May 22, 1951 O. E. BECKER 2,554,290

PORTABLE UTILITY REFRIGERATOR UNIT

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Fig. 1

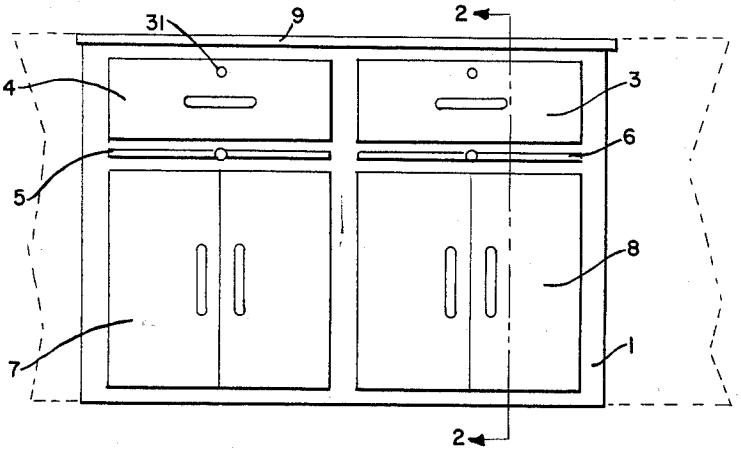


Fig. 2

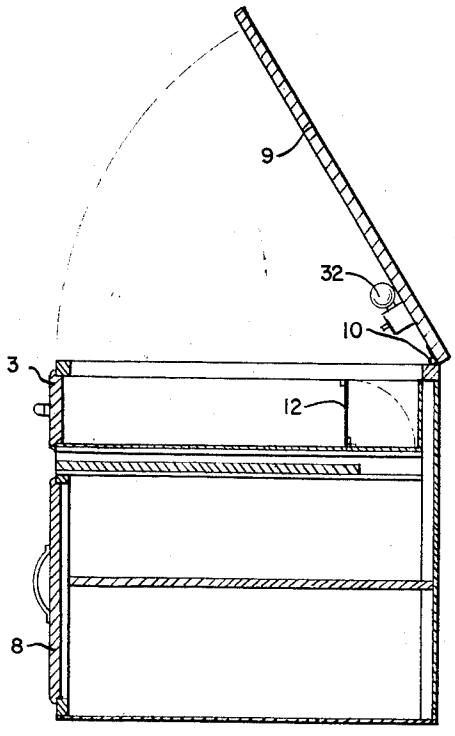
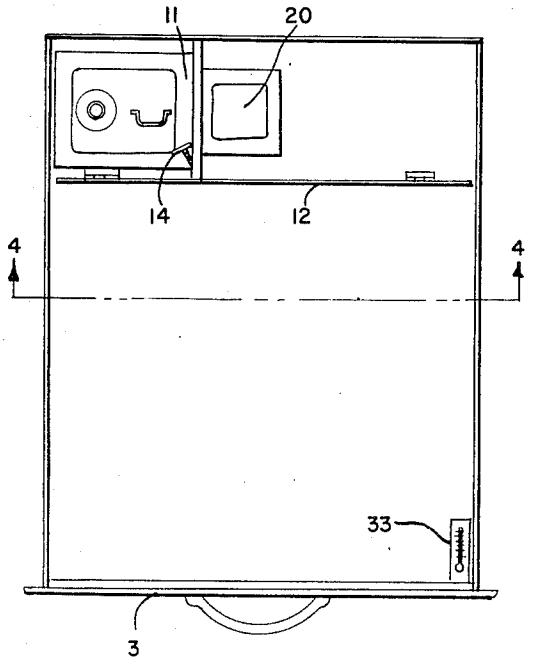


