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CAFETERIA TRAY RAIL

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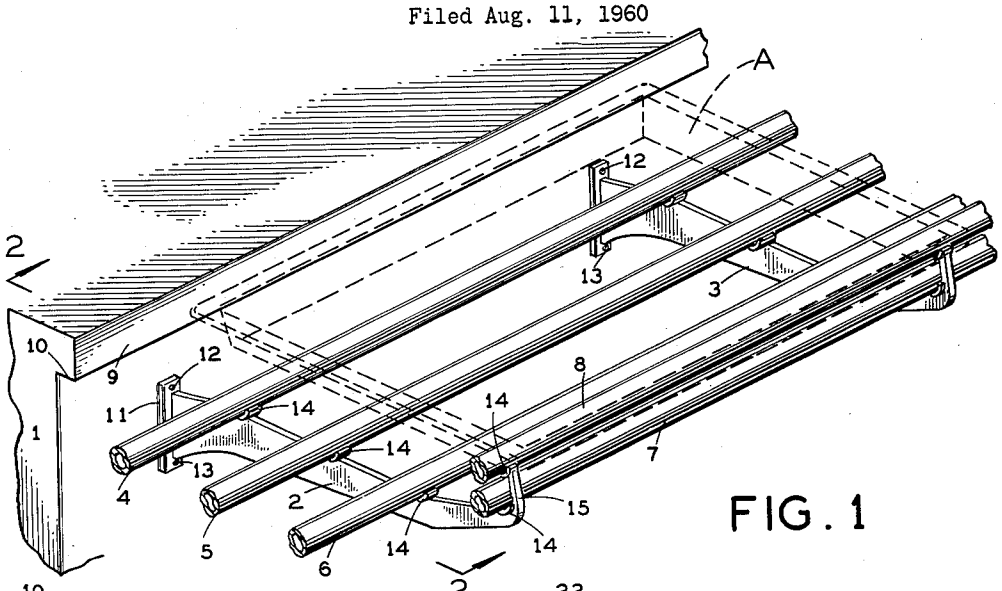


FIG. 1

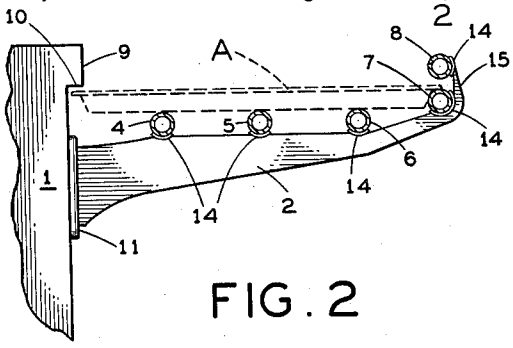


FIG. 2

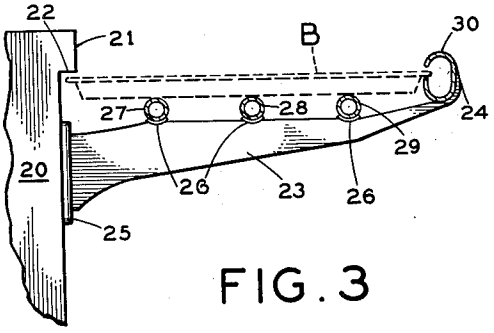


FIG. 3

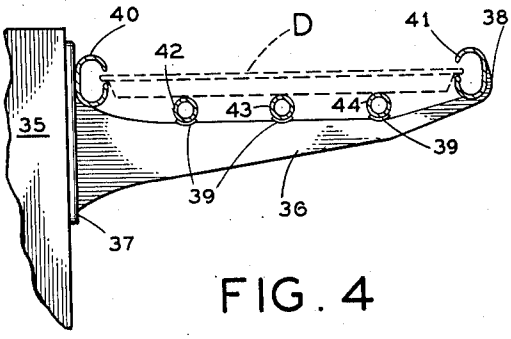


FIG. 4

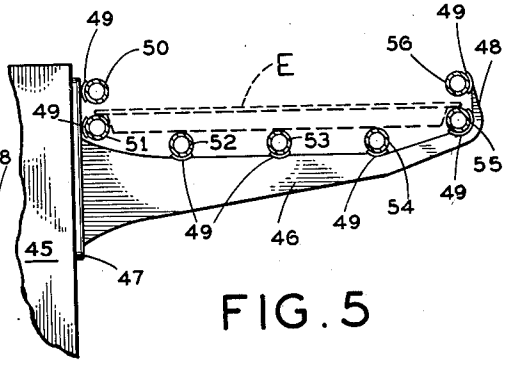


FIG. 5

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CAFETERIA TRAY RAIL

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This invention relates to the serving of food and in a more specific aspect to the serving of food in a restaurant of the self-service type known as a cafeteria.

