Oct. 9, 1923. 1,470,245

G. SLIDER

CYLINDER WASHING MACHINE

Filed Sept. 27, 1921 2 Sheets-Sheet 1

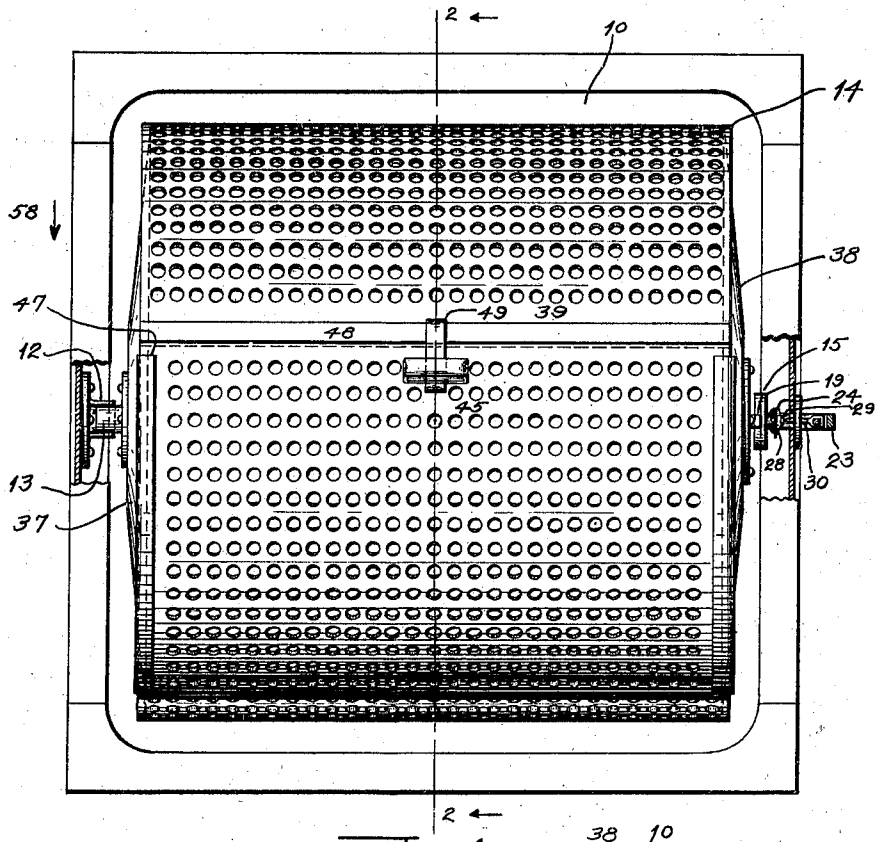


Fig. 1

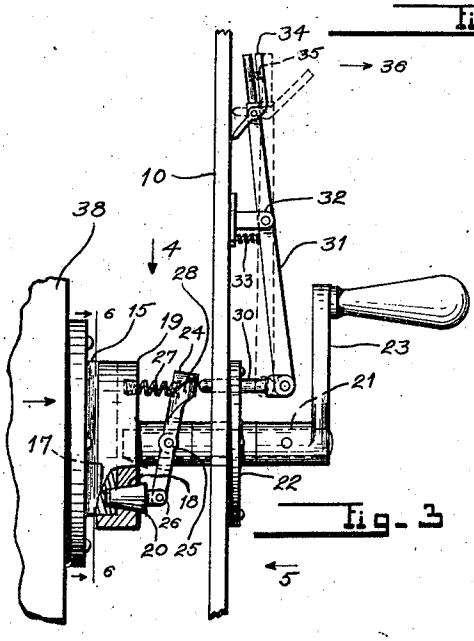


Fig. 3

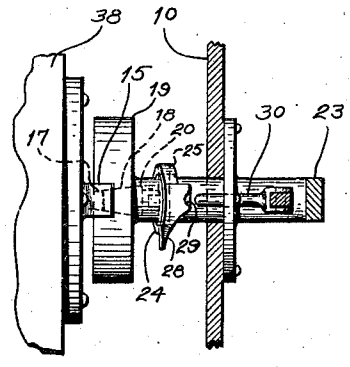


Fig. 4

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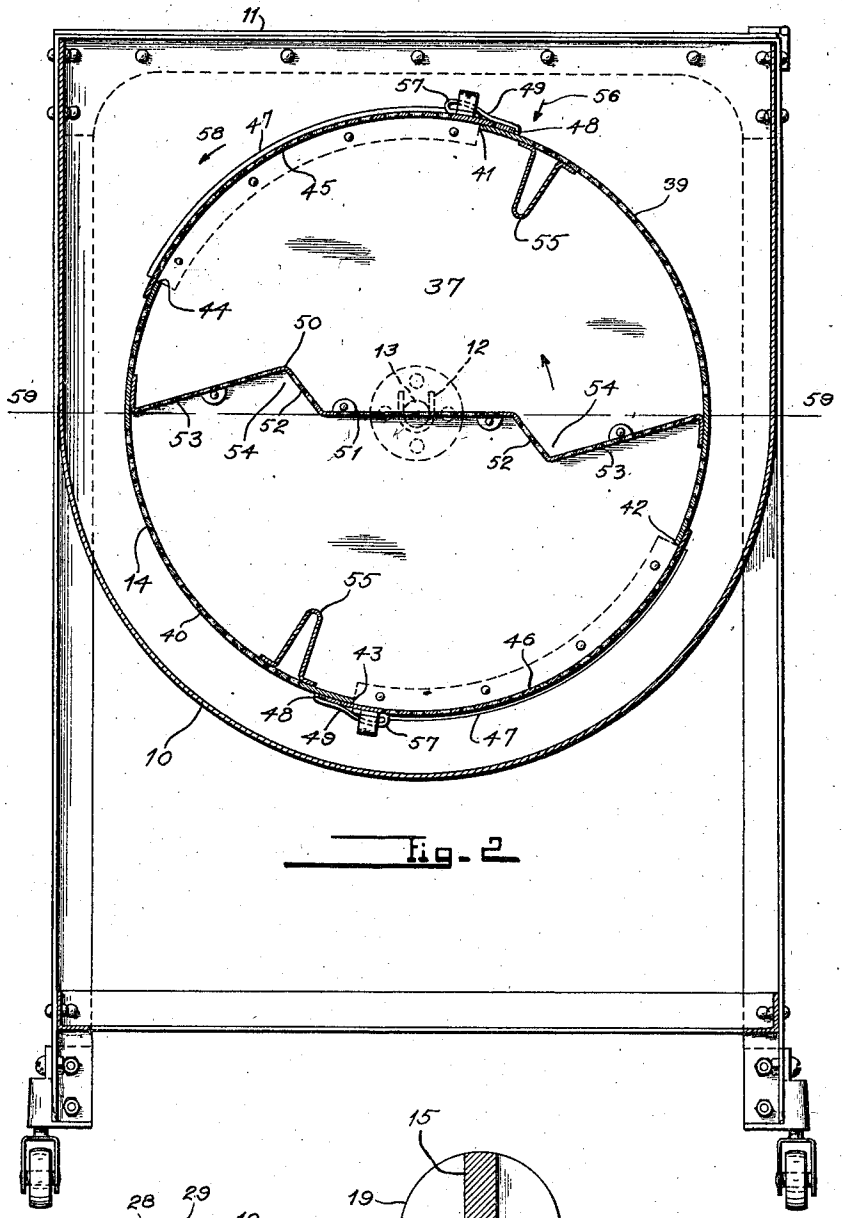


Fig. 2

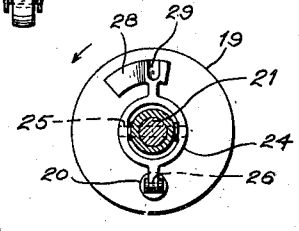


Fig. 5

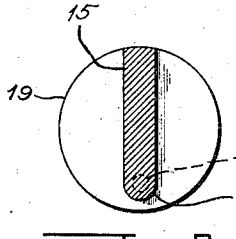


Fig. 6

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Patented Oct. 9, 1923. 1,470,245

UNITED STATES PATENT OFFICE.

GEORGE SLIDER, OF BALTIMORE, MARYLAND.

CYLINDER WASHING MACHINE.

Application filed September 27, 1921. Serial No. 503,564.

To all whom it may concern:

Be it known that I, GEORGE SLIDER, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Cylinder 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.

My invention relates to cylinder washing machines.

Among the objects of my invention are:—

To produce a cylinder suitable for use in a clothes washing machine so constructed and arranged as to prevent the clothes from becoming rolled into a compact mass, even though the cylinder be rotated continuously in one direction.

