

Aug. 25, 1925.

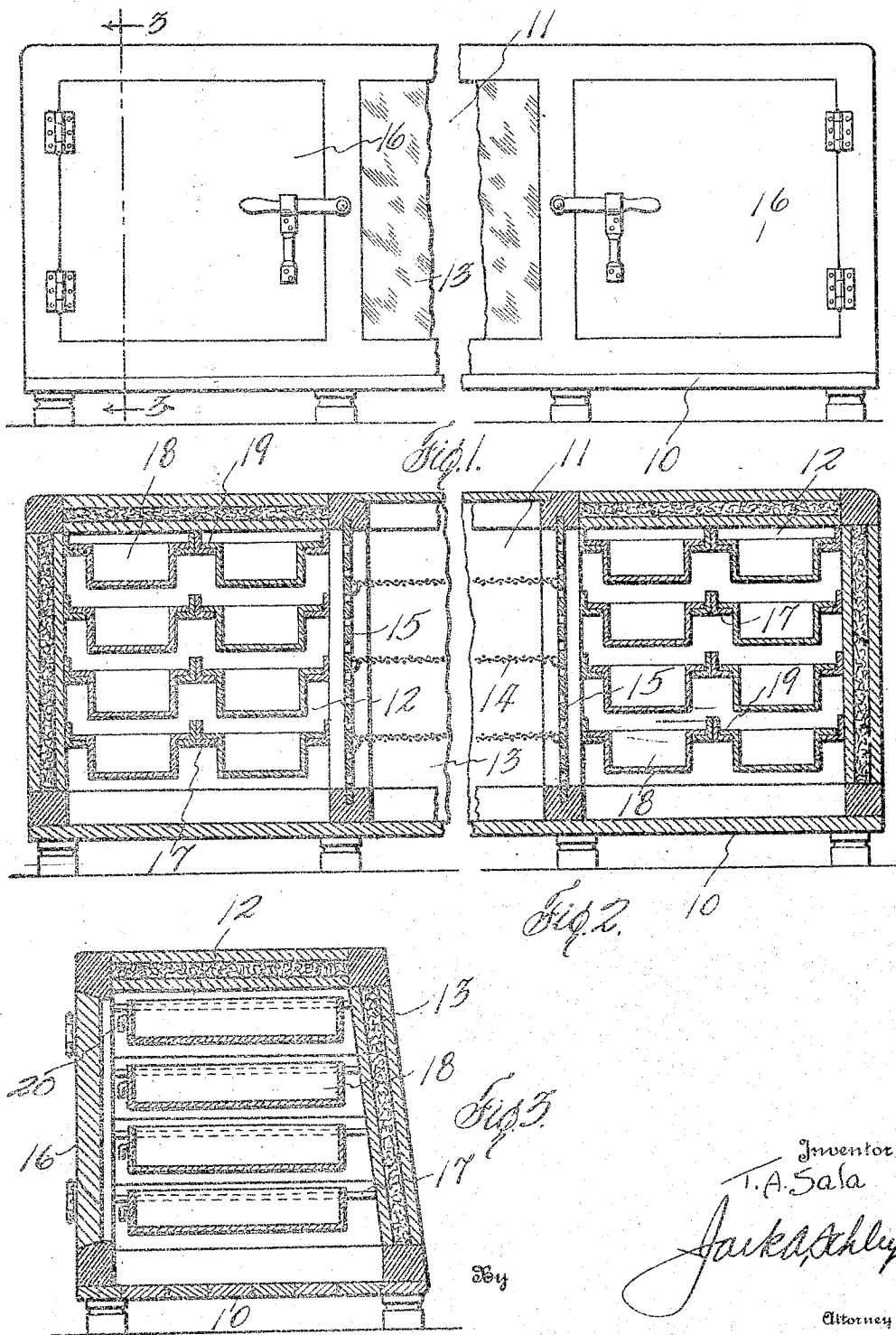
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DISPLAY REFRIGERATOR CASE

