

No. 781,558.

PATENTED JAN. 31, 1905.

A. J. SCHETROMPF.
WASHING MACHINE.
APPLICATION FILED JULY 9, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

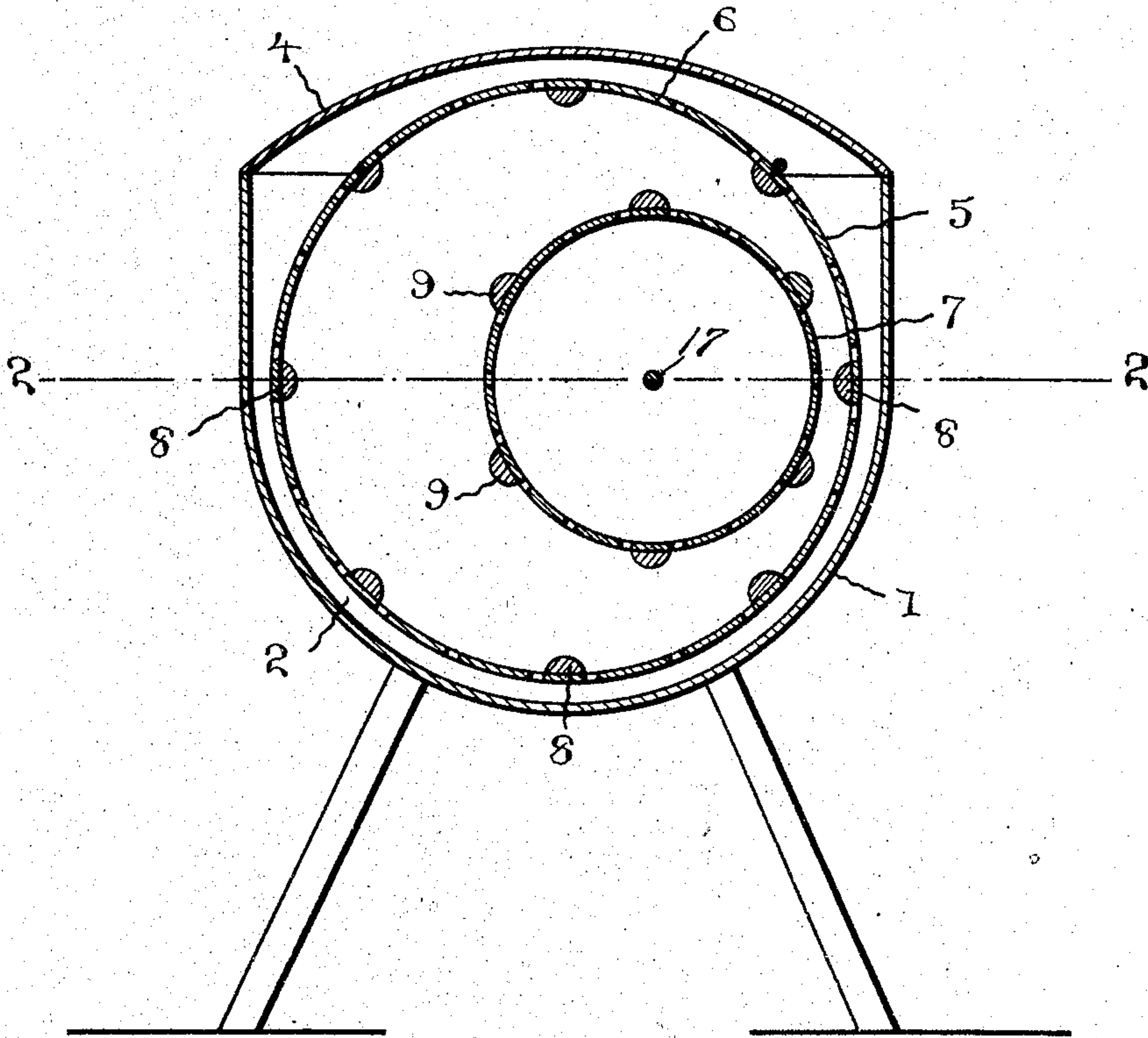


Fig. 5.

