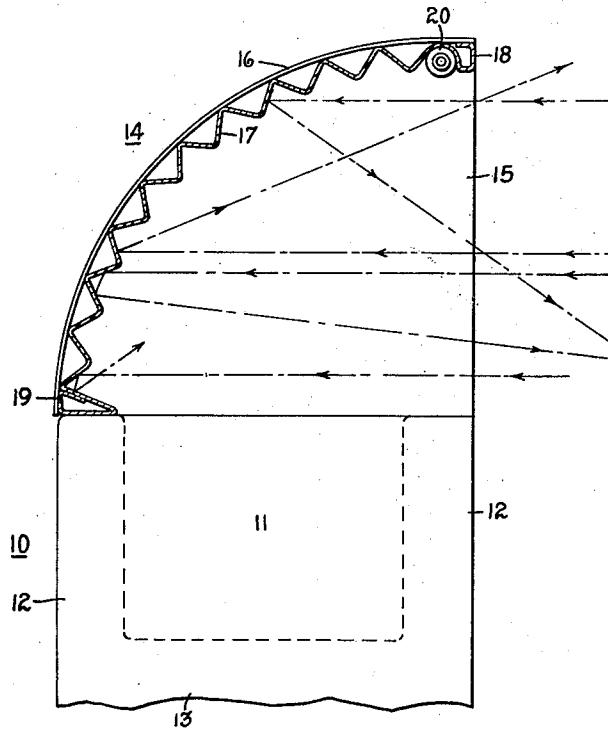


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HEAT REFLECTING HOOD
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HEAT REFLECTING HOOD

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My invention relates to refrigerated display cases and, more particularly, to a refrigerated display case having an open top such as is commonly used to display perishable food products.

Open top refrigerated cases are now quite commonly used to display various foods and other perishable products which require refrigeration. Cases of this type are frequently installed in food markets and the like because they permit an open display of the articles contained therein and also provide convenient access for customers. Even so-called frozen foods which must be maintained at a temperature considerably below the freezing point are now displayed in this manner, it being possible to maintain the necessary low temperatures in a refrigerated case having neither a top wall nor a cover. However, certain difficulties are encountered in maintaining the desired low temperatures in open top refrigerated display cases because of the transfer of heat into the refrigerated space by radiation from heat sources outside the cabinet and also by air currents circulating into the refrigerated space.

Accordingly, it is an object of my invention to provide means for preventing or substantially reducing the transfer of heat by radiation and convection into the interior of an open top refrigerated display case.

It is another object of my invention to provide a heat reflecting hood for open top refrigerated display cases which minimizes the entrance of heat rays into the interior of the case and also minimizes air circulation within the interior of the case.

It is a further object of my invention to provide a heat reflecting hood arranged to reflect through the open side of the hood those rays of heat which may enter through this open side.

Further objects and advantages of my invention will become apparent as the following description proceeds, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

For a better understanding of my invention, reference is made to the accompanying drawing in which the single figure is a sectional elevation view through a refrigerated display case including an embodiment of my invention.

Referring to the drawing, I have shown therein a display case generally represented by the reference character 10, the plan of which is preferably, although not necessarily, of rectangular form. The case 10 has a compartment 11

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formed therein by a plurality of insulated upright walls 12 and an insulated bottom wall 13. The compartment 11 is refrigerated by any suitable refrigerating apparatus (not shown) in a manner well known in the art.

The heat reflecting hood generally designated by the character 14 is illustrated as being detachably secured to the side walls 12 of the refrigerated case 10, by means of suitable fastener elements. However, it is obvious that the hood 14 could be made an integral part of the refrigerated case 10, and such a construction is within the scope of my invention. The heat reflecting hood comprises two spaced side walls, one of which is shown at 15, having a sector-shaped configuration, and an upwardly and forwardly inclined curved rear wall 16 extending from the upper edge of the rear wall of the case 10 to a point directly above the front wall, when the hood is mounted on the case. The side edges of curved wall 16 are joined to the curved edges of the side walls 15 to form a unitary structure. A corrugated heat reflecting panel 17 of polished aluminum or any other suitable reflecting material is attached to the interior surface of the curved rear wall 16, the attaching means (not shown) being preferably, but not necessarily, rivets or screws. The corrugations of the panel 17 extend longitudinally of the panel 17 and of the rear wall 16 of which the panel forms a part. The upper edge portion 18 and lower edge portion 19 of corrugated panel 17 are folded over so as to provide channel sections which may be conveniently secured to the rear wall 16. At the upper longitudinal edge of the hood 14 is a suitable tubular electric lamp 20 appropriately mounted for illuminating the interior 11 of the case 10.

