(No Model.)

2 Sheets—Sheet 1.

H. COOK.

WASHING MACHINE.

No. 546,997. Patented Oct. 1, 1895.

Fig. 4.

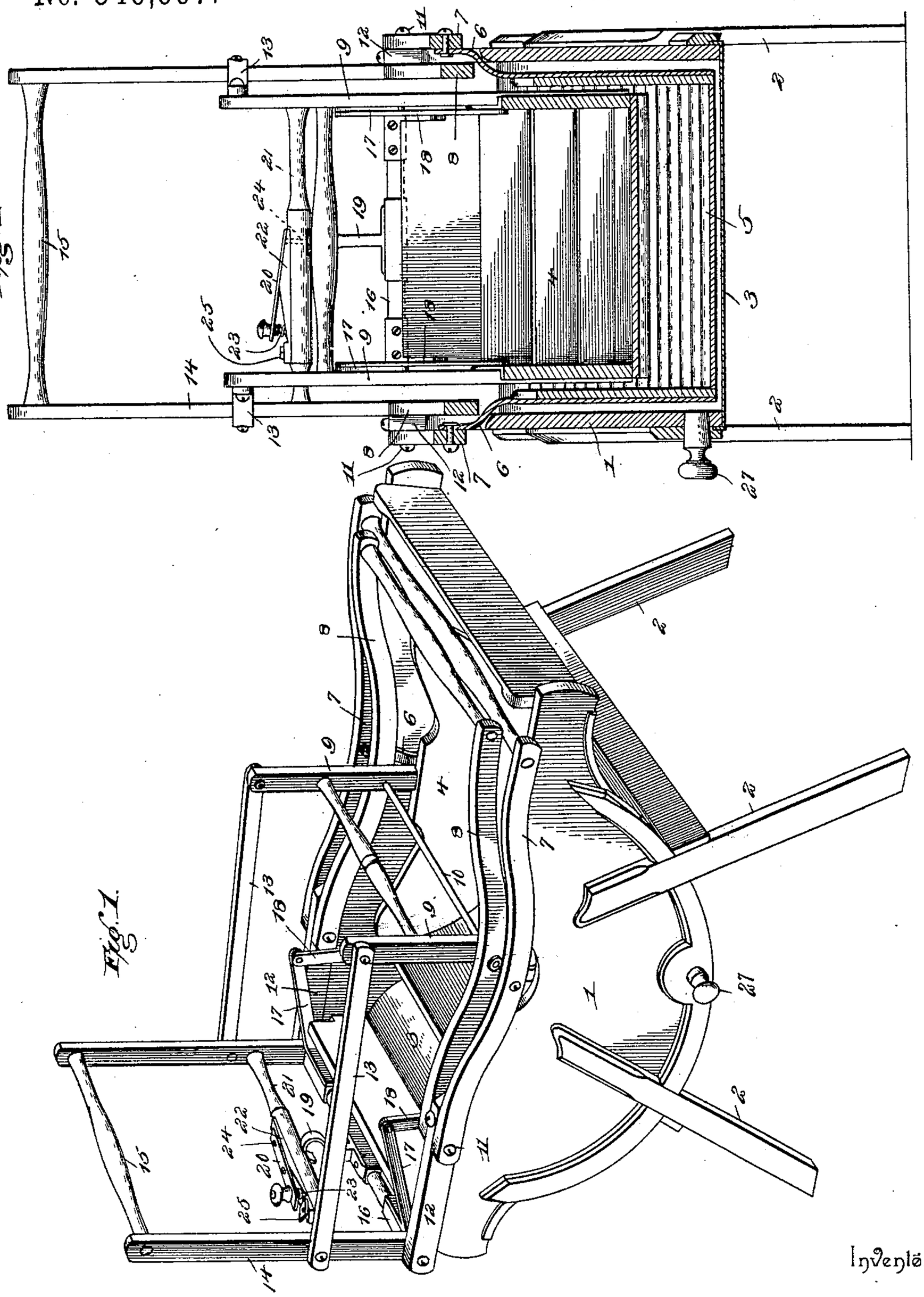