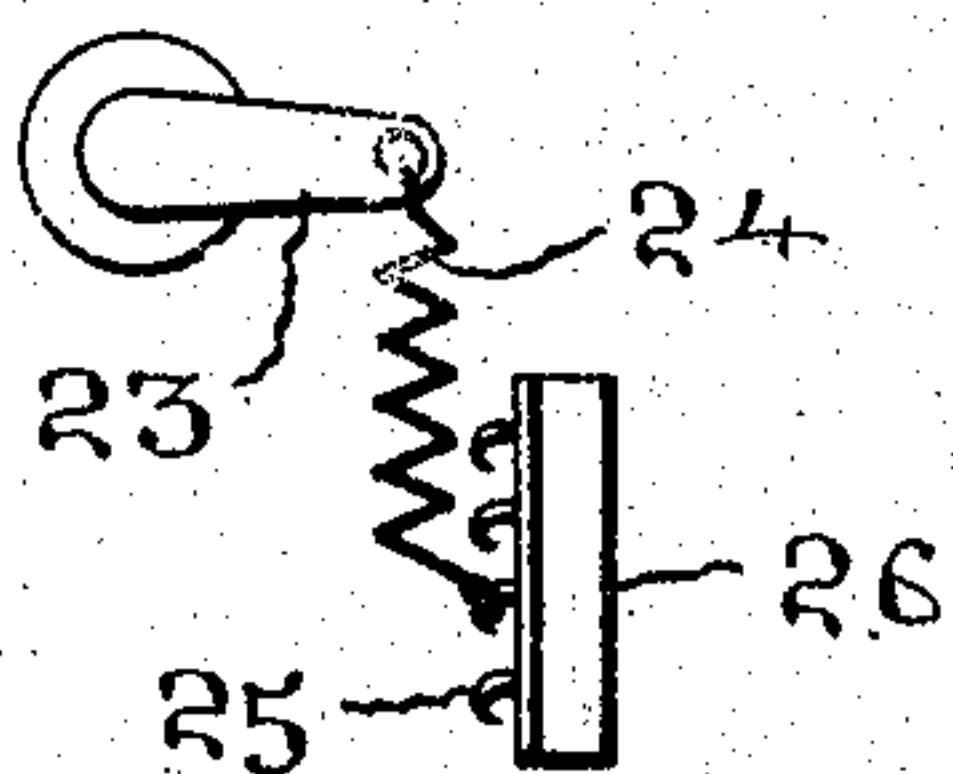


Fig. 6.