To produce a cylinder for the purpose specified having a septum so shaped and located as to cause a rapid flow of water through the clothes.

To produce a cylinder for the purpose specified having baffle plates coacting with a septum to prevent the compacting of the clothes.

To produce a cylinder for the purpose specified having doors and a septum so related to and combined with a suds container and a stopping mechanism that the cylinder can be stopped with a door directed to an opening in the suds container so that the clothes may be readily removed and so that the septum will be between the clothes and suds thus avoiding contact of the latter with the hands when removing the clothes.

To provide a construction whereby the cylinder may be readily removed from the means for revolubly supporting same and from the means for driving and stopping same.

These and further objects of my invention will become apparent in the following specification, reference being had to the accompanying drawings, and the means by which said objects are effectuated will be definitely pointed out in the claims.

In the drawings:—

Figure 1 is a view showing a suds container, (the lid thereof being omitted), and my improved cylinder showing through the opening in said container.

Fig. 2 is a section along the line 2—2 in Fig. 1, looking in the direction of the arrows.

Fig. 3 is a view of the mechanism for locking the cylinder in supporting and operative connection with the driving mechanism and for stopping said cylinder in the proper position to be removed from said mechanism.

Fig. 4 is a view of some of the parts shown in Fig. 3 looking in the direction of the arrow 4 in said figure.

Fig. 5 is a view of some of the parts shown in Fig. 3 looking in the direction of the arrow 5 in said figure.

Fig. 6 is a section along the line 6—6 in Fig. 3 looking in the direction of the arrow.

In the drawings:—

10 is a suds container which may be of any suitable shape and provided with any suitable lid such as 11. A U-shaped bearing 12 is secured to one side of the container 10 and the pintle 13 secured to the end 37 of the cylinder, or clothes container, 14 is revolubly mounted therein.

A locking block 15 is secured to the end 38 of the cylinder 14 and one end of said block is semi-circular as at 16 and provided with a tapering hole 17, which registers with the tapering hole 18 provided in the driving disc 19.

The driving disc 19 is provided with a U-shaped slot in which the block 15 fits and the locking pin 20 mounted in the hole 18 and engaging in the hole 17 locks the block 15 and disc 19 together. The disc 19 is mounted on the shaft 21 which is revolubly mounted in the bearing 22 secured to one side of the container 10, and the handle 23 is fixed to the outer end of said shaft.

A lever 24 is pivotally mounted upon the pin 25 and said pin also serves to secure the disc 19 upon the shaft 21. The lever 24 is pivotally connected by the pin 26 with the locking pin 20 and a spring 27 serves to keep said pin normally in engagement with the hole 17 in the block 15. The lever 24 is provided with a ramp 28 and a slot 29 which coact with the index pin 30 as hereinafter explained.

The pin 30 is slidably mounted in a hole

provided in the bearing 22 and is pivotally connected to the lever 31, which is pivotally mounted in the bracket 32 secured to the side of the container 10. A spring 33 keeps the lever 31 in the position shown in Fig. 3. A detent 34 is pivotally connected to the lever 31, and a spring 35 tends to move the upper end of the detent 34 in the direction of the arrow 36.

To the ends 37 and 38 of the cylinder 14, the curved perforated walls 39 and 40 are secured, the former extending from the edge 41 to the edge 42 and the latter extending from the edge 43 to the edge 44. There are thus two openings into the interior of the cylinder 14, one between the ends 37 and 38 and the edges 41 and 44; the other between the ends 37 and 38 and the edges 42 and 43. These openings are closed by curved perforated doors 45 and 46, respectively, the ends of which slide in guides such as 47 secured to the ends 37 and 38.

The edges of the doors abut against strips 48 when the openings are closed and spring latches 49 engage said strips to lock said doors in the closed position.

A perforated septum 50 is secured between the walls 39 and 40 and extends between the ends 37 and 38 to which it is also secured. Said septum comprises a diametrically disposed portion 51, two portions 52—52 forming angles with the portion 51 and two portions 53—53 each forming an angle with one of the portions 52 so as to form a pocket such as 54. The end of one of the portions 53—53 is secured to the wall 39 and the end of the other portion is secured to the wall 40.

One of the baffle plates 55 is secured to each of the walls 39 and 40.

