

No. 764,613.

PATENTED JULY 12, 1904.

J. I. MORELAND.
WASHING MACHINE.

APPLICATION FILED SEPT. 6, 1903.

NO MODEL.

Fig. 3.

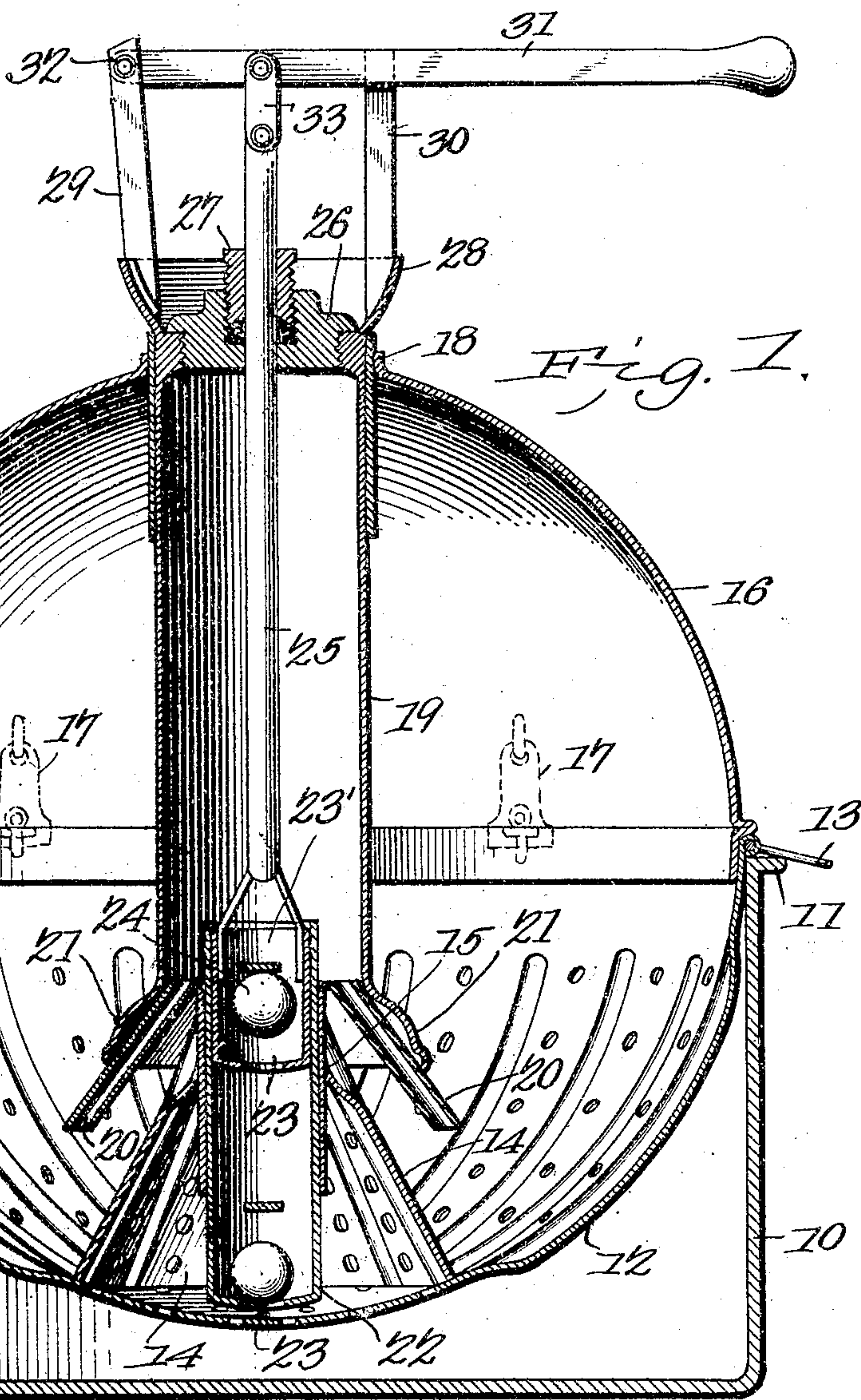