Filed March. 24, 1924

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

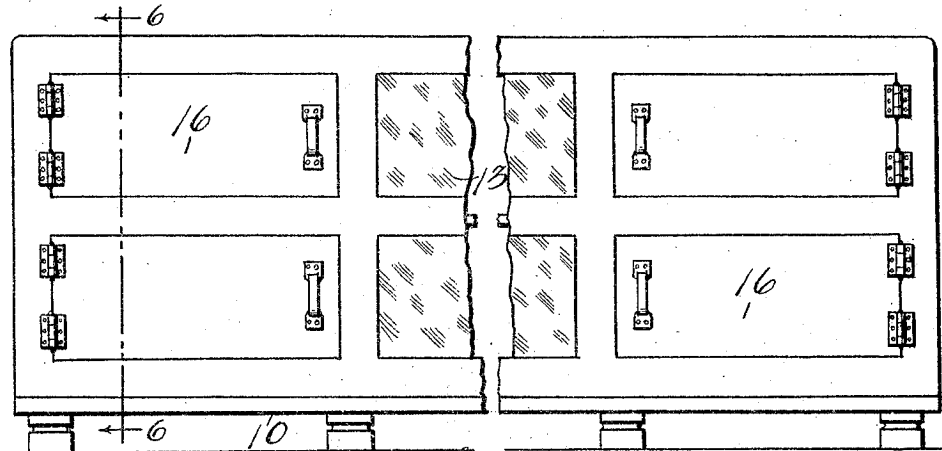


Fig. 4.

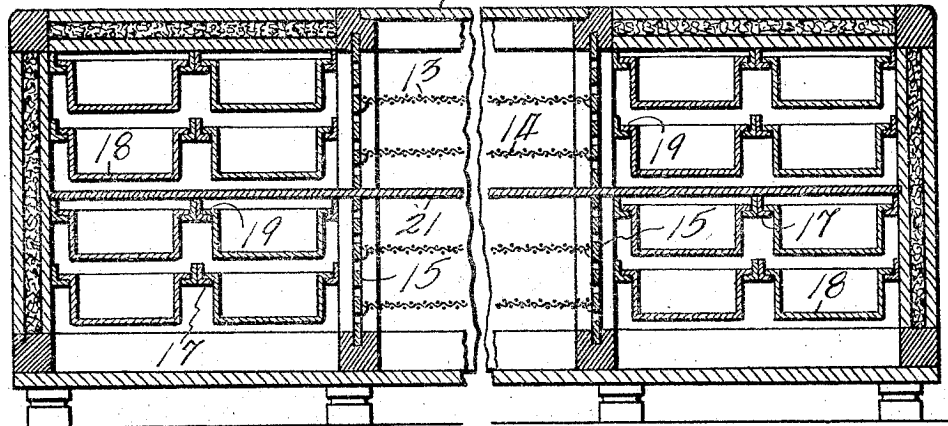


Fig. 5.

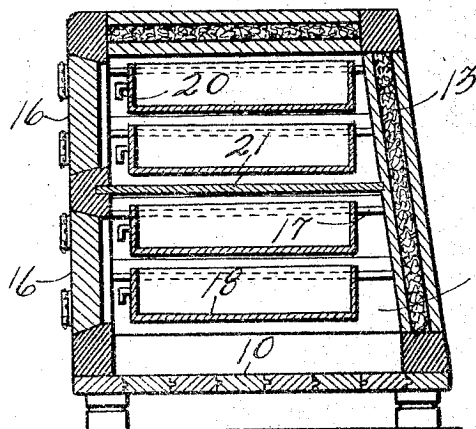


Fig. 6.

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3 Sheets-Sheet 3

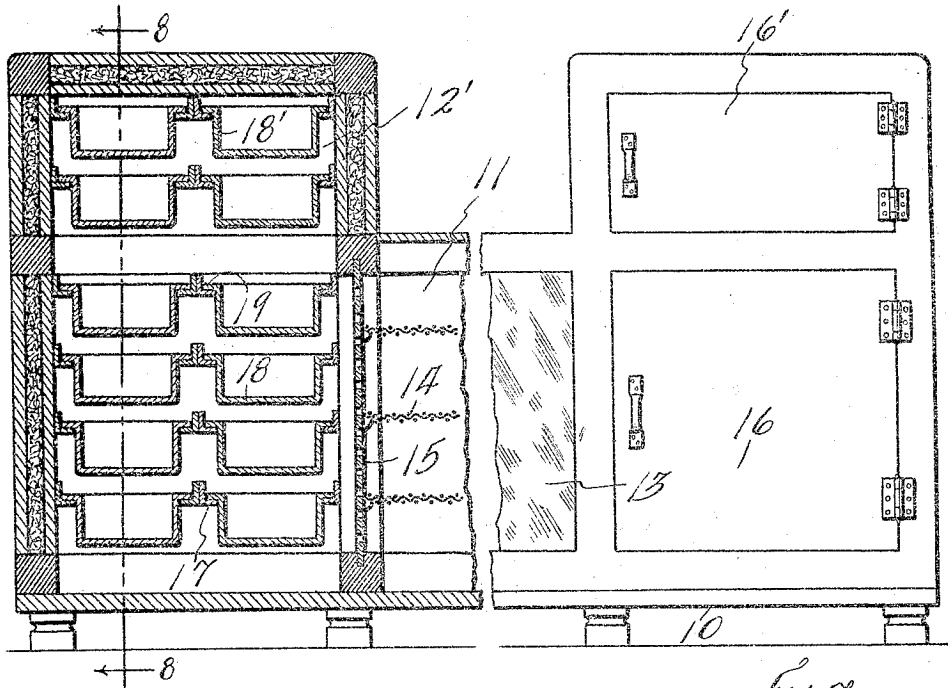


Fig. 7.

