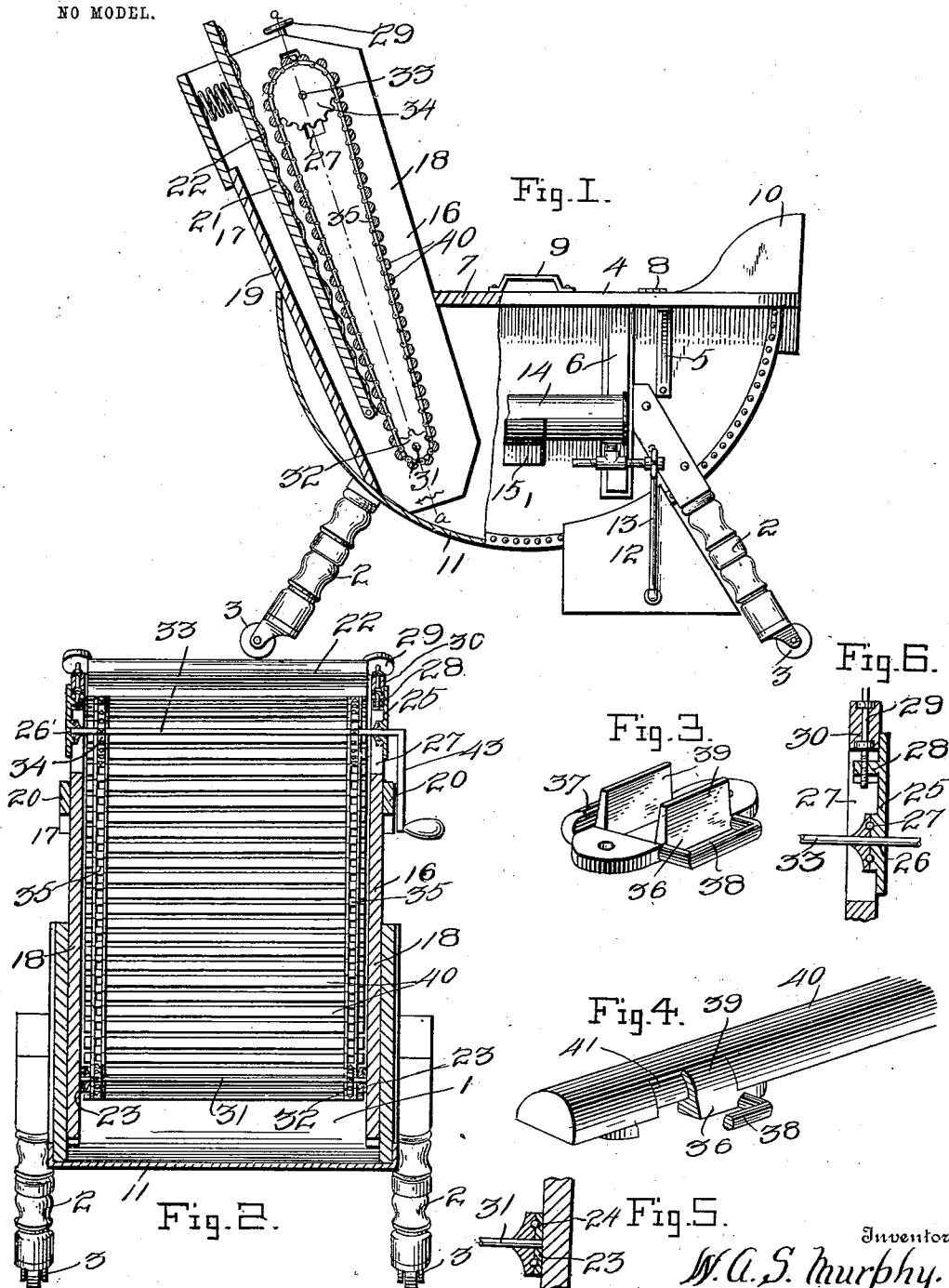


W. A. S. MURPHY.
WASHING MACHINE.

APPLICATION FILED JAN. 12, 1903.

NO MODEL.



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WALTER A. S. MURPHY, OF ATCHISON, KANSAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 742,716, dated October 27, 1903.

Application filed January 12, 1903. Serial No. 138,713. (No model.)

To all whom it may concern:

Be it known that I, WALTER A. S. MURPHY, a citizen of the United States, residing at Atchison, in the county of Atchison and State of Kansas, have invented certain new and useful Improvements in Washing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved washing-machine, being an improvement on the washing-machine for which Letters Patent of the United States No. 260,704 were granted to me July 4, 1882; and it consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

One object of my present invention is to effect improvements in the means for rubbing the articles while washing the same.

A further object of my present invention is to effect improvements in the construction of the slats and chains of the endless rubber.

A further object of my present invention is to effect improvements in the construction of the tub or body and the frame of the rubbing mechanism whereby the latter is adapted to be detachably placed and secured in the tub or body and the cover or lid of the latter is adapted to be utilized for securing the said frame in place.