As illustrated in the drawing, the rear wall is evenly curved, having a radius of curvature approximately equal to the distance from the front to the rear wall of refrigerated case 10, and the included angle between adjacent corrugations of the corrugated panel 17 is approximately 90°. It has been found that this configuration of the corrugated panel insures the reflection of substantially all heat rays back out through the opening between the forward edges of the hood 14 and the top of the case 10 rather than into the storage space. However, this embodiment is merely illustrative of my invention, and variations in both the curvature of the rear wall 16 and the included angle between adjacent corrugations of the panel 17 may be made. The important feature is the provision of the corrugated

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panel; the angles between adjacent corrugations may be varied to meet particular conditions to secure a maximum of reflection of heat rays back through the opening at the front of the cabinet. The manner in which heat rays are reflected by the corrugated panel 17 is shown in the drawing, the path of the heat rays being represented by broken lines with arrows to indicate direction of travel. It will be seen that some of the rays are reflected only once before leaving the hood while others pass through a double reflection, depending on the angle of incidence.

It is apparent that the heat reflecting hood 14 effectively prevents the entrance of heat rays into compartment 11 of the case 10 from the top and three of the four sides of the case. Also, substantially all of the heat rays entering the open side of the hood 14 and striking the corrugated panel 17 are reflected out again and thus are neither reflected into compartment 11 nor absorbed by the rear wall 16. Furthermore, the end walls 15 and rear wall 16 of the hood prevent air currents from entering the compartment 11 from both the ends and rear of the case 10.

From the above description, it will be seen that I have provided a hood for a refrigerated display case which not only substantially prevents radiant heat and air currents from entering the display case from three sides and the top, but also substantially prevents radiant heat entering the open side of the hood from being reflected downwardly into the food storage compartment of the case. These desirable objects are obtained without sacrificing any advantages of an open top display case, the contents of the storage compartment being both visible and easily accessible through the open side of the hood and the open top of the case.

While I have shown a particular embodiment of my invention, I do not desire my invention to be limited to the particular construction shown, and I intend in the appended claims to cover all modifications within the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A refrigerated display case comprising a bottom wall, two upright side walls, an upright front

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wall, and an upright rear wall forming an open-top compartment, and a hood extending over said compartment, said hood comprising two sector-shaped side walls extending upwardly from said compartment side walls and a curved wall extending between the said sector-shaped side walls, said curved wall extending from the upper edge of said rear wall and terminating along a line directly above and spaced from said front wall whereby access may be had to the said compartment, the interior of said curved wall having a corrugated heat reflecting surface extending longitudinally thereof, said surface being constructed and arranged to reflect outwardly through the opening directly above said front wall heat rays entering said opening and impinging on said surface.

2. The structure of claim 1 in which the included angle between adjacent corrugations of the corrugated heat reflecting surface is substantially 90 degrees.

3. A refrigerated display case comprising thermally insulated bottom, front, rear and side walls forming a cabinet enclosing a storage compartment having a top opening, a hood structure including a curved wall overhanging said opening and supported by a pair of side walls so as to provide an opening at the front of the hood, the radius of curvature of said curved wall being equal to the distance between the front and rear walls of the case, and a horizontally corrugated sheet supported adjacent the under side of said curved wall, the included angle between adjacent corrugations being substantially 90°, said sheet having a heat-reflecting surface and being constructed and arranged to reflect outwardly through said front opening heat rays entering said opening and impinging on said surface.

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