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[54] **ROTATING FEED TABLE FOR DISHWARE AND THE LIKE**

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[52] **U.S. Cl.** ..... **210/241,** 210/359, 108/20, 198/33 AA, 198/209

[51] **Int. Cl.** **B01d 33/00**

[58] **Field of Search** ..... 108/20, 27, 139; 210/171, 210/241, 244, 359; 198/33 AA, 209

[56] **References Cited**

UNITED STATES PATENTS

1,867,771	7/1932	Slama	198/209
2,865,508	12/1958	Nock	210/359
3,347,369	10/1967	Conlon	198/209
3,448,701	6/1969	Cordova	108/20

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[57] **ABSTRACT**

A generally horizontally disposed rotatable table top is supported at three points on a pair of idler roller means and power driven roller means. Also, the table top is formed with a plurality of drain apertures, and a channel trough is located below the table top for collecting liquids flowing through the apertures and directing the same to an outlet.

6 Claims, 3 Drawing Figures

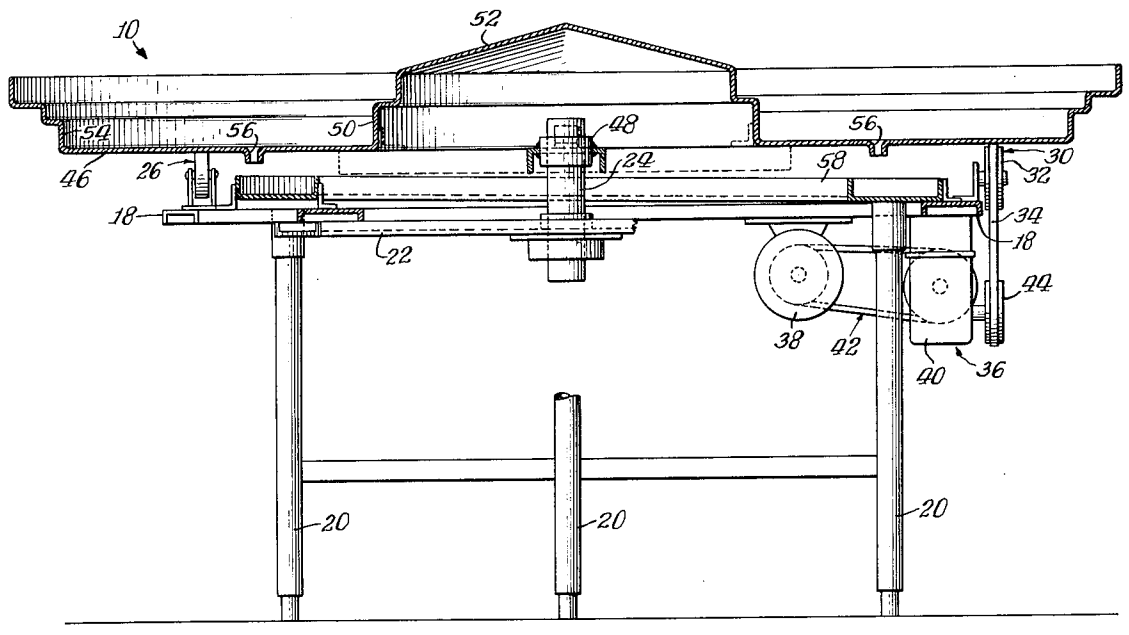


Fig. 1.