In the accompanying drawings, Figure 1 is partly a side elevation and partly a vertical longitudinal sectional view of a washing-machine embodying my improvements. Fig. 2 is a transverse sectional view of the same, taken on a plane indicated by the line *a a* of Fig. 1. Fig. 3 is a detail perspective view of one of the links of the chains which carry the cross-slats of the endless rubber mechanism. Fig. 4 is a detail sectional perspective view of the same, showing also a portion of a slat attached thereto. Fig. 5 is a detail view of one of the lower bearings of the rubbing mechanism. Fig. 6 is a similar view of one of the upper bearings of the rubbing mechanism.

In the embodiment of my invention here shown the body or tub 1 of the washing-machine is semicylindrical in shape and is provided with two pairs of supporting-legs 2, which have casters 3 to facilitate the moving of the machine from place to place. To one

side of the tub or body 1, at the upper edge thereof, is an outwardly-extending shelf 4, which is supported by means of brackets 5, which are attached to one of the side walls of the tub. The side walls of the tub are also provided on their outer sides with reinforcing-cleats 6, which are vertically disposed and against which the upper beveled ends of the legs 2 bear. The tub is partly covered from one end thereof to within a suitable distance of the other end by means of a lid 7, which is hinged at one side to the shelf 4, as at 8, and is provided with a suitable grip 9, by means of which it may be readily opened and closed. At one end of the tub is a soap-holder 10.

On the under side of the tub, which is provided with a metallic bottom 11, made of sheet steel, zinc, or other suitable material, is a furnace 12, in which is a suitable gasolene-burner, (not here shown,) which is supplied through pipes 13 from a gasolene reservoir-tank 14, that is supported on one side of the tub by means of a bracket 15. This construction enables water in the tub to be heated and maintained in a heated condition, as will be understood.

The rubbing mechanism 16 is adapted to be placed in one end of the tub and to be removed therefrom at will. I will now describe the rubbing mechanism.

The frame 17 comprises a pair of side boards 18, which taper or narrow toward their lower ends, and a back board 19, which connects them together. On the outer sides of the side boards at a suitable distance from their upper ends are reinforcing transversely-disposed cleats 20. In the said frame and approximately parallel therewith is a rubbing-board 21, which is secured between the side boards 18, is spaced at a suitable distance from the back board 19 and the upper end of which projects somewhat above the upper end of the frame. This rubbing-board is faced or covered on its front or outer side with a corrugated zinc or other suitable rubbing sheet or body 22.

On the inner sides of the side boards 18, at a suitable distance from the lower ends thereof, are secured a pair of bearing-plates 23, which are provided with ball-races 24. On the outer sides of the side boards 18, near the upper ends thereof, are adjustable bear-

ing-plates 25, which have bearing-openings 26 and 26', that coincide with slots 27 in the side boards, are provided with annular ball-races 27, and are further provided with inwardly-projecting lugs 28, that operate in said slots 27 and are engaged by adjusting-screws 29, which screws are swiveled in bearings 30, with which the side boards 18 are provided. This construction enables the bearing-plates 25 to be adjusted longitudinally in the frame 17, as will be understood.

A shaft 31 is journaled in the bearings 23 and is provided near its ends with sprocket-wheels 32. Said shaft has ball-races at its ends coincident with those of the bearings 23, and suitable bearing-balls are placed in said ball-races. A shaft 33, which is similar in construction to the shaft 31 and is likewise provided with ball-races at its ends, is journaled in the bearing-sockets of the bearing-plates 25 and is provided with sprocket-wheels 34, which are preferably larger than the wheels 32, as here shown. Endless sprocket-chains 35 connect the sprocket-wheels 32 34, and each of the said endless sprocket-chains is composed of a number of links 36. These links are in practice made of an alloy of aluminium and type-metal, and the sprocket-wheels are also preferably of the same alloy. Hence the said chain-links and sprocket-wheels are prevented from rusting. Each of the links 36 is provided at one end with a hook 37 and at the opposite end with a slot 38 for engagement with the corresponding link next adjacent thereto. Each of the said links is further provided on its outer side with a pair of outwardly-extending clamping-fingers 39. The cross-slats 40, which connect the endless sprocket-chains together, are in practice preferably made of wood, and the same are provided near their ends with notches 41 to receive the fingers 39 of the chain-links. The outer sides of the cross-slats are curved, preferably, in semi-elliptical form, and the clamping-fingers 39 of the chain-links are bent into the notches 41 of said slats. This construction enables the

cross-slats to be securely connected to the endless sprocket-chain and also enables the slats, when they become broken, to be readily removed and replaced by new ones at very slight expense.

Certain of the cross-slats are provided with clamping devices 42, by means of which the articles to be rubbed may be attached to the cross-slats and carried thereby when the rubbing mechanism is in operation. The shaft 33 is provided at one end with a hand-crank 43, by which it may be turned to cause the rubbing mechanism to be actuated, as will be understood. By having the rubbing mechanism detachable from the tub or body of the machine the latter may be used for boiling and rinsing the articles before and after the rubbing mechanism has been used.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various 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.

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

In a washing-machine, the combination with a tub or body, having an inclined side, of a detachable rubbing mechanism having a frame placed therein bearing against the inclined side thereof, and a lid partly covering the tank or body and bearing against said frame, overhanging its lower portion and wedging the same in place, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WALTER A. S. MURPHY.

Witnesses:

R. DICKEY,
MINA FITCH.