Fig. 3



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Fig. 4

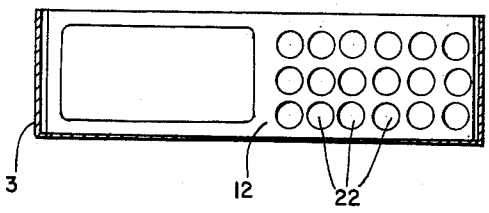


Fig. 5

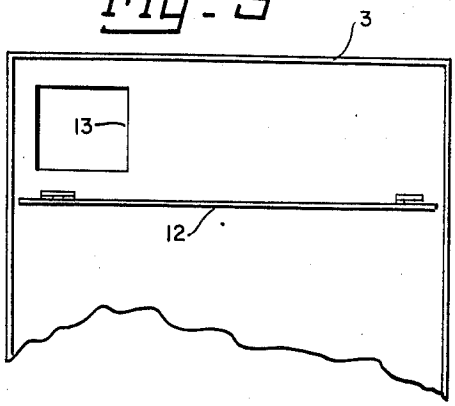


Fig. 6

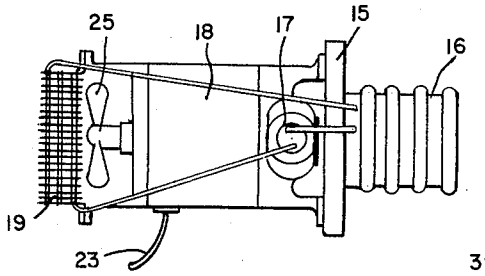


Fig. 8

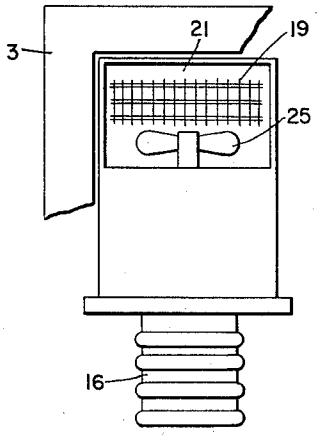
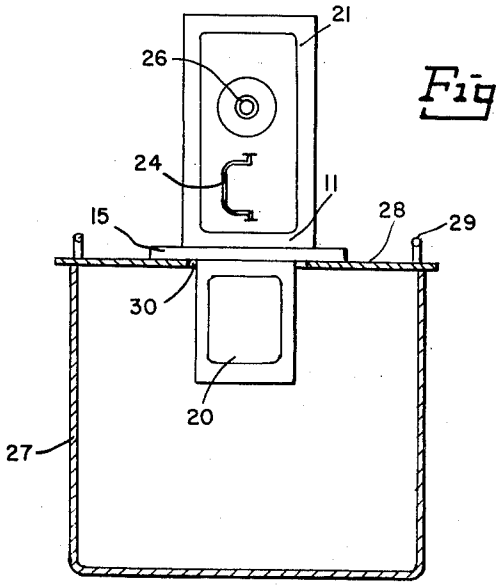


Fig. 7



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PORTABLE UTILITY REFRIGERATOR UNIT

Otto Edward Becker, Los Angeles, Calif.

Application June 14, 1946, Serial No. 676,636

1 Claim. (Cl. 62—116)

1

This invention relates to portable refrigerator units that may be used to refrigerate a given space such as a common kitchen drawer and when the temperature of the space is sufficiently reduced the unit may be readily and easily moved to another space.

The primary object of my invention is to provide a portable package refrigerator unit that may be readily moved from one space to another, thus permitting the refrigeration of several individual spaces with a single unit.

A further object of my invention is to provide a portable refrigerating unit that may be easily carried in one's car to a mountain cabin, lodge, camp, or be used in a trailer.

A further object of my invention is to provide a portable refrigerator unit that may be used as a utility unit for caterers.

A further object of my invention is to provide a portable refrigerator unit that may be used to cool or refrigerate the drawer or top space in a utility table or the contents of a common cooking vessel.

With these and incidental objects in view the invention consists in certain novel features of construction and combination of parts, a preferred form of which is hereinafter shown with reference to the drawings which accompany and form a part of this specification.

In the drawings:

Fig. 1 is a front view of a common kitchen cabinet.

Fig. 2 is a cross sectional view taken on line 2—2, Fig. 1, looking in the direction indicated.

Fig. 3 is a top view of a drawer removed from the cabinet showing the refrigerator unit in its place.