Fig. 1.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

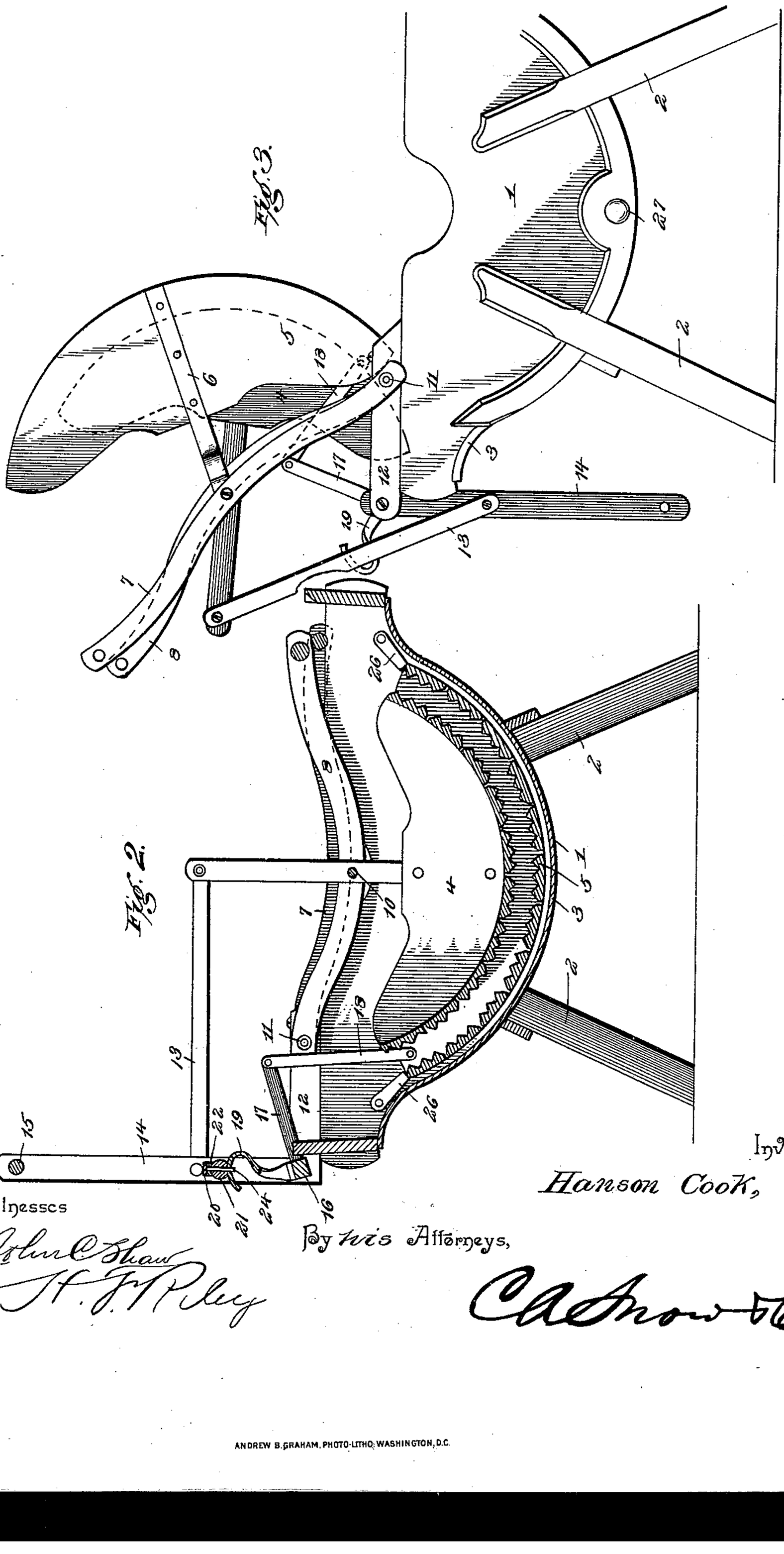

Fig. 2.

