

March 23, 1926.

1,577,584

C. A. MILLER, JR

APPARATUS FOR SEPARATING TRASH FROM WASHING SOLUTIONS

Filed July 26, 1921

2 Sheets-Sheet 1

Fig. 1.

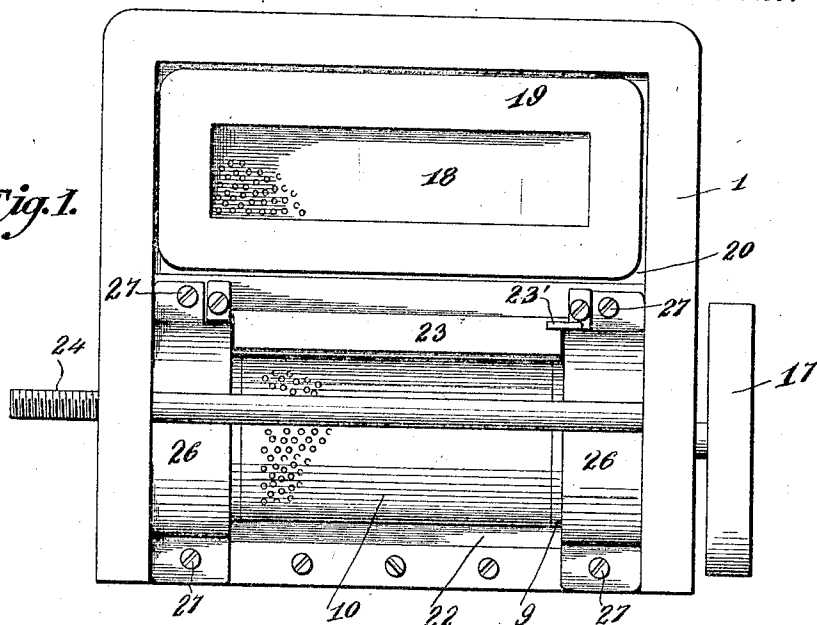
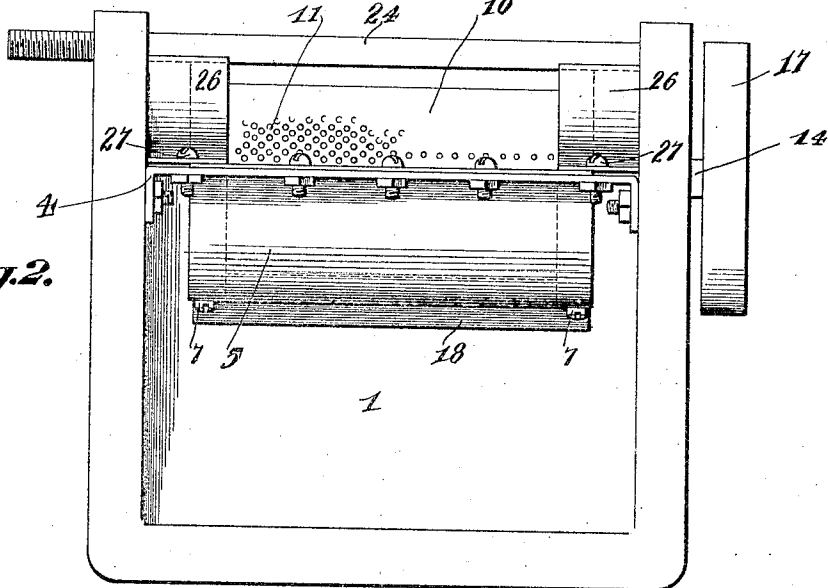


Fig. 2.



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Fig. 3.