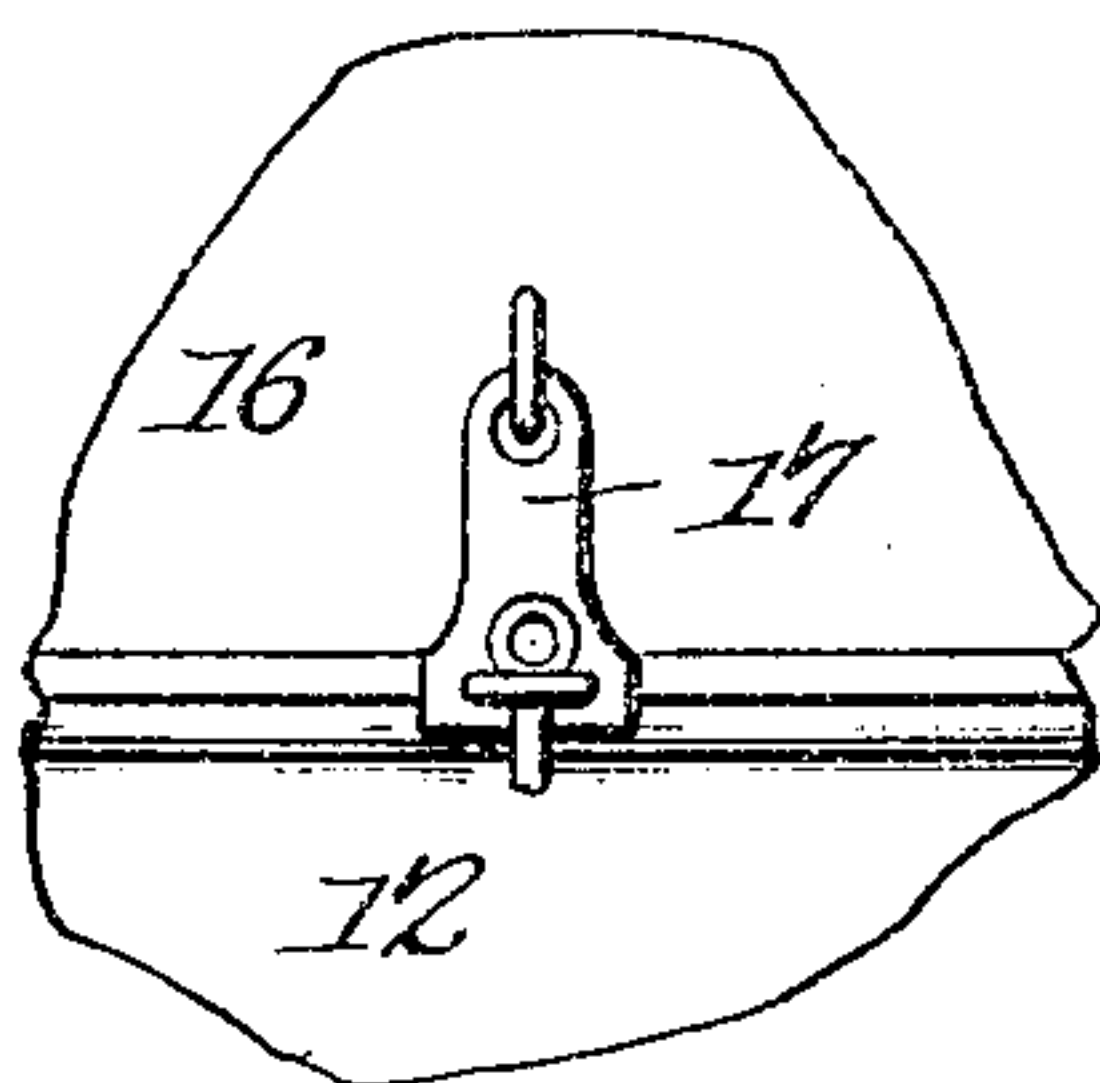
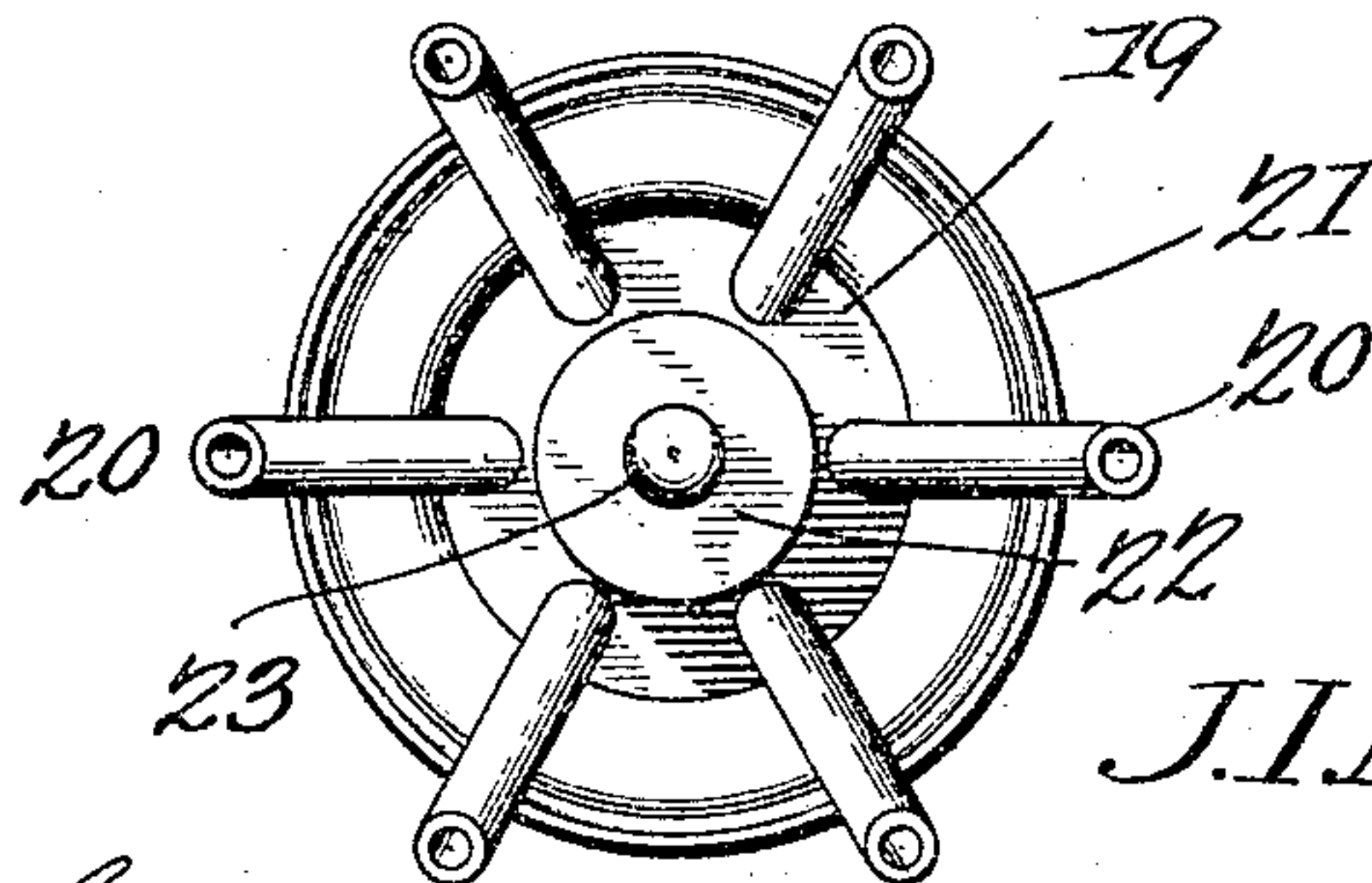


