

No. 612,162.

Patented Oct. 11, 1898.

L. B. HAINES.
WASHING MACHINE.

(Application filed May 4, 1897.)

(No Model.)

Fig. 1.

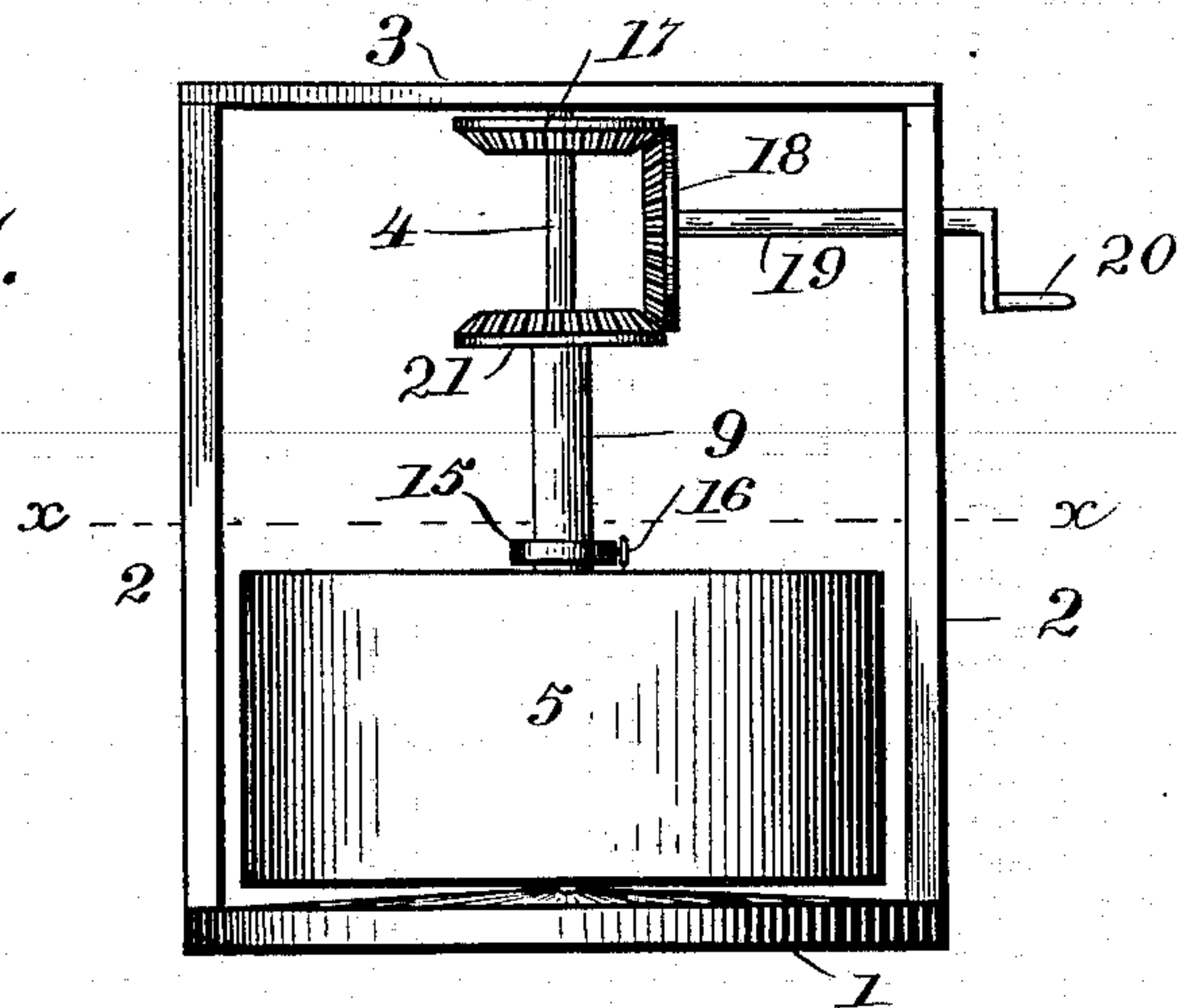


Fig. 2.