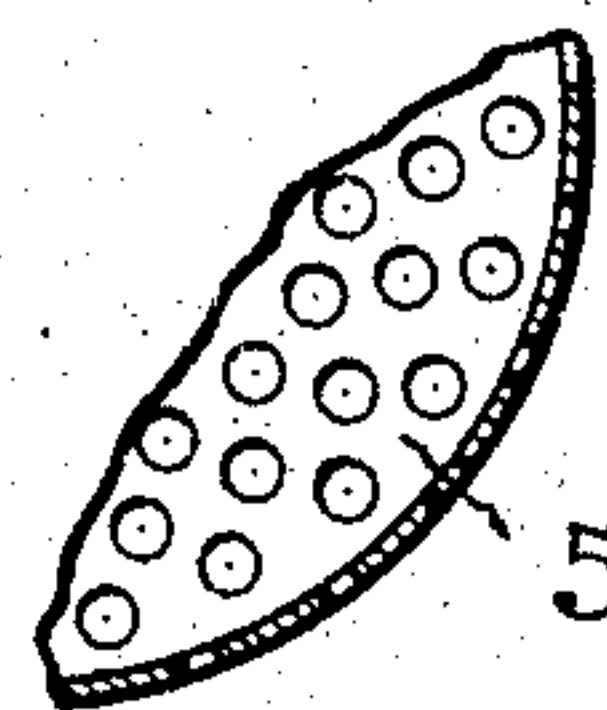
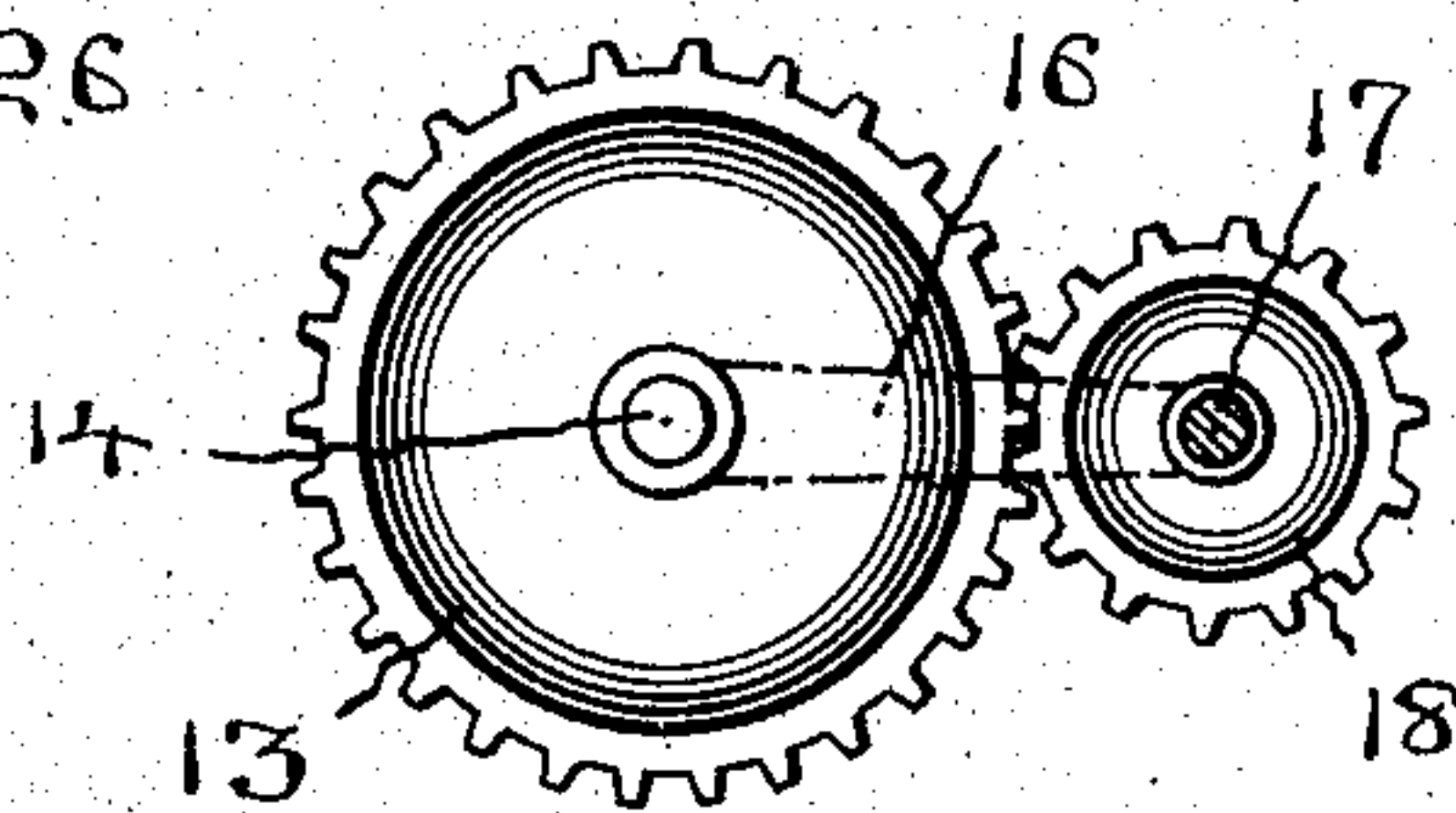


