

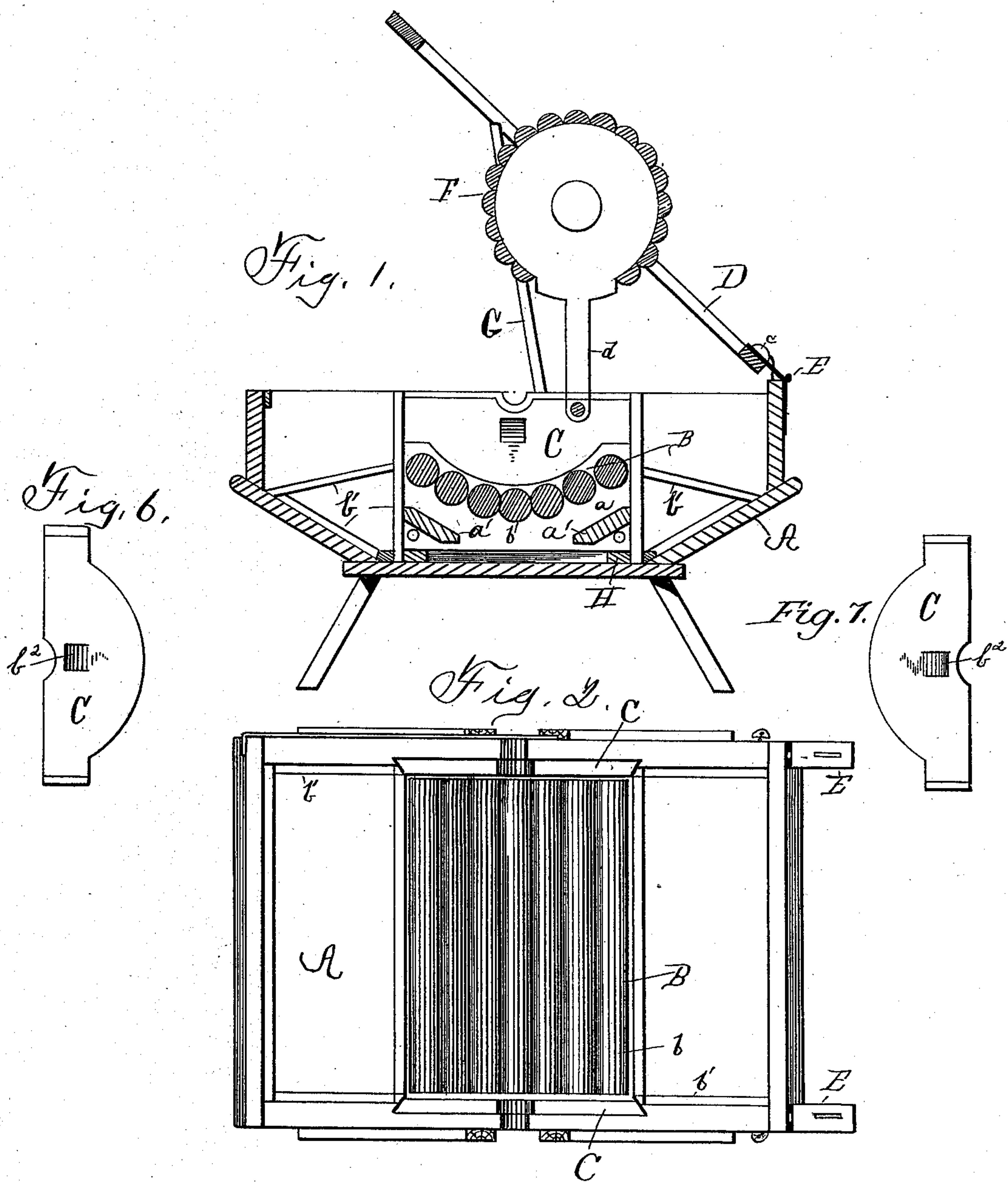
(Model.)

