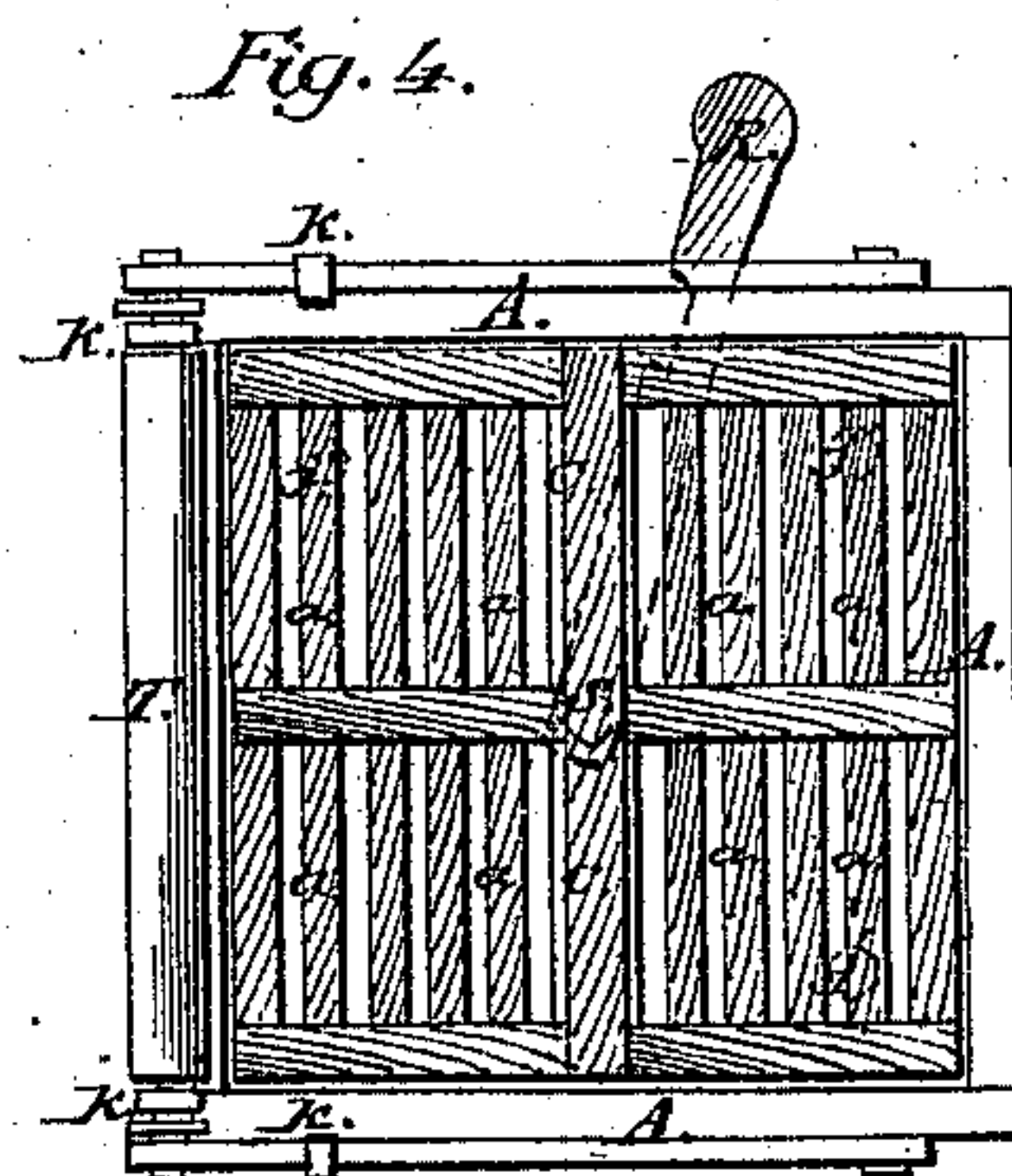
