

March 17, 1942.

K. A. WEBER

2,276,635

LOW TEMPERATURE CABINET

Filed Jan. 15, 1940

2 Sheets-Sheet 1

Fig. 1.

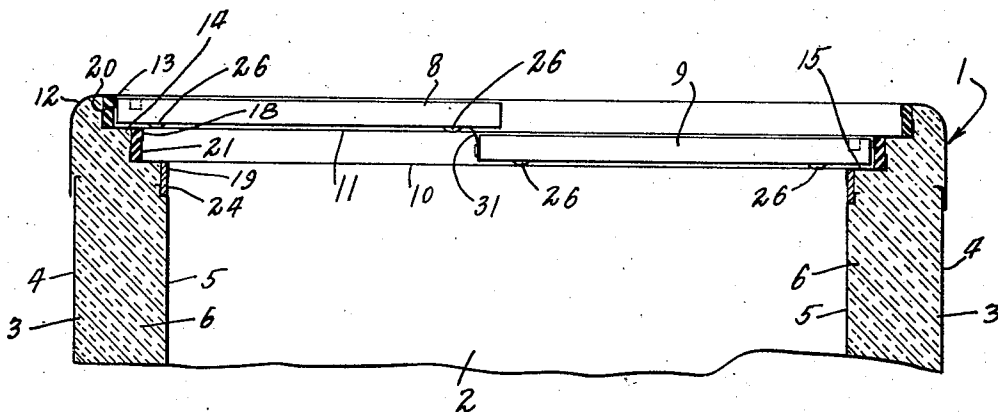
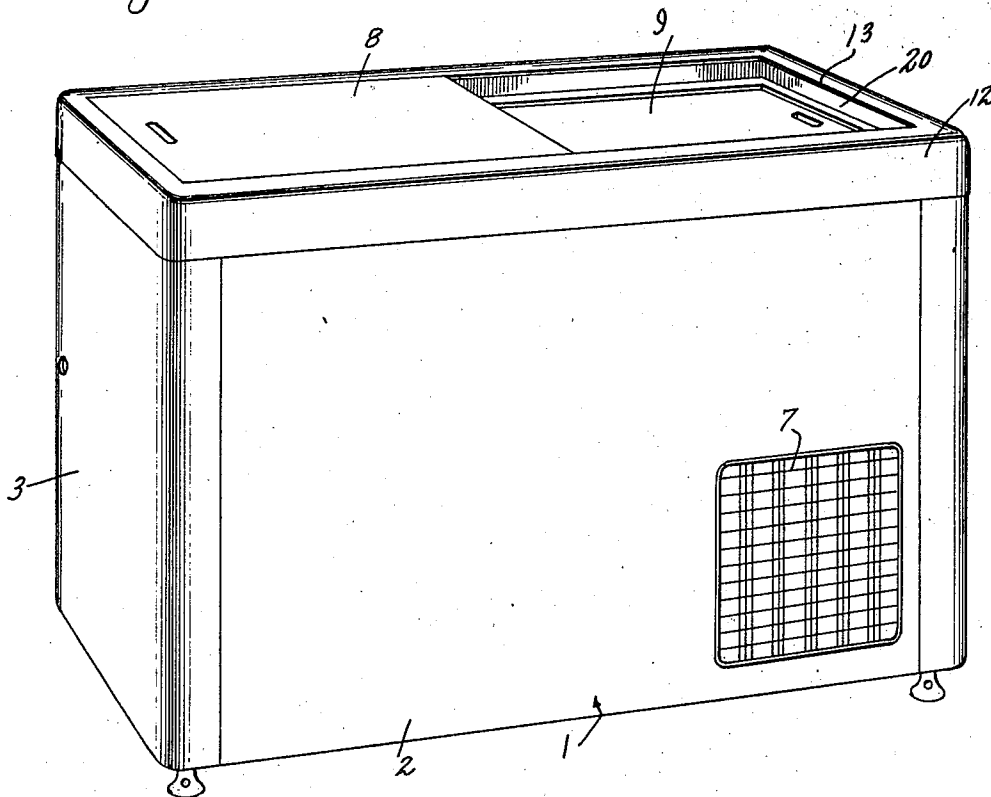


Fig. 2.

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2 Sheets-Sheet 2

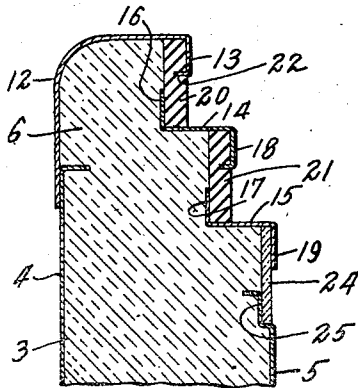


Fig. 3.