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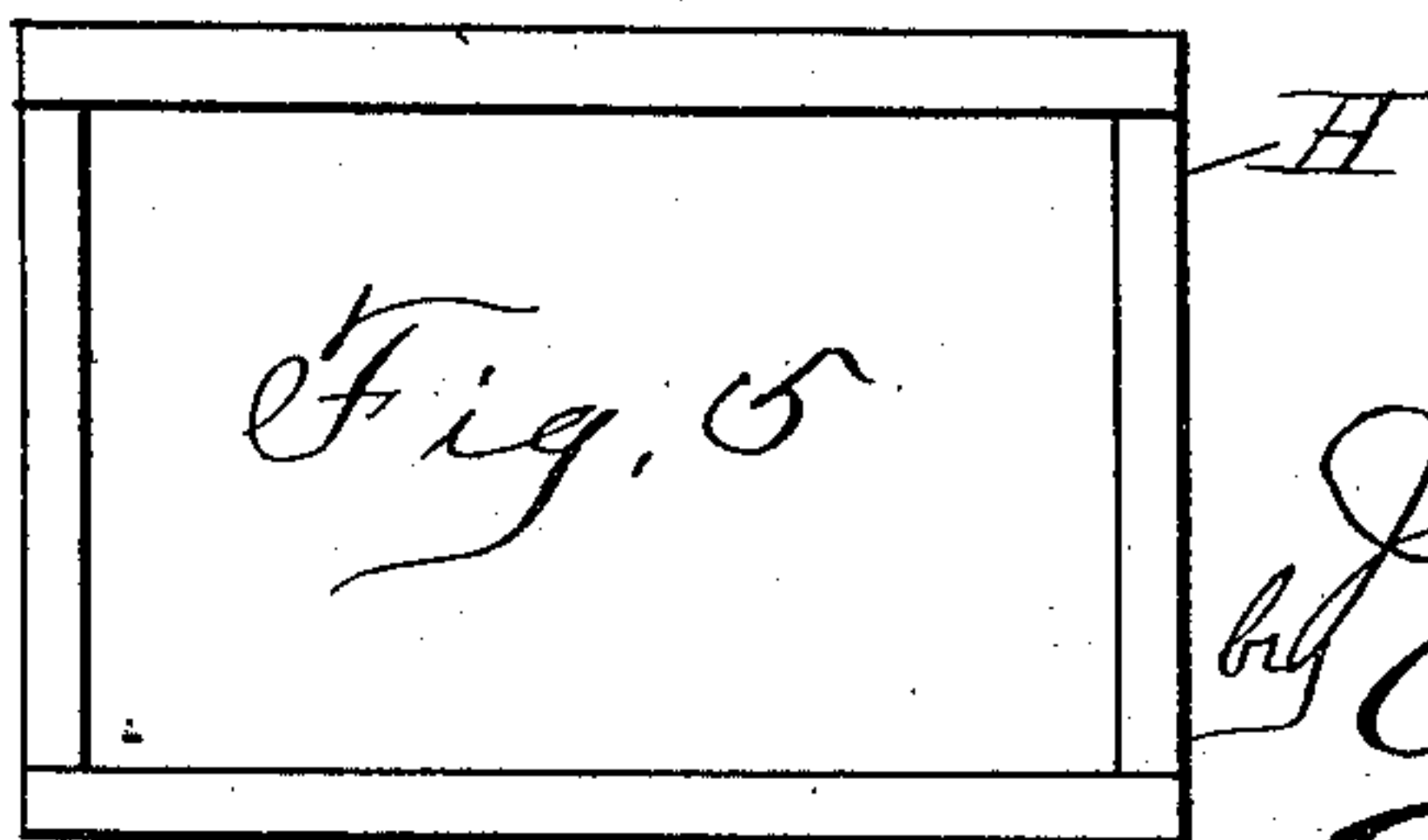
J. STINE.
WASHING MACHINE.

No. 402,041.

Patented Apr. 23, 1889.



WITNESSES,
E. C. Duffy
H. E. Peck



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Attorney.

