T. W. DEVINE

WATER SHIELD FOR DISHWASHERS

Filed May 10, 1963

Fig. 1.

Fig. 2.

Fig. 3.

INVENTOR
Tom W. Devine

INVENTOR
Tom W. Devine

BY
Henry Smithson

BY
Henry Smithson

ATTORNEYS
ATTORNEYS
This invention relates to a shield for dishwashers of the commercial type which are provided with an entrance opening and an exit opening to allow the dishes to be washed to pass therethrough, it being the purpose of the shield to prevent water from passing out of said openings and splashing upon the operator of the machine.

It is the primary object of this invention to provide a shield in the nature of a plate which is disposed vertically in perpendicular relationship to the entrance or exit opening of a dishwasher and to one side of said opening, preferably on the side thereof on which the operator of the machine will stand whereby to prevent the splashing of water through said opening and onto the operator of the machine as he places dishes into the machine or removes dishes therefrom.

A yet further aim of this invention is to provide a water shield in the nature of a substantially flat plate having an uppermost edge, the base edge being disposed in a horizontal plane substantially coincident with the bottom of the opening adjacent which the plate is disposed, the uppermost edge of the plate being disposed in a horizontal plane parallel to that of the base edge of the plate and spaced vertically therefrom whereby said uppermost edge is in a plane substantially intermediate the upper and lower edges of the opening.

A yet further aim of the present invention is to provide a substantially flat, vertically disposed plate which, when positioned adjacent the opening of a dishwasher, has an outer edge which is spaced from said opening and an inner edge, the inner edge of the plate being provided with a flange, the said edge also being provided with a pair of ears, said ears being offset with respect to said flange whereby said flange and said ears may cooperate to embrace a strip which surrounds the opening in connection with which the shield is to be used.

Other objects of this invention include details of construction, disposition and placement of the water shield which will become apparent from the following specification and accompanying drawing, wherein:

FIGURE 1 is a perspective view showing a dishwasher of the general type and illustrating a water shield as contemplated by this invention positioned adjacent the exit opening of such a dishwasher;

FIG. 2 is a sectional view taken on line 2—2 of FIG. 1; and

FIG. 3 is a perspective view of one form of the water shield chosen for illustration.

The water shield, broadly designated by the numeral 10, is adapted to be used in conjunction with an automatic dishwasher of the type used in commercial and industrial establishments, said dishwasher 12 having a supporting base 14 which carries the essential components of the dishwasher, these including a wash compartment 16 which has an entrance opening (not shown), and a rinse compartment 18 having an exit opening 20, the exit opening having a curtain 22 in overlying relationship thereto, said exit opening being defined, on each side thereof, by strips 24 which form a part of the housing of rinse compartment 18, the upper edge of the exit opening 20 to which the curtain 22 is secured, being defined by a downwardly extending portion 26 of the top of rinse compartment 18.

It will be appreciated that the wash compartment 16 is substantially similar in construction to the rinse compartment 18 in that it has an opening which may or may not have a curtain such as 22, overlying the same, the opening being defined by a pair of opposed strips similar in nature to those designated as 24, and the upper edge of the entrance opening being defined by a downwardly extending portion of the wash compartment 16 in the same manner that portion 26 defines the upper edge of the exit opening 20.

It is conventional practice to use, in conjunction with dishwashers such as 12, a table, conveyor, rack or the like broadly designated as 28, which may be an integral part of the dishwasher 12 or may be a separate component. In either event, the table, conveyor, rack or the like 28 is disposed immediately adjacent the entrance and exit openings of the dishwasher whereby to aid in the placement of dishes into the wash compartment 16 of the dishwasher 12 and in the removal of dishes from the rinse compartment 18 of the dishwasher 12.

Thus, when the dishwasher 12 is to be operated, a tray of dishes is inserted in the entrance opening thereof, and moved longitudinally through the dishwasher 12 as by a conveyor or the like, the dishes being washed in compartment 16 and rinsed in compartment 18, the washing and rinsing normally being accomplished by water which is delivered to the said compartments 16 and 18 under high pressure whereby to effectively clean the dishes moving through the dishwasher 12.

