

No. 770,706.

PATENTED SEPT. 20, 1904.

B. WILHELM.
WASHING MACHINE.

APPLICATION FILED JUNE 3, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

FIG. 3.

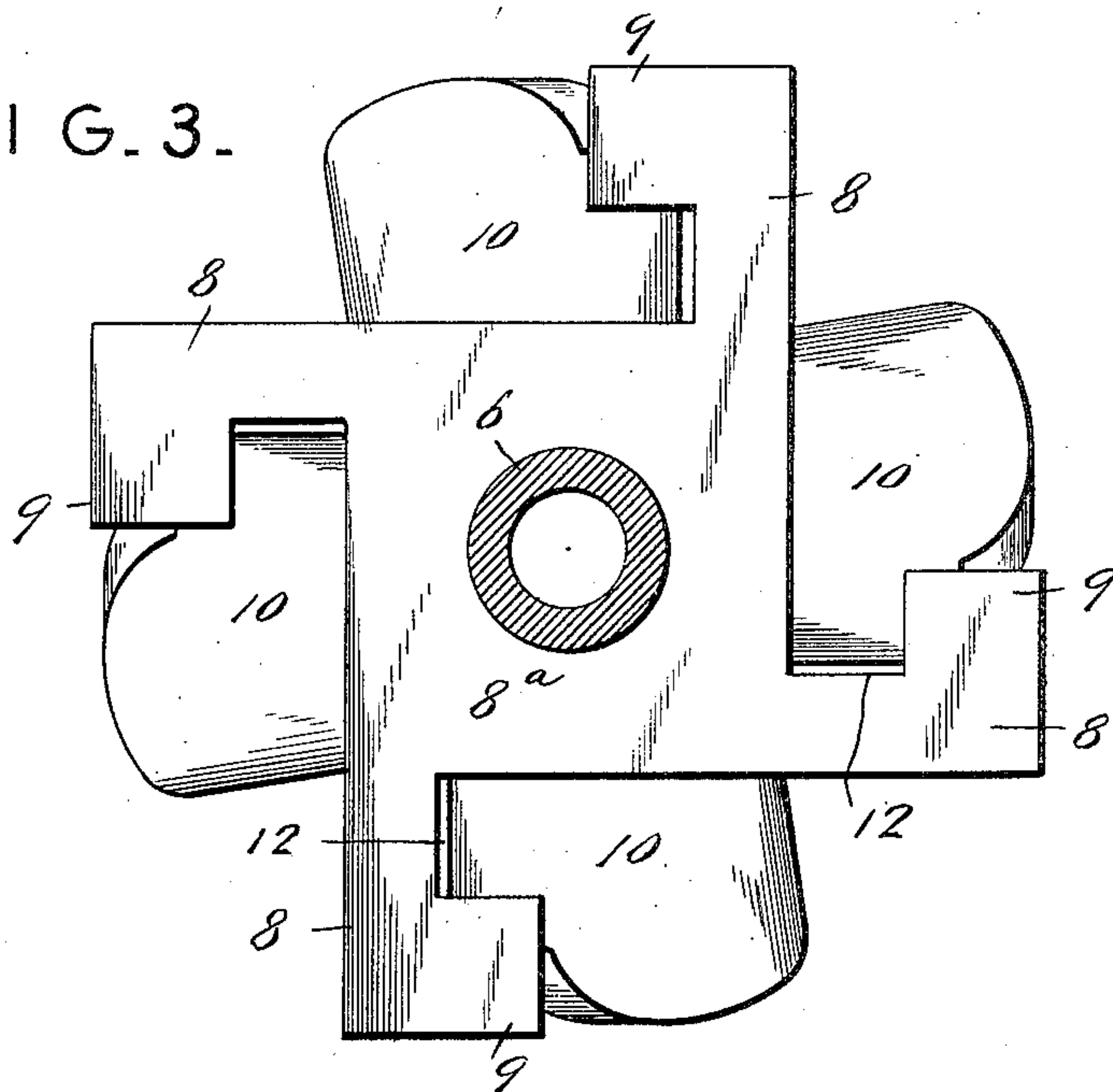
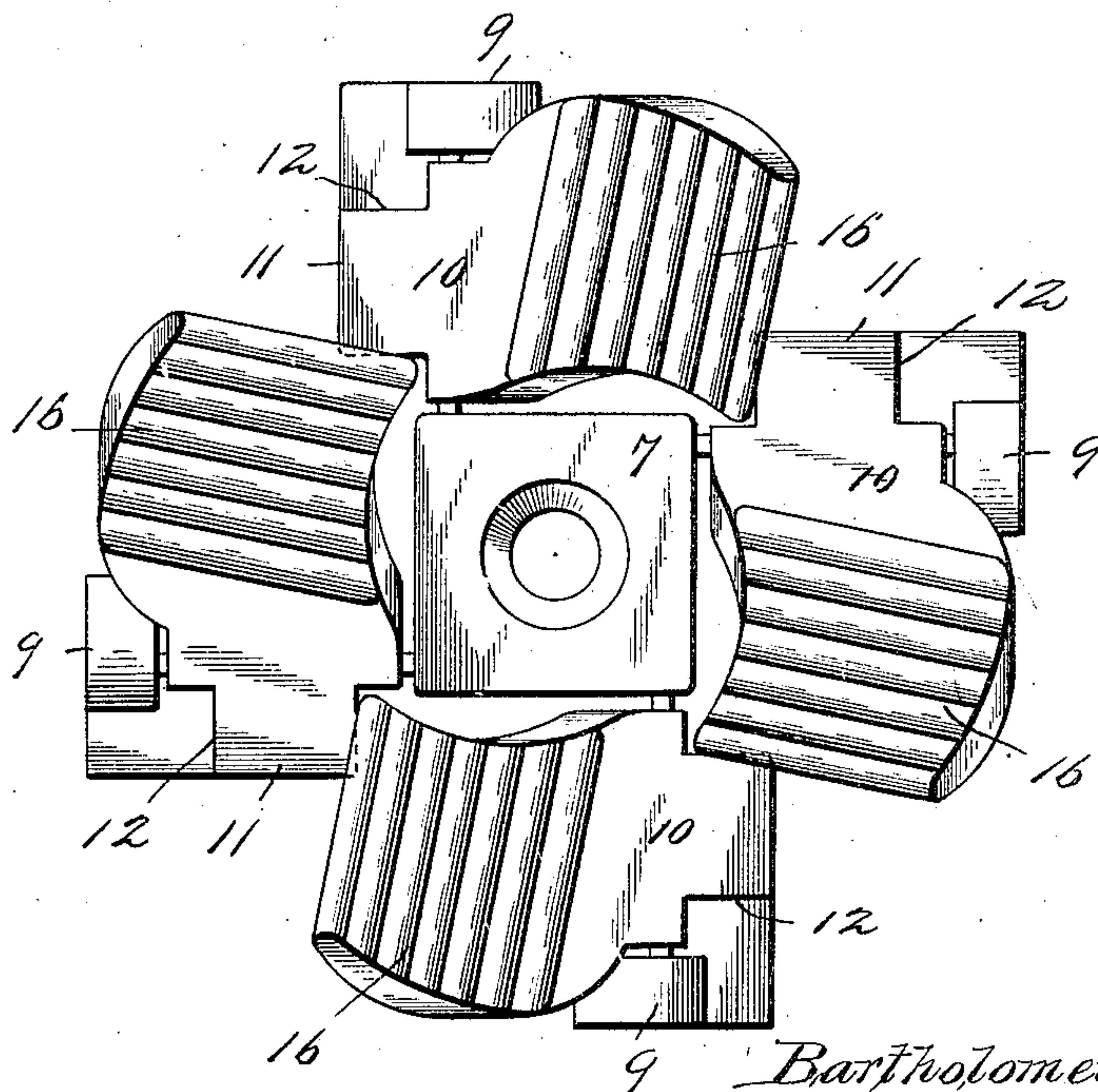


FIG. 4.