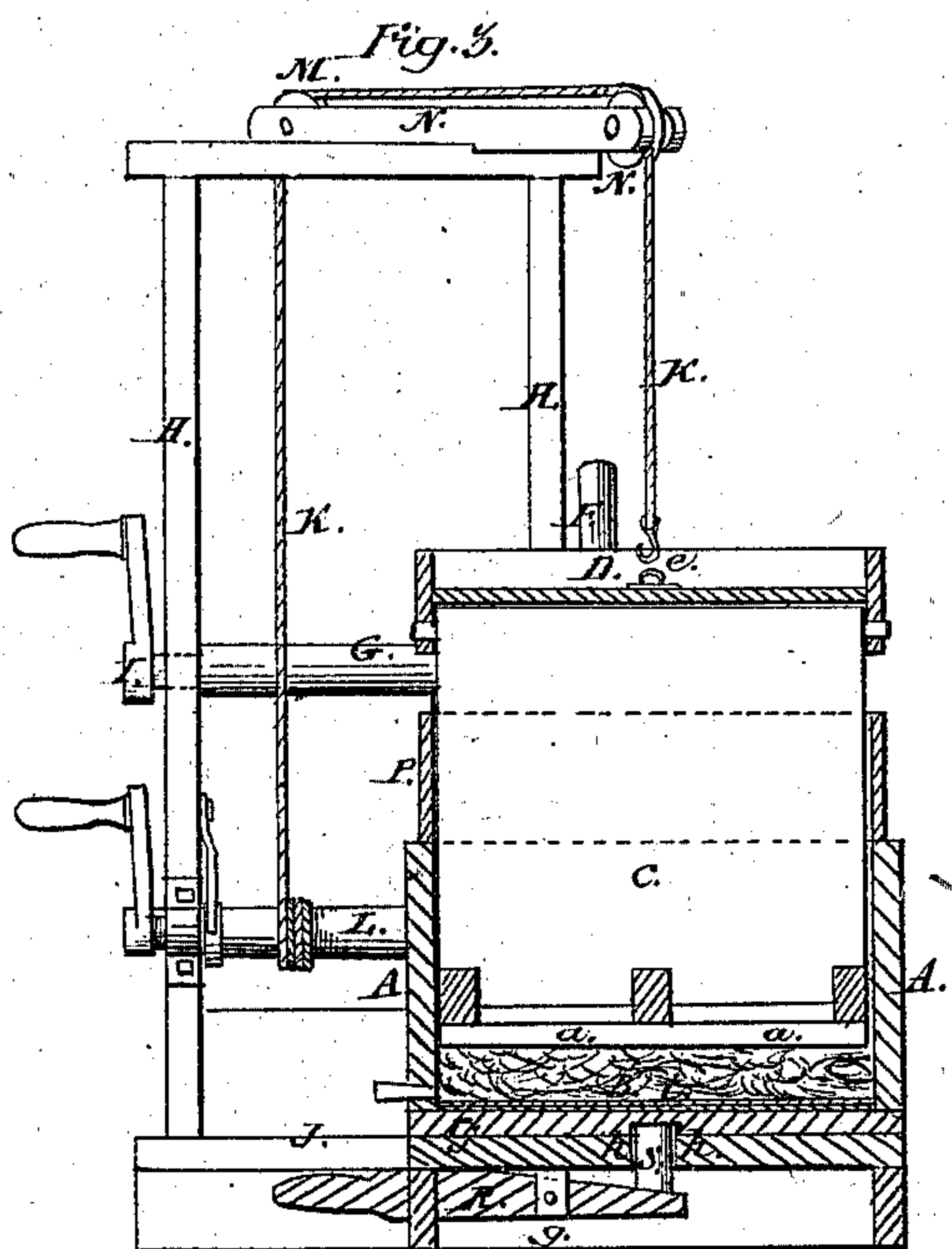
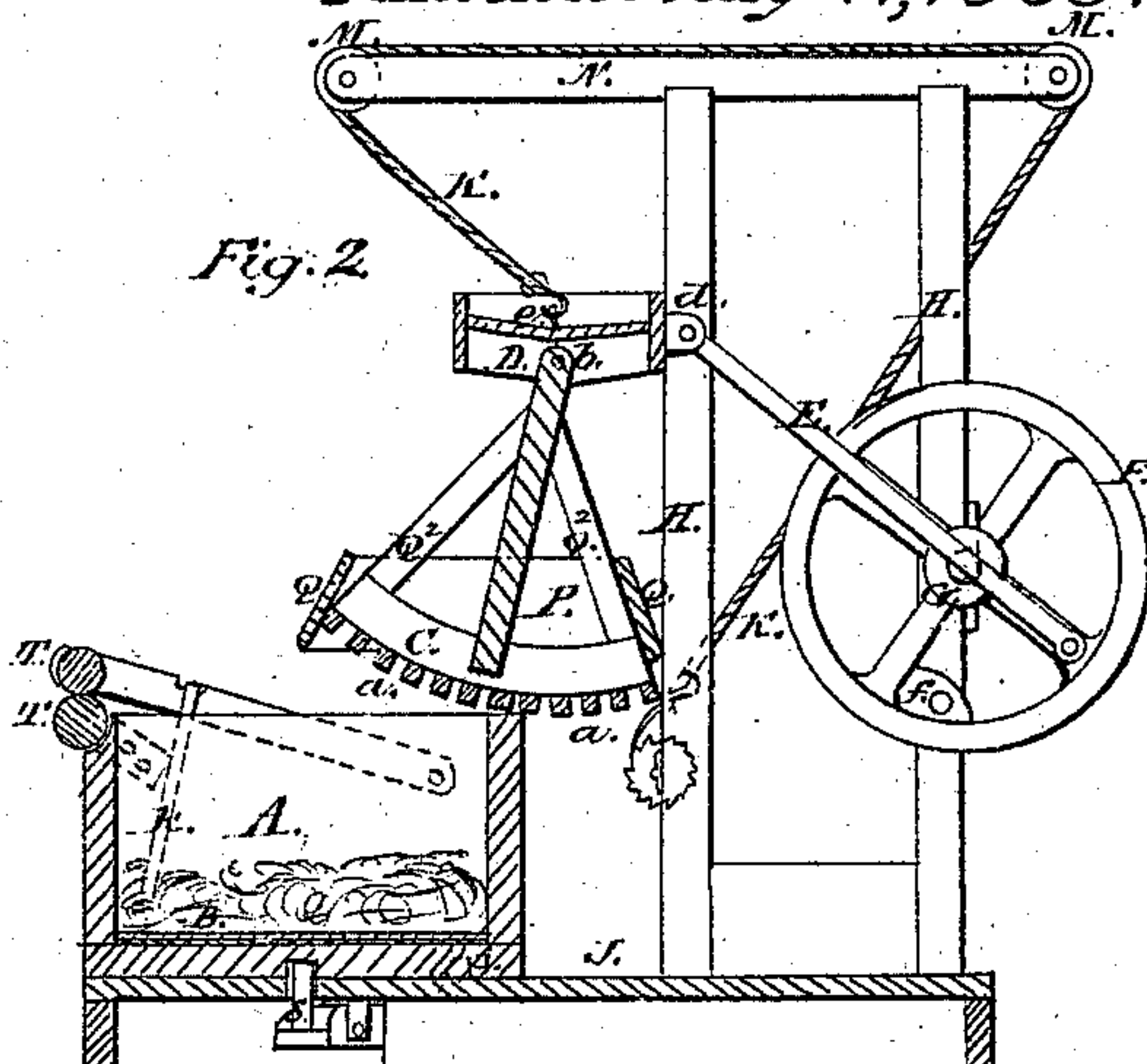