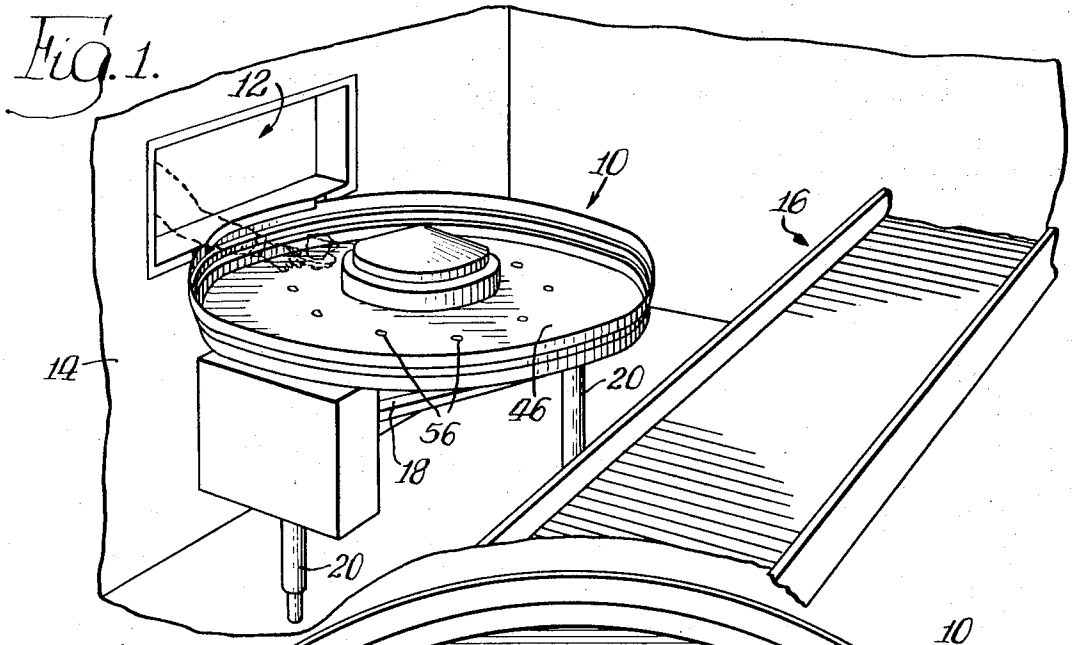
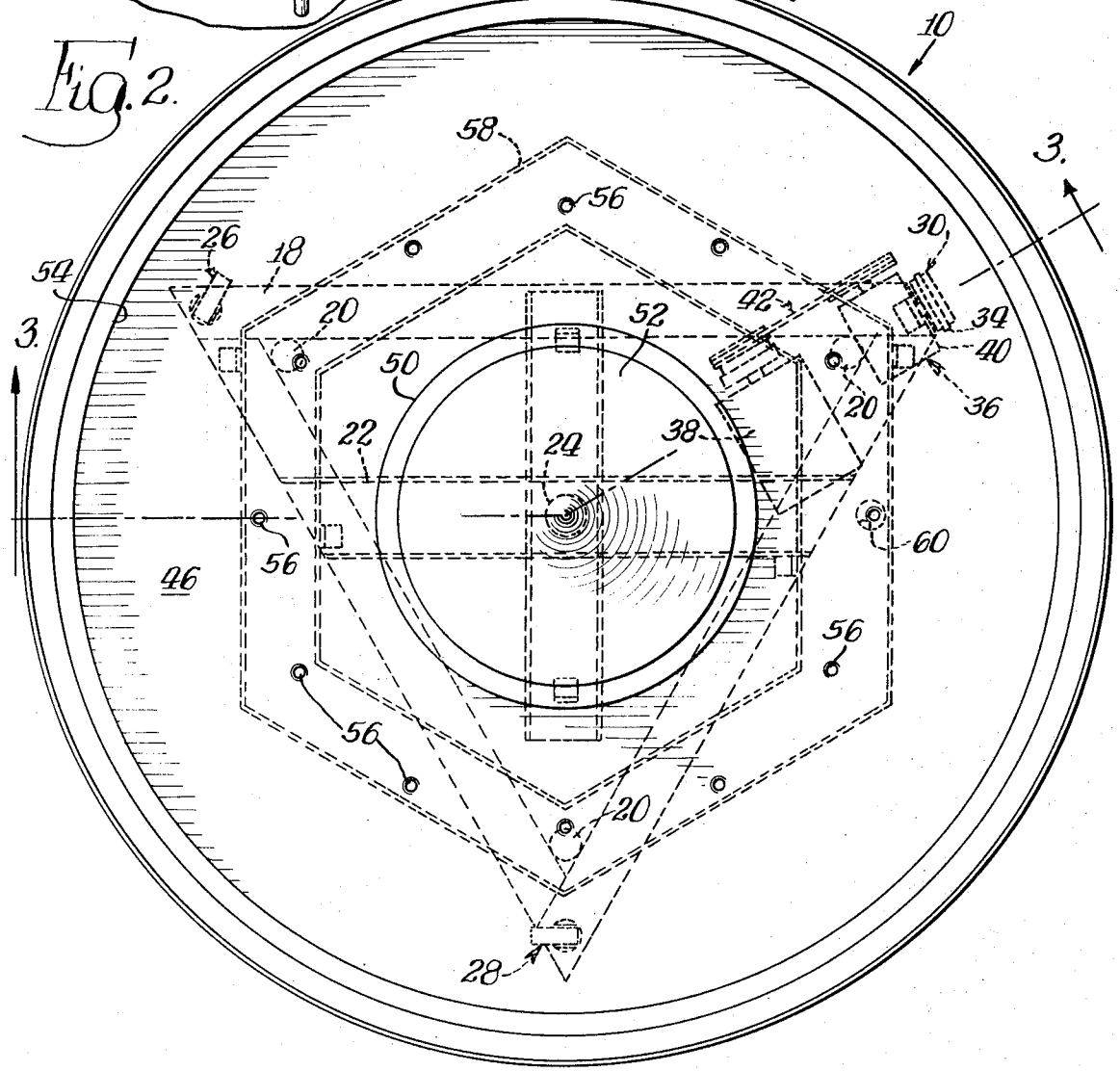

