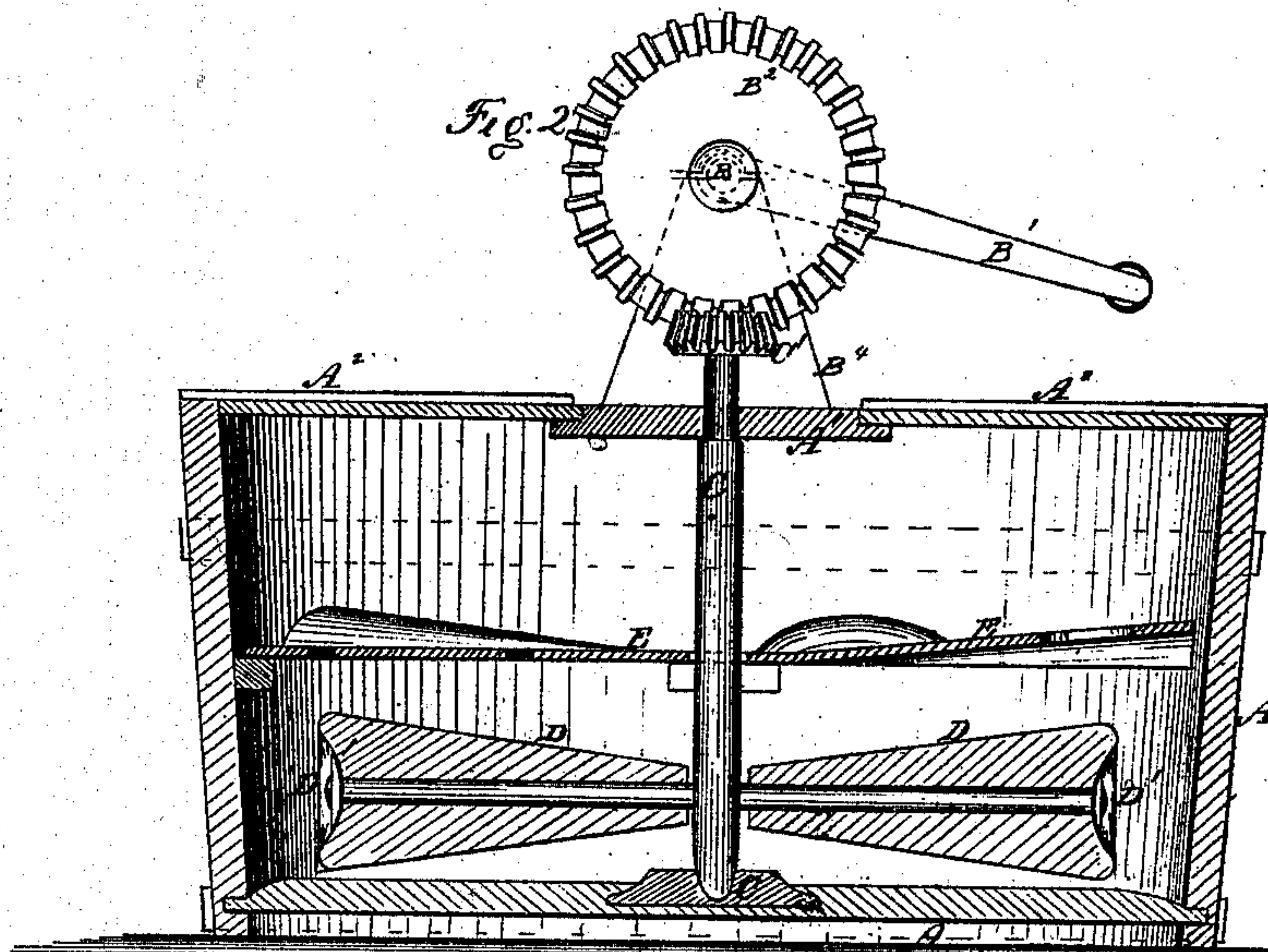
