Oct. 14, 1958 D. W. DONNELLY 2,855,636

EDGE DOVETAIL INSULATED WALL CONSTRUCTION

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Fig. 1.

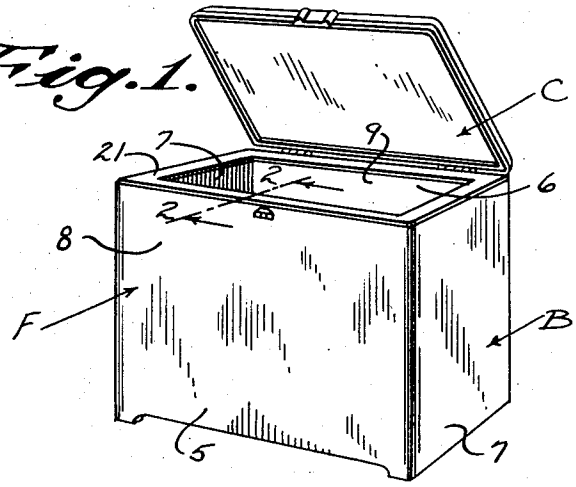
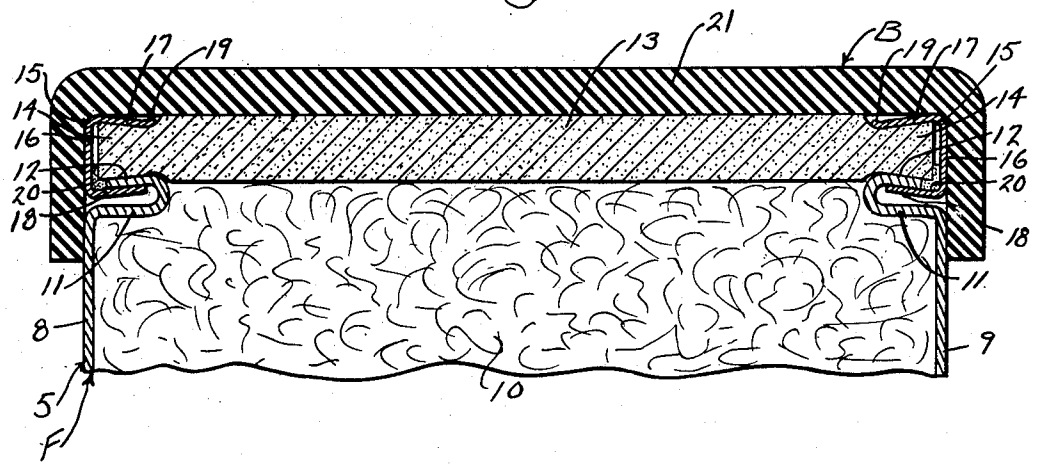


Fig. 2.



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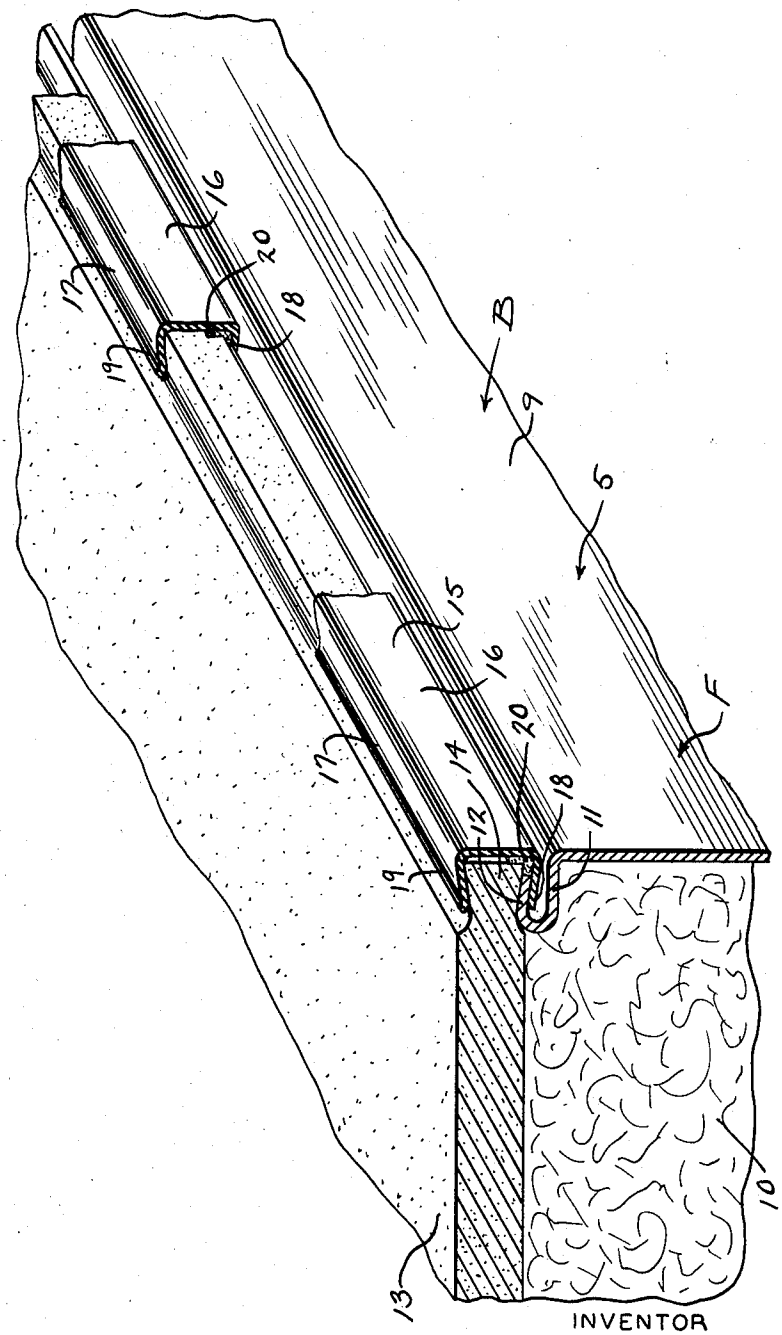


