

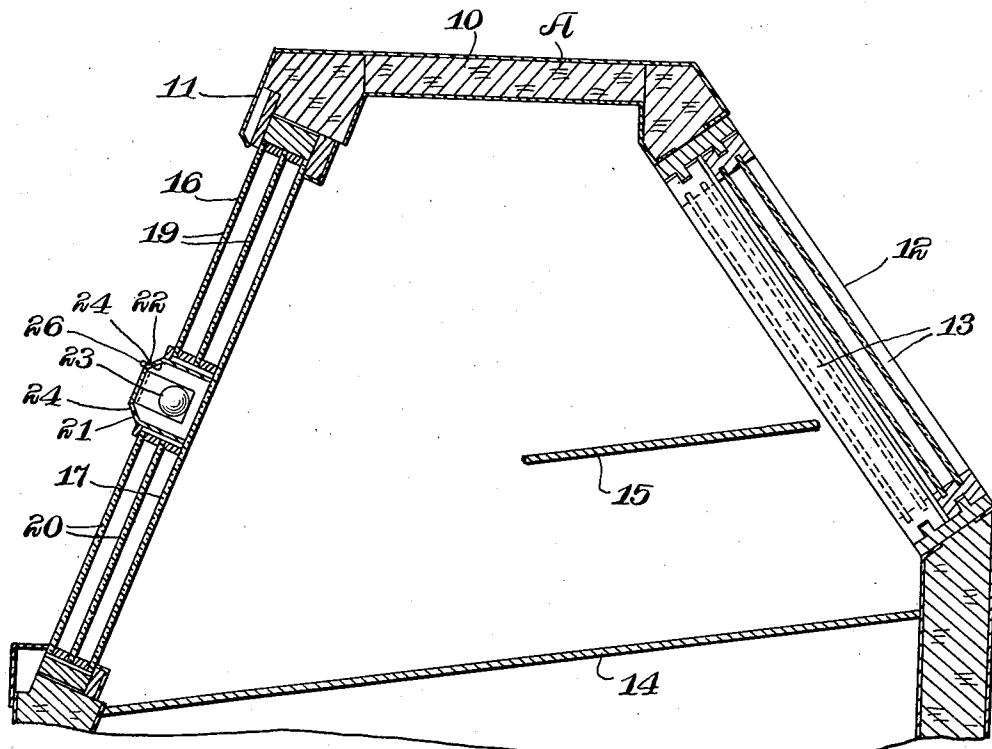
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REFRIGERATOR ILLUMINATING MEANS

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## REFRIGERATOR ILLUMINATING MEANS

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2 Claims. (Cl. 240—6)

My invention relates to refrigerator illuminating means wherein it is desired to provide a means of effectively illuminating the contents of a refrigerator display case.

Refrigerator display cases have been formed for numerous years having inclined display windows on the front of the body of the refrigerator and doors on the rear side of the same by means of which access may be had to the contents of the case. Numerous methods have been used for illuminating the contents of the case, and most of these illuminating means have been situated externally of the case so that the heat generated by the illuminating means will not enter the case. Light wells have often been created in the top of the case so that illuminating means may be embedded within the body to light up the contents. Such light wells have had two important disadvantages. In the first place, all of the air within the refrigerator is circulated to the top of the same in the circulation of air within the case, and the light well which is ordinarily not as well insulated as the remainder of the case permits some of this air to escape from the case. In the second place, the light wells situated in the top of the case clearly illuminate objects placed beneath the light, but cannot readily illuminate the lower shelves of the case in case more than one shelf is provided. Where two shelves are provided within the display case, one above the other, obviously the objects on the upper shelf are clearly displayed, while objects on the lower shelf are in the shadow and cannot be clearly displayed.

Attempts have been made to illuminate the case by providing illuminating means outside of the case at the top of the inclined display windows. The light source thus positioned is at a considerable distance from the articles to be displayed, and therefore a greater illuminating power is required. Furthermore, the positioning of this light source externally of the case to cause light rays to penetrate a series of display windows ordinarily used creates a reflection on the internal panes of glass which is visible to a person approaching the case. It will be seen that rays of light striking the inner pane of a series of parallel panes forming the display window will be reflected to some extent outwardly, creating a glare in the eyes of a person in front of the case.