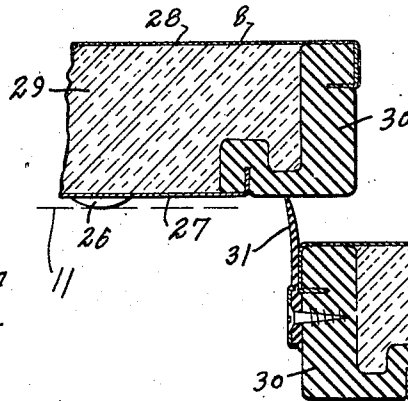


Fig. 4.

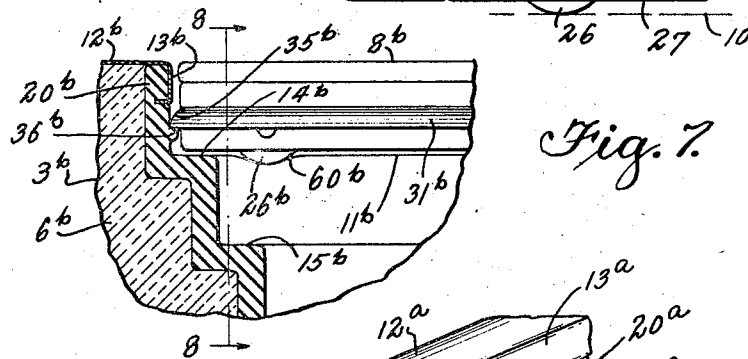


Fig. 7.

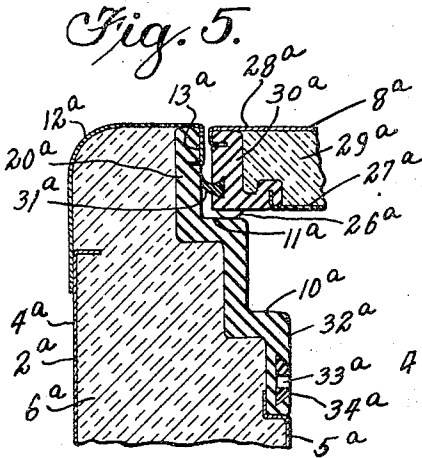


Fig. 5.

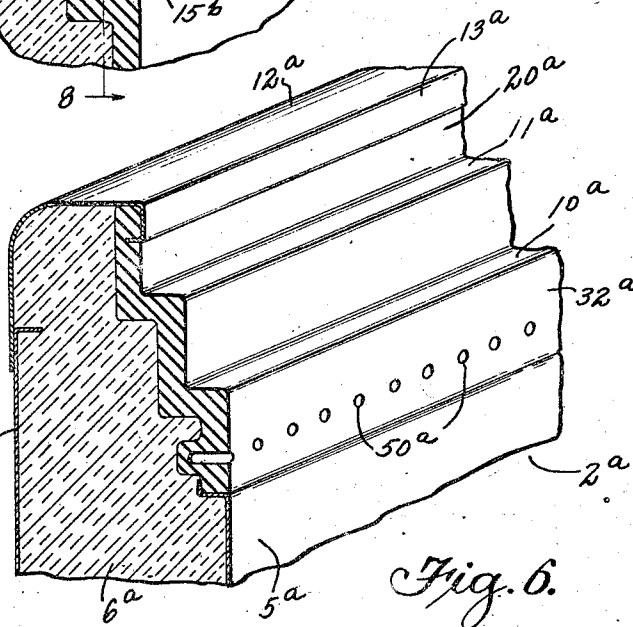


Fig. 6.

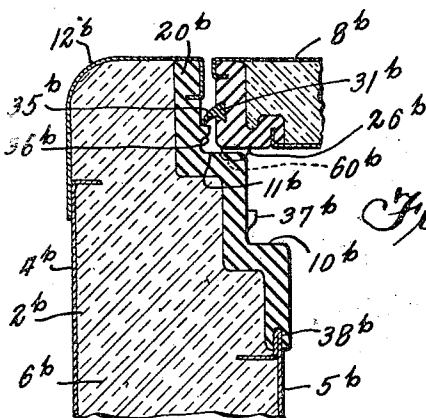


Fig. 8.

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## UNITED STATES PATENT OFFICE

2,276,635

## LOW TEMPERATURE CABINET

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Application January 15, 1940, Serial No. 313,909

6 Claims. (Cl. 220—41)

This invention relates to low temperature cabinets, and more particularly to the construction of a low temperature cabinet wherein access to the cabinet is through sliding doors mounted at the upper face of the cabinet to slide or roll upon metal tracks insulated by breaker strips to reduce the heat transfer into the cabinet.

