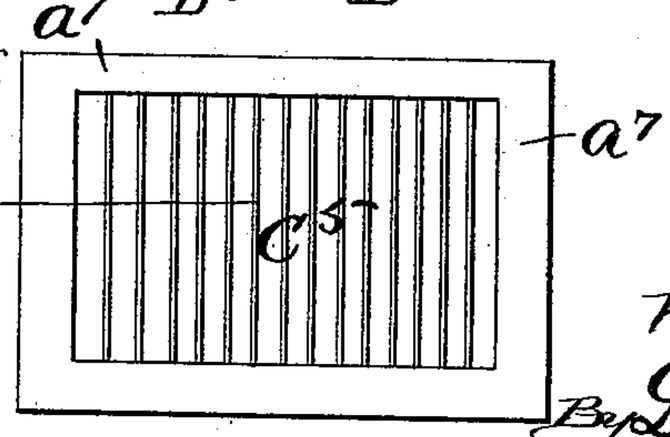


Fig. 6.



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(No Model.) 3 Sheets—Sheet 3.

W. M. DOTY.

WASHING MACHINE.

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Fig. 7.

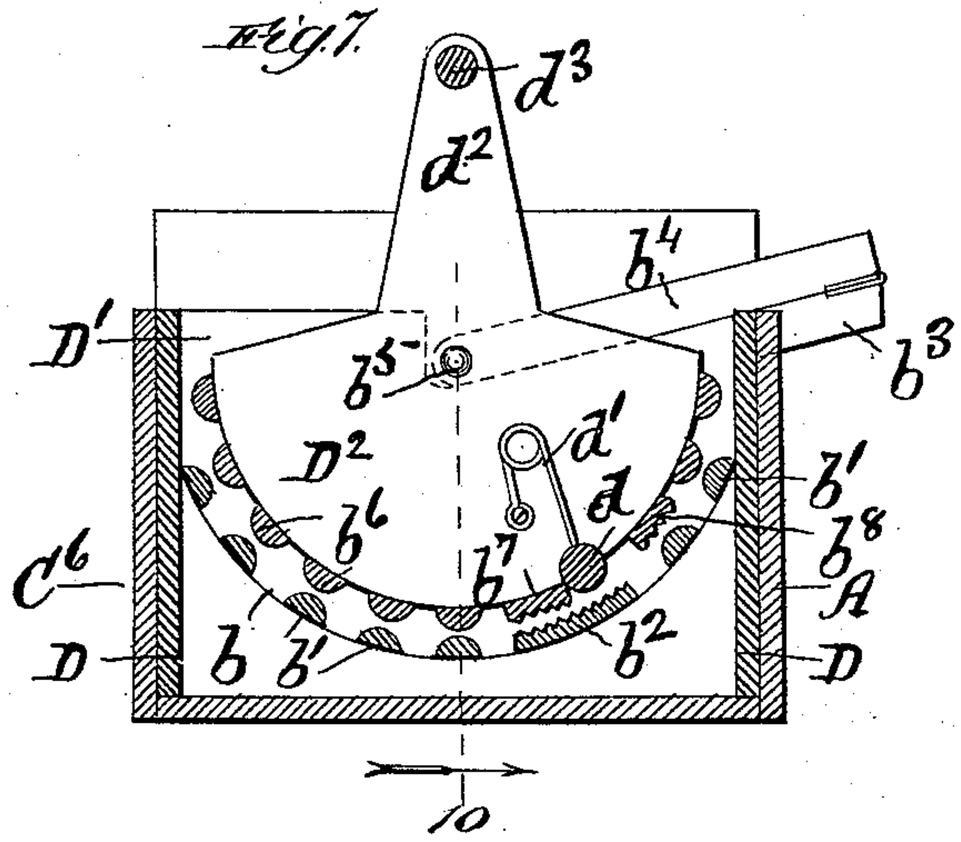


Fig. 8.