Fig. 1.

Fig. 2.



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UNITED STATES PATENT OFFICE.

JESSE I. MORELAND, OF RANDOLPH, TEXAS.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 764,613, dated July 12, 1904.

Application filed September 5, 1903. Serial No. 172,140. (No model.)

To all whom it may concern:

Be it known that I, JESSE IVAN MORELAND, a citizen of the United States, residing at Randolph, in the county of Fannin and State of Texas, have invented a new and useful Washing-Machine, of which the following is a specification.

This invention relates to certain improvements in washing-machines, and has for its object to simplify and improve the construction, increase the efficiency, and produce a machine which may be readily handled and easily operated and in which the various steps necessary to thoroughly cleanse the clothes may be accomplished without removing them from the machine until the work is completed.

The invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrating the invention, in which corresponding parts are denoted by like designating characters, Figure 1 is a sectional elevation. Fig. 2 is an inverted plan view of the combined water-chamber and pump-cylinder. Fig. 3 is a sectional detail of the catch between the tub and its cover.

The improved device consists of a receptacle 10 of any desired shape or capacity, in which the hot water will be placed or in which it may be heated, as desired. This receptacle will preferably be of sheet metal and will be provided with a rim 11, upon which a tub 12 rests, the latter preferably semispherical in form and with corrugated and perforated walls, as shown, so that the water in the receptacle will freely circulate therethrough. The tub will be provided with suitable handles 13, whereby it may be transported or removed from or set into position in the receptacle.

Rising from the bottom of the tub 12 is a hollow conical projection 14, having corrugated and perforated walls and provided with a tubular guide 15, extending through the apex, as shown.

The tub 12 is provided with a cover 16, preferably semispherical, as shown, and secured detachably, as by hasps or other catches 17. The cover 16 is provided with a central aperture surrounded by a flange 18 and in which

a water-chamber 19 is movably supported, the chamber being free for both longitudinal and rotative movement. The inner or lower end of the chamber 19 is provided with a plurality of spaced radiating and outwardly and downwardly inclined tubular arms 20, which are adapted to engage the clothes in the tub, as hereinafter described. The lower end of the chamber 19 is also provided with a flaring or outwardly-inclined flange 21, extending partially over the arms 20 and forming a recess beneath the chamber, as shown.

Extending centrally through the bottom of the chamber 19 is a pump-cylinder 22, the upper end extending above the bottom of the chamber and the lower end depending for some distance below its lower end and also below the lower line of the arms 20, as shown. An inwardly-operating valve 23 is disposed in the bottom of the pump-cylinder, as shown. The pump-cylinder is formed to fit the guide member 15, as shown, and is movable rotatively and longitudinally with the chamber.

Within the pump-cylinder 22 a plunger 23' is operatively disposed and provided with an upwardly-working valve 24 and a rod or stem 25, extending to a point above the chamber, as shown.

The chamber 19 is provided with a detachable closure 26, having a stuffing-box 27 for the rod 25 and preferably formed with an outwardly-flaring upper end 28 to receive any leakage which may occur and prevent it from being thrown upon the cover 16 or the person of the operator. The flaring portion 28 is provided upon one side with a bracket or standard 29 at one side and spaced guides 30 at the other side, an operating-handle 31 being pivoted at 32 to the standard and extending between the spaced guides and movably connected, as by a link 33, to the pump-rod 25, as shown. By this simple arrangement the pump-plunger may be operated by moving the handle member vertically and the chamber 19 and its connections oscillated or rotated by moving the same handle member laterally, the guides 30 supporting the handle member during its lateral movements.

Being thus constructed, the operation is as follows: The hot water is placed in the receptacle 10 or heated therein, as the case may be, and the clothes to be washed placed in the tub 12 and the chamber 19 and its attachments placed in position and the cover 16 secured by the catches 17. The soap or other detergent may be applied in any desired manner, either placed in the water in the receptacle 10 or rubbed upon the clothes as they are placed in the tub or otherwise applied. When in this position, the tubular arms 20 rest upon the mass of the clothes and being freely movable vertically, together with the chamber 19, will adjust themselves automatically to the amount of the clothes, so that no matter how many or few clothes may be in the tub the arms will operate with equal facility. The arms 20, resting by their open lower ends upon the clothes, are closed thereby and the flow of water from the chamber shut off; but when the pump is operated the pressure exerted when the action of the pump is continued after the chamber is filled will force the water through the relatively small tubular arms and drive it downwardly through the clothes. At each upstroke of the pump the water is drawn from the receptacle 10 and from within the conical portion 14, so that a continuous forced and rapid circulation of the water is produced, which acts very effectually upon the clothes and removes the loosened particles of dirt therefrom. By pressing downward upon the handle member and rotating or oscillating it the arms 20, pressing upon the clothes, will carry them over the corrugated surfaces of the tub 12 and conical portion 15 and impart a vigorous rubbing action in addition to the forcible circulations of the water by the action of the pump. The two actions may be carried on at the same time and in alternation and to any required extent and prolonged for any length of time, depending on the quality and condition of the clothes and also on the quantity in the tub. When the washing action is completed, the tub will be elevated to permit the clothes to drain and the tub set into a fresh supply of soaped water if the clothes require a second cleansing action and again "drained" and then the tub and its contents set into a receptacle containing clear water and the action repeated the same as in washing to thoroughly rinse the clothes. It will be obvious that the actions may be repeated as often as required.

One of the receptacles 10 may be employed for all the steps of the process of washing, rinsing, and "bluing" by changing the water therein, or separate receptacles may be provided for each step, as may be preferred.