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

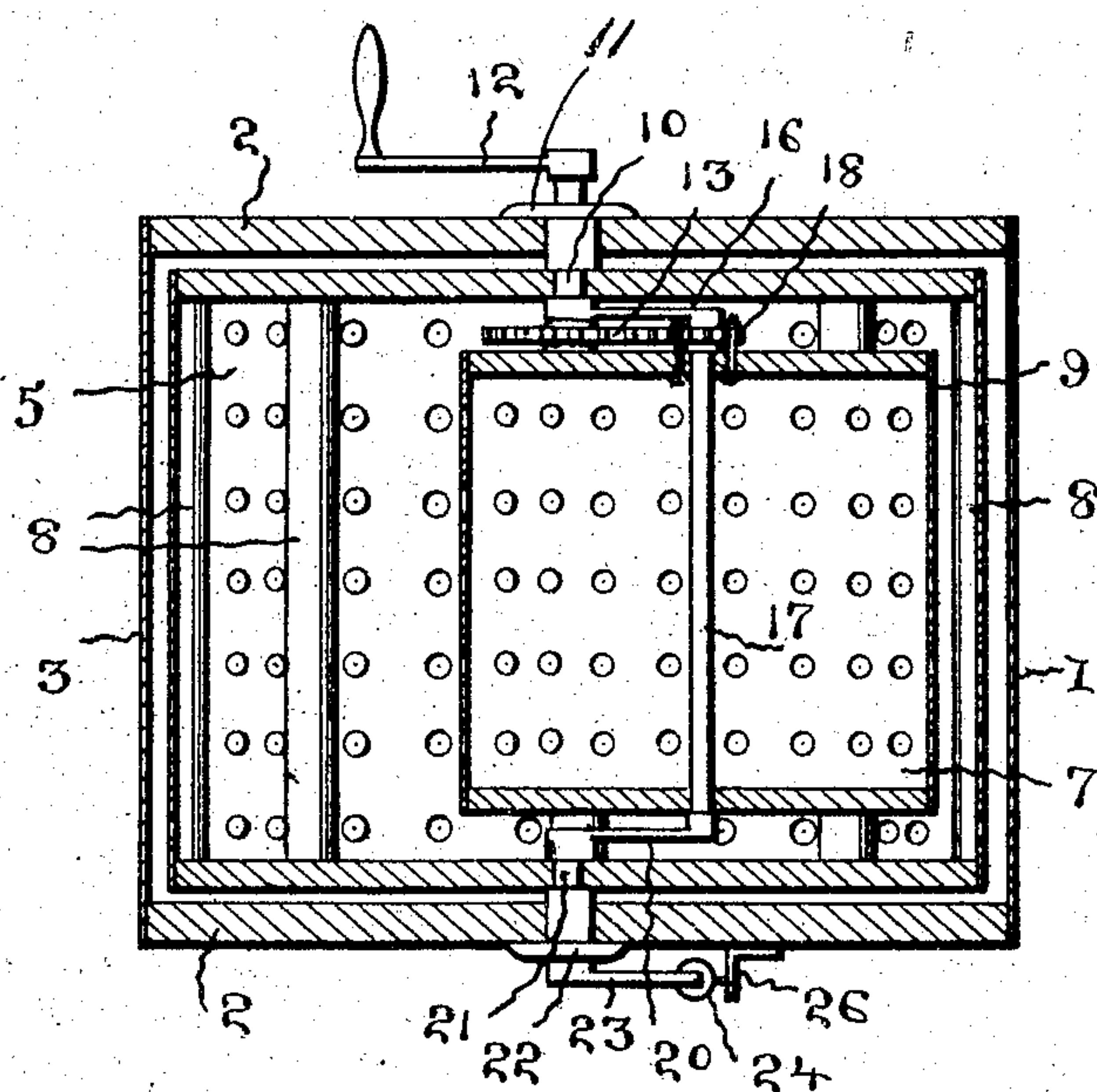
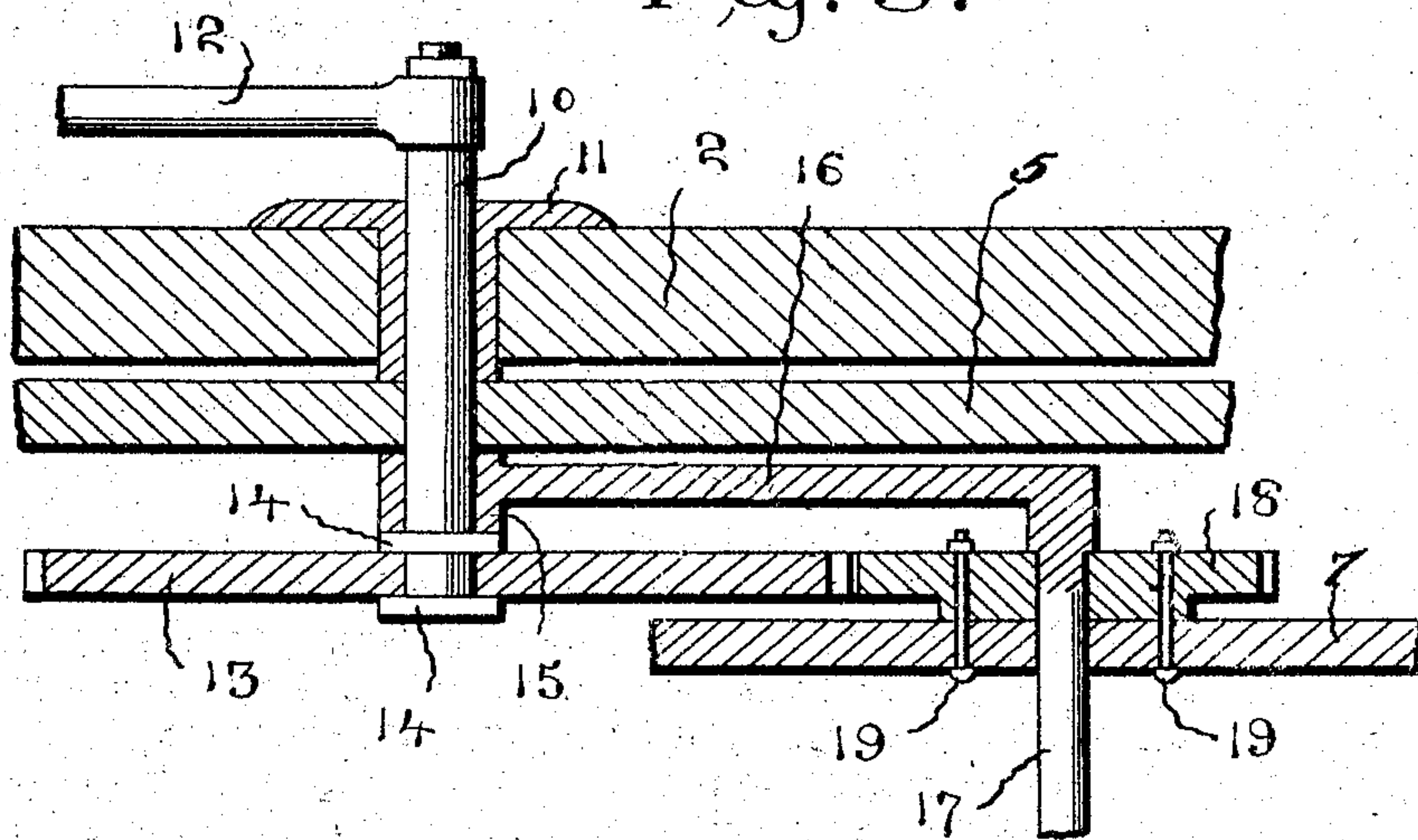


