

(No Model.)

J. S. BLOOD.  
WASHING MACHINE.

No. 516,428.

Patented Mar. 13, 1894.

Fig. 1

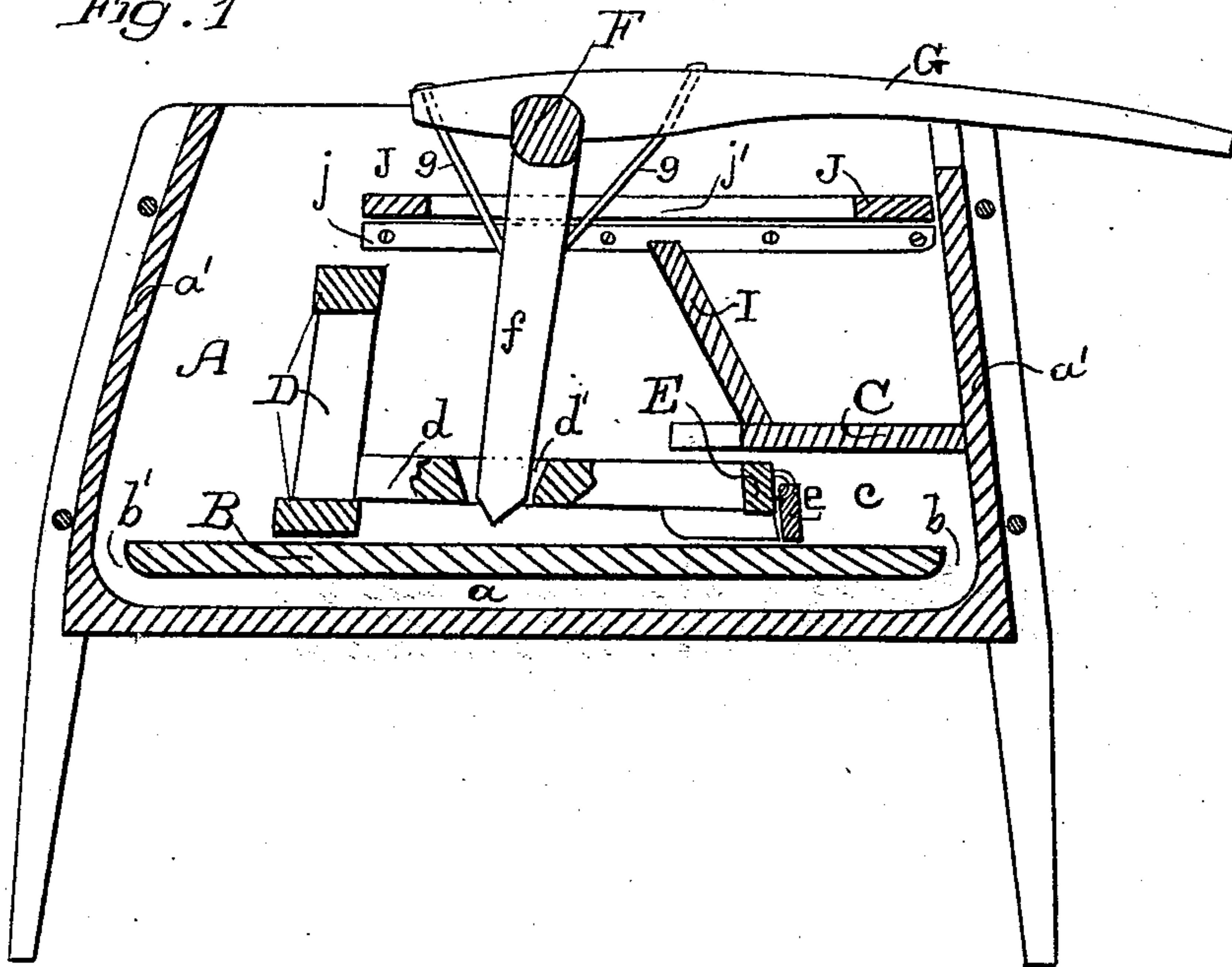


Fig. 2