The operation of my improved machine is as follows:—

The wall 39 adjacent the strip 48 is to be pressed in the direction of the arrow 56 and the end 57 of the adjacent spring 49 is to be pressed in the same direction, thus releasing the right hand end of said spring from said strip. The door 45 may then be moved in the direction of the arrow 58, to uncover the corresponding opening.

The clothes may then be introduced into the space above the septum 50 and the door 45 returned to the position shown in the drawing.

The cylinder 14 is then to be turned by the handle 23 in the direction of the arrow 58 until the door 46 comes into the position occupied by the door 45 in the drawings. The former can then be opened and the clothes introduced into the corresponding space within the cylinder.

Suds are then introduced within the container 10 up to about the line 59—59 and the handle 23 is to be turned in the direction of the arrow 58. As the pocket 54 is ascending, the clothes and water will accumulate therein, and after said pocket has risen above the line 59—59 the clothes will drop downwardly and toward the left. As the clothes are dropping, they will strike against the corresponding baffle plate 55 and are slightly retarded thereby.

It is to be noted that the pocket 54 must rise some distance above the line 59 before the clothes can drop; therefore, as a consequence, by the construction of the pocket 54 and the retardation of the drop afforded by the plate 55, the clothes do not roll upon the portion 51 and compacting of the clothes is thereby avoided. Furthermore, since the clothes are retarded by the plate 55, the water that does not pass backwardly through the holes in the bottom of the pocket 54 is dashed against the clothes, thus aiding in their cleansing.

It is also to be noted that when the clothes drop from the pocket 54, the other pocket will be some distance below the suds and the clothes will drop into the suds.

There are thus three actions of the suds upon the clothes:

First, while the clothes are dropping, suds from the pocket 54 is dashed thereupon.

Second, the clothes drop into the suds.

Third, the clothes are carried through the suds below the line 59—59.

It is to be noted that the clothes can be removed from the portion of the cylinder above the septum 50 without introducing the hands into the suds.

If the cylinder 14 is to be removed for any purpose, the lever 31 is to be moved to the position shown dotted in Fig. 3, thus moving the pin 30 into the path of the ramp 28. When said lever is moved, the spring 35 moves the detent 34 into the dotted position, thus retaining the lever 31 in the dotted position. As the cylinder 14 turns the ramp 28 is brought against the pin 30 and the pin 20 is moved opposite to the direction of the arrow 5, thus unlocking the block 15. Further movement of the cylinder 14 brings the slot 29 opposite the pin 30 and the spring 27 moves said slot until the sides thereof embrace the pin 30 and prevent further motion of the disc 19. The cylinder 14 can then be removed, and the disc 19 is held in the proper position for its return. When the cylinder is returned, the upper end of the detent 34 is to be moved backwardly to the full line position. The spring 33 will then move the lever 31 to the full line position and the spring 27 will move the pin 20 into engagement with the block 15.

While I have specified that the cylinder 14 is to be continuously rotated, it may be rotated 90 degrees in the direction of the arrow 58 in Fig. 2, and then in the reverse direction the same distance. This can be repeated any plurality of times, then the

cylinder can be turned 180 degrees and a similar vibrating motion of 90 degrees communicated thereto; hence, unless specifically claimed, I do not desire to be limited to the use of a continuous rotary motion.

I have shown a handle for turning the cylinder 14, but it is to be understood that the handle may be replaced by any source of power.

The pockets 54 and the baffle plates 55 by which their combined effects upon the clothes are obtained may be varied in many ways without departing from the spirit of my invention.

I claim:—

1. The combination with a clothes container, a suds container, a U-shaped bearing supported on one side of said suds container and a pintle on one end of said clothes container mounted in said bearing, of a disc comprising a slot revolubly mounted in the other side of said suds container, a locking block secured to the other end of said clothes container and mounted in said slot, a pin for locking said disc and block together, and means on the exterior of said suds container for moving said pin to unlock said disc and block.

2. The combination with a clothes container, a suds container, a U-shaped bearing supported on one side of said suds container and a pintle on one end of said clothes container mounted in said bearing, of a slotted disc revolubly mounted in the other side of said suds container, a locking block secured to the other end of said clothes container and mounted in said slot, and means for unlocking said disc and block and for locking said clothes container in such a position that said pintle and block can be moved from said bearing and disc, respectively.

In testimony whereof I affix my signature.

GEORGE SLIDER.