Fig. 3.

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EDGE DOVETAIL INSULATED WALL CONSTRUCTION

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Application February 18, 1957, Serial No. 640,893

5 Claims. (Cl. 20—4)

This invention appertains to farm and home freezers, refrigerators and the like, and more particularly to a novel means for securing an inner or sub-breaker strip with the marginal edges of the inner and outer shells of an insulated wall of a freezer or refrigerator. This invention is a further, improved form over those forms shown in my prior application for patent Serial Number 640,894 filed February 18, 1957. As in my prior application just referred to, the present invention seeks to eliminate the use of clamps for bringing and holding the wall shells an exact distance apart, and the fastening of the inner or sub-breaker strip by screws to the wall shells and the difficulties contingent therewith.

One of the primary objects of my present invention is the provision of novelly formed lock strips adapted to be sprung over the longitudinal edges of the sub-breaker strip and supporting flanges formed on the wall shells for firmly uniting and securing the sub-breaker strip with the wall shells without the use of holding screws and the necessity of aligning screw openings in the breaker strip and wall shells.

Another salient object of my invention is to provide substantially dovetail shaped longitudinal edges on the sub-breaker strip and to form the supporting flanges for the strip on the wall shells at an angle to conform to the angle of the lower face of the dovetail edges on the sub-breaker strip with locking strips of a dovetail shape in cross-section adapted to be forced over the longitudinal edges of the sub-breaker strip and the supporting flanges to firmly inter-lock the sub-breaker strip with the wall shells.

A further important object of the invention is to provide novel means for uniting and securing a sub-breaker strip with the wall shells of a freezer or refrigerator of the above character, which will be durable and efficient in use, and one that will be simple and easy to manufacture and manipulate.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specificaly described and claimed, and illustrated in the accompanying drawing, in which drawing,

Figure 1 is a perspective view of one well known type of freezer having my invention incorporated therein;

Figure 2 is an enlarged fragmentary transverse sectional view through the upper portion of one wall of the cabinet or body of the freezer having my novel means for uniting and securing the sub-breaker strip with the outer edges of the wall shells of said wall, the section being taken on the line 2—2 of Figure 1, looking in the direction of the arrows, and

Figure 3 is a fragmentary detail perspective view showing a portion of a wall constructed in accordance with my invention, the finishing or outer breaker strip being eliminated in this view.

Referring to the drawing in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter F generally indicates a freezer of the farm or home type and the same includes an open body or cabinet B normally closed by a hinged cover C. In the drawing, the freezer F has been shown to be of the chest type, but it is to be understood that my invention can be applied to freezers and refrigerators of the upright type and that the invention relates to a wall and breaker strip construction.

As illustrated, the body or cabinet B includes front and rear walls 5 and 6 and end walls 7. These walls each include inner and outer wall shells 8 and 9. The space between the wall shells 8 and 9 is packed with any desired type of heat insulating material 10.

As best shown in Figures 2 and 3, the outer edges of the wall shells 8 and 9 are rolled inwardly toward one another for a limited distance, as at 11, and these rolled portions 11 are bent back upon themselves to provide supporting flanges 12. The supporting flanges 12 terminate slightly short of the outer faces of the wall shells 8 and 9. The inwardly turned portions 11 overlie the heat insulating material 10 and also function to hold this material in place. It is to be noted that the supporting flanges 12 are spaced from the inturned portions 11, for a purpose, which will later appear.