12
10
16
14
20
46
56
18
20

Fig. 2.


10
58
3.
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26
18
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42
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3.
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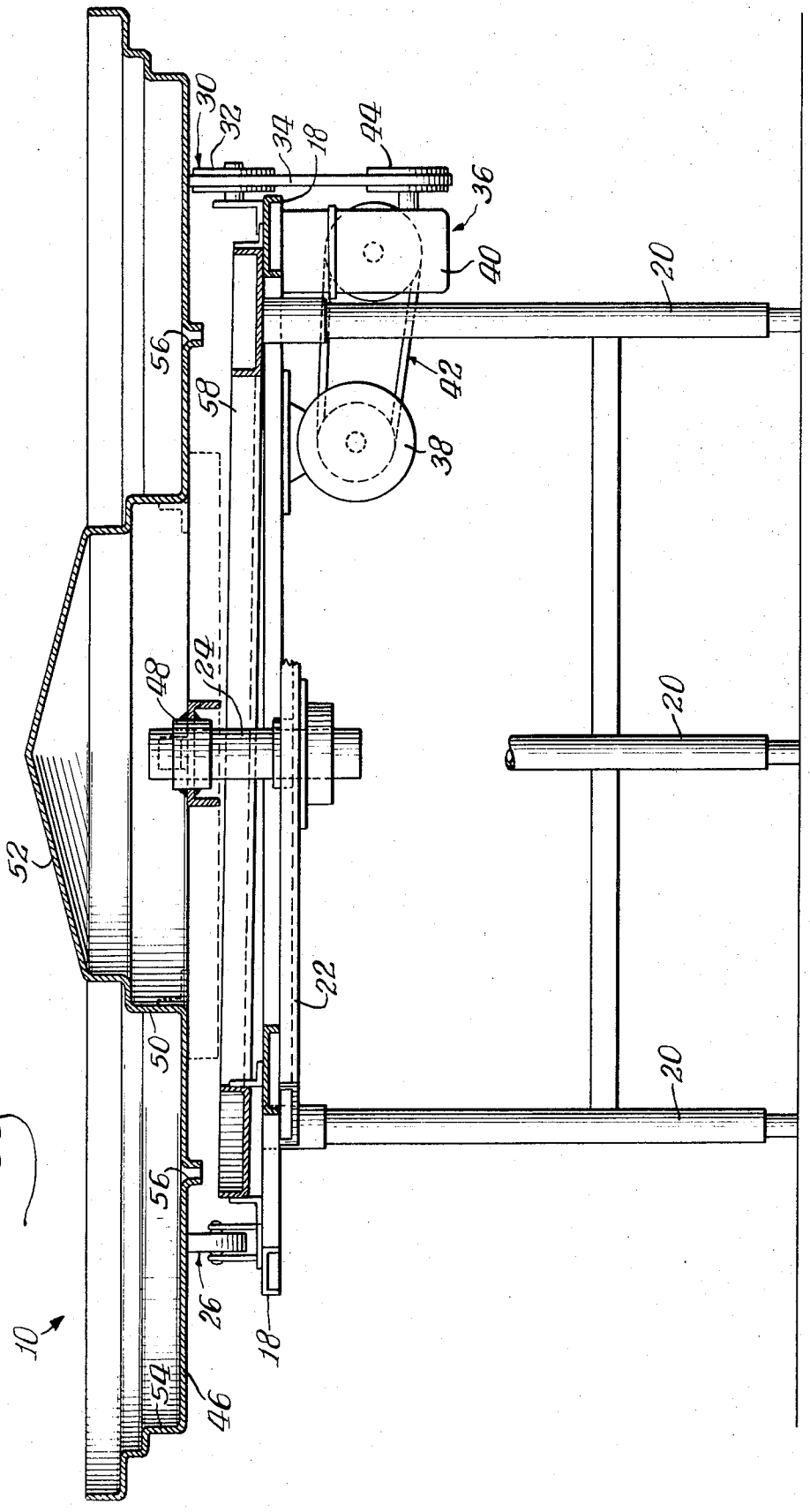


