This invention relates to a tub floor for a washing machine of the type that uses a rotary or oscillatory agitator, and has for an object to provide an improved construction of a tub floor which will increase the turbulence of the wash water in which the agitator is rotating.

A further object of this invention is to provide a tub floor having wash water turbulence increasing means cooperating with the agitator, so that the wash water will be much more effective in cleaning the clothes.

Still a further object of this invention is to provide turbulence increasing ridges on the floor of a washing machine tub. A still further object of this invention is to provide a dished washing machine tub floor so as to allow increased space beneath the agitator, and thus permit the water to be more effectively agitated by the agitator in the washing action.

Still a further object of this invention is to provide turbulence increasing means for the wash water of an agitator type of washing machine tub, wherein the tub floor is dished downwardly somewhat from its edges, and wherein radially extending ridges are provided, and further more the ridges are of progressively increasing height from the tub floor edge toward the center thereof, so that the maximum height of the ridges are present at a point outside of the bottom of the agitator to thus provide more effective turbulence producing means.

Still a further object of this invention is to provide a turbulence increasing means for a washing machine tub of the agitator type which is useful in any type of agitator operated washing machine, whether a commercial type or a home type, and irrespective of the shape of the washing machine tub, although only one shape of tub, a square tub, has been illustrated in this application.

Still a further object of this invention is to provide a washing machine tub floor which is dished downwardly from its edge toward a central area, the central area being annular in shape and dished somewhat further than the outer areas, and in turn, a further and much smaller centrally apertured annulus is dished still further down from the central annular area, this further dished small annulus providing means for securing the washing tub in operative position in a conventional manner, the outermost area of the tub floor having a plurality of radially extending ridges extending upwardly therefrom, the ridges being of the greatest height adjacent the outermost edge, and of their minimum height adjacent the center dished annular area.

Briefly, this invention consists in dishing a washing machine tub floor slightly below the horizontal downwardly from its edge toward a central annular area, then dishing the annular area still further down, and then further dishing a much smaller annular area apertured at its center below the first mentioned annular area, this apertured center annular area providing an opening through which the agitator spindle extends, and this small annular area being provided with bolt holes therethrough for securing the tub in position in a conventional manner.

An additional and very important feature of this invention is the provision of a plurality of ridges extending from adjacent the outermost edge of the larger annular area to the outermost edge of the tub floor, the ridge increasing in height, and also, possibly increasing in width as it approaches the tub floor edge. In the case of a square tub, the ridges would preferably, although not necessarily, extend through the corners of the washing machine, as they thereby provide a maximum length of ridge, but obviously, they can also extend to the floor edge at any intermediate position, and while preferably extending radially, could extend at an angle other than radially, if so desired.

As the agitator rotates, it is obvious that the turbulence of the water will be increased by its striking the ridge, and due to the floor being dished, a greater volume of water is located beneath the agitator than would be true otherwise, and this greater volume of water of course, tends to increase the turbulence caused by the presence of the ridges, which are struck by the water being agitated.

With the foregoing and other objects in view, this invention comprises the combination, construction and arrangement of parts hereinafter set forth, claimed and disclosed in the accompanying drawings, wherein:

Fig. 1 is a top perspective view of a washing machine tub to which this invention has been applied, the tub shown being of the twin tub type with the agitator in one of them completely omitted for clarity of illustration.

Fig. 2 is a bottom plan view of the tub floor of one washing machine tub.

Fig. 3 is a top plan view of Fig. 2.

Fig. 4 is a sectional view on line 4—4 of Fig. 3.

There is shown at 10 a twin tub type of washing machine of a commercial type used in square tubs, although it will be apparent that this invention is equally operative in a single tub type of washing machine tub, and is equally applicable to a circular or other shaped tub, as well as to a square shaped tub, as shown.

The invention is applied to the floor 11 of the washing machine tub 10. The washing machine tub floor 11, here shown as square in shape, is dished downwardly from its outer edge 12 toward a wide, central annular area 14, it being noted that the area 14 is dished slightly at 15 below the outer dished area 13. A further but much narrower area 16 is dished at 17 below the wide annular central area 14, and this annular area 16 is apertured as at 18, so as to provide a central opening through which the washing machine agitator 20 is supported and operated on its spindle in a conventional manner.

This invention is applied to the floor 11 of the washing machine tub 10. The washing machine tub floor 11, here shown as square in shape, is dished downwardly from its outer edge 12 toward a wide, central annular area 14, it being noted that the area 14 is dished slightly at 15 below the outer dished area 13. A further but much narrower area 16 is dished at 17 below the wide annular central area 14, and this annular area 16 is apertured as at 18, so as to provide a central opening through which the washing machine agitator 20 is supported and operated on its spindle in a conventional manner.

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well known that the washing action of a washing machine depends on the turbulence of the water. The extra space provided by the dished floor under the agitator permits a greater volume of water to be present thereunder, and as the agitator rotates or oscillates, this greater volume of water provides for increased turbulence in addition to the increased turbulence provided by the ridges, thus tremendously increasing the turbulence of the water, and thereby increasing the speed of operation of the washing machine.

This in turn greatly increases the capacity of the washing machine because more effective turbulent washing action provided as a result of this invention permits a tub load to be finished in a lesser time, thus increasing the number of tub loads that may be cleaned during a working day, a very important factor in commercial machines, thus permitting a much lesser number of machines using this invention to be used in cleaning a given number of wash tub loads.

While the device has been shown and the structure described in detail, it is obvious that this invention is not to be considered as being limited to the exact form disclosed, and that changes in detail and construction may be made therein within the scope of what is claimed, without departing from the spirit of this invention. Having thus set forth and disclosed the nature of this invention, what is claimed is:

A washing machine tub comprising a square tub having an agitator for causing turbulence in the wash water, and means to increase the turbulence of the wash water comprising a one piece square metal tub floor dished somewhat downwardly toward the center thereof, an apertured central area dished downwardly somewhat further, and an individual upwardly extending ridge, arcuate in cross section, extending diagonally from each intersection of each side edge of said floor with its adjacent intersection along the upper surface of said first dished area and stopping at said further dished area, said ridge being of progressively increasing height and width toward said intersection, said first dished area constituting the major area of said floor and the agitator overlying the remaining central area of said floor, said further dished area having a still further dished annulus surrounding the aperture extending therethrough, said first dished area being of substantially greater radial extent than the total of the radial extent of all said further dished areas.

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