The principal parts of the device will be of sheet metal pressed into proper shape and galvanized or otherwise rendered rust-proof.

The valves 22 to 24 may be of any suitable

form and other parts may be modified in minor particulars without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed is—

1. In a washing-machine, a tub, a water-chamber mounted for vertical and rotative movement in said tub and having radiating tubular arms for engagement with the clothes therein, and a pump for supplying said chamber with water and forcibly ejecting it through said tubular arms, substantially as described.

2. In a washing-machine, a tub, a water-chamber mounted for vertical and rotative movement in said tub and having radiating tubular arms for engagement with the clothes therein, a pump-cylinder depending from said water-chamber below said tubular arms, and a plunger operating in said cylinder, whereby water may be drawn from said tub below the clothes therein and forcibly ejected through said tubular arms above the clothes, substantially as described.

3. In a washing-machine, a tub having a vertical guide, a water-chamber mounted for rotary and longitudinal movement in said guide and provided with radiating tubular arms for engagement with the clothes in the tub, and a pump for supplying water to said chamber and forcibly ejecting it through said arms, substantially as described.

4. In a washing-machine, a tub having a vertical guide, a water-chamber provided with radiating tubular arms for engagement with the clothes in the tub, a pump-cylinder depending from said chamber and movably engaging said guide and having a plunger operating therein, whereby said chamber is supported for rotative and longitudinal movement and means carried by said chamber for operating said pump-plunger, substantially as described.

5. In a washing-machine, a tub, a water-chamber mounted for vertical and rotative movement in said tub and having radiating tubular arms for engagement with the clothes therein and inclined outwardly and downwardly and with an inclined conical hood extending partially over said arms, and a pump for supplying said chamber with water and forcibly ejecting it through said tubular arms, substantially as described.

6. In a washing-machine, a tub having its interior walls corrugated and provided with a hollow corrugated and perforated conical projection in its bottom with a vertical guide arranged centrally of the projection, a water-chamber having radiating tubular arms and provided with a depending pump-cylinder movably engaging said guide, a plunger operating in said cylinder and having a stem extending above said chamber, and an oper

ating-handle connecting said stem and chamber, substantially as described.

7. In a washing-machine, a water-receptacle, a tub detachably supported in said receptacle and having corrugated and perforated walls, a water-chamber mounted for vertical and rotative movement in said tub and having radiating tubular arms for engagement with the clothes therein, and a pump for supplying water to said chamber and forcibly ejecting it through said tubular arms, substantially as described.

8. In a washing-machine, a water-receptacle, a tub detachably supported in said receptacle and having corrugated and perforated walls and with a hollow corrugated and perforated conical projection in its bottom provided with a central vertical guide, a water-chamber having radiating tubular arms and provided with a depending pump-cylinder movably engaging said guide, a plunger operating in said cylinder and having a stem extending above said chamber, and an operating-handle connecting said stem and chamber, substantially as described.

9. In a washing-machine, a tub having a cover detachably connected thereto, a water-chamber extending through said cover and supported thereby for vertical and rotative movement within the tub, said chamber having radiating tubular arms for engagement with the clothes within the tub, and a pump for supplying said chamber with water and forcibly ejecting it through said tubular arms, substantially as described.

10. In a washing-machine, a water-receptacle a tub detachably supported in said recepta-

cle and having corrugated and perforated walls and with a hollow corrugated and perforated conical projection in its bottom provided with a central vertical guide, a cover detachably connected to said tub, a water-chamber extending through said cover and supported thereby and having radiating tubular arms for engagement with the clothes in the tub, and with a pump-cylinder depending from said chamber and movably engaging said vertical guide, a plunger operating within said cylinder and provided with a stem extending above said chamber and an operating-handle connecting said chamber and stem, substantially as described.

11. In a washing-machine, a tub, a water-chamber mounted for vertical and rotative movement in said tub and having radiating tubular arms for engagement with the clothes therein, a pump-cylinder carried by said chamber, a plunger operating in said cylinder and having an operating-rod extending above said chamber, a bracket extending from one side of said chamber and spaced guides from the other side, a handle member movably connected to said pump-rod, and likewise movably connected to said bracket, and extending between said spaced guides, 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.

JESSE I. MORELAND.

Witnesses:

C. M. PARKER,
J. R. REYNOLDS.