In a cafeteria a counter is provided on which various items of food are placed for perusal and selection by the patrons. Customers pass along said counter with a tray on which selected food items are placed and in the usual cafeteria operation the trays are supported on a tray rail along the front of the food counter. The tray is transported by the patron sliding the tray along the tray rail in a direction parallel to the front surface of the counter.

Tray rails in use today are usually made up of a plurality of parallel rails spaced apart with each of said parallel rails lying in the same horizontal plane so as to provide a flat surface on which the bottom of the tray rests. Due to the fact that each of said parallel rails is in the same plane, any tray placed on the rails cannot only be moved longitudinally but can also be moved laterally and vertically from the counter and the rail itself. In fact the only movement prevented by such a rail is movement in a downwardly direction.

My invention relates to a means for holding said tray in a position so as to prevent movement of the tray in any direction other than a direction parallel with the lengthwise dimension of the counter and the tray rail itself.

It has been found that in tray rails now in use it is not uncommon for the tray to be inadvertently knocked off the tray rail, either by the patron himself or the patron next following, spilling the contents of the tray on the clothing of the patron, on other customers, or onto the floor, with the result that the dishes are broken, food is wasted, and the entire operation of the cafeteria line must be suspended until the resulting debris is cleaned up. An object of this invention is to provide means for locking the tray in position during the trip along the counter in such a manner that it cannot be knocked off the tray rail thereby preventing such accidents.

Another undesirable feature common to cafeteria operations is line-jumping. When a patron becomes annoyed with the slow progress of the patron immediately ahead of him he will usually try to pass the slower patron by removing his tray from the tray rail and, after proceeding around the slow patron, replace his tray in a new position on the rail. Usually the patron jumping the line is in an annoyed state of mind and many times food is spilled and dishes are broken by him in his movement around the slower patron. A further object of this invention is to provide a lock-in tray rail which prevents any line-jumping by keeping each tray in position in the order in which they began movement along the line. Faster and more efficient movement along the line results as a patron will be less likely to linger in the line when he knows several patrons are waiting for him to move on, especially when the waiting is accompanied by vocal encouragement to move on.

A still further object of my invention is to provide protection for the clothing of the patron when he leans against or over the tray rail in order to see what items of food are available for his choice. In tray rails now in use, when the patron's body leans against the tray two things are likely to occur: first, the patron's clothing will come in contact with the food already selected and placed on the tray; and, secondly, the tray will move in a lateral direction, due to the force exerted by the patron's body

against the side of the tray, thereby spilling food and dishes. My lock-in rail prevents either of these events from occurring by providing an extra rail member above the tray and between the outer edge of the tray and the body of the patron so that when the patron leans over the tray rail his body comes in contact with the extra rail member and not the tray itself. Said extra rail member also holds the clothing of the patron from coming in contact with the food while he is in a leaning position.

In most cafeterias, a checker and/or a cashier is stationed at the end of the counter to give the patron a check or receive payment from the patron. When a cafeteria operation is extremely busy and there are several people milling around the end of the line it is not uncommon for a patron to remove his tray from the tray rail and proceed to the dining area without passing the checker or cashier. In that way the customer avoids paying for his food. An object of this invention is to provide an improved tray rail which will prevent such bypassing of the checker or cashier by holding each tray in position on the tray rail until it has passed the checker's station.

While this invention pertains particularly to a lock-in rail for a cafeteria, and while a cafeteria rail is specifically described herein, it will be apparent that the principles of this invention are applicable to other operations in which a tray is moved along a supporting rail.

In this specification and the accompanying drawings, I have shown and described a preferred embodiment of my invention and several modifications thereof; but it is to be understood that these are not intended to be exhaustive nor limiting of the invention, but on the contrary are given for purposes of illustration in order that others skilled in the art may fully understand the invention and the principles thereof and the manner of applying it in practical use so that they may modify and adapt it in various forms, each as may be best suited to the conditions of a particular use.

Further objects, advantages, uses and adaptations of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, having like parts similarly indicated, wherein:

FIG. 1 is a cut-away perspective view of a portion of a cafeteria counter and tray rail according to the present invention;

FIG. 2 is a cross-sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view of a modification of the present invention;

FIG. 4 is a cross-sectional view of a further modification; and

FIG. 5 is a cross-sectional view of a still further modification.