Fig. 4 is a cross sectional view taken on line 4—4, Fig. 3, looking in the direction indicated.

Fig. 5 is a fragmentary top view of the drawer with the refrigerator unit removed showing the aperture provided for air circulation.

Fig. 6 is a plan view of the refrigerator unit removed from the drawer and having the shrouds removed to show the relationship of the several units.

Fig. 7 shows how the unit is used in order to refrigerate a common cooking vessel.

Fig. 8 is the refrigerator unit removed from the drawer showing the aperture in the back side of the shroud which registers with the aperture 13 of a portion of the drawer.

Like numerals refer to like parts throughout the several views.

My invention shows the cabinet 1, having the drawers 3 and 4, the boards 5 and 6, and the doors 7 and 8. The top 9 is hinged with spring balanced hinges 10, and provides a second means of access to the drawers 3 and 4. In the drawer 3, I show the portable refrigeration unit 11 which is separated from the rest of the drawer by the hinged board 12. The refrigerator unit 11 is placed in one corner of the drawer so that the motor, compressor and condenser are directly over the aperture 13 to permit the circulation of air from a source outside of the drawer area. I provide a thumb screw 14 which is screwed against the board 12 holding the unit 11 in its proper place at all times. The refrigerator unit 11 has the insulated diaphragm 15 which separates the evaporator 16 and the compressor 17, the motor 18, and the condenser 19. I provide the shroud 20 for the evaporator 16 and the insulated shroud 21 which has an opening that registers with the aperture 13 of the drawer. The refrigerator unit is placed in the divided portion of the drawer 3 and receives its cooling air through the aperture 13 of the drawer 3. The cooling air is also discharged through the same aperture. This is possible since the size of the compartment below the drawer is always considerably larger than the drawer and is usually exposed to an entire room through vents or the opening and closing of other compartment doors. Circulation of the air is accomplished by the fan 27 provided for this purpose. I provide the holes 22 in the hinged division board 12 so that the air in the drawer may circulate and contact the evaporator 16. The cord 23 may extend through the aperture 13 and then to the nearest outlet. To remove the refrigerator unit 11, the thumb screw 14 is released and by grasping the handle 24 it is free to be lifted out. The cord 23 must, of course, be unplugged. The circulating fan 25 is provided to draw air through the condenser 19 and the conventional control knob 26 is provided for the purpose of regulating the temperature to be maintained.

The unit may be operated in a vertical plane as well as a horizontal one. In Fig. 7 I show a common cooking vessel 27 having a lid 28 with the handles 29. The hole 30 in the lid 28 permits the evaporator 16 and its shroud 20 to pass through it. The insulated diaphragm 15 rests on the top 28. In this manner any articles placed in a common vessel may be refrigerated at will.

It is well known that the average mechanical refrigerator operates but a small portion of the total time, hence with my portable unit it is

possible to have several drawers, boxes, table tops or other receptacles operating with but one unit. This is accomplished by moving the unit from one place to another thereby getting the highest possible amount of work out of a single unit or investment.

When the unit 11 is removed from the drawer, the hinged board 12 lies flat against the bottom of the drawer covering the aperture 13 and rendering the drawer one hundred percent useful for ordinary purposes.

I provide the snap latch buttons 31 that must be depressed before the drawers may be pulled out. The light 32 is of the conventional type and illuminates when the top of the cabinet 9 is raised uncovering the drawers 3 and 4. This permits one to readily read the thermometer 33. It is obvious that a portable closure such as a traveler's suit case could be readily used as a refrigerator. The unit may also be used without an enclosure thus providing means of local refrigeration.

While the form of mechanism here shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the form of embodiment herein shown and described as it is susceptible of embodiment in various forms, all coming within the scope of the claim which follows.

What I claim is:

In combination with a portable refrigerator unit having a condenser fan, a drawer with an aperture for air circulation near its back corner, a hinged division board for covering said aperture when the refrigerator unit is removed, said board in cooperation with the drawer forming a compartment for said refrigerator unit when in a vertical position.

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