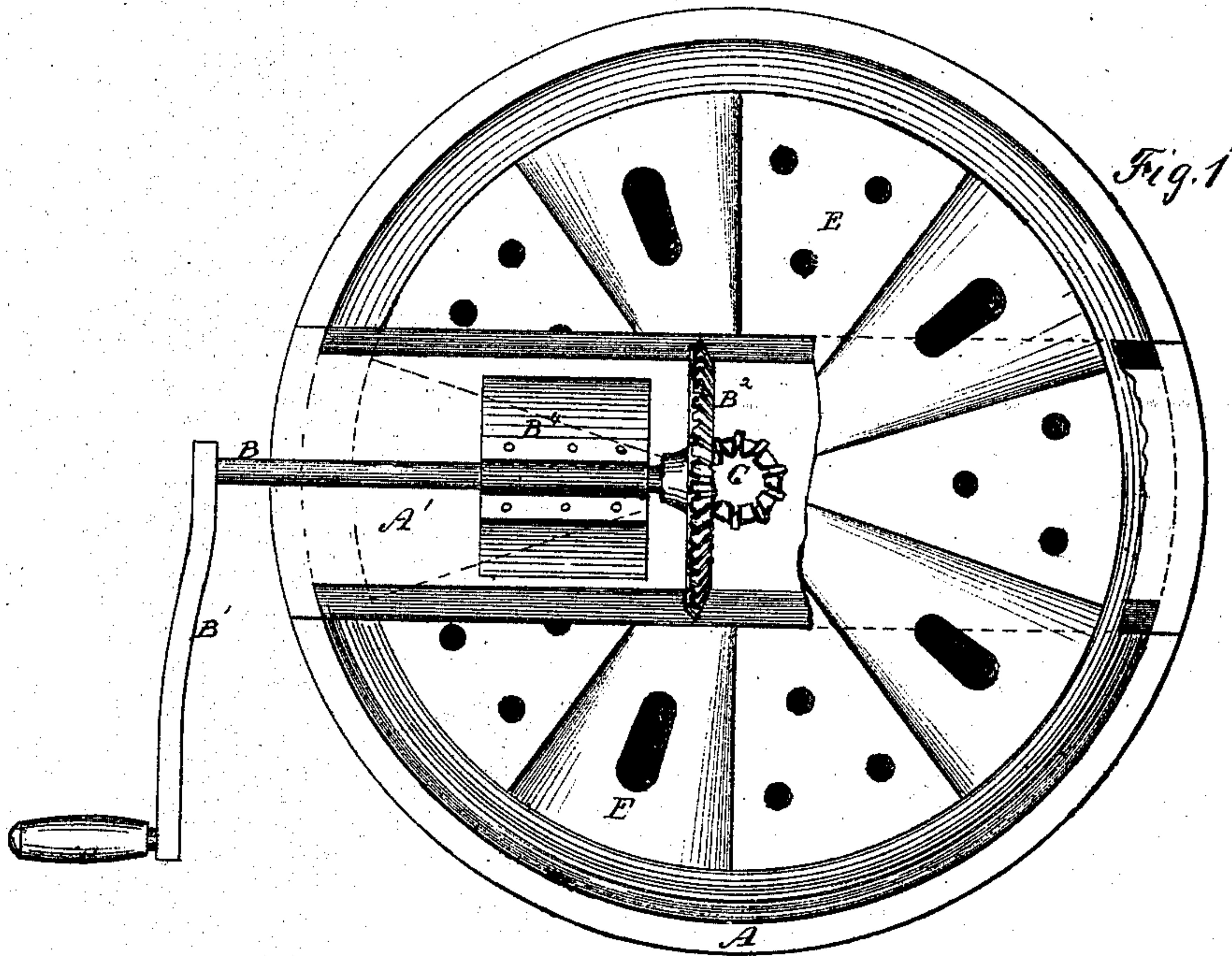