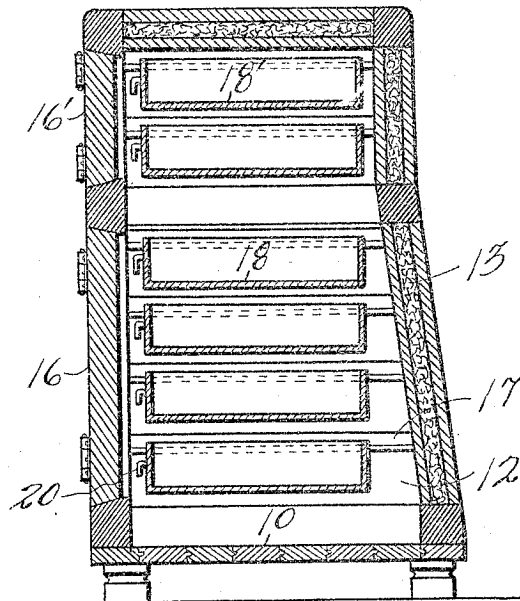


Fig. 8.

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UNITED STATES PATENT OFFICE.

THEODORE A. SALA, OF DALLAS, TEXAS.

DISPLAY REFRIGERATOR CASE.

Application filed March 24, 1924. Serial No. 701,299.

To all whom it may concern:

Be it known that I, THEODORE A. SALA, a citizen of the United States of America, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Display Refrigerator Cases, of which the following is a specification.

This invention relates to new and useful improvements in display refrigerator cases.

The invention has to do with that type of refrigerator which is generally used as a counter in stores and markets and comprises refrigerator compartments at end communicating with an intermediate display chamber which occupies a major portion of the length of the case. It is customary to place shelves in these chambers and to use receptacles in the refrigerating compartments containing ice and brine water or other cooling solutions for making temperatures below freezing.

These receptacles are generally comparatively large and but one is provided in each refrigerator compartment, for each compartment or section of the display chamber. As the cooling solution in the receptacle evaporates or is carried off, its level is lowered and the coldest air stratum being directly over the solution, consequently the upper portion of the refrigerator compartment becomes warm, as does the upper part of the display chamber. As the liquid solution level descends, the temperature at the top of the chamber rises. To lower the temperature the receptacle must be re-iced and even then there will be an area at the top of the display chamber which is not as cold as lower areas, because the receptacle may not reach the top of the refrigerator or it may not be filled to its top. These arrangements do not provide a uniform temperature in the display chamber, are not economical and fail to give as much efficiency as is obtainable.

It is the object of my invention to provide means in the refrigerator compartment of a display refrigerator case, for maintaining a nearly uniform temperature below freezing or at the desired degree and for realizing as much benefit from the cooling solution, at the top as is received at the bot-

tom of the refrigerator compartment and display chamber.

A further object is to provide a plurality of comparatively small receptacles at different elevations in the refrigerating compartment, preferably regularly spaced or in close relation, whereby the cooling solution acts directly upon the circulating air equally at the top, center and bottom of the compartment; and whereby the receptacles may be interchanged from one elevation to the other or individually re-iced, all of which makes for greater efficiency and economy.

A construction designed to carry out the invention will be hereinafter described together with other features of the invention.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Fig. 1 is a fragmentary rear elevation of a case constructed in accordance with my invention,

Fig. 2 is a longitudinal vertical sectional view of the same,

Fig. 3 is a transverse vertical sectional view taken on the line 3—3 of Fig. 1,

Fig. 4 is a rear elevation of a modified form,

Fig. 5 is a longitudinal vertical sectional view of the same,

Fig. 6 is a transverse vertical sectional view on the line 6—6 of Fig. 4,

Fig. 7 is a fragmentary rear view of a modified form case, partly in elevation and partly in section, and

Fig. 8 is a transverse vertical sectional view on the line 8—8 of Fig. 7.

In the drawing the numeral 10 designates the base of a case which has a central or intermediate display chamber 11 of the usual type and refrigerating compartments 12 at each end, all having their tops flush to form a counter. The chamber 11 has a glass front 13 and may be provided with a plurality of superposed foraminous shelves 14, through which the air will circulate. Between each end of the display chamber 11 and the contiguous refrigerator compartment 12 is a vertical foraminous partition 15. Each compartment has a rear door 16,

but one or more doors may be used. All of the parts which have been described are common in the art and no separate claim is made thereto.