Fig. 3.



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UNITED STATES PATENT OFFICE.

ANDREW J. SCHETROMPF, OF BUCK VALLEY, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 781,558, dated January 31, 1905.

Application filed July 9, 1903. Serial No. 164,868.

To all whom it may concern:

Be it known that I, ANDREW J. SCHETROMPF, a citizen of the United States, residing at Buck Valley, in the county of Fulton and State of Pennsylvania, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to washing-machines; and it consists, essentially, of a perforated cylindrical clothes-drum revolubly mounted in a cylindrical case or suds-reservoir and having therein a perforated agitator or drum to which rotary movement is imparted to set up a thorough agitation of the clothes contained within the clothes-drum to practically remove the dirt therefrom. As an additional means for cleansing the clothes disposed in the machine the interior of the clothes-drum and the exterior of the perforated or reticulated agitator have ribs extending thereover, and the agitator is arranged in eccentric relation to the clothes-drum and has a yielding movement to overcome any tendency of the clothes packing or jamming between the said agitator and the adjacent portion of the clothes-drum.

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

In the drawings, Figure 1 is a transverse vertical section through a washing-machine embodying the features of the invention. Fig. 2 is a horizontal section of the same on the line 2 2, Fig. 1. Fig. 3 is an enlarged horizontal sectional view of the gearing and a portion of the case or suds-reservoir, as well as a part of one end of the clothes-drum and the agitator. Fig. 4 is an elevation of the gearing, showing one of the shafts in section. Fig. 5 is a detail view, partly in elevation and perspective, showing a resilient tension device for the agitator. Fig. 6 is a detail perspective view of a portion of the clothes-drum.

Similar numerals of reference are employed

to indicate corresponding parts in the several views.

The numeral 1 designates an inclosing case or suds-reservoir comprising opposite heads 2, of wood or heavy metal, and a sheet-metal covering 3, having the side edges secured to said heads and the terminals suitably connected. The machine is rendered interiorly accessible by means of a lid or cover 4, also having heads and a sheet-metal covering which closely register with the corresponding parts of the main body of the case or suds-reservoir. Rotatably mounted in the main body of the case or suds-reservoir and partially inclosed by the cover 4 when the latter is in place is a perforated clothes-drum 5, having an opening in the central portion thereof closed by a door or cover 6 of similar material. The clothes-drum 5 is preferably made of sheet metal, and therein the clothes to be washed are deposited. Within the drum 5 a perforated cylindrical agitator or rubber 7 is rotatably mounted, said agitator or rubber being of considerably less diameter than the drum to permit a large quantity of clothes to be placed in the drum and eccentrically arranged in the latter. As shown by Fig. 6, the cylindrical agitator or rubber is formed of sheet metal having perforations in the ends and surrounding member thereof, and on the interior of the drum 5 are ribs 8, which extend at regular intervals over the interior of the drum in a transverse direction and are preferably semicircular in cross-section, as shown by Fig. 1. On the exterior of the agitator or rubber 7 are ribs 9, similar in contour to the ribs 8, and the said ribs are so disposed that in their closest relation the ribs 8 move close to the ribs 9. It will be seen that by forming the drum 5 and the agitator or rubber of perforated material the water or suds contained in the main body of the case or suds-reservoir will be permitted to freely flow and dash through the said drum and agitator or rubber and thoroughly come into contact with

the clothes in the drum. It is also obvious that the drum 5 may be made of perforate sheet metal, as shown by Fig. 6 in relation to the agitator.

5 The gearing for operating the clothes-drum and agitator or rubber comprises a drive-shaft 10, projected through one head 2 of the inclosing case or suds-reservoir and closely fitted in a bearing or bushing 11. On the
10 outer end of the drive-shaft is a crank-handle 12, and secured to the inner end thereof at a suitable distance from the head 2 is a spur-gear 13, the latter gear being held between collars 14 on the inner end of the shaft. The
15 clothes-drum 5 is firmly held at the center of one end to the shaft 10 between the inner terminal of the bearing or bushing 11 and a sleeve 15, carrying a supporting-arm 16, the inner end of the sleeve 15 bearing against the
20 outermost collar 14, all as shown by Fig. 3. The supporting-arm 16 at its free end is secured to one end of the agitator or rubber shaft 17, and mounted on the shaft 17 is a pinion 18, held in continual mesh with the
25 spur-gear 13 and secured against one of the heads of the agitator or rubber by suitable bolts 19. The shaft 17 passes through the center of the agitator or rubber, and the heads of the latter rotate on said shaft, and secured
30 to the end of the shaft 17 opposite that with which the supporting-arm 16 connects is a similar supporting-arm 20, secured to a stub-shaft 21, projecting through the head 2 of the inclosing case or suds-reservoir opposite that
35 having the spur-gear and pinion adjacent thereto. The shaft 21 projects through a bushing or bearing 22, similar to the bushing 11, heretofore referred to, and on the outer end of the stub-shaft is a tension-arm 23, hav-
40 ing the upper end of a tension-spring 24 attached to the free terminal thereof. The lower end of the tension-spring 24 is adapted to be attached to any one of a series of hooks or projections 25, carried by an angle-plate 26,
45 secured to the adjacent head 2, and through the medium of the tension-spring and the adjustability thereof the yielding movement of the agitator or rubber 7 can be readily controlled to prevent the clothes within the drum
50 5 from becoming packed or jammed between the said agitator and the adjacent part of the drum.