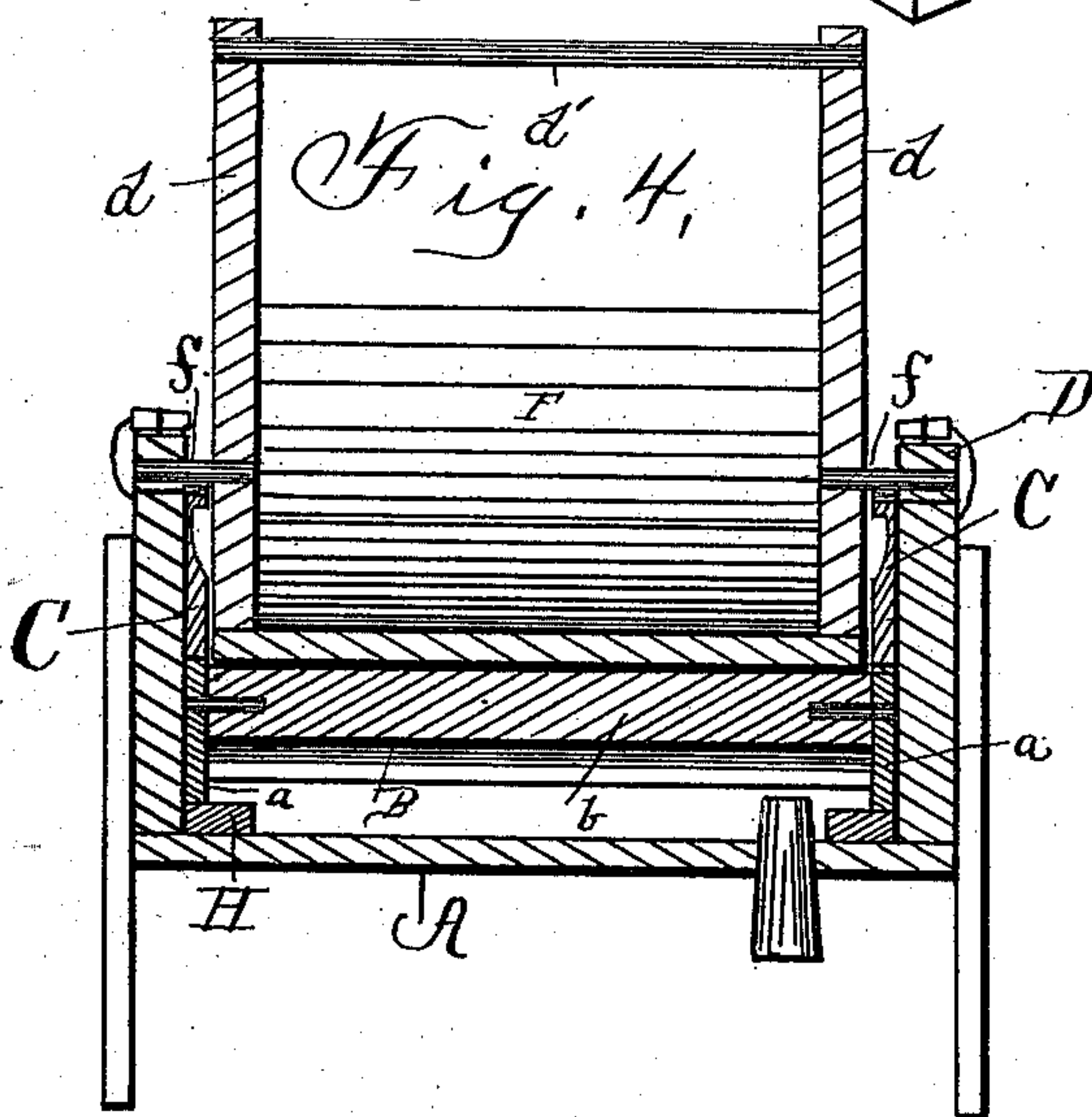
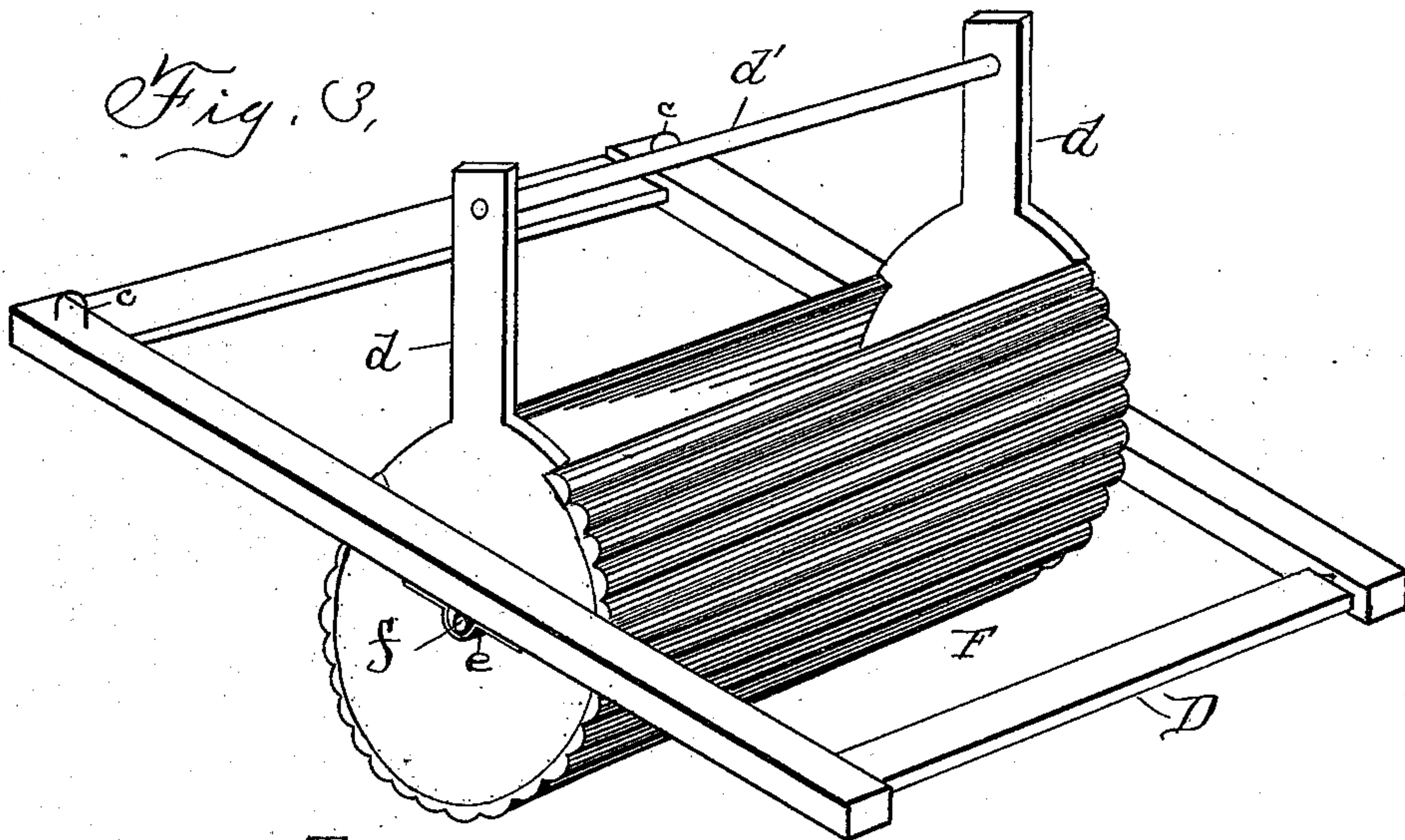
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UNITED STATES PATENT OFFICE.