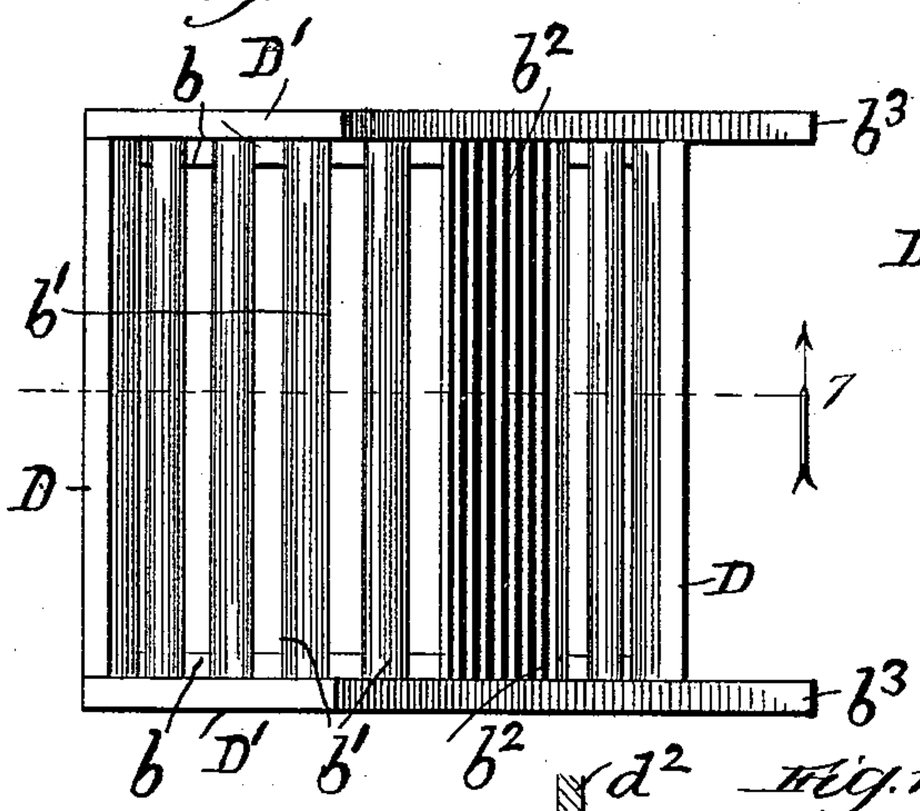


Fig. 9.

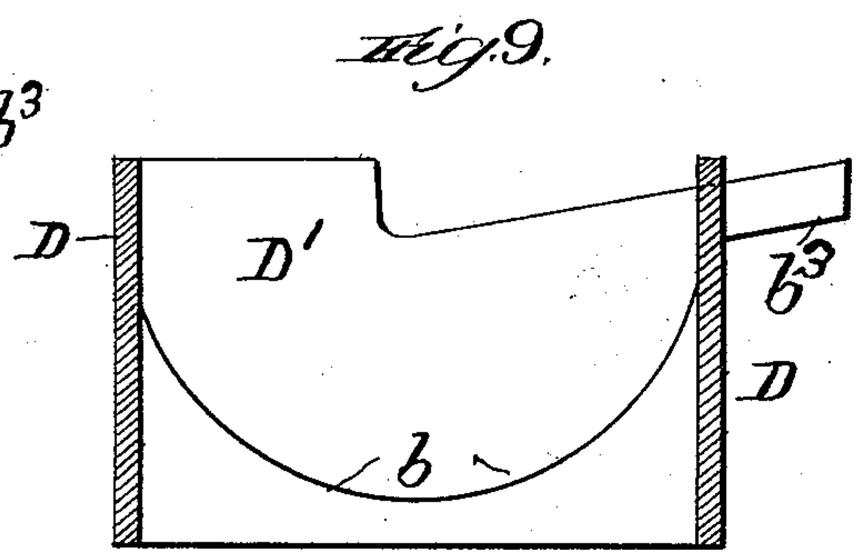
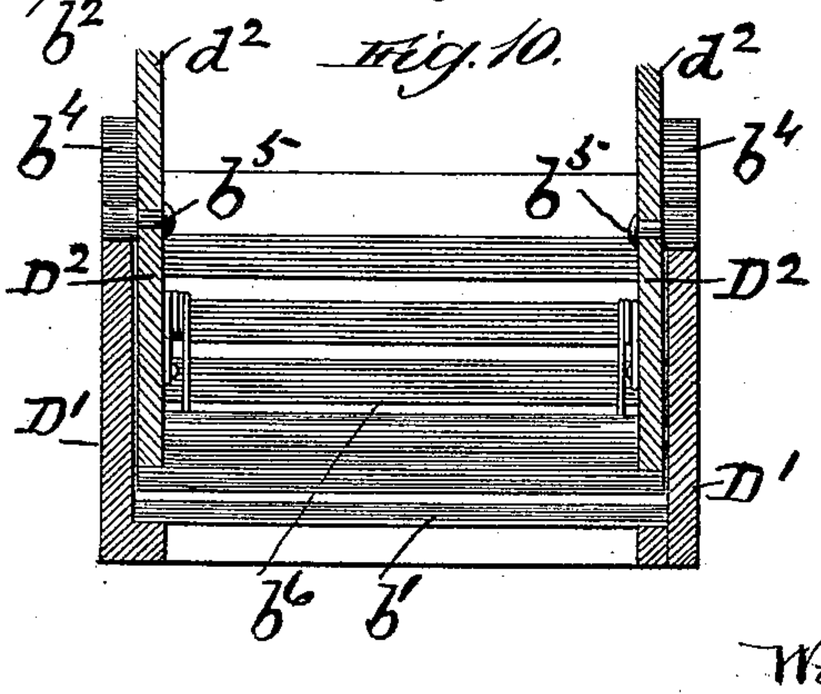