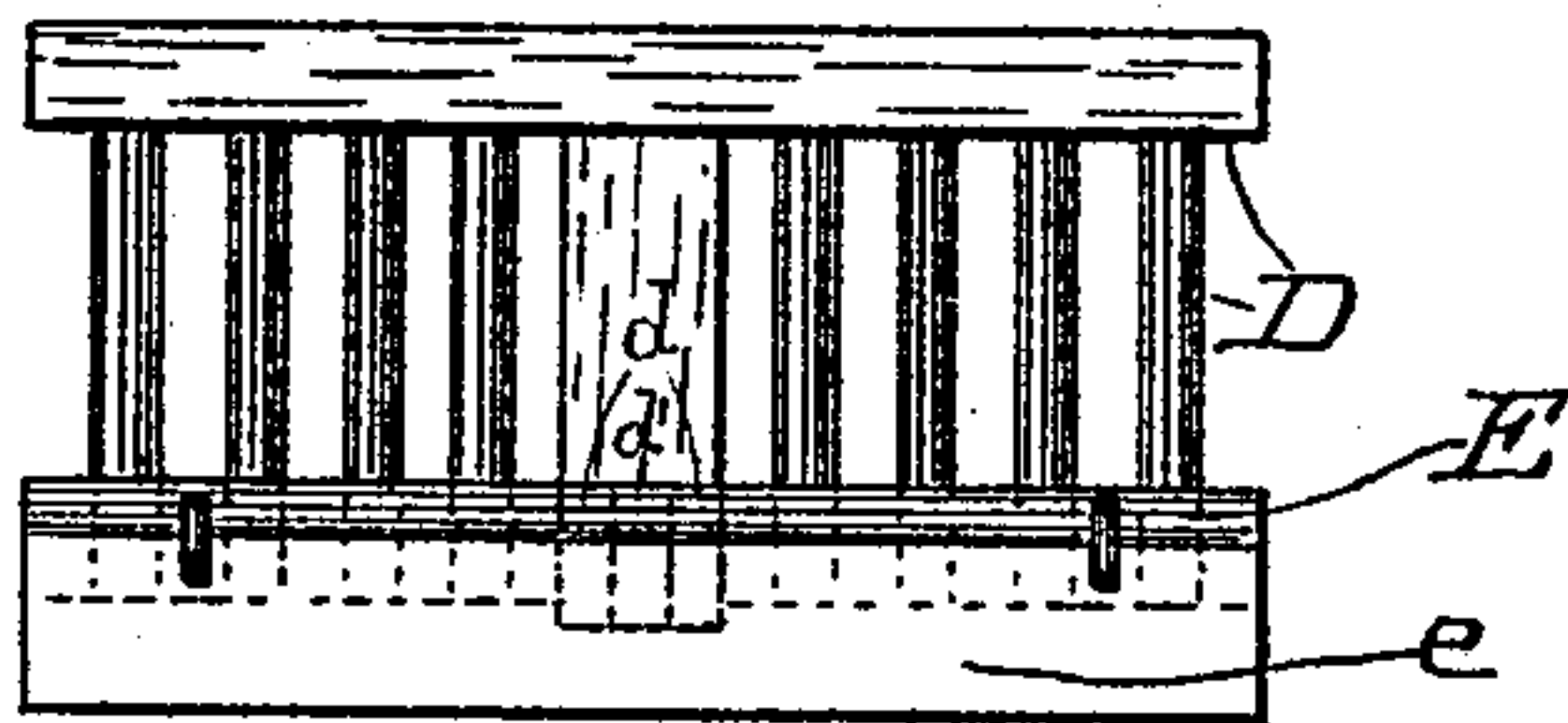
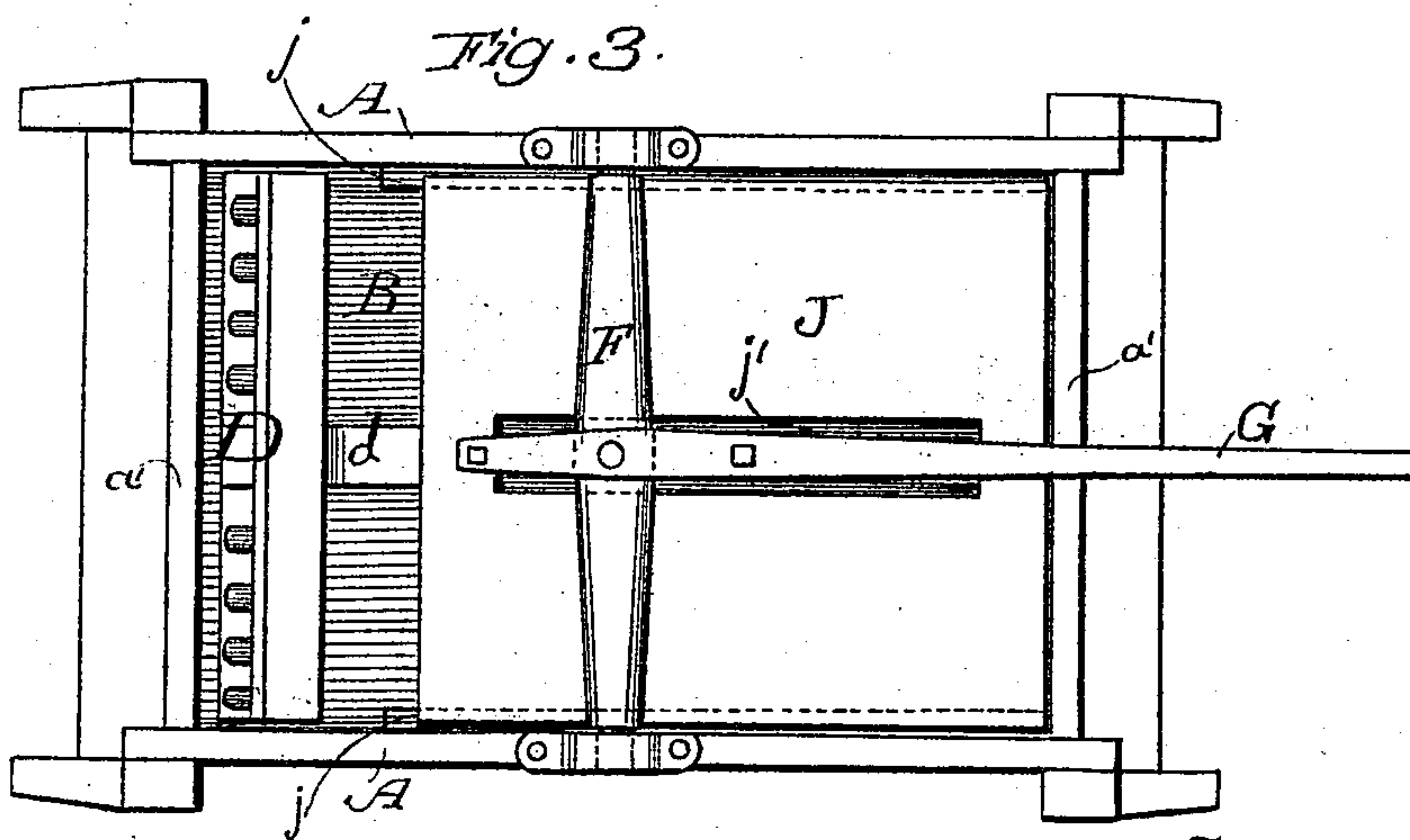