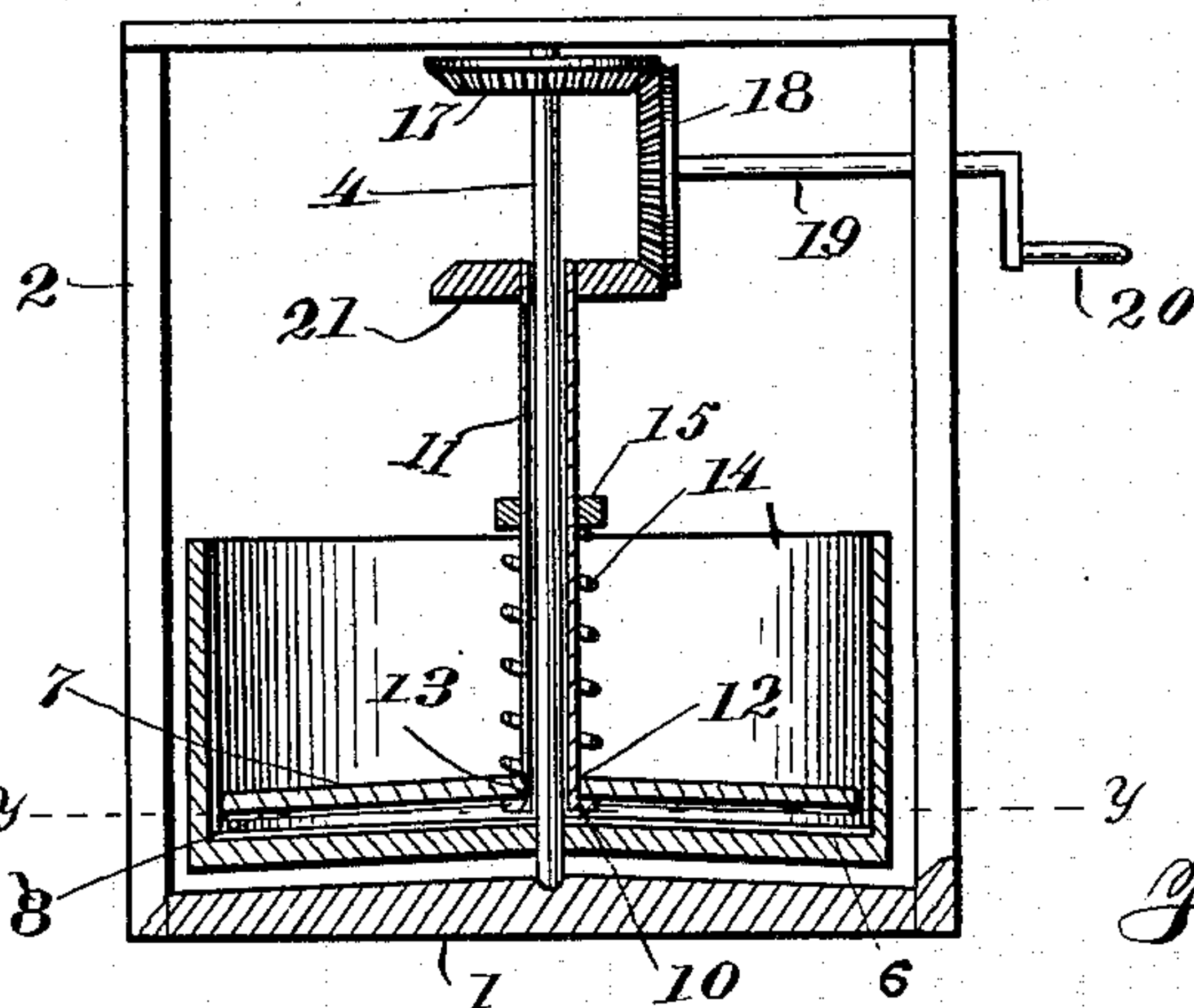


Fig. 3.