Fig. 3

ROTATING FEED TABLE FOR DISHWARE AND THE LIKE

BACKGROUND OF THE INVENTION

In many restaurants, cafeterias and similar establishments, soiled dishware, silverware and the like are initially carried from the dining area to a service area and deposited on a collection table or counter. Then the soiled dishware are carried individually or in racks by workers some distance and loaded into a commercial dishwashing machine which may, for example, be of the continuous conveyor type.

This arrangement has a number of disadvantages. Valuable time of workers is lost in transporting the soiled dishware from the collection table to the dishwashing machine. Also, deposit of soiled dishware on the collection table and removal therefrom for transfer to the dishwashing machine is a highly disorderly process. Further, the collection table can easily become overloaded with haphazardly stacked soiled dishware.

SUMMARY OF THE INVENTION

The present invention relates to a rotating feed table which serves as a collection table upon which soiled dishware, silverware and the like may be initially deposited, which serves to transfer or convey the soiled dishware from the location of deposit to a location adjacent a commercial dishwashing machine, and which serves as an accumulator table whereby the initially deposited dishware are moved away from the location of deposit and spread out and distributed over the surface of the rotating table top.

The rotating feed table comprises a generally horizontally disposed rotatable table top, first and second idler roller means each having a portion engaging the underside of the table top for supporting the latter, and power driven roller means having a portion engaging the underside of the table top for supporting and effecting rotation of the latter. The first and second idler roller means and the power driven roller means are circumferentically spaced apart whereby to provide a three-point support for the table top. This arrangement insures that the power driven roller means will always be in contact with the table top for effecting rotation of the latter.

In addition, the table top is provided with an upstanding central rim portion, an upstanding outer peripheral rim portion, and a plurality of apertures intermediate the central and peripheral rim portions to accommodate the flow of liquids from the upper side of the table top; and a channel trough is mounted below the table top for collecting liquids flowing through the apertures and directing the same to an outlet.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a portion of the service area of a restaurant, cafeteria or similar establishment, wherein is located the rotating feed table of the present invention;

FIG. 2 is a plan view of the rotating feed table of FIG. 1; and

FIG. 3 is a vertical sectional view, taken substantially along the line 3—3 in FIG. 2, looking in the direction indicated by the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIG. 1, there is shown a portion of the service area of a restaurant, cafeteria or similar establishment. By way of illustration, the rotating feed table 10 of the present invention is located intermediate of an access opening 12 in a wall 14 and a conventional conveyor type dishwashing machine 16.

As best shown in FIGS. 2 and 3, the rotating feed table 10 comprises main frame means which includes a generally horizontally disposed triangular frame 18 supported on three legs 20. A horizontal cross brace 22 is secured to the underside of the frame 18 and provides support for a central vertical guide post 24.

Mounted on the frame 18 at two of the corners thereof are first and second idler roller means in the form of swivel casters 26 and 28, and mounted on the frame 18 at the third corner thereof is power driven roller means 30 which includes a V-pulley 32 and the upper loop portion of a V-belt 34 trained thereover. The belt 34 is driven by means 36 secured to the underside of the frame 18. More particularly, the drive means 36 includes a drive motor 38, a speed reducer 40, a pulley and belt drive 42 therebetween, and a speed reducer output V-pulley 44 over which the lower loop portion of the belt 34 is trained.