Witnesses

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BARTHOLOMEW WILHELM, OF MENASHA, WISCONSIN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 770,706, dated September 20, 1904.

Application filed June 3, 1903. Serial No. 159,950. (No model.)

To all whom it may concern:

Be it known that I, BARTHOLOMEW WILHELM, a citizen of the United States, residing at Menasha, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines of that class having a horizontal rotary rubber; and the primary object of the same is to provide a device of this class of simple and effective construction that can be applied to an ordinary tub without requiring a special frame or inclosing case and operative to thoroughly cleanse the clothing placed within the tub.

A further object of the invention is to construct the coöperating parts in such manner that their movement will not become obstructed by the clothing operated upon nor injury result to the articles in contact therewith and wherein also the degree of pressure of the rubber on the clothing or articles may be regulated at will proportionate to the fineness of fabric of the latter or the quantity of clothing disposed in the tub to arrive at the cleansing result sought without tearing or otherwise injuring the articles to be cleansed.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a tub, showing the improved washing-machine applied thereto. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a horizontal section of the washing attachment proper above the plane of the rubber. Fig. 4 is a bottom plan view of the washing attachment, particularly showing the concrete rubber.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a tub of usual construction, having at diametrically opposite points hooks 2, movably attached thereto to engage eyes 3, secured to the sections 4 of a lid or cover, each section having a semicircular opening 5 at the center thereof. The

washing attachment comprises an enlarged tubular shaft 6, diverged at its lower extremity and formed with a lower shouldered offset 7, to which are secured diametrically-opposed arms 8, having depending bearings 9 at their outer ends, the said arms being four in number. Between the bearings 9 and the lower terminals of the offset 7 rubbers 10 are movably mounted and have their upper reduced shanks 11 movably held in slots 12 in the arms. Below the shanks 11 the rubbers have fulcrum devices or trunnions 13, engaging the bearings 9 and the lower terminals of the offset 7, and surrounding said fulcrums are springs 14, having opposite terminals respectively engaging the arms and upper portions of the rubbers, the latter being recessed to receive the springs, as at 15. The rubbers are disposed at an angle of inclination and have their lower faces formed with a series of corrugations 16, the said corrugations extending upwardly over the rubbers to be effective in permitting the washing operation. It will be understood that the springs 14 always tend to return the rubbers to normal position, and said rubbers bear against a ribbed supplemental bottom 17, which is arranged in close contact with the bottom of the tub. Rising from the center of the supplemental bottom 17 and secured to the latter is a cylindrical upright or stationary supporting-shaft 18, which extends within the tubular shaft 6 and has its upper end 19 screw-threaded to receive an adjusting-nut 20, having an outwardly-extending grip 21. The upper end of the tubular shaft 6 has a longitudinally-recessed head 22, (see dotted lines, Fig. 2,) engaged by a turn-bar 23, formed with opposite terminal grips 24, the nut 20 being applied above the turn-bar when the parts are assembled as shown in Figs. 1 and 2. The upright or stationary shaft 18 has a lower flange 25, and loosely mounted on the said upright and having its lower end bearing on the flange is a guard-sleeve 26, which is reduced at its upper extremity and projects into the lower portion of the tubular shaft 6. The lower extremity of the bore of the shaft 6 is

flared to permit the projection thereinto of the upper end of the guard-sleeve 26, and the latter is held in place by a cross-pin 27, projecting from the upright 18. The function of the sleeve 26 is to prevent the articles of clothing from becoming entangled with or wrapped around the upright 18, and it is obvious in view of the loose position of the said sleeve that if the articles of clothing contact with or engage the sleeve the latter will rotate and avoid tearing or injury to the clothing.

Each cover-section 4 has a semicircular holding-strip 28, secured to the under side thereof inwardly from the periphery of the same, the terminals of the said strips of both sections being beveled, as at 29, (see Fig. 2,) to engage correspondingly beveled seats in the opposite ends of diametrically-disposed retaining-cleats 30, secured to the inner side of the tub. In applying the sections 4 they are tilted at an upward angle to cause the ends of the strips 28 to engage the opposite ends of the cleats 30, and when said sections are lowered to a horizontal position and secured by the hooks 2, engaging the eyes 3 thereof, said sections will be prevented from being forced upwardly at the center during the washing operation.