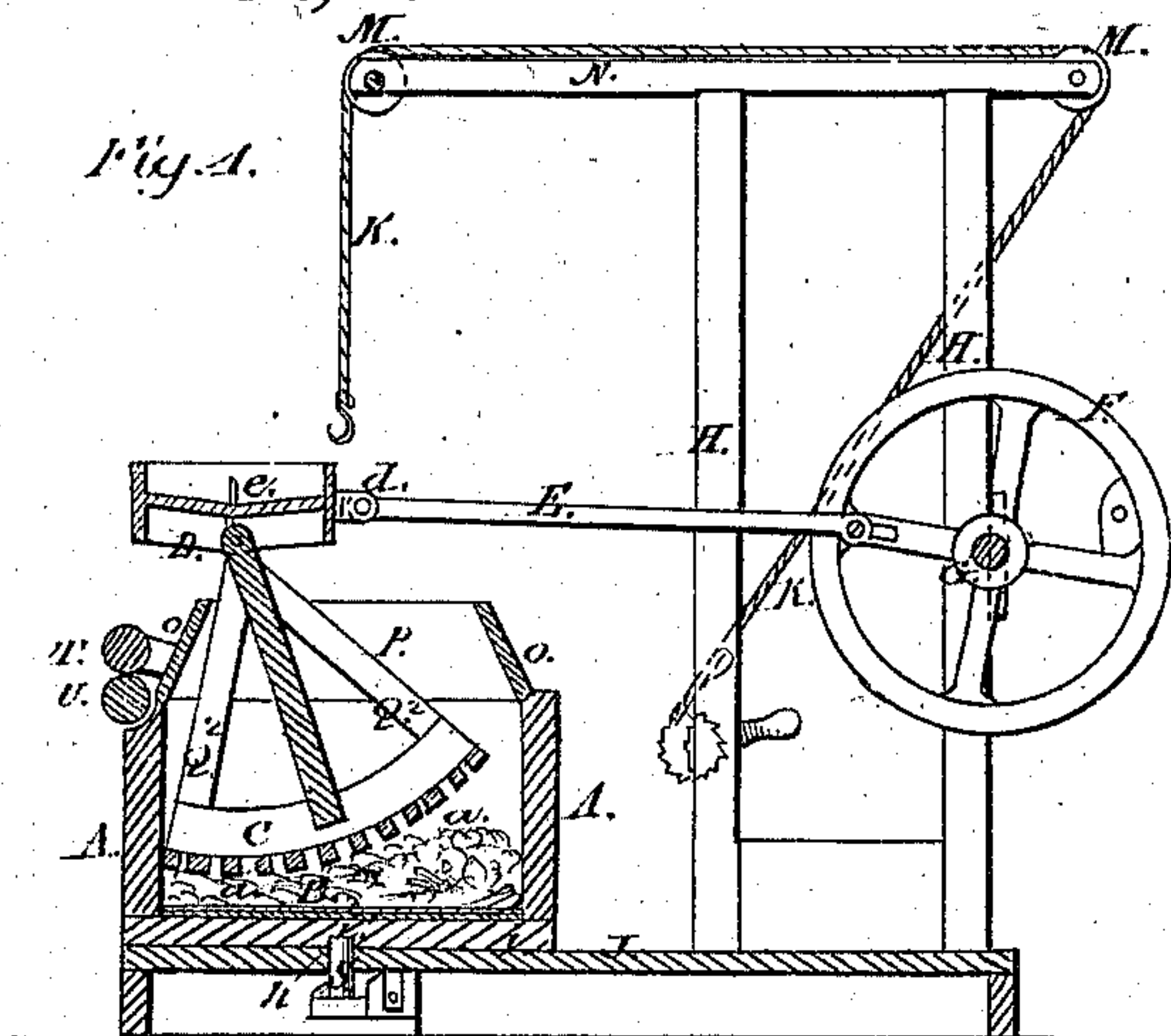