As the tray of dishes leaves the dishwasher 12 it, due to its longitudinal movement under the urging of a conveyor or the like, will normally force curtain 22 upwardly about its point of hinged connection with portion 26, the tray of dishes then moving out of the dishwasher 12 through exit opening 20 and onto the table such as 28.

It will be appreciated that as a tray of dishes or the like is placed into the dishwasher 12 through the entrance opening it is necessary for the operator of the machine to push the tray of dishes into the dishwasher 12 or at least position the same sufficiently within the entrance opening whereby the same may then be moved by the conveyor belt within the dishwasher and, by the same token, when a tray of dishes is removed from exit opening 20, it is necessary for the operator of the dishwasher 12 to grasp the tray of dishes to move the same outwardly from the machine. During such operation, the curtains covering the entrance and exit openings in the dishwasher 12 are swung to a position whereby the water being delivered to the interior of the machine under high pressure can pass outwardly through the entrance or exit openings and when this occurs it is normally at a time when the operator of the machine is positioned adjacent such openings.

Thus, the shield 10 is adapted to be positioned adjacent either the entrance opening of a commercial dishwasher such as 12, or adjacent the exit opening 20 thereof whereby dishes or the like may be inserted into or removed from the dishwasher 12 without the operator thereof becoming splashed with water from the machine.

To this end, the water shield 10 consists of a substantially flat plate 30 having a normally uppermost edge 32, a normally lowermost or base edge 34; an outer edge 36; and an inner edge 38. The inner edge 38 is provided with a flange 40 which has a central portion 42 and a pair of opposed end portions 44, said end portions 44 being spaced from the central portion 42 by notches 46 and 48 respectively, said notches 46 and 48 being formed when ears 50 and 52 are struck from the flange 40, said ears 50 and 52 being offset with respect to the plane of flange 40 and thereby providing a space 54 between said ears 50 and 52 and the plane of flange 40.

The water shield 10, as illustrated in the drawing, is an embodiment of the invention chosen for purposes of illustration only and it will be appreciated that the same could assume a variety of configurations or there could be a multitude of means utilized to attach the water shield 10 to the dishwasher 12 adjacent the entrance and
exit openings thereof, the same depending upon the configuration and construction of the dishwasher.

In the embodiment of the invention chosen for illustration, the strip 24 adjacent one side of the exit opening 20 is embraced between the ears 50 and 52 and the flange 40 whereby to position the plate 30 in a vertical position, the same being held in said position by the action of the ears 50 and 52 and the flange 40 in gripping the strip 24. When disposed in said position the flange 40, including central portion 42 and end portions 44 thereof, is disposed interiorly of the dishwasher, the same lying inwardly of the strip 24. The ears 50 and 52 are, as illustrated in Figs. 1 and 2 of the drawings, positioned exteriorly of the washer, the ears 50 and 52 overlying the outer surface of the strip 42 which is adjacent the opening in connection with which the water shield 10 is to be used. In this respect, it will be appreciated that the water shield, such as 10, may be designed in such a manner as to be disposed on either side of the exit opening or on either side of the entrance opening, it merely being necessary to reverse the positioning of the means for securing the shield 10 to the strip 24 of dishwasher 12.

However, in the embodiment of the invention chosen for illustration, the shield 10 is shown as positioned adjacent one side of the exit opening 20, the shield 10 being disposed in perpendicular relationship to said opening 20 and having the base edge 34 thereof in engagement with the upper surface of table 28, said base edge being disposed inwardly of a pipe such as 56 which defines the side edge of the table 28 and serves to connect the same with the dishwasher 12.

