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C. E. HASCHKE
REFRIGERATING APPARATUS

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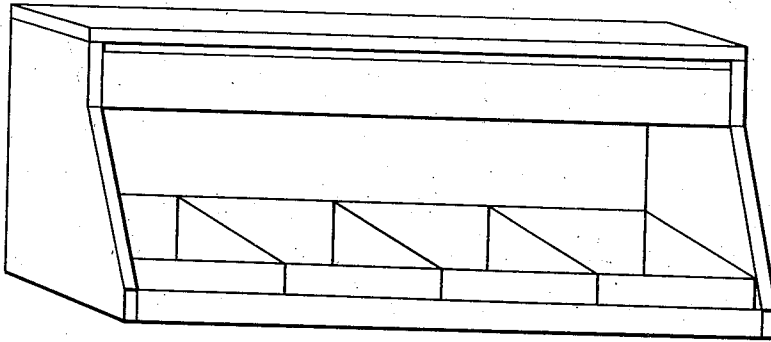


Fig. 1

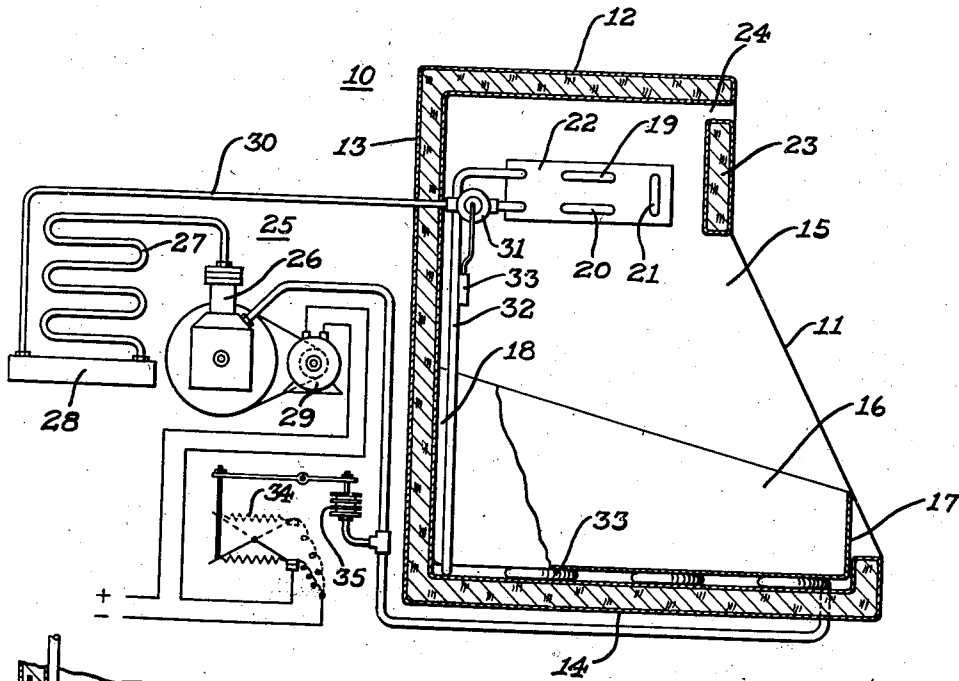


Fig. 2

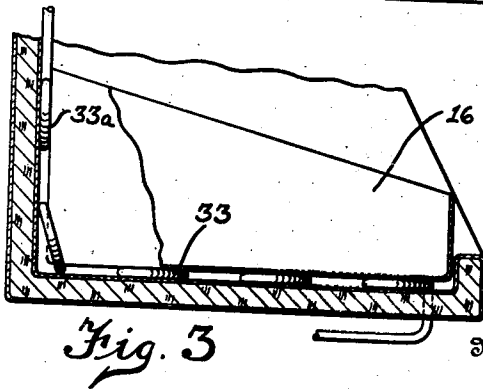


Fig. 3

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REFRIGERATING APPARATUS

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1 Claim. (Cl. 62—89.5)

This invention relates to refrigerating apparatus and more particularly to an apparatus for refrigerating and displaying merchandise, such as vegetables or the like.

It is among the objects of the invention to provide an apparatus which is capable of refrigerating merchandise, such as vegetables or the like, in such a manner that the merchandise may be readily seen by customers and may be readily removed by them for purchase or inspection.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing, wherein a preferred form of the present invention is clearly shown.