It is the object of the present invention to avoid one or more of the aforementioned difficulties by dividing the display window laterally intermediate the top and bottom edges of the

same and to incorporate a source of light in a dividing member between the upper and lower portions of the display window. This construction has numerous advantages. In the first place, the light source is situated more closely to the objects to be displayed than where the light source was positioned in the top of the display window. The articles within the display case are thus more easily displayed, and less light is required to display the goods equally well. It will also be found that with this arrangement the articles within the display case are more thoroughly illuminated, as articles on an upper shelf of the display case do not create a shadow upon articles on the lower shelf of the same. A more thorough and effective illumination is thus supplied.

With my construction it will be found that no glare will be reflected by the inner panes of glass of the window. This is true primarily because the light source is positioned in a dividing member and only passes through a single pane of glass. The portion of this glass through which the light rays may pass is concealed from the view of a person standing in front of the display case. However, even though the light were positioned so that it would extend through several panes of glass, the glaring effect would be reduced because of the lower level of the light source.

It is a further feature of my invention that the light source is positioned at a point spaced from the top of the refrigerator where the air circulating within the refrigerator has not so great a tendency to escape from the refrigerator. At the top of the box the flow of air is required to change direction, whereas in the side wall of the box, the natural tendency of the air is to flow upwardly past the light source.

It is a further feature of my invention to provide a light source positioned in a manner to divide the display window of the case. This construction enables me to use pieces of glass of small area in the construction of my case, thus reducing the cost of the glass used in the same. It has been found that the dividing strip may be formed attractively and does not materially impair the vision of the inside of the case.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawing forming a part of my specification:

Figure 1 is a cross-sectional view through the top of a refrigerator display case illustrating the

construction and position of my illuminating means.

Figure 2 is a front elevation view of my refrigerator display case disclosing the construction of the case as it would appear to a person standing in front of the same.

The refrigerator display case A is formed in any desired shape and in the form illustrated includes a top 10 of relatively narrow width having an inclined front portion 11 and an inclined rear portion 12 in which are positioned doors 13. A shelf 14 is provided beneath the display window for the accommodation of products to be refrigerated and displayed, and a second shelf 15 may be provided if desired for accommodation of additional articles.

The inclined front portion 11 includes a display window 16 formed of a pane of glass or other transparent material 17 extending the full width of the front portion of the case, and a series of parallel panes 19 which overlie the upper portion of the pane 17, and a pair of transparent windows 20 which overlie the lower portion of the pane 17 and extend in parallel relationship therewith. A dividing member 21 extends into engagement with or into close proximity with the pane 17, and acts as a connecting means between the panes 19 and the panes 20.

The dividing member 21 includes a channel member 22 having the open side thereof adjacent the pane 17. The channel 22 may be formed of a single piece as illustrated, or may be formed of several pieces in spaced relationship to assist in the insulation of this portion. In the construction shown, the channel 22 may act as a reflector for the light bulbs 23, or an inner reflector may be provided if it is desired. Openings 24 may be provided within the channel 22 if it is desired to ventilate this channel to permit the heat generated by the light bulbs 23 to be dissipated.

From the foregoing description it will be clear that a display window 16 includes a single inner pane 17 of glass which extends the full width of the window and includes narrower panes of glass 19 and 20 which extend between the top and bottom of the display window and the central dividing member 21. The panes 17, 19 and 20 are suitably mounted in spaced relationship in any desired manner to support the panes in spaced relationship. If it is desired, the pane 17 may also be divided in the manner of the panes 19

and 20, and a separate glass may cover the open end of the channel 22. Hinge portions 25 are hinged at 26 so that access to the inner side of the channel may be obtained for the replacement of the bulbs 23. The precise construction of my device may be very materially modified in many ways without departing from the spirit of my invention.

In accordance with the patent statutes, I have described the principles of construction of my refrigerator illuminating means; and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that this is only illustrative of a means of carrying out my invention, and that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A refrigerator display case including a display compartment, an inclined rectangular opening having opposed ends and opposed sides, a single window pane extending within said opening and engaging the opposite sides and ends thereof, a channel member provided with an open side extending between the opposite sides of said opening with the open side thereof abutting said window pane, illuminating means housed within said channel member and additional panes of glass arranged in spaced relation and parallel to said window pane and each having an edge engaging said channel member with the remaining edges thereof engaging said inclined opening.

2. A refrigerator display case provided with a display compartment therein, an inclined opening provided in said display case through which articles within said compartment may be viewed, a single window pane positioned within said inclined opening and engaging the sides thereof, a channel member positioned intermediate the sides of said inclined opening and overlying said window pane, said channel being provided with an open side extending throughout the length thereof facing said display compartment, illuminating means within said channel member and additional panes of glass arranged in spaced relation and parallel to said window pane and each having an edge engaging said channel member, the remaining edges thereof engaging said inclined opening.

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