*H. H. Waters.*

*Washing Mach.*

*Nº 90,061.*

*Patented May 11, 1869.*



*Witnesses:*  
*H. C. Antine*  
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*By his attorneys*  
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# United States Patent Office.

HENRY H. WATERS, OF ATLANTA, GEORGIA.

Letters Patent No. 90,061, dated May 11, 1869.

## IMPROVED WASHING-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENRY H. WATERS, of Atlanta, in the county of Fulton, and State of Georgia, 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 thereof, reference being had to the accompanying drawings of the same, which make part of this specification, and in which—

Figure 1 represents a vertical section of a machine embracing my improvements.

Figure 2 represents a similar section, showing the oscillating presser elevated and seated upon the tub.

Figure 3 represents a vertical section, taken at the line  $x x$  of fig. 1.

Figure 4 represents a top view of the tub, showing the oscillating presser therein.

Washing-machines, heretofore constructed, have been devised and planned so as to operate to wash and cleanse the clothes by friction, under continuous rubbing. This process, while it will wash clean, will also wear the clothes, break off or fracture the buttons, and in various ways injure the clothes. Neither can garments of fine and delicate texture be washed by this process, without being almost destroyed. Indeed, washing by continuous rubbing by machinery, is unsuited to any but new and comparatively coarse garments.