Referring to FIG. 1 of the drawings, the serving counter is designated as 1. Food is placed on the top of said counter for selection by the patrons as they pass in front of said conuter. Extending along the front of counter 1 is a tray rail assembly comprising longitudinal tubular members 4, 5, 6, 7 and 8, extending lengthwise of counter 1 and spaced therefrom by means of supporting brackets 2 and 3. Several of these supporting brackets are provided at spaced intervals along the front of counter 1 and only brackets 2 and 3 are shown here as representative of all the supports.

Supporting bracket 2 is provided with a plate 11 and is attached to counter 1 by means of fastening elements 12 and 13. Plate 11 may be cast integral with support 2 or may be fastened thereto by any method known in the art such as welding, etc.

Spaced along and attached to the top of bracket 2 are arcuate-shaped blocks 14 which receive and hold in place tubular members 4, 5, 6, 7 and 8. Bracket 2 is further

provided with an upwardly extending leg 15 on the end opposite the plate 11. Mounted at the base of leg 15 and on the inner surface thereof is one arcuate block 14 for holding tubular member 7. Another arcuate block 14 is mounted at the upper end of leg 15 and on the inner side thereof for holding tubular member 8.

Counter 1 is provided with an over-extending lip 9 which, as is shown in FIG. 2, extends beyond the plate 11 which attaches the bracket 2 to the counter. Lip 9 is provided with a bottom surface 10 which is located above the upper surface of tubular member 4 at a distance slightly greater than the thickness of a cafeteria tray A, shown in dotted line in FIGS. 1 and 2, for a purpose to be described later.

Attention is called to the fact that due to the shape of the leg 15 of bracket 2 tubular member 8 is located directly above tubular member 7 and is spaced therefrom a distance great enough to receive the outer lip of tray A.

Operation of the lock-in tray rail is as follows: at the end of the counter where the dining patron begins his trip along the display of food, a stack of trays is conveniently placed so that each diner may take a tray. At this end of the tray rail it is desirable that tubular member 8 be of shorter length, at least one tray's length shorter, than tubular member 7. Thus when the patron selects his tray he can lower it onto the tray rail, which at this point consists of only tubular members 4, 5, 6 and 7. Then, as he moves the tray along the tray rail, the inner lip of the tray A will slide under bottom surface 10 of lip 9 of counter 1, and the outer lip of tray A will slide between tubular members 7 and 8.

As shown in FIG. 2, when the tray is in this position it can only be moved in a direction along the counter parallel to tubular members 4, 5, 6, 7 and 8. Due to the locking in of the lips of the tray no vertical or lateral movement is permitted; thus the tray and its contents cannot be removed, either accidentally or intentionally, until the patron passes to the end of the counter past the checker or cashier.

If desired, tubular member 8 may be shorter than tubular member 7 at the checker end of the counter to permit easy removal of the tray from the lock-in rail.

In the modification shown in FIG. 3, counter 20 has over-extending lip 21 with lip bottom surface 22. Supporting bracket 23 is attached to the front of counter 20 by means of plate 25 and suitable fastening members. Arcuate blocks 26 on the top surface of bracket 23 hold tubular members 27, 28 and 29 along which the bottom surface of tray B slides. Supporting bracket 23 also has a vertically extending leg 24. Instead of providing leg 24 with two tubular members between which the lip of tray B may slide, this modification shows a C-shaped longitudinal member with the opening of the C placed toward the cafeteria counter.

As shown in FIG. 3, the inner lip of tray B slides along under bottom surface 22 of lip 21 of counter 20 while the outer lip of tray B slides in the opening of the C-member 30.

As explained in the operation of the tray rail shown in FIGS. 1 and 2, it is desirable that the lock-in portion should not extend the full length of the other tubular members. Thus in this modification shown in FIG. 3, C-shaped member 30 will be shorter than tubular members 27, 28 and 29 at each end of the cafeteria counter to permit easy entry and exit of tray B from the tray rail.

FIG. 4 shows a further modification which is adaptable for use on cafeteria counters which do not have an overhanging lip at the top surface thereof but are provided with a flat front surface. In this figure, the supporting bracket 36 is attached to the counter 35 by means of plate 37. Bracket 36 has vertically extending leg 38 on the outer end thereof. Arcuate-shaped blocks 39 are provided on the top of bracket 36 to hold tubular members 42, 43 and 44. Supported by and attached to leg 38 is C-shaped tubular member 41 which, as in the modification shown in FIG. 3, has the opening of the C facing the counter. On the opposite end of bracket 36 and supported by plate 37, as well as bracket 36, is C-shaped longitudinal member 40. The opening of the C of member 40 faces outwardly from the front of counter 35 thus making the opening of the C of each member 40 and 41 directly opposite and facing each other.