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JOEL SEVERANCE BLOOD, OF HOUGHTON, WASHINGTON.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,428, dated March 13, 1894.

Application filed June 13, 1893. Serial No. 477,470. (No model.)

*To all whom it may concern:*

Be it known that I, JOEL SEVERANCE BLOOD, a citizen of the United States, residing at Houghton, King county, State of Washington, have invented an Improvement in Washing-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of washing machines, in which a connected plunger and presser are caused to reciprocate within a casing which is provided with a passage at its bottom having an inlet at one end and an outlet at the other end, through which said passage the water is caused to circulate by the action of the plunger.

My invention consists in certain improvements upon that washing machine which was patented to me December 15, 1891, No. 465,152, and to which reference is hereby made.

The objects of the improvements, which I shall hereinafter describe, will appear in connection with their description.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a vertical longitudinal section of my washing machine. Fig. 2 is an end view of the connected plunger and presser, looking at it from the plunger end. Fig. 3 is a plan.

A is the casing of my washing machine. Within it is a false bottom B so situated as to leave a passage *a* under it extending the whole length of the casing. At one end, this passage communicates with the main body of the casing through an opening *b*, and at the other end through another opening *b'*, the former being the inlet and the latter the outlet, the latter opening having an upward and backward curve to direct the water upwardly against the clothes. Within the casing at the end where the inlet opening *b* is situated is a horizontal plate C which forms, with the bottom B and the sides of the casing, a plunger chamber *c*. D is the presser consisting of a suitable open frame-work. From the back of this presser extends a stem or bar *d* longitudinally slotted as shown at *d'* and having attached to its rear end the plunger E which works in the chamber *c*. F is a rock-shaft mounted in suitable bearings upon the top of

the casing, and having a handle G and a downwardly extended crank arm *f* which plays freely through the slot *d'* in the stem or bar *d*. These parts, as will be seen, are substantially those described in my patent heretofore referred to.

My first improvement in the present case lies in making the ends *a'* of the casing A with an upward and inward slant, said ends lying in upwardly converging planes. This provides for a better circulation of the water, but its principal advantage lies in the fact of being able to dispense with an upwardly inclined separate piece within that end of the casing, at which the outlet *b'* is located.

By referring to my former patent, it will be seen that I showed an abutment plate H of tapered form having its inner wall inclined upwardly and inwardly so as to overhang. This plate caused the clothes which were pressed against its inclined wall to drop away from it when the presser was moved away, thereby preventing them from sticking to the plate. In my present improvement, the end wall *a'* of the casing being upwardly and inwardly inclined, overhangs in the same manner as the abutment plate H, and accomplishes the same result, enabling me to dispense with the separate piece H. At the same time, by having the slanting ends of the casing, a stronger construction is provided.

My next improvement lies in the insertion of a wall plate I extending upwardly from the forward end of the horizontal plate C. This plate I, in conjunction with the plate C and the sides of the casing, forms a box over the back end of the machine, which provides a place for soaking the clothing most soiled, while the others are being washed.

The next improvement lies in providing the lower end of the plunger E with a long valve *e* extending along its lower edge. This valve avoids back pressure, and makes the clothes lift much easier as there is no back suction. It also renders the work of operating the machine easier.

The next improvement is in the provision of the sliding cover J. This is mounted upon suitable side cleats *j* on the inner surfaces of the sides of the casing. It is shorter than the top of the casing, so that it can be moved to



one end to expose the forward end of the machine, in which the presser operates, or to cover said end, in which latter position it exposes the soaking box. This movement of the sliding cover is permitted by an elongated slot *j'* in it which plays over the crank arm *f* of the rock shaft *F*. The object of this cover is to inclose the machine while in operation, and to retain its heat for a longer time.

The cover *J* when in the position shown in Fig. 1, may be used as a shelf upon which the washed clothes may be placed and to permit them to drain when removed from the main casing, and when the cover is moved in the opposite direction it will uncover the auxiliary wash tub or soaking box and permit the insertion or removal of clothes therefrom. Moreover, when the cover is in this latter position it serves as a shelf on which the unwashed or soaked clothes may be temporarily placed prior to their introduction into the auxiliary tub or after their removal therefrom.

The handle *G* is secured to the rock shaft and its crank arm by a brace rod *g*, one on

each side, this double bracing adding to the strength of the handle.

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

The combination with the main box or tub having an auxiliary wash tub or box in one end, ways or guides extending across both of said compartments or tubs and the rubber or pounder in the main tub and provided with an operating lever, of a longitudinally slotted cover sliding in said ways or guides to close the auxiliary tub or receptacle when slid in one direction, and of a length when moved in an opposite direction to close the space between the auxiliary tub or box and the adjacent wall of the main tub; the operating lever extending through said cover slot, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOEL SEVERANCE BLOOD.

Witnesses:

W. R. BELL,

W. J. BLACKWELL.