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VACUUM AGITATOR FOR WASHING MACHINES.


My invention relates primarily to an agitator or dolly for use in a machine of the oscillating dolly type and among the objects thereof are to provide an improved washing machine agitator; to provide a structure of the character described having suction cups adapted to act on articles being washed in a manner somewhat similar to that of a reciprocating suction cup device; to provide an oscillating dolly with suction cups to assist in forcing water through the clothing being washed; and such further objects, advantages and capabilities as will later more fully appear.

My invention further resides in the combination, construction and arrangement of parts illustrated in the accompanying drawing, and while I have shown therein a preferred embodiment I desire the same to be understood as illustrative only and not as limiting my invention.

In the accompanying drawing:

Fig. 1 is an elevation showing my improved agitator.

Fig. 2 is a vertical section taken substantially centrally of the device as shown in Fig. 1.

Fig. 3 is an elevation similar to Fig. 1 but taken in a direction at right angles thereto.

Fig. 4 is a section similar to Fig. 2 but taken in a direction at right angles thereto.

Fig. 5 is a view from the under side of Fig. 1, but showing parts of the structure in section.

Referring more in detail to the annexed drawing, numeral 1 designates the usual power driven agitator shaft, which may be circular or angular in cross section, depending upon the construction of the machine with which this device is to be used. Numeral 2 designates the body plate of the agitator having substantially centrally thereof a boss 3 through which passes a securing means 4 to secure the shaft 1 to the plate 2.

Webs 5 and 6 are provided with flanges 7 and 8 to assist in preventing them from rocking when secured to the plate 2 by means of projections 9. The web 5 has its flange 7 continued around the ends as shown at 10 to serve as reinforcing means for the strengthening of the web. Web 6 has an aperture 11 therethrough which is bordered by a flange 12 on each side of the web and webs 6 have each one end such as 13 shaped to fit into the perforation 11, as shown in Figs. 4 and 5.

These ends 13 are preferably considerably heavier than the webs and therefore assist in furnishing a secure bearing to prevent distortion and breaking of the parts in use. On each side of each free end, the webs are provided with flanges which form cups 14 and 15, the former being substantially circular and the latter being somewhat flattened on one side to fit closely against the under face of the plate 2, as shown most clearly in Fig. 4.

It will be obvious from the foregoing description that, as the agitator shaft 1 is oscillated, first one set of cups 14, 15 will act upon the clothing in the machine, and then the other set will act thereon as the agitator is oscillated in the opposite direction. It will therefore be clear that these cups 14 and 15 will force water through the clothing, besides performing the ordinary function of oscillating the clothing in the machine in the manner of dollyes provided with pegs.

It is of course understood that the specific description of structure set forth above may be departed from without departing from the spirit of my invention.

Having now described my invention, I claim:

1. In a dolly, a substantially imperforate member adapted to be oscillated about an axis, said member having a blade extending therefrom, said blade having a suction cup thereon disposed transversely to the plane of said member.

2. A dolly comprising an oscillatory plate having downwardly extending projections, and laterally directed suction cups on said projections.

3. A washing machine agitator comprising an agitator shaft, a plate secured thereto, and agitator members extending transversely of one face of the plate and having cups thereon facing laterally.

4. A washing machine agitator comprising an agitator shaft, a plate secured thereto, and agitator members having suction cups on opposite faces thereof extending substantially perpendicularly to the body of the plate.

5. A washing machine agitator comprising an agitator shaft, a plate secured thereto, and agitator members having suction cups on opposite faces thereof extending substantially perpendicularly to the body of the plate, one of said members comprising a web-member having an aperture therethrough.
and the other agitator members comprising web-members each provided at one end with a portion adapted to fit into the aperture in the first named web-member.

6. In a dolly, an oscillatory support having projections rigid therewith, and suction cups being formed in said projections remotely of the axis of oscillation of said support.

7. An agitator for effecting washing operations, comprising a substantially imperforate disk oscillatable about an axis and formed with a relatively deep member projecting from said disk, said disk having a cup-shaped portion thereon operative to press upon the material to be washed when moved in one direction and to create a suction when moved in the opposite direction.

8. An agitator for effecting washing operations, comprising a substantially imperforate disk oscillatable about an axis and cup-shaped members rigid with said disk for movement therewith during the alternately rotary movements thereof, said cup-shaped portions operative to press upon the material to be washed when moving in one direction and to create a suction when moving in the opposite direction.

9. A dolly comprising an oscillatory plate formed with transversely arranged suction cups at the border of said plate remote from the axis of oscillation of said plate.

10. A dolly comprising a vertical shaft, a disc fixed to said shaft, and suction cups fast with said disc, near the periphery of said disc.

11. A dolly comprising a shaft, a plate fixed to the shaft, and suction cups depending from the edge portions of the plate.

12. A dolly comprising an oscillatory disk having transversely disposed suction elements thereon and arranged at various distances from the axis of oscillation of said disk.

13. A dolly comprising an oscillatory disk having suction elements thereon arranged at various distances from one surface of said disk and also arranged at different distances also laterally of the disk.

14. A dolly comprising an oscillatory disk having transversely disposed suction elements thereon arranged to travel in different horizontal planes during the oscillation of the disk.

15. A dolly having suction cups connected therewith, said cups being positioned in different horizontal planes so as to travel in different horizontally disposed paths in the liquid.

16. A dolly comprising a vertical oscillatable shaft and carrying a plurality of suction cups having their open mouths disposed substantially transversely to the axis of the shaft and arranged in different horizontal planes.

17. A dolly comprising a vertical oscillatable power driven shaft having substantially flat webs extending horizontally therefrom and at right angles to each other, each of said webs carrying a plurality of suction cups arranged so that their open mouths oscillate in horizontal paths.

18. A dolly comprising a vertical oscillatable power driven shaft having substantially flat webs extending horizontally therefrom, said webs being of different widths, and said webs carrying suction cups adapted to oscillate in horizontal planes.

19. A dolly comprising a vertical oscillatable power driven shaft having substantially flat webs extending horizontally therefrom, said webs being of different widths, and carrying suction cups disposed in different horizontal planes.

20. A dolly comprising a plate oscillatable in a horizontal plane and suction cups having their open mouths disposed at an angle to the plane of the plate and oscillatable therewith.

21. A dolly comprising an oscillatory plate, vertically disposed webs carried by the plate and suction cups carried by the webs.

22. A power driven oscillatable shaft, vertically disposed webs extending from the shaft to oscillate in a horizontal plane and suction cups carried by the webs.

23. A power driven oscillatable shaft, four webs radially carried by the shaft, each of said webs carrying suction cups having their open mouths facing at an angle to the axis of oscillation of the shaft.

24. A dolly comprising an oscillatory disc provided with suction elements having their axes transversely disposed.

25. A dolly comprising a shaft and an oscillatory disc provided with suction elements having their axes transversely disposed with reference to said shaft.

In witness whereof, I hereunto subscribe my name to this specification.

HOWARD F. SNYDER.