Wilnesscs

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UNITED STATES PATENT OFFICE.

HANSON COOK, OF HYNDMAN, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 546,997, dated October 1, 1895.

Application filed December 27, 1894. Serial No. 533,074. (No model.)

To all whom it may concern:

Be it known that I, HANSON COOK, a citizen of the United States, residing at Hyndman, in the county of Bedford and State of Pennsylvania, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines and to enable the operation of washing to be rapidly performed with a minimum amount of exertion and without wearing, tearing, or otherwise injuring the fabrics.

A further object of the invention is to enable the rubbing action of the machine to be readily regulated and to facilitate drying and cleaning the machine after use.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a washing-machine constructed in accordance with this invention, the parts being shown in operative position. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a side elevation, the upper and lower rubbers being swung backward. Fig. 4 is a transverse sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a washing-machine body supported by legs 2 and provided with a curved sheet-metal bottom 3 and receiving within it upper and lower oscillating rubbers 4 and 5. The lower rubber is provided with a concave rubbing-surface and the upper rubber is provided with a convex rubbing-surface, and during the operation of washing the fabrics are placed between these two rubbing-surfaces and are thoroughly rubbed, as will be readily apparent.

The rubbers are substantially segmental, as shown, and the lower one has its rubbing-surface on its upper face, and the upper one is provided on its lower face with the rubbing-surface.

The lower rubber is suspended within the washing-machine body by hanger-bars 6, having their upper terminals pivoted to side bars of an outer rectangular frame 7, which is hingedly connected to the washing-machine body, and the upper rubber is suspended from side bars of an inner hinged frame 8 by means of upwardly-extending bars 9 and a transverse rod 10, passing through the upwardly-extending bars 9 at points intermediate of their ends, and having its terminals secured to the inner hinged frame. The inner and outer hinged frames are substantially rectangular and are composed of the said side bars and a transverse rung or handle, and the side bars are pivoted at 11 to the inner and outer faces of cleats 12, secured to the upper edges of the sides of the washing-machine body and forming extensions of the same.

The side bars of the hinged frames 7 and 8 are slightly curved downward at their centers, in order to give the necessary drop to the rubbers, and the hanger-bars 6 are laterally offset at their upper ends and are secured pivotally to the inner faces of the side bars of the outer frame 7, and the sides of the washing-machine are provided at their upper edges with recesses, in order to permit a free operation of the lower rubber.

The handle end of the inner hinged frame 8 normally—that is, when there are no clothes or other fabrics in the washing-machine—lies slightly below the horizontal frame of the pivotal connections of the opposite ends of the side bars, in order that the frame may be substantially horizontal when the clothes are in the machine and to permit the weight of the upper rubber to rest upon the fabrics, such weight being sufficient for the operation of washing, but not being enough to wear or otherwise injure the fabrics.

The upper and lower rubbers may be simultaneously oscillated in reverse directions, or the upper rubber may alone be oscillated when it is desired to decrease the rubbing action of the washing-machine. The upper terminals of the bars or arms 9 of the upper rubber are connected by horizontal bars 13 with an oscillating lever or operating-frame 14, which is substantially rectangular and which is fulcrumed at the lower ends of its sides on the washing-machine body at one end thereof and projects upward therefrom.

The operating-frame 14 is provided at its top with a handle-rung 15, which is in position to be conveniently grasped by the operator, who is thus permitted to stand in an upright position, and who need not necessarily come in contact with the steam arising from the washing-machine.

At the base of the operating-frame is journaled a transversely-disposed rock-shaft 16, provided at its terminals with inwardly-extending arms 17, connected by upwardly-extending bars or links 18 with the adjacent end of the lower rubber, and the rock-shaft is provided intermediate of its ends with an upwardly-extending arm 19, adapted to be connected with the operating-frame when it is desired to oscillate both of the rubbers and designed to be disconnected when it is desired to oscillate only the upper rubber. The outer arms 17 preferably consist of L-shaped pieces, and the inner or central arm 19 is substantially hook-shaped, being provided with a curved top, having a perforation, and adapted to be engaged by a spring-actuated catch 20, whereby it is detachably connected with the operating-frame.