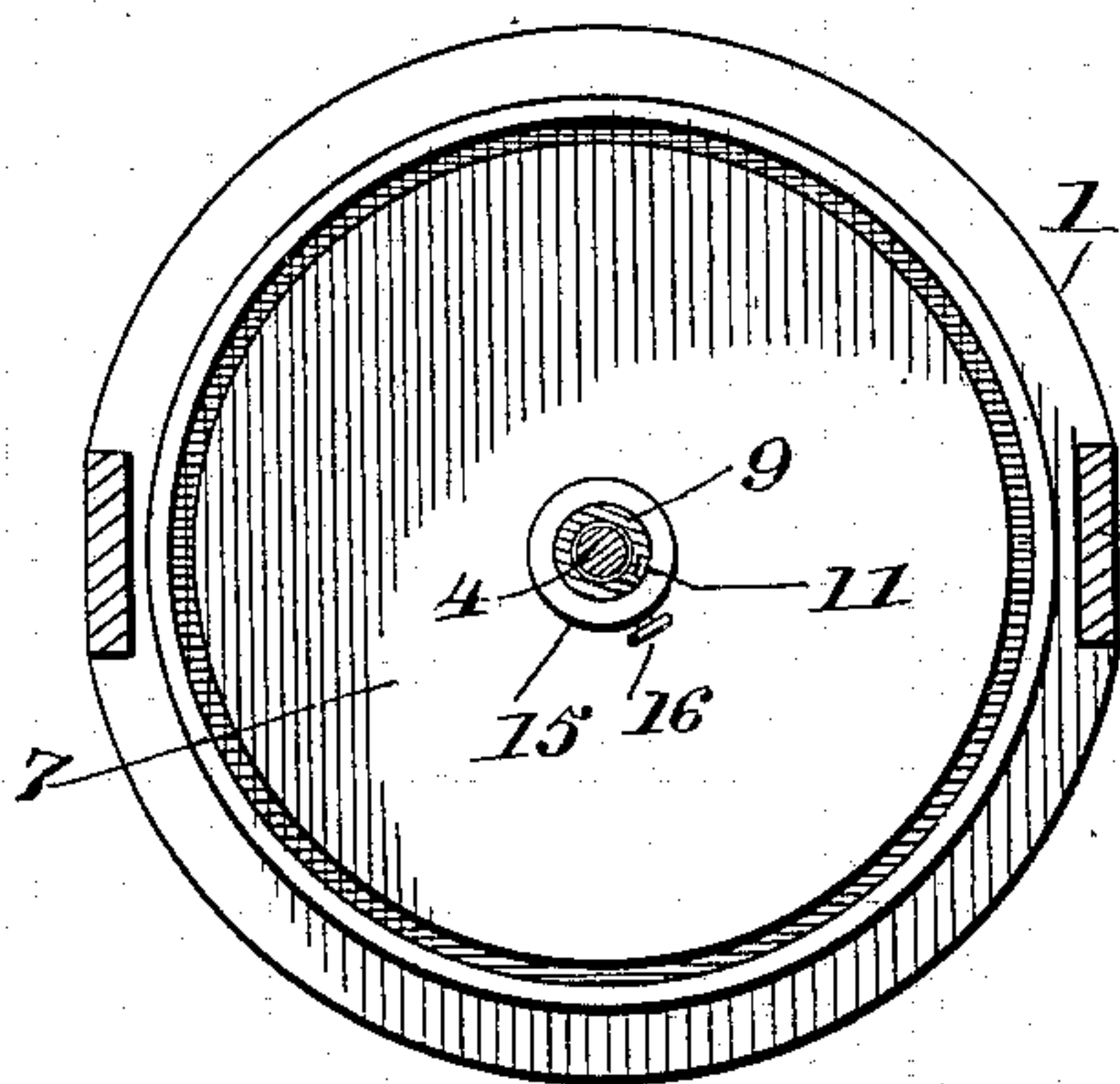