The supporting flanges 12 receive the longitudinal edges of an inner or sub-breaker strip 13. This breaker strip 13 is formed from rigid material having low heat conducing properties and high mechanical strength, such as compressed fiber board. The outer longitudinal edges of the sub-breaker strip 13 have formed thereon dovetail shaped tongues 14 and these tongues rest upon the supporting flanges 12. The flanges 12 are at an angle to the horizontal and conform to the angle of the lower faces of the dovetail tongues 14.

To effectively unite the sub-breaker strip 13 with the wall shells 8 and 9 and to form a rigid and durable construction, I employ longitudinally extending lock strips 15. These lock strips 15 are preferably formed from sheet metal possessing some resiliency and the lock strips are of a dovetail shape in cross-section so as to correspond to the shape of the dovetail tongues 14. Thus each lock strip includes an outer connecting wall 16 and inwardly directed resilient upper and lower walls 17 and 18. If desired, the free edge of the upper wall 17 of each strip can be upturned to provide a curved leading edge or lip 19.

In placing the sub-breaker strip 13 in place, it is merely necessary to place the dovetail tongues on the supporting flanges 12, after which the lock strips 15 are forcibly snapped over the tongues 14 and the supporting flanges 12, as is clearly shown in Figures 2 and 3. A sealing mastic 20 of a desired type can be placed in the lower inner portions of the lock strips, so as to bring about a seal between the supporting flanges 12, the sub-breaker strip and the lock strips 15.

In view of the fact that the supporting flanges 12 terminate short of the outer faces of the wall shells, the lock strips 15 can be positioned so that their outer faces will be substantially flush with the outer faces of the wall shells 8 and 9.

After the sub-breaker strip 13 and the wall shells 8 and 9 are firmly united, the wall construction can be completed by the use of a trim or outer breaker strip 21. This outer breaker strip 21 can be formed from rubber or some other similar material. A suitable adhesive or mastic can be employed for securing the finishing or outer breaker strip 21 in place.

During the placing of the lock strips 15 in place, the wall shells 8 and 9 can be forcibly urged toward one another and after the strips 15 are sprung in place the wall shells will be firmly held to the breaker strip 13.

Changes in details may be made without departing

from the spirit or the scope of this invention, but what I claim as new is:

1. In an insulated wall construction for freezers, refrigerators and the like including spaced apart inner and outer wall shells; inwardly directed portions formed on the outer edges of the shells, bent back supporting flanges on said portions and disposed in spaced relation thereto and defining longitudinal ways in conjunction therewith, a sub-breaker strip bridging the inner and outer shells and seated on the upper faces of said supporting flanges, and longitudinally extending lock strips of a substantially U-shape in cross-section sprung over the longitudinal edges of the breaker strip and the supporting flanges for firmly uniting the longitudinal edges of the breaker strip with the wall shells, the lower portions of the lock strips extending into said ways.

2. In an insulated wall construction for freezers, refrigerators and the like of the type including spaced apart inner and outer wall shells; inwardly directed portions formed on the wall shells, and out-turned supporting flanges on said portions terminating short of the outer faces of said wall shells and in spaced relation to said portions, a sub-breaker strip having dovetail shaped tongues on its longitudinal edges, the sub-breaker strip bridging the wall shells with the tongues resting on the supporting flanges, the supporting flanges being at an angle and corresponding to the angle of the inner faces of the tongues, and longitudinally extending lock strips of a dovetail shape in cross-section fitted over the tongues and the flanges for uniting the sub-breaker strip with said flanges and wall shells.

3. In an insulated wall construction for freezers, refrigerators and the like as defined in claim 2, and a sealing mastic disposed between the inner faces of the strips, tongues and flanges.

4. In an insulated wall construction for freezers, refrigerators and the like as defined in claim 2, and said locking strips having their outer faces substantially flush with the outer faces of the wall shells, and an outer finishing breaker strip fitted over the sub-breaker strip and the lock strips and extending partially over the outer faces of the wall shells.

5. In an insulated wall construction for freezers, refrigerators and the like ilncluding spaced apart inner and outer shells, supporting flanges on the inner and outer shells extending at an angle thereto, a sub-breaker strip bridging the inner and outer shells and seated on the outer faces of said supporting flanges, and longitudinally extending lock strips of a substantially U-shape in cross-section sprung over the longitudinal edges of the breaker strip and the supporting flanges for firmly uniting the breaker strip with the shells and the shells with one another through the breaker strip.

References Cited in the file of this patent

UNITED STATES PATENTS

2,254,780	Quimper	Sept. 2, 1941
2,518,673	Ellsworth	Aug. 15, 1950