

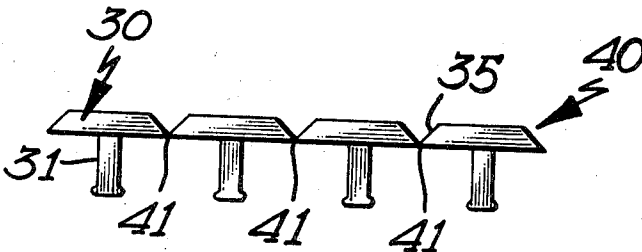
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[54] **PLUG BUTTONS FOR VERTICALLY ADJUSTABLE
SHELF ASSEMBLIES**
1 Claim, 7 Drawing Figs.
[52] U.S. Cl. **206/56,**
24/208
[51] Int. Cl. **B65d 83/00**
[50] Field of Search..... **24/208.3,**
214, 107; 220/60; 206/56A3

ABSTRACT: The background of the invention relates to adjustable shelving assemblies of the type having vertical, slotted support members and shelf brackets having hooks which are insertable into the slots. The invention relates to plug buttons which are insertable into the slots of the support members which are not being utilized by the hooks of the shelf brackets.



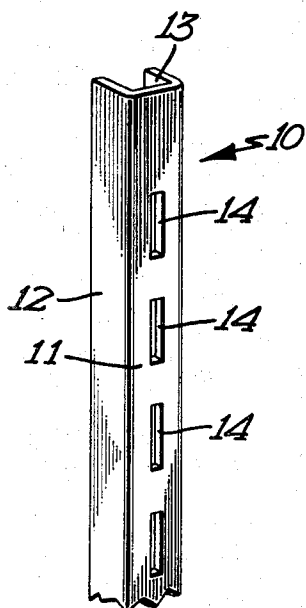


FIG 1

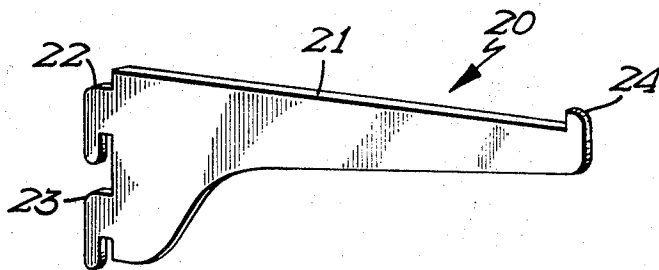


FIG 2

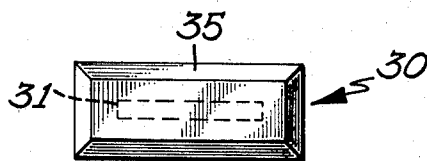


FIG 3

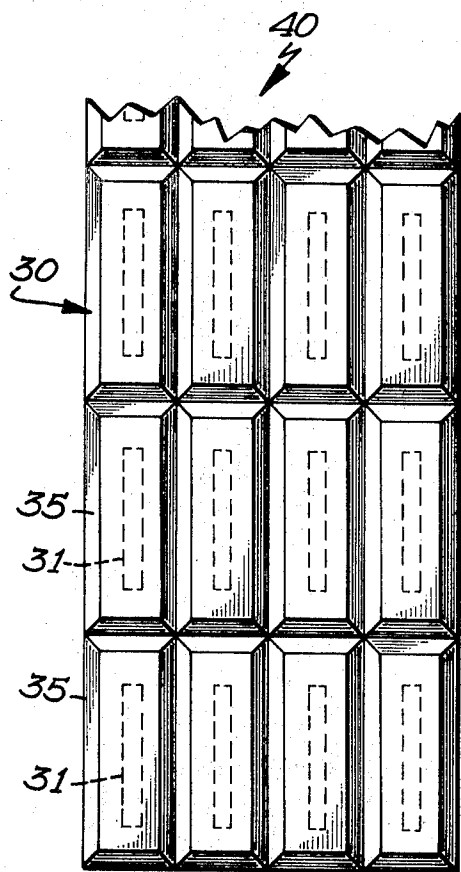


FIG 6

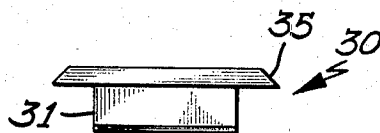


FIG 4

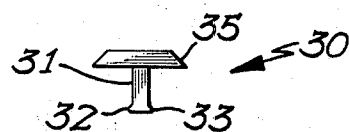


FIG 5

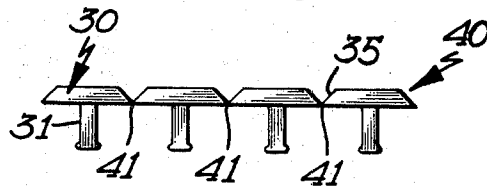


FIG 7

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PLUG BUTTONS FOR VERTICALLY ADJUSTABLE SHELF ASSEMBLIES

The invention relates generally to adjustable shelving assemblies of the type having vertical, slotted support members and shelf brackets having hooks which are insertable into the slots. The invention relates particularly to new and improved plug buttons which are insertable into the slots of the support members which are not being utilized by the hooks of the shelf brackets.

Adjustable shelving assemblies of the type referred to are sometimes used in refrigerated food display cases of the air curtain type which are commonly found in super markets. The slotted support members are channel shaped and the slots not having bracket hooks disposed therein provide openings through which air laden with moisture, dust and bacteria can enter the enclosed space defined by the channel member. This enclosed space is difficult or impossible to clean during normal or routine cleaning operations and thus, after a time, the accumulation of bacteria and dirt therein creates an unsanitary condition which can lead to a contamination of the food in the display case.