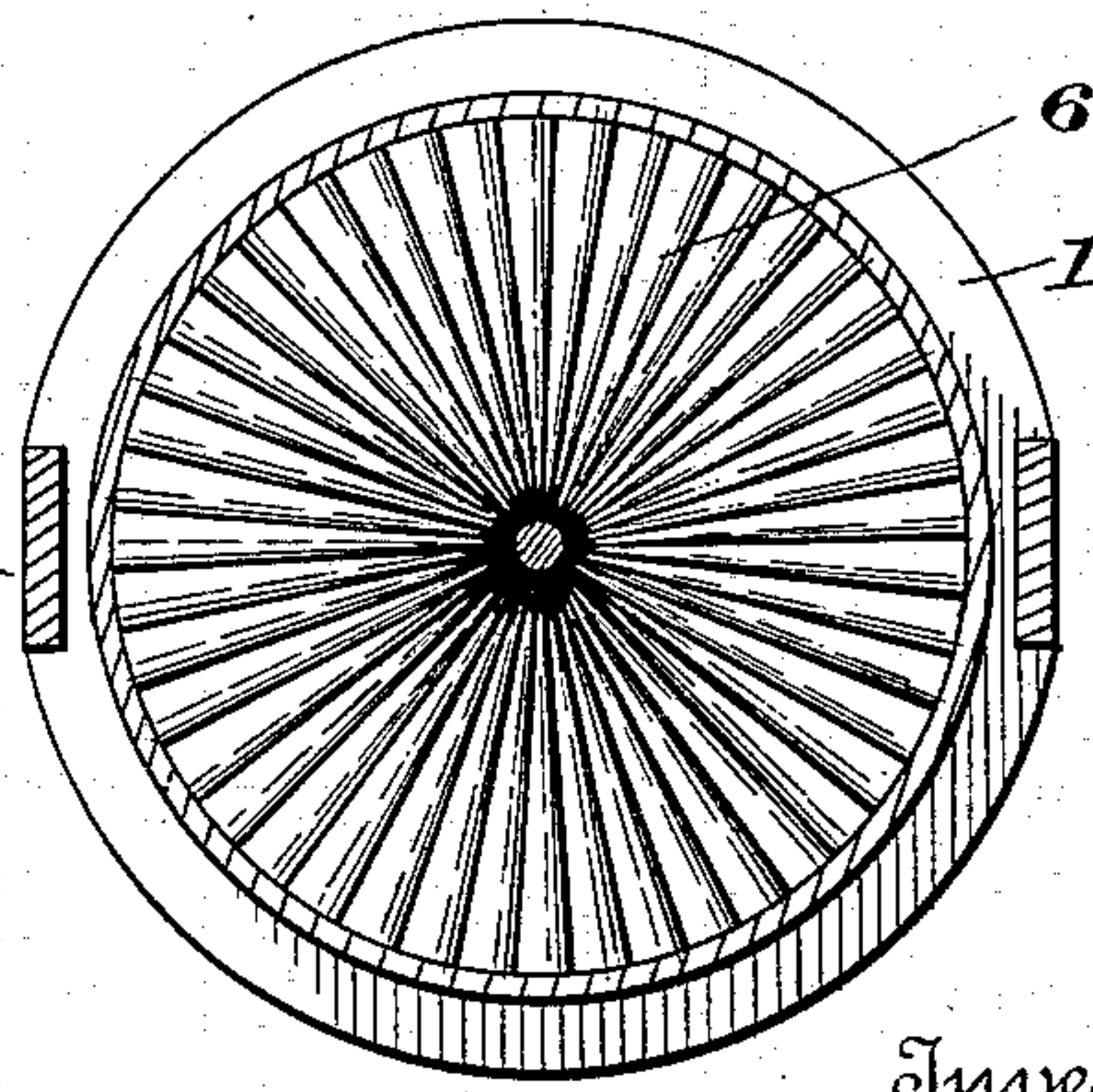