My improvements are designed to obviate the disadvantages resulting from the abrading method, and to wash clothes under pressure, and without any sliding or rubbing-movement of the parts, so that no friction is produced to wear away, tear, or otherwise injure the clothes, but fine and delicate garments and articles may be washed as tenderly, and cleansed as perfectly, as though they were washed by hand.

In the accompanying drawings—

A represents the tub, in which the clothes to be washed are placed. It is in form a perfect square, and is of sufficient depth to receive the oscillating segmental presser.

The inside bottom of this tub is provided with sufficient layers of coarse cotton B, which forms a slightly yielding or soft surface, thus preventing the buttons on the clothes from being broken under the weight of the presser.

The presser is in form the segment of a circle, of which the hinge-joint, by which its upper end is oscillated, is the centre, and consists of a series of parallel bars, or ribs,  $a$ , placed at suitable distances apart, and secured to a skeleton segmental frame, C, having a central vertical board,  $c$ , the upper end of which extends above the tub, and is hinged to a horizontal tray, or box, D.

The dimensions of this oscillating segmental presser are slightly less than the area of the tub, so as to allow said presser to oscillate freely therein, without having any rubbing or abrading-motion in any direction, the sides of the box serving to keep and confine the rocker

to its treading-motion, and preventing it from sliding or moving from its seat to rub the clothes.

The skeleton presser-frame is hinged at its upper end at  $b$ , to the under side of the horizontal tray, or box D, to the rear side of which the connecting-rod E is secured by a hinge-joint,  $d$ .

This box is for the purpose of receiving weights, so as to increase the pressure of the rocker when heavy or coarse clothing is to be washed.

By this arrangement, it will be seen that the square tub confines the acting-surface of the segmental presser, as it were, in a fixed position, while its upper portion has no fixed axis or pivot, but moves freely back and forth, without having any tendency whatever to impart a rubbing-action to the presser.

The connecting-rod is united eccentrically to a balance, or fly-wheel, F, by means of a wrist-pin secured in a slot, or any one of a series of holes in one of the arms of said wheel, or in the end of the connecting-rod, for the purpose of increasing or diminishing the oscillation of the segmental presser within the tub.

The balance, or fly-wheel is mounted upon the end of a shaft, G, supported in a vertical frame, H, and operated by a crank, I, which, together with the tub, may be placed upon a platform, J.

In order to remove the segmental-presser from the tub, to change the position of the latter, or when the clothes are sufficiently washed, it is elevated by a cord, K, and windlass, L, the latter being supported in the vertical frame H, said cord passing over pulleys M in the ends of an oblique beam, N, on the top of said vertical frame, and hooked into an eye,  $e$ , secured to the box D of the segmental presser.

When the presser is elevated so as to clear the tub, the balance-wheel F is turned so as to bring the stroke of the connecting-rod E at its rear extreme movement, and the balance-wheel is locked to the vertical frame H by a pin,  $f$ , passing through it, and into said wheel, so that the presser is drawn rearward against the frame H, for the purpose of leaving the front portion of the tub unobstructed, to allow free access to the clothes within the tub, for the purpose of manipulating or removing them, as may be desired.

When the segmental presser C is raised above the tub A, the windlass-cord K is relaxed, to allow the presser to be drawn by the balance-wheel and connecting-rod E, over against the frame H, and to be seated upon the rear side of the tub, as shown in fig. 2 of the drawings.

In this position the presser is supported upon the tub, and is locked by the connecting-rod E, so that the side of the tray D and the lower side of the presser C will rest against the vertical frame H, entirely out of the way, and so as to prevent its weight from turning the tub over at that side.

When the presser is to be again placed within the tub, the balance-wheel is unlocked by withdrawing the pin  $f$ , so that the connecting-rod E forces said presser



over to the front, at the same time the windlass L, which is fitted with crank and ratchet-pawl, is turned to suspend and lower the presser directly into the tub.