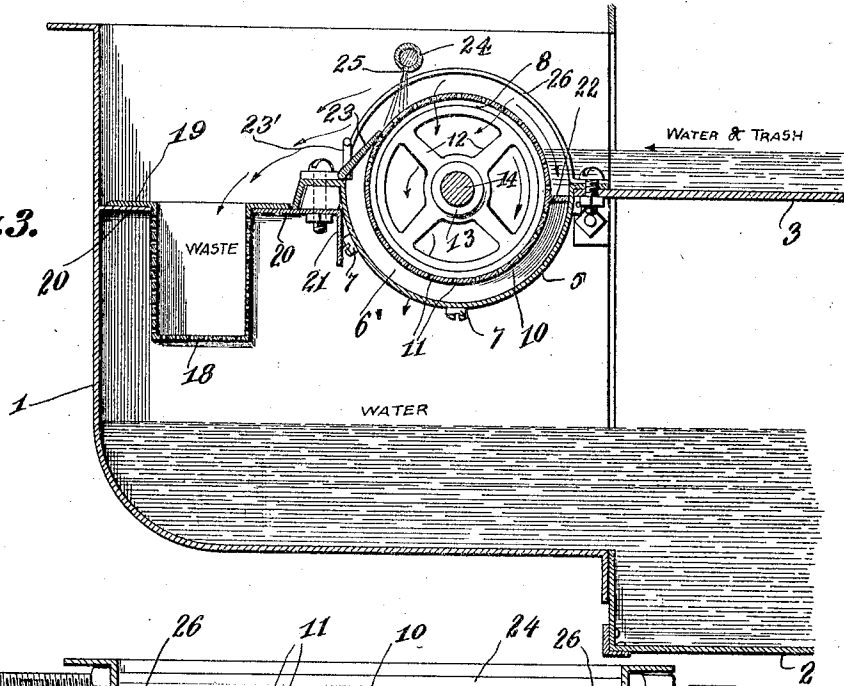
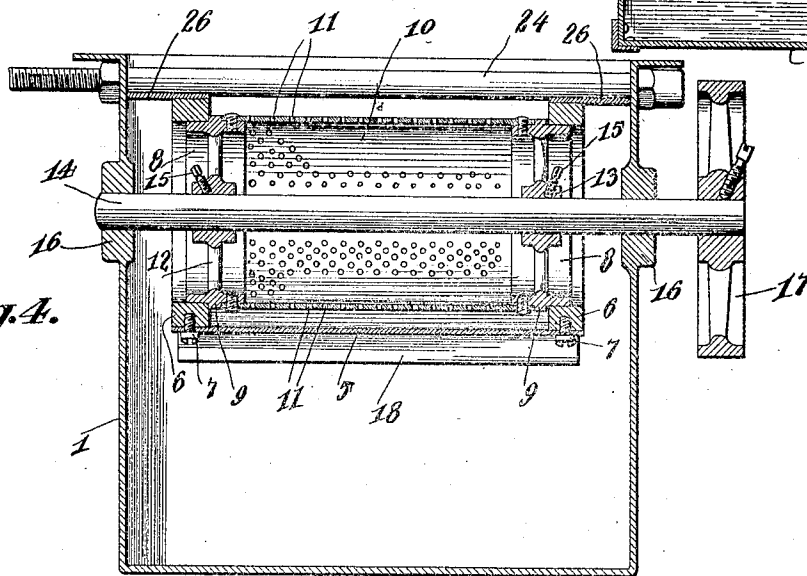


Fig. 4.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR SEPARATING TRASH FROM WASHING SOLUTIONS.

Application filed July 26, 1921. Serial No. 487,630.

To all whom it may concern:

Be it known that I, CHARLES A. MILLER, Jr., a citizen of the United States, residing at Bainbridge, in the county of Decatur and State of Georgia, have invented certain new and useful Improvements in Apparatus for Separating Trash from Washing Solutions; 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 apparatus for separating bottle-labels, and other trash from the bottle washing solution to the end that the solution may again be used. The various features of novelty and invention will appear from the detailed description taken in connection with the accompanying drawings forming part of this specification.

In the drawings, Fig. 1 is a top plan view of the apparatus embodying my invention.

Fig. 2 is a front elevation of the apparatus shown in Fig. 1.

Fig. 3 is a transverse sectional view of the apparatus, and

Fig. 4 is a longitudinal sectional view of the same.

Numeral 1 indicates a tank at one end of a main tank 2. Leading to the tank 1 is a conduit 3 for carrying the solution to be cleaned, and arranged within the tank 1 is a smaller tank or receptacle 18 adapted to receive the waste matter separated from the washing solution by the mechanism hereinafter described.

Supported across the tank 1 in suitable bearings 16 is a shaft 14 on which is affixed a pair of wheels or rings 8 having spokes 12 radiating from a hub 13, a set screw 15 passing through the hub for securing the rings in place on the shaft. Mounted on and extending between the wheels 8 is a foraminous, open-ended cylinder 10, the same being affixed thereto in any suitable manner. The perforations in the cylinder are indicated by numeral 11. The shaft has a pulley 17 affixed to one end thereof for connection with a suitable source of power.

Suspended in the tank 1 in spaced concentric relation to the cylinder 10 is an open-ended, trough-like member 5. Each end of the said member has an internal ring 6 which is telescoped over the adjacent wheel 8, said ring 6 being secured to said

member 5 as by means of screw 7. There is thus formed an annular passage 6' between said member and cylinder. The wheels 8 may be provided with a radial flange 9 disposed inwardly of the ring 6 to more effectively prevent trash from passing therebetween.