Fig. 4.



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UNITED STATES PATENT OFFICE.

LEWIS B. HAINES, OF COLUMBUS, KANSAS, ASSIGNOR OF ONE-THIRD TO
EDWARD D. BRADNEY, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 612,162, dated October 11, 1898.

Application filed May 4, 1897. Serial No. 635,052. (No model.)

To all whom it may concern:

Be it known that I, LEWIS B. HAINES, of Columbus, in the county of Cherokee and State of Kansas, have invented certain new and useful Improvements in Washing-Machines; and I do hereby 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.

This invention relates to improvements in washing-machines; and the object of the same is to provide an improved machine in which the operation of washing the clothes is accomplished more effectually and with less difficulty than by the construction now in general use.

The invention consists in the novel features of construction hereinafter fully described, claimed, and illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a vertical sectional view. Fig. 3 is a transverse section on the line *x x* of Fig. 1. Fig. 4 is a section on line *y y* of Fig. 2.

Referring to the accompanying drawings, 1 indicates the base, having its upper surface inclined to its center, and raised from opposite edges of the same are the uprights 2, having at their upper ends the horizontal arm 3. Journaled at its upper end in this horizontal arm and at its lower end to the central portion of the base is the vertical shaft 4, to which is secured the tub or clothes-receptacle 5. This receptacle has its bottom wall inclined similar to the supporting-base and provided with the radial corrugations 6. As will appear from the drawings, this tub has no top, but only the bottom and sides, and adapted to be positioned within the same is the circular plate or rubber 7, provided on its under side with the radial corrugation 8. Adapted to be inserted upon and inclose the shaft 4 is the tubular shaft 9, having a flange 10 upon its lower edge and formed with the longitudinal groove or way 11. The rubber or circular plate 7 is provided with a central passage 12, whereby it may be inserted over the tubular shaft, a key or projection 13, carried thereby, moving in the longitudinal way of said shaft. A coil-spring 14 rests at one

end upon the upper surface of the rubber and at its opposite end is secured to the collar 15, which encircles the tubular shaft, said collar being provided with a set-screw 16, by means of which it may be adjusted at various elevations upon the tubular shaft to regulate the tension of the spring upon the rubber. Adjacent the upper end of the shaft 4 is a wheel 17, provided with a bevel-gear which intermeshes with a similar wheel 18 on a shaft 19, which is journaled in the upright 2, said shaft being provided with a crank 20, by means of which it is rotated. The tubular shaft also carries a bevel gear-wheel 21 adjacent its upper end, which meshes with the gear on the driving-shaft, whereby the same is also rotated.

In operation the clothes are placed within the tub and the rubber positioned thereon, its pressure being varied by the coil-spring. The driving-shaft is then rotated by means of the crank, and the shaft to which the tub is secured and the tubular shaft which carries the rubber are rotated in opposite directions. By reason of the tub being inclined the clothes have a tendency to move to the edges thereof, where the rubbing operation is more effectually performed, owing to the greater circumference at the outer edge than the center. This is especially advantageous when but a few articles are being cleansed.

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

1. The combination of a supporting-base, a shaft journaled therein at its lower end, a tub secured to said shaft, a tubular shaft adapted to be inserted over said shaft, a rubber adapted to be detachably positioned upon the tubular shaft, a tension device for varying the pressure of the rubber upon the clothes within the tub, and a driving mechanism for rotating said shafts in opposite directions, substantially as set forth.

2. The combination of a supporting-base, uprights raised therefrom, an arm carried by said uprights, a shaft journaled at one end in the said arm and at its opposite end in the supporting-base, a tub secured to said shaft, a tubular shaft adapted to be inserted upon said shaft, a rubber adapted to be detachably

secured to said tubular shaft, a tension device for regulating the pressure of the rubber upon the clothes, gear-wheels carried by said shafts, a driving-shaft having a gear-wheel
5 intermeshing with the gear-wheels of said shafts, and means for operating said driving-shaft whereby the rubber and tub are rotated in opposite directions, substantially as set forth.

10 3. The combination of a supporting-base, uprights secured thereto, an arm connecting the upper ends of said uprights, a shaft journaled at one end in said arm and at its opposite end in the base, a tub secured to said
15 shaft, said tub or receptacle having an open top and having its bottom inclined from its periphery to its center, said bottom being provided with corrugations, a tubular shaft adapted to be inserted upon the tub-shaft
20 and having a flange or shoulder at its lower end, said tubular shaft provided with a longitudinal way, a rubber corresponding in shape to the bottom of the tub and provided

with corrugations, said rubber or plate having a central passage formed with a key which 25 is adapted to extend into the longitudinal way of the tubular shaft when said rubber is positioned thereon, a coil-spring resting at one end upon the upper surface of the rubber, a collar movable upon the tubular shaft 30 to which the opposite end of the spring is secured, a set-screw for adjusting said collar, gear-wheels carried by the shafts, a driving-shaft having a gear-wheel adapted to intermesh with said gear-wheels whereby the shafts 35 are rotated in opposite directions, and means for rotating the driving-shaft, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 40

LEWIS B. HAINES.

Witnesses:

JOHN MCKILLOP,
ROBT. P. MILES.