As shown in FIG. 4, the inner lip of tray D slides in the opening of C-member 40 while the outer lip of tray D slides in the opening of C-member 41. The opening in each of members 40 and 41 is only slightly larger than the thickness of the lip of tray D thus vertical and lateral movement of the tray is prevented.

In the modification shown in FIG. 5, supporting bracket 46 is attached to the front surface of counter 45 by means of plate 47. The modification shown in this figure is also for use with a flat-fronted counter. Supporting bracket 46 has vertically extending leg 48 on the outer end thereof. Spaced along the top surface of bracket 46 are arcuate blocks 49 which hold tubular members 52, 53, 54, 55 and 56 in much the same manner as the embodiment shown in FIGS. 1 and 2. Near the top of plate 47 two arcuate blocks 49 are placed for holding tubular members 50 and 51. Attention is called to the fact that tubular member 56 is placed directly above tubular member 55 a distance great enough to receive the outer lip of tray E therein. Likewise, tubular member 50 is placed the same distance directly above tubular member 51 so as to receive the inner lip of tray E. Tubular members 50 and 56 are located in the same horizontal plane; tubular members 51 and 55 are in the same horizontal plane. Tubular members 52, 53 and 54 are in the same horizontal plane, said plane being located below the plane of tubular members 51 and 55 a distance calculated so that the bottom of the tray rests on members 52, 53 and 54 while the lips of the tray rest on members 51 and 55.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof, and therefore the invention is not limited by that which is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip of a serving tray, said means being such as to prevent either vertical or lateral movement of a serving tray, and means extending along the outer edge of said tray rail for receiving the outer lip of a serving tray, said means being such as to prevent either vertical or lateral movement of a serving tray.

2. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip and preventing either vertical or lateral movement of a serving tray, said inner lip-receiving means comprising a forward extension of the top surface of the counter to form a lip located above and extending over the tray rail a distance great enough to cover only the lip of a serving tray and extending downwardly a distance which permits the insertion of a serving tray between the bottom surface of said lip and the upper surface of the tray rail, and means extending along the outer edge of said tray rail for receiving the outer lip and preventing either vertical or lateral movement of a serving tray.

3. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal

tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip and preventing either vertical or lateral movement of a serving tray, said inner lip-receiving means comprising a C-shaped longitudinal member extending along the front surface of the counter and positioned with the opening of the C facing in a direction away from the counter, said C-shaped member placed higher than the tray rail a distance great enough for the lip of a serving tray to slidably fit in the opening of the C-shaped member when the serving tray is placed on top of the tray rail, and means extending along the outer edge of said tray rail for receiving the outer lip and preventing either vertical or lateral movement of a serving tray.

4. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip and preventing either vertical or lateral movement of a serving tray, said outer lip-receiving means comprising a plurality of longitudinal members spaced apart in a common vertical plane and spaced from each other a distance great enough to slidably receive the lip of a serving tray, the lowermost longitudinal member of said plurality being spaced in a plane higher than the tray rail a distance great enough for the lip of the serving tray to rest thereon when the serving tray is placed on top of the tray rail, and means extending along the outer edge of said tray rail for receiving the outer lip and preventing either vertical or lateral movement of a serving tray.

5. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip and preventing either vertical or lateral movement of a serving tray, means extending along the outer edge of said tray rail for receiving the outer lip and preventing either vertical or lateral movement of a serving tray, said outer lip-receiving means comprising a C-shaped longitudinal member positioned with the opening of the C facing in a direction toward the counter, said opening in the C-shaped member being large enough to receive the lip of a serving tray, said C-shaped member placed higher than the tray rail a distance great enough for the lip of a serving tray to slidably fit in the opening of the C-shaped member when the serving tray is placed on top of the tray rail.

6. Restaurant equipment for self-serving persons comprising a food display counter with a horizontal top surface and a vertical front surface, a generally horizontal tray rail extending longitudinally along the front surface of said counter, means extending along the inner edge of the tray rail for receiving the inner lip and preventing either vertical or lateral movement of a serving tray, means extending along the outer edge of said tray rail for receiving the outer lip and preventing either vertical or lateral movement of a serving tray, said outer lip-receiving means comprising a plurality of longitudinal members spaced apart in a common vertical plane and spaced from each other a distance great enough to slidably receive the lip of a serving tray, the lowermost longitudinal member of said plurality being spaced in a plane higher than the tray rail a distance great enough for the lip of the serving tray to rest thereon when the serving tray is placed on top of the tray rail.

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