The operating-frame is provided above the central arm of the rock-shaft with a horizontal rung 21, and the catch 20 consists of a bar fulcrumed intermediate of its ends on a triangular or oppositely-beveled piece 22 and provided at one end with a pin passing the rung and arranged to engage the perforation of the central arm of the rock-shaft. The other end of the body portion of the catch is provided with a knob, and the lower face of the bar or body portion is engaged by a spring 23, which holds the pin 24 in engagement with the central arm of the rock-shaft. The catch is adapted to be held out of engagement with the central arm of the rock-shaft, and a button 25 is mounted adjacent to the spring on a raised portion of the block or piece 22 and adapted to engage the catch to hold the same depressed against the action of the spring, which is of spiral form, and which is mounted in a suitable socket or opening. Owing to the curved upper end of the central arm of the rock-shaft, the catch, when free to act, is adapted to engage automatically with the projection.

When the lower rubber is not oscillated, it is held stationary by means of a pair of pivoted buttons 26, mounted on the inner face of one side of the washing-machine body and located at the ends thereof. The body is provided at one side with a drain-opening, and during the operation of washing a plug 27 is placed therein; but a faucet or other means may be employed for drawing off the water after the operation of washing has been completed. The washing-machine body may be constructed as desired; but it is preferable to make it as shown in the accompanying drawings and have it present an ornamental and attractive appearance.

The upper rubber is capable of being swung backward when it is desired to remove the clothes being washed or to place them in the machine, and the ends of the washing-machine body are extended, and the water dripping from the rubbers when swung upward is received by the adjacent extended end of the washing-machine body, and no water is allowed to drip outside of the washing-machine.

During the operation of washing the operator is not required to exert any downward pressure on the upper rubber, but merely swings the operating-frame backward and forward, the weight of the upper rubber and the inner hinged frame contributing all the pressure for the operation of washing.

It will be seen that the washing-machine is exceedingly simple and comparatively inexpensive in construction, and that the rubbing action may be readily regulated by swinging the operating-frame to a greater or less extent and varying the stroke thereof and also by operating one or both of the rubbers. It will also be seen that the upper and lower rubbers may be readily swung out of the washing-machine body and be supported over one end of the same to permit the washing-machine to dry and to afford access for cleaning and that the water dripping from the rubbers will be received within the washing-machine body.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a washing machine, the combination of a washing machine body, upper and lower rubbers suspended within the same, an upwardly extending lever frame fulcrumed on the body at one end thereof and connected with the upper rubber for oscillating the same, a transverse rock-shaft journaled on the end of the body at the bottom of the lever frame and connected with the lower rubber, and provided with an arm detachably connected with the lever frame, and devices mounted on the washing machine body and located within the same for engaging the lower rubber to hold the same stationary when the rock-shaft is disconnected from the lever frame, substantially as described.

2. In a washing machine, the combination of a washing machine body, upper and lower segmental rubbers suspended within the body, a lever frame fulcrumed on the body at one end thereof and connected with the upper rubber, a rock-shaft journaled at the bottom of the lever frame and connected with the lower rubber, an arm extending from the rock-shaft and provided at its top with a curved face and having an opening, and a spring actuated catch mounted on the lever frame and arranged to engage the arm automatically, substantially as described.

3. In a washing machine, the combination

of a washing machine body, upper and lower rubbers suspended therein, a lever frame fulcrumed on the washing machine body at one end thereof and connected with the upper rubber, a rock-shaft connected with the lower rubber and having an upwardly extending arm, a catch for engaging the arm, comprising a triangular fulcrum piece, a bar mounted on the triangular piece and provided at one end with a pin for engaging said arm, and a spring engaging the other end of the bar and holding the pin in engagement with the arm, and a device located adjacent to the spring for engaging the catch to hold the same out of engagement with said arm, substantially as described.

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

HANSON COOK.

Witnesses:
CHAS. J. HAMMERS,
J. L. MITCHELL.