Located above the frame 18 is a generally horizontally disposed rotatable table top 46, which may be formed of sheet metal or the like. The center of the table top 46 is provided with an opening in which is secured a vertical sleeve bearing 48 disposed about the guide post 24. The underside of the table top 46 is engaged with the swivel casters 26 and 28 and the outer surface portion of the belt 34 at the power driven roller means 30. In addition, the table top 46 is provided with an upstanding central rim portion 50 forming part of a central offset cap portion 52 for receiving and enclosing the upper end of the guide post 24, an upstanding outer peripheral rim portion 54, and a plurality of circumferentially spaced apertures 56 intermediate the central and peripheral rim portions 50 and 54. Mounted on the frame 18 below the apertures 56 is a slightly inclined channel trough 58 comprised of a plurality of channel sections secured end-to-end and having an outlet 60.

Operationally, the swivel casters 26 and 28 and the power driven roller means 30, which are equi-distantly circumferentially spaced apart, provide a three-point support for the table top 46. Upon energization of the drive motor 38, the outer surface portion of the moving belt 34 at the top side of the pulley 32 frictionally engages the underside of the table top 46 and effects rotation thereof. The indicated three-point support of the table top 46 insures that the power driven roller means 30 will always be in contact with the underside of the table top 46 irrespective of lack of flatness of the latter or of any other irregularities in the cooperating parts. Relatedly, a slight clearance or loose fit is maintained between the sleeve bearing 48 and the guide post 24 to allow the center of the table top 46 to move up and down or tilt in response to any deflection caused by loading. Furthermore, since the power driven roller means 30 provides one of the three points of support, the frictional force of engagement of the belt 34 with the underside of the table top 46 varies in direct proportion to the weight of the load. Therefore, a heavy

load, as well as a light load, can be moved by the table top **46**; yet, the frictional drive accommodates slipping in the event of jamming or the like involving the table top **46.**

Referring back to FIG. **1,** it will be readily apparent that soiled dishware, silverware and the like are initially deposited on the table top **46** adjacent the access opening **12.** The rotating table top **46** then serves to transfer or convey the soiled dishware from the location of deposit to a location adjacent the dishwashing machine **16** where a worker standing at that location can remove the soiled dishware from the table top **46** and load them into the dishwashing machine **16.** Dishware that are not immediately removed are merely carried another revolution on the table top **46.** Effectively, the rotating feed table **10** serves as an accumulator table whereby the initially deposited dishware are moved away from the location of deposit and spread out and distributed over the surface of the rotating table top **46.** Also, while soiled dishware are being rotated on the table top **46,** water may be sprayed from a portable hose or the like to pre-rinse the dishware before they are placed in the dishwashing machine. Finally, the apertures **56** accommodate the flow of liquids from the upper side of the table top **46,** while the channel trough **58** serves to collect liquids flowing through the apertures **56** and directs the same to the outlet **60** which may be connected to a drain hose or which may open above a portable liquid collection box.

While there has been shown and described a preferred embodiment of the present invention, it will be understood by those skilled in the art that various rearrangements and modifications may be made therein without departing from the spirit and scope of the invention.

The invention claimed is:

1. A rotating feed table for dishware and the like comprising main frame means, a generally horizontally disposed rotatable table top, first and second idler roller means mounted on said main frame means and each having a portion engaging the underside of said table top for supporting the latter, power driven roller means mounted on said main frame means and having a portion engaging the underside of said table top for supporting and effecting rotation of the latter, and said first and second idler roller means and said power driven roller means being circumferentially spaced apart whereby to provide a three-point support for said table top.

2. The rotating feed table of claim **1** wherein said power driven roller means comprises a pulley adjacent the underside of said table top, and a belt trained over said pulley and having an outer surface portion frictionally engaging the underside of said table top; and including means for driving said belt.

3. The rotating feed table of claim **2** wherein said pulley is a V-pulley and said belt is a V-belt.

4. The rotating feed table of claim **3** wherein said first and second idler roller means each comprise a swivel caster.

5. The rotating feed table of claim **4** wherein said table top is provided with an upstanding central rim portion, an upstanding outer peripheral rim portion, and a plurality of apertures intermediate said central and peripheral rim portions to accommodate the flow of liquids from the upper side of said table top; and including a channel trough mounted on said main frame means below said table top for collecting liquids flowing through said apertures and directing the same to an outlet.

6. The rotating feed table of claim **1** wherein said table top is provided with an upstanding central rim portion, an upstanding outer peripheral rim portion, and a plurality of apertures intermediate said central and peripheral rim portions to accommodate the flow of liquids from the upper side of said table top; and including a channel trough mounted on said main frame means below said table top for collecting liquids flowing through said apertures and directing the same to an outlet.

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