Affixed to the cylinder 10 is a radially and longitudinally extending blade or wiper 22 adapted to extend between the ring 6 and travel through the annular passage 6' formed between the cylinder and the said trough-like member. The water borne trash in the conduit 3 impinges against the foraminous cylinder and is carried down through said annular passage by the said blade as the cylinder rotates. On the other side of the cylinder is mounted a hinged plate 23 which normally rests on the cylinder but which is adapted to be swung aside as the plate and trash forced ahead of the latter come into contact therewith.

Extending across the tank 1 is a pipe 24 having openings 25 in its lower side whereby clean water may be sprayed on the cylinder to wash away the trash carried up by the blade 22. The trash upon being washed from the cylinder will pass down the outer face of the plate 23 and be received in the perforated tank or receptacle 18 at one side of the cleaning device.

Inasmuch as the cylinder is foraminous there is nothing to hinder some of the liquid in the conduit 3 from passing therethrough. The liquid which does pass through will pass through the open ends of the cylinder and will flow into the tank 2 as will now be readily understood.

In order to prevent the hinged plate 23 from swinging outwardly too far there may be provided a stop 23'.

In operation the hinge plate 23 functions to press against cylinder 10 by means of gravity pressure, and as cylinder 10 rotates the blade 22 pushes the blade upward and will not tend to press the trash inward towards cylinder 10, as the force due to gravity in this case is not sufficient to cause this effect. It is to be noted that by revolving cylinder 10 in the ring 6, so that blade 22 touches plate 23, it causes plate 23 to move upwardly and outwardly, thereby allowing the trash and the blade 22 to pass freely. At the same time sprays of liquid are adapted to beat at numerous points along

the side of both the cylinder 10 and the blade 22, thereby forcing the trash into a basket 18, and as soon as the blade 22 passes the plate 23, the plate 23 falls back against cylinder 10 by means of gravity weight only. The plate 23 cannot become overbalanced and fall away from the cylinder, either pushed by the sprays or otherwise, owing to a stop element 23' which is located in such a manner that it will not permit the plate 23 to get to the dead center point or beyond. The stop 23' acts to hold the plate 23 at a certain desired angle, so as to allow the plate 23 to fall back against the cylinder 10 after blade 22 has passed by.

The receptacle 18 is supported by means of flanges 19 resting on a transversely extending shelf 20 affixed to the sides of the tank 1. One edge of the trough-like member 5 is also supported on the shelf 20 as shown in Fig. 3, there being provided a bracing member 21 below the shelf at this point; the other edge of the member is supported on a bracket 4 extending across the tank, see Fig. 2.

Extending over each ring 6 at the edges of the cylinder 10 is a cover member 26 secured to the framework in any suitable manner as by bolts 27.

It will now be seen that I have provided a simple and effective apparatus for separating the trash from the washing solution in order to enable the washing solution to be used over again. When the receptacle 18 becomes filled with trash, it can be readily removed and emptied.

What I claim is:

1. In combination, a tank, a rotatable shaft extending thereacross, an open-ended trough-like member suspended in the tank in concentric relation to said shaft, an open-ended foraminous cylinder supported on said shaft in spaced relation to the sides of said

member, an annular ring between each end of the cylinder and said trough-like member, and a wiper carried by said cylinder for travel through said annular passage to force water-carried trash therethrough, the foraminous cylinder permitting water to pass therethrough, the water so passing through discharging from the open ends of the cylinder into the said tank.

2. The combination specified in claim 1, further including a hinged plate at the discharge end of the annular passage, said plate resting on the cylinder and adapted to be moved aside by the said wiper and trash in front of the same, and a conduit for spraying water on the top of the cylinder to wash away the trash carried up by the wiper beyond said plate.

3. In a device of the character described, a main tank, a secondary tank leading from the main tank, an open-ended foraminous cylinder rotatably mounted in the secondary tank, a trash receiving receptacle at one side of the cylinder, the foraminous cylinder permitting water to pass therethrough, and a trash blade suitably attached to the foraminous cylinder.

4. In a device of the character described, a main tank, a secondary tank leading from the main tank, an open-ended foraminous cylinder rotatably mounted in the secondary tank, a trash receiving receptacle at one side of the cylinder, the foraminous cylinder permitting water to pass therethrough, a trash blade suitably attached to the foraminous cylinder, a guide plate pivoted at a suitable point within the secondary tank having a free edge adapted to come into close relationship with the surface of the foraminous cylinder.

In testimony whereof I affix my signature.

CHARLES A. MILLER, JR.