JACOB STINE, OF MARTINSBURG, WEST VIRGINIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 402,041, dated April 23, 1889.

Application filed August 4, 1888. Serial No. 281,940. (Model.)

To all whom it may concern:

Be it known that I, JACOB STINE, of Martinsburg, in the county of Berkeley and State of West Virginia, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, 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 the letters of reference marked thereon, which form part of this specification.

My invention relates to an improved washing-machine; and it consists in certain novel features of construction and combinations of parts, more fully described hereinafter, and particularly pointed out in the claims.

Referring to the accompanying drawings, Figure 1 is longitudinal vertical section, the rubbing-cylinder and its supporting-frame being shown held in raised position. Fig. 2 is a top plan, the rubbing-cylinder and its frame being removed. Fig. 3 is a detail perspective view of the cylinder and its frame. Fig. 4 is a vertical cross-section of the machine. Fig. 5 is a detail view of the removable bed or frame by which the central roller-bed is adjusted vertically, and Figs. 6 and 7 are detail views of the side pieces which rest upon the top edges of the sides of the roller-bed.

In the drawings, the reference-letter A indicates the suds box or tub of the device, which can be upheld in any suitable manner, as by legs, as shown, and which is open at the top and preferably rectangular in shape, with its bottom slanting downwardly from the ends toward the center.

B indicates the central roller-bed, which removably rests at the bottom of suitable vertical ways or grooves correspondingly located at the centers of the opposite sides. The roller-bed is composed of pieces *a a*, which fit in said ways and slide in the same when being inserted or removed from the suds-box, and these end pieces are connected together by cross-pieces *a' a'*, (see Fig. 1) and the rollers *b'*, journaled in said end pieces a suitable distance apart, forming a convex surface, as shown. The strips forming the sides of said ways or the edges of the grooves are braced and strengthened by strips and

braces *b'*, extending from said ways, in which the roller-bed normally rests, to the ends of the suds-box, as shown in Fig. 1. The end pieces of the roller-bed are preferably constructed of iron or other suitable material, and hence are apt to corrode and stain or present sharp edges to the clothes; and to prevent this, by keeping the clothes from contact with the same, I provide the auxiliary sliding pieces C, which removably fit in said ways and rest upon the upper edges of the end pieces of the roller-bed with their upper edges and outer face flush, or nearly so, with the top edge and inner face of the side pieces of the suds-box, and the end edges of said pieces are beveled to rest in the beveled ways, and are also provided with the recessed portions *b²*, by which they can be slid upwardly from the ways when it is desired to remove the roller-bed.

D indicates an open rectangular frame, removably hinged to and normally resting upon the upper edges of the suds-box, as clearly shown. The edge of one end piece of the suds-box extends above the other edges, and the lower leaves of the hinges E are secured to the same. The opposite leaves of said hinges are slotted, and the staples *c*, secured to the frame D, extend through said slots, and the frame is removably hinged to the suds-box by pins passed through said staples after they have been passed through the slots in the hinges.

F indicates the rubbing-cylinder, composed of circular end pieces and a corrugated periphery, as shown, which operates directly above or in contact with the rollers of the roller-bed. The end pieces of the rubbing-cylinder are provided with upwardly-extending arms *d*, connected by a cross-piece, *d'*, to form a handle for operating the same. The side bars of the frame D are provided centrally upon their under sides with a pair of corresponding journal boxes or bearings, *e*, in which the spindles *f*, extending from the ends of the rubbing-cylinder, are journaled, to allow the same to freely rotate. A brace, G, is pivoted at one end of the suds-box, to hold the rubbing-cylinder and its open supporting-frame in raised position when desired, as shown in Fig. 1.

An extra piece or adjusting-frame, H, is pro-

vided for raising the removable and adjustable roller-bed when it is desired to regulate the device for operating upon thick or thin clothes or for other reasons. This is done by removing the auxiliary sliding pieces C and the roller-bed, and then placing the frame H upon the bottom of the suds-box, where the roller-bed normally rests, and then placing the roller-bed upon said frame, which of course elevates the same a certain amount. The top edges of the pieces C and of the sides of the suds-box are correspondingly notched or recessed, as shown, to admit the bearings in which the rubbing-cylinder is mounted. It is evident that the suds-box can be used as a simple tub or trough by removing the roller-bed and attachments and the rubbing-cylinder with its supporting-frame. The operation of the device will be fully understood from the drawings and foregoing description.

What I claim is—

1. In a washing-machine, the combination of a suds-box provided with central vertical dovetailed or undercut ways in two sides, braces or strengthening-strips for the ways, a removable roller-bed comprising end pieces

and rollers extending between the same, the end pieces resting in the ways and adapted to slide in the same when being removed from or placed in the suds-box, auxiliary end pieces removably resting in said ways upon the upper edges of and closing the ways above said roller-bed end pieces, and a rubber to operate in conjunction with the roller-bed, substantially as described.

2. A washing-machine comprising a suds-box having central vertical ways in two sides, a removable rectangular frame resting on the bottom of the suds-box between the ways, a roller-bed resting on said frame and provided with end pieces, in which the rollers are journaled, removably resting in said ways, removable auxiliary end pieces filling the ways above the roller-bed end pieces, and a rubbing-cylinder to act in conjunction with the roller-bed.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JACOB STINE.

Witnesses:

C. H. LYETH,

JOHN J. SHARELL.