A main object of the invention is to provide new and improved plug buttons for plugging and sealing the slots of channel support members used for adjustable shelving assemblies. A further object of the invention is to provide sheets of the plug buttons referred to which can be utilized by a user to cut or tear individual buttons from the sheets or cut particular groupings of buttons which groupings can be used to cover and seal corresponding groupings of slots without individually separating the buttons.

Other objects and advantages of the invention will become apparent from the following specification, drawings and appended claims.

FIG. 1 is a fragmentary perspective view of a slotted, vertically extending shelf support member;

FIG. 2 is a perspective view of a shelf bracket adapted to be attached to the support member shown in FIG. 1;

FIG. 3 is a plan view of a plug button in accordance with the invention which is adapted to be inserted into one of the slots of the support member shown in FIG. 1;

FIGS. 4 and 5 are side and end elevational views, respectively, of the plug button shown in FIG. 3;

FIG. 6 is a plan view of a sheet of plug buttons of the kind shown in FIGS. 3 to 5; and

FIG. 7 is an end elevational view of the sheet of plug buttons shown in FIG. 6.

Referring to the drawing, there is shown in FIGS. 1 and 2, perspective views of a vertical shelf support member 10 and a shelf bracket 20 adapted to be attached to the support member 10. This type of shelf support assembly is well known and is in general use in many shelving installations in which it is desirable to have shelving which is vertically adjustable.

Support member 10 has a generally channel shaped cross-section which comprises a face section 11 and two adjoining, orthogonally extending leg sections 12 and 13. Face section 11 has a plurality of rectangularly shaped, vertically elongated slots 14 therein which are in vertically spaced and vertically aligned relation to each other.

Bracket 20 is of a common type which is in wide general use. Bracket 20 has a body portion 21 with two vertically aligned hooks 22 and 23 at one end thereof which are adapted to be inserted respectively into any pair of two adjoining slots 14 in support member 10. Two or more horizontally spaced brackets 20 facilitate the supporting of a shelf thereon and the outer end of the bracket 20 has an upwardly extending lip 24 to retain the shelf (not shown) placed thereon without any other fastening devices being required for securing the shelf to the brackets.

One type of shelving installation in which vertically adjustable shelves is sometimes desired is in refrigerated display cases of the air curtain type which is commonly found in super markets. Some display cases of this type do have shelving arrangements of the type portrayed in FIGS. 1 and 2. A particular

problem which exists relative to the use of this type of shelving arrangement for refrigerated display cases has to do with the maintenance of sanitary conditions. The slots 14 of the support member 10 provide openings through which air laden moisture, dust particles and bacteria can enter and become lodged in the space enclosed by the support member 10. The inner walls of support member 10 are difficult or impossible to reach during normal and routine cleaning operations and the enclosed space thus undesirably provides an unsanitary condition in that it creates a breeding place for bacteria. This not only gives rise to offensive odors but it also is unhealthful because of the likelihood and danger of having the food products in the display case becoming contaminated.

The invention is directed to the providing of plastic plug buttons which are insertable into the support member slots 14 to seal those entrances to the enclosed space defined by the support member and thus prevent the ingress of air into that space. Top, side and end views of a single plug button 30 are shown respectively in FIGS. 3 to 5.

The plug button 30 has a rectangularly shaped plug portion 31 having a thickness slightly greater than the thickness of the support member face wall 11 and a perimeter which slightly exceeds the perimeter of a slot 14 to insure a snug fit. The two longitudinally extending bottom edges 32 and 33 are slightly flared so that when the plug portion 31 is fully inserted into a slot 14 the flared edges tend to hook the rear edges of the slot to provide a more secure connection.

The plug button has a rectangularly shaped cap portion 35 having a somewhat larger perimeter than the plug portion 31. The undersides of the cap portion 35 are flat to provide a planar abutting contact with the outer surface of the support member face section 11. The upper side of the cap portion 35 of a single plug button 30 has rounded or beveled edges for aesthetic reasons.

It is of course apparent that a number of plug buttons 30 are needed for sealing or plugging support member slots 14 which are not occupied by bracket hooks 22 and 23.

Another feature of the invention has to do with the providing of a plurality of plug buttons 30 in sheet form as shown in FIGS. 6 and 7 where there is illustrated an array of plug buttons 30 in a sheet 40. The beveled or rounded edges of adjacent plug button caps 35 are joined with relatively thin sections of material 41 such that individual buttons can easily be cut from the sheet, as with a scissors, or particular groupings of buttons can be readily cut from the sheet.

Sheets of buttons such as the sheet 40 can be formed in various ways such as molding, for example, and may be sold to customers in sheet form. Support member slots 14 can be plugged with individual buttons 30 or, if there are a number of open slots in a vertical line, a strip of buttons can be cut from the sheet 40 and a whole strip of buttons can be inserted without separating individual buttons of the strip. Likewise, if the support member 10 would have two vertical rows of slots 14, as is sometimes the case for heavy duty installations, a strip having the width of two buttons could be cut from the sheet 40 and installed as a unit to plug the double row of open slots in the support member.

We claim:

1. A molded sheet of plug buttons for the slots of an adjustable shelf support member having at least one row of vertically aligned and spaced slots comprising, a plurality of identically shaped plug buttons each having a generally rectangularly shaped plug portion insertable into one of said slots, said plug portion having a perimeter slightly larger than the perimeter of one of said slots, said plug portion having a pair of parallel flared bottom edges, a cap portion connected to said plug portion, said cap portion having a larger perimeter than said plug portion to form an abutting surface surrounding said plug portion, said cap portion having beveled edges on the upper side thereof, said plurality of buttons being in a molded sheet of at least four plug buttons with adjacent edges of adjacent buttons being connected with relatively thin portions of material.