G. L. Mitsil,

Washing Machine.

No. 105,616.

Patented July 19, 1870.



Witnesses  
A. Ruppert  
C. F. Clausen.



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Inventor.  
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Atty.



# United States Patent Office.

GEORGE L. WITSIL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND THOMAS L. BATES, OF SAME PLACE.

*Letters Patent No. 105,616, dated July 19, 1870.*

## IMPROVEMENT IN WASHING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same

### *To all whom it may concern:*

Be it known that I, GEORGE L. WITSIL, of the city and county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is a plan view of my improved washing-machine, showing the gearing by which the agitating rollers are driven, the devices for holding it in position, and the corrugated metal disk upon which the clothes rest while being washed.

Figure 2 is a vertical sectional elevation, showing the parts of the machine in position for operation, and the manner of constructing the same.

Figure 3 is a sectional elevation of the metal disk above alluded to.

Corresponding letters refer to corresponding parts in the several figures.

In washing-machines, as heretofore usually constructed, great injury has been done to the articles which are placed therein for the purpose of being washed or cleansed, in consequence of the fact that they have been subjected to rubbing-surfaces, or to the action of dashers or sounders, which has had the effect to subject such articles to unnecessary wear and damage, which, in some of the machines referred to, have been so great as to prohibit the use of such machines.

The object of this invention is to provide a machine which shall readily and thoroughly cleanse clothing of ordinary description without subjecting it to either the rubbing or pounding process, or to any other which is calculated to deteriorate the same; and to this end

It consists in the construction, combination, and arrangement of its parts, as will be more fully explained hereinafter.

A, in the drawing, refers to a tub, which may be of any desired height and diameter, it having a strong bottom for the support of a vertical shaft, to which the agitating rollers, soon to be described, are attached, it being also provided with the necessary hoops to keep the parts in position.

A<sup>1</sup> refers to a bridge-tree, which extends across the tub at its upper end, and is secured to the same in any suitable manner, it being used for the support of the gearing, as shown in figs. 1 and 2.

Those portions of the upper end of the tub not covered by the bridge-tree above alluded to are covered by lids or covers A<sup>2</sup> A<sup>2</sup>, which are so arranged as to fill the spaces on each side of said bridge-tree, and to be easily removable for the placing in or removing from the tub of the articles to be washed,

and at the same time prevent the water or suds from being forced over the top of said tub.

B refers to a horizontal shaft, which has its bearings in a box B<sup>3</sup>, while upon its outer end there is fixed a crank, B<sup>1</sup>, with which to turn it, and thus give motion to a gear-wheel, B<sup>2</sup>, upon its inner end, which communicates its motion to the vertical shaft C.

B<sup>4</sup> refers to a pillow-block, which is secured to the bridge-tree A<sup>1</sup>, and which supports the box B<sup>3</sup>, in which the shaft B revolves.

C refers to a vertical shaft, the lower end of which rests and turns in a step, C<sup>2</sup>, which is fixed to the bottom of the tub, while its upper end has its bearings in the bridge-tree A<sup>1</sup>.

Upon the upper end of this shaft there is a bevel pinion, C<sup>1</sup>, which is so arranged as to mesh into and be driven by the wheel B<sup>2</sup>, through and by means of which it receives its rotary motion.

D D refer to conical rollers, which are secured upon shafts D' D', but so as to revolve freely thereon, said shafts being attached to the vertical shaft C at such a distance from its lower end that the base or largest portion of the rollers, when in position, will just be clear from the bottom of the tub, in order that they may perform their rotations with the shaft C without coming in contact with said bottom or any other portion of the tub.

E refers to a disk of metal, the form of which is clearly shown in the drawing, but which, if preferred, may be a plain flat disk, having in it a series of perforations such as are shown in the drawing. I prefer, however, to construct this disk of the form shown in fig. 3, where it is shown as having portions of its surface raised, and provided with elongated slots for the passage of the water or suds to and among the clothes.

This disk rests upon a ledge or projection formed upon the interior surface of the tub, it being at such a distance from the bottom thereof as to allow the rollers D to rotate without coming in contact with its under surface.

The operation of this machine is as follows:

The parts having been constructed and arranged as shown and described; the sections A<sup>2</sup> of the cover, or one of them, are or is removed, and a quantity of water sufficient to cover, or about cover, the rollers D, is placed in the tub, together with a sufficient quantity of soap to make a strong suds, when the disk E is to be placed in its position, as shown in fig. 2, and the clothes or articles to be washed are placed on the upper surface thereof, and the rollers and shaft C made to rotate rapidly by means of power applied to the crank B<sup>1</sup>, which will cause a commotion of the water, which will cause a suds to be formed, which will be forced up through the apertures in the disk, and



through and among the clothes, which will free them from any impurities which they may contain, which impurities, together with the water or suds, will settle, by their own gravity, in the bottom of the tub.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The disk E, constructed as herein shown, and for the purpose set forth.

2. The combination and arrangement of the disk

E and rollers D, substantially as and for the purpose set forth.

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

GEO. L. WITSIL.

Witnesses:

A. CASKIE,

W. BROWN.