5 In carrying out the invention I mount a plurality of angular guide rails 17 transversely of each compartment 12 which extend from front to rear. These rails are mounted in pairs at different elevations, two
10 pairs to each elevation. Between each pair of rails is suspended a drawer or rectangular receptacle 18 each having out-turned flanges 19 at its upper side edges, resting on the rails. Each drawer has a handle 20,
15 by which it may be grasped and slid out the rear side of the compartment when the door 16 is open.

This is true of all the figures of the drawings. In Figs. 1 to 3 inclusive, I have
20 shown eight drawers to a compartment, two at each elevation. These drawers are filled with any kind of a refrigeration solution or liquid, such as cracked ice and brine water and the like. It will be seen that the upper
25 drawers are close to the top of the compartment, while the lower drawers are close to the bottom. The four intermediate drawers are spaced between the top and bottom drawers and provide a cooling influence for
30 this area.

All of the drawers supply the same compartment of the display chamber and there is just as much refrigeration at the top as
35 there is at the bottom. This is important as the air cooled by the upper drawers circulates directly into the upper portion of the display chamber, thus cooling and maintaining a low temperature. Usually in a compartment such as I have illustrated two refrigerating receptacles are used. It will be
40 seen that with such large receptacles, the level of the refrigerating liquid will be reduced by evaporation and a larger upper space, without direct refrigeration, is constantly being made.

Even with the drawers half filled with liquid direct refrigeration is had at the top of the compartments 12 and chamber 11. The drawers are all interchangeable. For
50 instance after a period of time the top drawers may be interchanged with the bottom drawers, as the liquid in the top drawers may have a tendency to evaporate faster than the liquid in the bottom drawers. Any
55 drawer may be refilled and only one or two drawers may require refilling at a time. This is much more economical and efficient.

The invention permits of considerable variation. For instance a butcher or store
60 keeper may require more display and storage space on some days than on others, so that it will be economical to reduce the refrigerating space and the quantity of liquid used. In Figs. 4, 5 and 6 I have
65 shown a case with a central longitudinally

partition 21, extending from end to end through the compartments 12, and the chamber 11. This partition divides the case into two units or sections, one above the other,
70 otherwise it is the same as that shown in Fig. 2. The four upper drawers in the upper sections of the compartments 12 refrigerate the upper section of the chamber 11, while the four lower drawers refrigerate the lower section of the chamber. However
75 both the upper and lower sections of the chamber have direct refrigeration at the upper portions. Either the upper or the lower section may be used individually when desired. The idea of uniform refrigeration
80 is carried out in this form also.

Under certain conditions, it may be desirable to surmount extensions 12' on the compartments 12 as is shown in Figs. 7 and 8 and build the same above the chamber 11.
85 These extensions are entirely enclosed and provided with separate doors 16'. In the extensions are mounted rails 17' carrying drawers 18'. These additional drawers above the display chamber would materially reduce the temperature at the top of
90 said chamber. This form would probably prove quite economical because of the number of drawers which could be interchanged. The brine solution does not flow from the
95 drawers and the same are "non-flowing".

Various changes in the size and shape of the different parts, as well as modifications and alterations, may be made within the scope of the appended claims.

What I claim, is:

1. In a refrigerating display case, the combination of a display chamber, a refrigerating compartment at one end of the chamber, and a plurality of superposed containers removably mounted within said compartment and interchangeable, whereby each container may be transposed from one elevation to another elevation in said compartment.

2. In a refrigerator display case, the combination of a display chamber, a refrigerating compartment at one end of the chamber communicating therewith, and a plurality of relatively small superposed containers removably mounted in said compartment and being interchangeable, whereby said containers may be moved from one elevation to another elevation in said compartment.

3. In a refrigerating display case, the combination of a display chamber, a refrigerating compartment at one end of the case, and a plurality of refrigerating receptacles removably mounted at different elevations in said compartment, said receptacles being interchangeable, whereby those at different elevations may be transposed.

4. In a refrigerating display case, the combination of a display chamber, a refrigerating

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erating compartment at one end of the case,
and a plurality of removable refrigerating
drawers mounted in pairs in said compart-
ment, each pair being at a different eleva-
5 tion, the drawers of one pair being inter-
changeable with those of the other pairs.
5. In a refrigerating display case, the
combination of an intermediate display
chamber, refrigerating compartments at

each end of the chamber and connected 10
therewith, a plurality of refrigerating recep-
tacles at different elevations in said com-
partments, said receptacles being inter-
changeable and regularly spaced apart.
In testimony whereof I affix my signa- 15
ture.

THEODORE A. SALA.