Fig. 10.



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UNITED STATES PATENT OFFICE.

WILLIAM M. DOTY, OF CHICAGO, ILLINOIS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 461,147, dated October 13, 1891.

Application filed March 7, 1890. Serial No. 343,058. (No model.)

To all whom it may concern:

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

This invention relates to improvements in washing-machines; and the same consists of certain novel features in the construction, combination, and arrangement of the different features, as will be hereinafter set forth.

Figure 1 is a side elevation of a machine embodying my improved features; Fig. 2, an end elevation; Fig. 3, a sectional detail in plane 3, Fig. 2; Fig. 4, a view in perspective of one end of the machine, showing the wringer-supporting bracket-frame; Fig. 5, a vertical transverse section in plane 5, Fig. 1; Fig. 6, an elevation of one of the removable rack-boards; Fig. 7, a vertical transverse section in plane 7, Fig. 1, looking in the direction indicated by the arrow; Fig. 8, a plan of the lower part of the rubbing mechanism; Fig. 9, a vertical transverse section of the box-compartment in which the rubbing mechanism is placed looking at the inner side thereof; and Fig. 10, a vertical longitudinal section in plane 10, Fig. 7.

Referring to the drawings, A represents the suds-box; B B′, rockers secured to the under side and respective ends thereof; B^2 B^2, the base-bars or platform on which the rockers rest, being retained in proper relative position thereto by means of the conical spiral springs B^3 B^4, thus providing for a rocking movement of the suds-box. The structure is strengthened by the two longitudinal framing-bars C C′, connecting the rockers.

The suds-box may be locked against a rocking motion by the two vertical bars C^2 located near one end and at the respective sides of the box, as shown in Figs. 1, 4, and 5. The lower ends of these bars are connected by the horizontal cross-bar C^3 and rest on a part of the base-frame when in a locking position, (see Figs. 1 and 4,) and are secured and held up out of the way when it is desired to rock the machine by means of the hook *a* secured to the locking-bars, and the eyebolt or staple *a′* inserted in the suds-box, as shown in Fig. 5. The dotted lines in Fig. 1 show the movement and other position of the locking-frame consisting of the bars C^2 and the connecting cross-bar C^3.

The suds-box may be of any suitable dimensions, and in this case is divided into two compartments by the partition B^5, Fig. 1. The dividing of the suds-box into two separate compartments provides for the separation of the different articles to be washed—that is, the wearing-apparel from the table-linen, white goods from colored, woolen from cotton, and so on. The construction also provides for the separation of the articles of clothing requiring more rubbing than others.