A deep tub would not admit of facility in the removal of the presser and clothes therefrom, and a shallow tub would allow the suds to splash out. To prevent this, I arrange a removable hood or cover, P, so as to fit upon the top of the tub, and having all or two of its sides, Q, inclining inward from the top of the tub, so as to form a section of a hollow cone, that will, when seated upon the tub, partially close it, the opening in the top of the hood being only sufficient to allow the upper portion of the presser to oscillate therein.

The hood P is held in its seat by fitting into grooves in the top of the tub, and it is removed therefrom by the removal of the presser, the radial sides Q of which catch against the inclined sides of the hood, and thus lift it as the presser is being raised, and carry it off to the side, the opening in the top of the hood being less than the width of the presser, so that the hood cannot fall off, but will be sustained upon the sides of the presser, in the proper position to be again seated when the presser is lowered into the tub.

The object of making the tub square is twofold: first, to hold the presser, and prevent it from having any sliding or rubbing-movement; and secondly, to allow it to be turned ninety degrees upon its seat, to subject the clothes to the action of the segmental presser, at right angles to its former position, so that said action of the presser-bars or ribs will be uniform upon every portion of the clothes.

This change in the position of the tub is effected when the presser is suspended clear of the tub by means of a foot-lever, R, pivoted beneath the platform, at g, and having, at its inner end, a cylindrical swivelling support, S, projecting through an opening, h, in the platform, and fitting into a seat or concavity, i, directly in the centre of the bottom of the tub.

The other end of the lever extends outward, in a position to be depressed by the foot, which action will raise the inner end, and lift and support the tub, upon the centre-pin S, clear of the platform, and beneath the presser, so that the tub may be swivelled upon said centre a quarter of a circle.

The cross-action upon the clothes by a rocking-presser, I have found to greatly assist in thoroughly cleansing the garments.

The tub, when turned, is held in its position by pins, j, on the platform, fitting into corresponding holes j', in the bottom of the tub, so as to lock the latter when adjusted.

The tray or box D may be covered, to confine the weights therein, when necessary.

The tub is provided with a wringer, consisting of two rollers, T U, secured, in arms, at the front side of the tub, the upper roller, T, being movable, and held down upon the lower fixed one by India-rubber bands,

k, which act with sufficient force to press and squeeze the water out of the clothes as they are drawn between the rollers.

The segmental presser may be made of cast-iron, to obtain the necessary weight, and coated with tin or zinc, to prevent oxidization, and the consequent staining of the clothes.

The tub is provided with a hole, from which the plug or stopper may be drawn to let off the suds.

The effect of the oscillating presser upon the clothes, is to force the suds through them by a quick pressing-movement, as it oscillates, first, from one side of the tub, and then to the other, through the clothes, and between the threads and fibres, carrying out the dirt, &c., by operating to expand and compress the clothes under such a degree of pressure that cannot fail to cleanse without rubbing or friction.

The tub may be removed from and returned to its position, under the presser, by means of a fixed cogged rack, secured to the platform, and a pinion on the under side of the tub, matching into said rack, and operated by a crank, for the purpose of introducing, removing, or manipulating the clothes within the tub, in which case the presser must be suspended above the tub, by the cord and windlass.

The connecting-rod E may be united to the box or tray D, by a rigid instead of a flexible joint, should it be deemed necessary.

Having thus described my improvements,

I claim—

1. The segmental presser, arranged and united to the connecting-rod E, and the balance-wheel F, by means of the hinged tray D, in such manner, that said presser may be supported and pivoted upon the tub when elevated therefrom, substantially as described.
2. The square tub A, in connection with an oscillating presser, arranged as described, to allow the tub to be turned, so as to present the clothes to the presser at right angles to its former line of action, as described.
3. The foot-lever R, and centre pivot or support S, in combination with a square tub, for the purpose of lifting the latter, to enable it to be swivelled or turned ninety degrees, for the purpose described.
4. The removable hood or cover P, when used in connection with a segmental presser, a square tub, and a wringer, in the manner and for the purpose described.
5. The removable hood or cover of the tub, in combination with the oscillating presser, by which it is removed and replaced upon its seat automatically, substantially as described.

In testimony whereof, I have hereunto signed my name.

HENRY H. WATERS.

Witnesses:

S. S. NALL,

FRANK MILLS.