It is therefore an object of this invention to provide a low temperature cabinet having insulated walls of stepped construction at their upper edges to receive sliding doors controlling access to the interior of the cabinet and wherein the steps as formed provide trackways for the doors insulated one from the other.

Other objects and advantages of this invention it is believed will be apparent from the following detailed description of a preferred embodiment thereof as illustrated in the accompanying drawings.

In the drawings:

Figure 1 is a perspective view of a low temperature cabinet embodying my invention.

Figure 2 is a fragmental sectional side elevation of the structure as illustrated in Figure 1.

Figure 3 is an enlarged sectional upper edge elevation of one of the cabinet walls.

Figure 4 is a fragmental sectional elevation illustrating the structure of the sliding doors and showing the same on an enlarged scale.

Figure 5 is a sectional edge elevation of a modified form of wall structure embodying my invention.

Figure 6 is a fragmental perspective view of a further modified form of structure embodying my invention.

Figure 7 is a fragmental sectional view of a cabinet wall construction illustrating another embodiment of my invention and showing one of the doors in elevation as associated therewith.

Figure 8 is a fragmental sectional edge elevation of the structure as illustrated in Figure 7 and taken on the line 8—8 of Figure 7.

In the modification of my invention as illustrated in Figures 1 to 4, inclusive, the cabinet 1 is of rectangular cross-section and includes a plurality of vertical side walls 2 and end walls 3, each of which is of insulating construction, including spaced metal shell sections 4 and 5 between which insulating material such as cork 6 is positioned. The cabinet of course is provided with the customary bottom section (not illustrated) which is also of insulated construction.

The cabinet 1 is, as illustrated, of the type including a mechanical refrigerating unit which is

mounted within the interior of the cabinet adjacent the grill 7 through which air passes.

At its upper section the cabinet 1 is open and access to the interior of the cabinet is had through the medium of sliding doors 8 and 9. As herein illustrated, these doors 8 and 9 slide one over the other and are positioned to slide upon tracks 10 and 11 formed at the upper edges of the side walls 2.

The construction of the upper edges of the walls 2 and 3 are substantially the same so that a description of one of the said sections will suffice for each. As constructed, these walls at their upper edges are of stepped formation and the upper section 12 of metal forming the outer wall of the cabinet 1 is lapped over as indicated at 13 into the first step. The tracks 10 and 11 are preferably metal strips laid upon the steps 14 and 15 and bent to provide vertical flanges 16 and 17 and the crimping edge 18 and a vertical holding flange 19, respectively. The tracks 10 and 11 extend around the entire walls over the steps 14 and 15 and are insulated one from the other by means of breaker strips 20 and 21. The breaker strips 20 and 21 may be of rubber or of a suitable composition material such as that commonly known as "Masonite," or the like, which materials have a relatively low coefficient of heat transfer.

The lapped section 13 of the outer wall member 12 is bent into the upper breaker strip 20 as indicated at 22 and thus serves to retain the breaker strip 20 in position. The track 14 also aids because of its vertical flange 16 in the retention of the breaker strip 20 by engaging the same from its rear surface opposite to that engaged by the lapped section 13 of the upper wall member 12. In a similar manner the lapped section 18 of the track 14 is engaged in the breaker strip 21, and the vertical flange 17 of the lower track 15 aids in the retention of the breaker strip 21 in position.

Interposed between the track 15 and the inner metallic wall sheet 5 of the cabinet 1 is a breaker strip 24. This breaker strip may be of any suitable material of a low coefficient of heat transfer. The breaker strip 24 is retained in position by means of the retaining flange 19 of the track 15 and the offset rim 25 of the metallic wall sheet 5.

The two doors 8 and 9 are of similar construction and are adapted to slide upon the tracks 10 and 11 by means of raised slide detents 26 formed in the bottom metallic wall members 27. Of course if desired rollers may be provided upon

which the doors may roll along the tracks 10 and 11.

The doors are composed of the lower metallic wall 27 and the upper metallic wall section 28 between which there is positioned the suitable insulating material 29 which may be of cork or other suitable insulating material.

At the adjoining edges of the walls there may be provided suitable blocks of rubber as indicated at 30, to the lower of which a wiper strip 31 is secured to engage the bottom surface of the upper door 8. Thus transfer of air between the two doors is prevented at their point of overlap. This wiper strip also acts to prevent transfer of air with the consequent condensation of moisture.