When the shield 10 is so positioned with respect to the dishwasher 12, the outer edge 36 of the plate 30 is spaced from the dishwasher, and more particularly, from the strip 24, the edge 36 being in substantially parallel relationship to the strip 24. The uppermost edge 32 of the plate 30 which is substantially parallel to the base edge 34 thereof, lies in a horizontal plane, which plane is disposed intermediate the upper edge of the opening 20 and the lower edge of said opening. The base edge 34 is likewise in a horizontal plane, said plane being substantially coincident with the lower edge of the opening 20. It will be appreciated that while the means above described is sufficient to position the plate 30 in the intended relationship to the exit opening 20, additional securing means might take the form of a pair of brackets or clips which would be secured adjacent the base edge 34 of the plate 30 and embrace the pipe 56 whereby to give additional rigidity to the plate 30 as the same is disposed in its vertical position.

With the water shield 10 disposed as hereinabove described, it will be appreciated that as the curtain 22 of the exit opening 20 is swung upwardly to allow a tray of dishes to pass from the washer 12, the water spray which would normally emanate from the opening 20 when the curtain 22 is raised, will be prevented from splashing upon the operator who is normally standing adjacent said opening 20 to aid in the removal of dishes from the washer 12. Likewise, when a shield such as 10 is positioned adjacent the entrance opening of a dishwasher such as 12, a tray of dishes may be inserted into the washer 12 while the same is in operation and water is being delivered thereinto without the operator being sprayed or splashed with water which emanates from the entrance opening when a curtain or the like covering the same is raised or swung to admit dishes into the washing compartment 16.

In addition to protecting the operator of a machine such as 12 from being sprayed or splashed with water, it will be appreciated that the shield 10 also serves to prevent the passage of water from the machine onto the floor and, therefore, the same aids in maintaining a sanitary surrounding for the dishwasher 12 at its place of operation.

Other modifications and improvements of the invention above described will be apparent to those skilled in the art and thus it is intended to be limited only by the scope of the claims appended hereto.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

4. A water shield for dishwashers as set forth in claim 1, said plate having a base edge lying in a substantially horizontal plane coincident with the plane of the lower edge of said opening.

5. A water shield for dishwashers as set forth in claim 2, said plate having a normally uppermost edge, said edge lying in a horizontal plane substantially intermediate the upper and lower edges of said opening.

6. A water shield for dishwashers as set forth in claim 2, said plate having an outer edge spaced from said opening.

7. A water shield for dishwashers as set forth in claim 4, there being a strip surrounding said opening, said securing means being in the form of a flange on the edge of said plate opposite to said outer edge, and ears offset with respect to said flange, said flange and said ears encircling the strip therebetween whereby to maintain said plate in a vertical position.

8. A water shield for dishwashers as set forth in claim 5, said flange being positioned interiorly of said opening, said ears being positioned exteriorly thereof.

9. In combination with a dishwasher having an entrance opening and an exit opening to allow dishes to pass therethrough, there being a strip at each of the side edges of each of said openings, a water shield disposed adjacent each of said openings for preventing the passage of water therefrom, said water shield comprising a vertically disposed plate having a base edge lying in a horizontal plane substantially coincident with the plane of the lower edge of the opening adjacent which the plate is disposed, an upper edge lying in a horizontal plane parallel to the plane of the base edge, said upper edge being positioned at a point intermediate the upper and lower edges of the opening adjacent which the plate is disposed, an inner edge provided with a flange, said flange having a central portion and a pair of end portions, and a pair of ears formed adjacent said inner edge and spaced from said flange whereby to provide a space between said ears and said flange, said ears and said flange cooperating to encircle said strip whereby to retain said plate in a vertical position adjacent one side of the opening to be shielded, said plate being in substantially perpendicular relationship to said opening.

References Cited by the Examiner

UNITED STATES PATENTS

1. 1,281,864 10/18 Sparrle 134—72 X
2. 1,512,918 10/24 Forsgard 134—72 X
3. 1,546,821 7/25 Blakelee 134—83 X
4. 2,175,259 10/39 Erickson.

CHARLES A. WILLMUTH, Primary Examiner.

J. NORTH, Examiner.