After the suds or water has been disposed in the case or reservoir 1 the clothes to be
55 washed are deposited in the drum 5 through the hinged cover 6 and the latter afterward closed and secured. The shaft 10 is then rotated by the crank-handle 12, thus rotating the drum 5 and the agitator or rubber 7.
60 The clothes will be carried around in close contact with the agitator or rubber, and the ribs 8 and 9 will materially facilitate the removal of dirt from the clothes, particularly

in view of the fact that the water or suds is permitted to freely flow through both the
65 drum and the agitator or rubber. A rubbing friction of the clothes will be set up in a gentle and yet positive manner and expedite the washing operation without liability of tearing or injuring the clothes contained within the
70 drum.

By the arrangement of the spur-gear 13 and pinion 18 as set forth the drum and rubber are rotated in opposite directions, and by this means the washing operation is expedited
75 and dirt more thoroughly removed from the clothes within the drum.

Changes in the form, proportions, and minor details of construction may be resorted to without in the least departing from the spirit
80 of the invention.

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

1. A washing-machine having an outer inclosing case, a clothes-drum having openings
85 therein, a cylindrical rubber eccentrically mounted within the drum and also formed with openings therein, a shaft extending centrally through the rubber and provided with terminal arms, a drive-shaft extending through the
90 center of one end of the case and the drum and loosely engaged by one of the arms, the drum being fixed to said drive-shaft to rotate therewith, a stub-shaft extending through the center of the opposite end of the casing and
95 the drum and having the remaining arm secured thereto, and gearing interposed between the said drive-shaft and one end of the shaft of the rubber.

2. A washing-machine comprising an outer
100 inclosing case, a perforate drum rotatably mounted in said case, a perforate rubber of cylindrical form eccentrically arranged in the drum, the said rubber being materially less in diameter than the drum, a drive-shaft extend-
105 ing through the center of the adjacent end of the case and drum, a stub-shaft extending through the opposite end of the case and drum, the drum being rotatable with the drive-shaft and having loose movement on the stub-shaft,
110 a shaft extending centrally through the rubber and having arms respectively loosely engaging the drive-shaft and secured to the stub-shaft, and means between the drive-shaft and the shaft of the rubber for imparting rotary
115 movement to the rubber.

3. A washing-machine consisting of an outer inclosing case, a perforated clothes-drum rotatably mounted in the said case, a cylindrical rubber of open form eccentrically mounted in
120 the drum, shaft means for operating and supporting the drum, a shaft extending centrally through the rubber and connected to the said shaft means, the rubber being rotatably mounted on its shaft, and gearing devices be-
125 tween a part of the said shaft means and one

end of the rubber, whereby the drum and rubber will be rotated in opposite directions.

4. A washing-machine consisting of an outer inclosing case, a perforated clothes-drum rotatably mounted in the said case, a cylindrical rotary rubber eccentrically arranged in the drum and having rotation on its axis and also rotation about the plane of the axis of the said drum, and means for operating the drum and

rubber and for supporting the latter eccentrically in the drum, the drum being rotatable in a direction reverse to that of the rubber.

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

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Witnesses:

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