In the modified forms of my invention as illustrated in Figures 5 and 6, similar parts are indicated with similar numerals with the addition of an exponent "a" thereto. In these modifications of my invention, the principal difference resides in the construction of the stepped breaker strip construction providing the tracks for the doors. The breaker strip structure in this modification is a single cast or molded rubber strip molded to provide the tracks 10<sup>a</sup> and 11<sup>a</sup> upon which the doors slide. These modifications differ only in the lower sections of the breaker strips. In the structure of Figure 5 the lower section 32<sup>a</sup> of the molded breaker strip is provided with rack-retaining apertures 33<sup>a</sup> which are formed in rack-holding plugs 34<sup>a</sup> embedded in the lower section 32<sup>a</sup>. In this modification also the wiper strip 31<sup>a</sup> is molded into the end section 30<sup>a</sup>. In Figure 6 the rack retaining apertures 50<sup>a</sup> are molded in the lower section 32<sup>a</sup> of the breaker strip.

In the modification of my invention as illustrated in Figures 7 and 8, similar parts are indicated by similar numerals with the addition of an exponent "b" thereto.

This modification of my invention differs from that heretofore described principally in that the wiper strip 31<sup>b</sup> is a continuous strip extending around the entire periphery of each door and is turned downwardly as indicated at 35<sup>b</sup> to engage a shoulder 36<sup>b</sup> formed in the upper section of the breaker strip 20<sup>b</sup>. The shoulder 36<sup>b</sup> extends entirely around the interior of the breaker strip 20<sup>b</sup>. The breaker strip 20<sup>b</sup> is described particularly with reference to the upper track 11<sup>b</sup>. However, a similar shoulder 37<sup>b</sup> is provided adjacent the lower track 10<sup>b</sup> for a similar purpose.

In this construction it will be noted also that the inner wall 5<sup>b</sup> is bent upon itself as indicated at 38<sup>b</sup> to fit within a groove formed in the lower extremity of the breaker strip 20<sup>b</sup> and that the extreme end of the metallic wall section 5<sup>b</sup> extends into the insulation material 6<sup>b</sup> to aid in retaining the parts in their assembled positions.

In this modification of my invention, the doors 8<sup>b</sup> are supported upon rollers 26<sup>b</sup>. In order to insure a tight closure between the covers 8<sup>b</sup> and the cabinet walls, the tracks 10<sup>b</sup> and 11<sup>b</sup> are provided with depressions 60<sup>b</sup> into which the said rollers pass when in closed position, thereby lowering the said covers so that the breaker strips

31<sup>b</sup> are firmly contacted upon the shoulders 36<sup>b</sup> and 37<sup>b</sup>.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. A low temperature food cabinet having vertically extending walls, each of said walls being of heat insulating material and being formed at their upper end to provide vertically spaced steps, metal strips on said steps and forming tracks, overlapping doors positioned on said tracks, and breaker strips interposed between said metal tracks and insulating one from the other.

2. A low temperature cabinet having vertically extending walls, sliding doors for closing the cabinet at its top and adapted to slide on stepped tracks formed in said walls, metallic traction surfaces for said tracks and breaker strips mounted near the upper ends of said walls between said metallic traction surfaces to insulate one from the other.

3. A low temperature cabinet having vertically extending walls, each of which walls is formed of inner and outer covering of heat conducting material between which insulating material is positioned and the said walls being stepped at their upper ends to provide vertically spaced steps, metal strips on said steps and forming vertically spaced tracks, the riser walls of said tracks being formed at least in part of breaker material of relatively low heat conductivity and sliding doors mounted upon said vertically spaced tracks to permit access to within the cabinet from the top thereof.

4. A low temperature cabinet having vertically extending walls, sliding doors for closing the cabinet at its top and adapted to slide on tracks formed in said walls, metallic traction surfaces for said tracks, breaker strips mounted between said metallic traction surfaces and insulating one from the other, and wiper means interposed between said doors and constantly sealing the space between the doors when the doors are moved relatively to one another.

5. A low temperature cabinet having vertically extending walls, a sliding door for closing the cabinet at its top and adapted to slide on tracks formed in said walls, metallic traction surfaces for said tracks, breaker strips mounted between said metallic traction surfaces and insulating one from the other, and wiper means extending around the sides and ends of said doors and adapted to seal against the walls of said cabinet.

6. A low temperature cabinet having vertically extending side walls, said side walls being of heat insulating material and formed at their upper end with vertically spaced steps, metal strips on said steps and forming tracks, breaker strips interposed between said metal tracks and insulating one from the other, overlapping doors positioned substantially horizontally on said tracks and rollers supporting said doors on said tracks, said rollers having an axis of rotation substantially parallel to the plane of the door supported thereby.

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