In the drawing:

Fig. 1 is a view in perspective of an apparatus embodying features of my invention;

Fig. 2 is a view, partly in cross-section, partly diagrammatic of the apparatus shown in Fig. 1; and

Fig. 3 is a cross-sectional view of a portion of an apparatus similar to that shown in Fig. 2, but showing a slightly modified form.

In practicing my invention the apparatus preferably takes the form of a casing 10 having an open front 11 through which the merchandise may be viewed and inserted or removed by the customers and attendants of the store. Preferably this casing is provided with a substantially closed and insulated top 12, back 13, bottom 14 and ends 15. Along the bottom of the apparatus there is placed a unitary or sectional container 16 in which the merchandise or vegetables may be placed. Preferably this container takes the form of a plurality of metallic basket-like sections having a front 17 of shorter dimension than the back 18. A cooling unit 19 is placed above the merchandise container 16 in such a manner that air cooled by the unit 19 falls on the merchandise in the container 16. Preferably the cooling unit takes the form of a plurality of horizontal sinuous refrigerant flow passageways or pipes having return bends at 20 and 21 at each end of the unit, and these passageways or pipes are provided with vertical substantially parallel metal fins 22 between which the cooled air may fall upon the container 16.

In order to insure the proper flow of air from the unit 19 to the container 16, a baffle 23 is placed in front of the unit 19 and is slightly spaced from the top 12 to provide an air passageway 24 between the top 12 and the baffle 23. This permits a gentle flow of cold air from the

unit 19 which is guided or directed by the baffle 23 on the merchandise.

Means are provided to supply refrigerant or cooling medium to the unit 19. This may take the form of a refrigerant liquefying or circulating unit 25. It may include a compressor 26, condenser 27, refrigerant receiver 28 in refrigerant flow relationship with the cooling unit or evaporator 19. An electric motor 29 is provided to drive the compressor 26. Refrigerant which has been liquefied by the unit 25 flows through the pipe 30 to an expansion valve 31 from whence it flows at reduced pressure through the pipes or passageways of the cooling unit 19. Preferably the valve 31 is of the automatic and thermostatically controlled type which automatically maintains the refrigerant pressure in the unit 19 at a predetermined value until such time as liquid refrigerant tends to overflow the unit through the outlet pipe 32. When this occurs the thermostatic bulb 33, in thermal contact with the pipe 32, throttles the valve 31 and reduces or stops the flow of refrigerant into the unit 19.

The refrigerant flowing from the outlet pipe 32 returns to the compressor 26; but preferably this pipe is utilized as a cooling means for the container 16. Thus the pipe 32 includes a plurality of sinuous bends 33 underneath the container 16 which cool the container, and therefore the merchandise therein, and at the same time acts as a drier coil for the returning refrigerant.

Means are provided for automatically controlling the operation of the apparatus. Thus a snap switch 34 is provided which starts and stops the motor 29 in accordance with conditions in the apparatus. Preferably this snap switch is made responsive to temperature conditions in the cooling unit 19 and thus takes the form of a bellows 35 which is responsive to refrigerant pressures in the unit 19 by being connected to the pipe 32 and operates the snap switch 34. When refrigerant pressures in the cooling unit 19 fall below a predetermined limit the bellows 35 opens the switch 34 and stops the motor 29, and when the temperature rises above a predetermined limit the switch is closed and the motor started.

In the modification shown in Fig. 3 the coils 33 extend along the bottom of the container 16 and in addition include a plurality of coils 33a along the back of the container 16.

While the form of embodiment of the invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claim which follows.

What is claimed is as follows:

An apparatus for displaying and refrigerating merchandise comprising, a plurality of walls forming a single compartment having an open front, means adapted to support merchandise within said single compartment and along the bottom thereof, an air cooling unit within said single compartment and positioned above the bottom thereof to cause cooled air to fall gravitationally from said cooling unit onto the merchandise, a second cooling unit in thermal contact with said merchandise supporting means, the top wall of said plurality of walls of said single compart-

ment extending over the major portion of the bottom wall thereof, said walls cooperating to shield merchandise supported therealong from relatively warm air exteriorly of said apparatus, a baffle closing an upper portion of the open front of said single compartment, said baffle being positioned in front of said first named cooling unit and spaced from the top wall of said compartment to provide an opening for the flow of air from the exterior of said single compartment over said first named cooling unit, and means for supplying a cooling medium to said cooling units.

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