The trunnions 13 of the rubbers 10 engage the offset at opposite sides adjacent to the corners in regular succession, and this disposition of the rubbers and the arrangement of the arms 8 and bearings 9 compensate for the incline of said rubbers, so that they will have a dragging operation when the washer is actuated and sweep over a greater portion of the clothes coming in contact therewith.

In assembling the washing attachment in relation to the tub it will be understood that the upper end of the latter is clear, and the supplemental bottom is placed on the tub-bottom. The guard or annular disk 28 is then arranged in position, as shown by Fig. 2, and the sections 4 of the cover are applied and secured by the hooks 2. It will be understood that before the cover-sections 4 are secured in place a suitable quantity of water will be poured into the tub and the clothing to be washed will also be disposed in the tub, and afterward the cover-sections are secured over the upper end of the tub, as clearly shown by Figs. 1 and 2. By rotating the turn-bar 23 to the left the rubbers 10 will drag or force the articles of clothing over the supplemental bottom 17 and the ribs of the latter, and the rubbers will tend to loosen and remove dirt from the clothing. If the turn-bar 23 is rotated to the right, articles of clothing will be drawn backwardly, as the rubbers will be limited in their movement in this direction in view of the shanks 11 thereof being obstructed in play beyond a predetermined extent. The turn-bar will then be again brought to the left, and this operation become successive until the clothing is thoroughly cleansed. The rub-

bers will always be returned to normal position by the springs 14, and the degree of pressure exerted on the articles of clothing by the rubbers will depend upon the adjustment of the member 20 in relation to the turn-bar 23.

The improved washer will be found convenient in expeditiously carrying on the washing operation, and it is proposed to use such material in the construction of the same as to avoid corrosion and injury to the clothes.

Changes in the proportions and dimensions may be resorted to without in the least departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a washing-machine, the combination of a receptacle, a stationary upright rising from the lower portion of the receptacle, a tubular shaft loosely disposed over the upright, and a series of individually-pivoted unitedly-rotatable rubbers disposed in said receptacle and carried by the tubular shaft, said rubbers being normally arranged at an angle of inclination.

2. In a washing-machine, the combination of a tub, a tubular shaft projecting upwardly through the tub and having lower radially-arranged arms, a series of spring-actuated rubbers pivotally mounted in the said arms, and a supporting-shaft extending upwardly through the tubular shaft.

3. In a washing-machine, the combination of a tub having a supplemental bottom therein, a supporting-shaft rising from the said bottom and extending above the upper edge of the tub, a tubular shaft mounted over the supporting-shaft and having a series of horizontally-disposed arms at its lower extremity, a series of rubbers pivotally mounted in the said arms and normally held in contact with the supplemental bottom, means movably mounted on the supporting-shaft for rotating the tubular shaft and rubbers carried thereby, and means on the upper extremity of the supporting-shaft for adjusting the tubular shaft to bring the rubbers in contact with the supplemental bottom.

4. In a washing-machine, the combination of a tub having a supporting-shaft extending centrally upwardly therethrough, a tubular shaft rotatably mounted on the supporting-shaft and having lower arms, rubbers pivotally attached to said arms, the lower extremity of the tubular shaft being enlarged, and a guard-sleeve fitted over the lower portion of the supporting-shaft and having its upper end extending into the lower extremity of the tubular shaft.

5. In a washing-machine, the combination of a tub, a rotary rubbing means removably disposed in the tub, cleats secured to the opposite portions of the inner side of the tub adjacent to the upper edge of the latter and having end seats with beveled portions, a cover

made in two parts of such dimensions that the inner edges will bear against each other over the center of the tub, said cover parts having strips secured to the under sides with terminal bevels to fit in the seats of the cleats, and means on the exterior of the tub for securing the outer portions of the parts of the cover.

In testimony whereof I affix my signature in presence of two witnesses.

BARTHOLOMEW WILHELM.

Witnesses:

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