The one half of the suds-box C^4 is provided on the interior bottom with a number of transverse horizontal cleats a^2, (see Fig. 5,) the upper edges of which are cut away to form the corners a^4. The rectangular rack-frames C^5 C^5 (see Figs. 5 and 6) form a part of the interior construction with the horizontal cleats a^2 and extend upwardly and inwardly from the respective sides and bottom at about the inclined angle shown and are removably secured to the top a^5 of the end C^4 by the pins a^6 a^6. The rack-frames consist of the rectangular frame a^7 and the transverse rods a^8. These racks being set at an inclined angle prevent the clothing from having contact with the inclosing sides and the open work provides for a free circulation of the water on each side, and the notched horizontal cleats have the effect of turning the mass of clothing over and over during the process of washing. The compartment or end C^4 is more especially intended for articles that are not much soiled and require but little washing. The object of having the rack-frames removable is to enlarge the capacity of the suds-box when washing large single articles, such as bedclothing. The opposite end or half-part C^6 of the suds-box incloses the rubbing mechanism for clothing that is much soiled, and is so constructed that it may be lifted entirely out of the suds-box, thus converting the same into a single compartment for rinsing and other purposes.

The box for the rubbing mechanism con-

sists of the two sides D D and the ends D′ D′, but has no bottom, and fits closely to the inclosing walls of the suds-box, as shown in Fig. 7. The ends D′ of the box carrying the rubbing mechanism are cut away to form the curved shoulder b, (see Figs. 7 and 9,) for the purpose of supporting the respective ends of the lower stationary half-round rubbing-bars b' and the wide corrugated bar b^2, arranged in the same plane with the series of bars b'. The respective ends D′ of the rubbing-box are provided with the extension b^3, to which is hinged the outer ends of the arms b^4. The inner ends of these arms are pivoted to the semicircular plates D² D² (see Fig. 10) by the bolts b^5 b^5. To the under curved sides of these plates are rigidly secured the respective ends of the half-round rubbing-bars b^6, corresponding to the companion bars b'. The ends of the two flat corrugated bars b^7 b^8 are arranged to have a rubbing-action with reference to the under corrugated bar b^2 for the especial purpose of rubbing the parts of a garment that are very much soiled. The clamping-roll d is supported at each end by being attached to the lower end of the spring or springs d', the opposite ends of said springs being attached to the plates D² D², as shown in Figs. 7 and 10. The purpose of this clamping-roll is to hold any particular part of an article in place with reference to the corrugated surfaces until thoroughly cleansed. The semicircular plates D² D² are provided with the vertical extensions d^2, in which the respective ends of the handle d^3 are inserted. By means of this handle the required reciprocating motion is imparted to the upper half of the machine. By means of the hinged arms b^4 the upper half of the rubbing-surface has a vertical adjustment with reference to the thickness of the clothing underneath. The hinged arms also prevent the upper half of the rubbing-surface from tipping or tilting out of a horizontal plane, no matter whether the mass of clothing is equally distributed between the rubbing-surfaces or not.

The operating-handle E for rocking the machine as a whole is adjustably secured in the overhanging end d^4 of the suds-box and the adjusting-cleat d^5 secured to the end of the box. The cleat d^5 is provided at each end with the slit d^6, (see Fig. 3,) forming split ends, which are clamped together by the screws d^7. By slacking back on these screws the handle E may be raised or lowered to bring the same to the desired height and then locked in place by the clamping-screws d^7.

d^8 d^8 are faucets for conveniently drawing off the suds.

One end of the elastic or spring strips d^9, of wood or metal, is secured in the under part of the rockers, the opposite ends projecting in the plane of the rockers. The object of these strips is to assist in rocking the machine, as the projecting ends will strike the rocker-platform and greatly ease and facilitate the movement of the same without a jar. The rectangular frame F is located at one end of the machine, (see Figs. 1 and 4,) the lower end being connected to the base by the hinges g and the upper end fastened to the suds-box by the hooks g'. The purpose of this frame is to hold the wringer G, as shown in Fig. 1.

When the wringer is not to be used, it can be dropped back to the position indicated by dotted lines.

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, with a rocking suds-box and the supporting base-frame, of a locking-frame hinged to the under side of the suds-box and provided with a hook for retaining said locking-frame in either of the positions to which it may be adjusted, substantially as and for the purpose set forth.

2. In a washing-machine, the combination of the suds-box, a number of notched horizontal cleats extending across the interior bottom thereof, and the removable inclined rack-frames, substantially as described.

3. In a washing-machine, the combination of the suds-box provided with the overhanging end d^4, the cleat d^5, provided with slits in each end, the adjusting-screws d^7, and the operating-handles, substantially as and for the purpose set forth.

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