Oct. 18, 1955 E. H. SCHWENKER ET AL 2,720,683

REFRIGERATOR DOOR

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Fig. 2

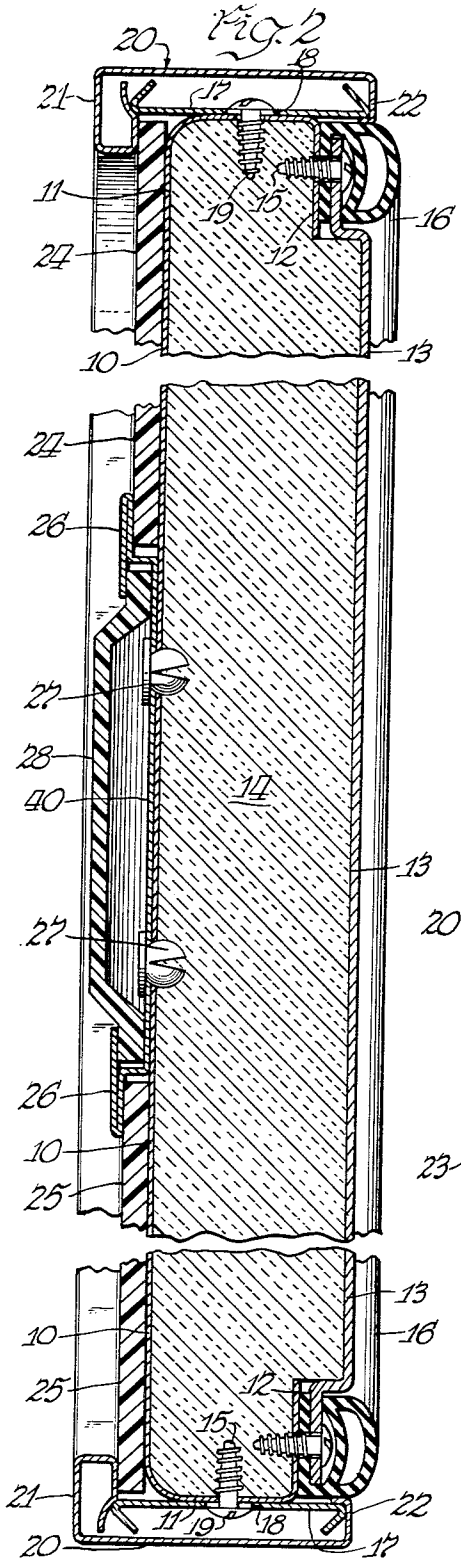
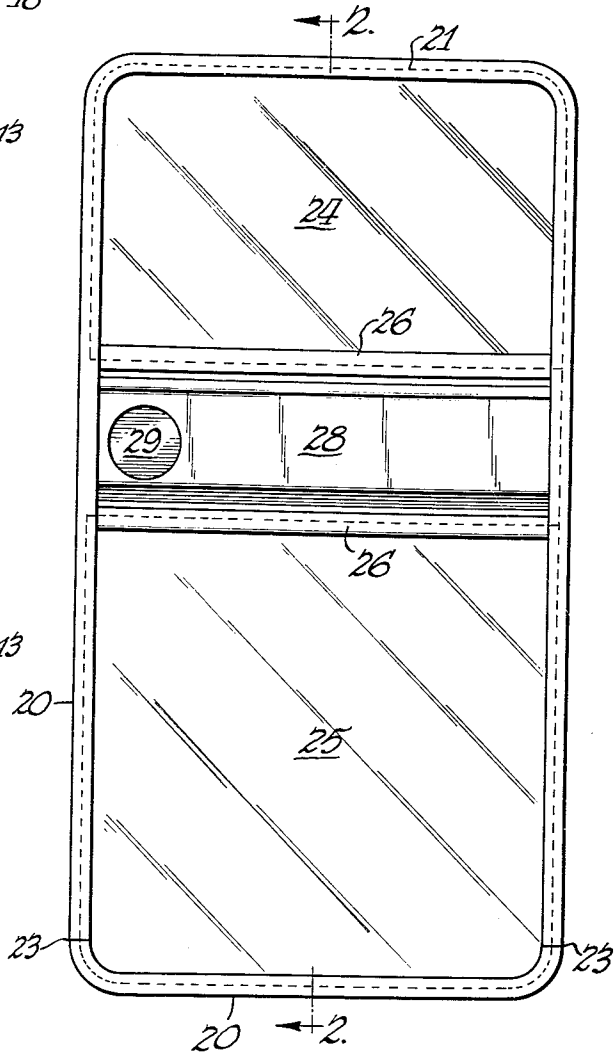


Fig. 1



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Fig. 3

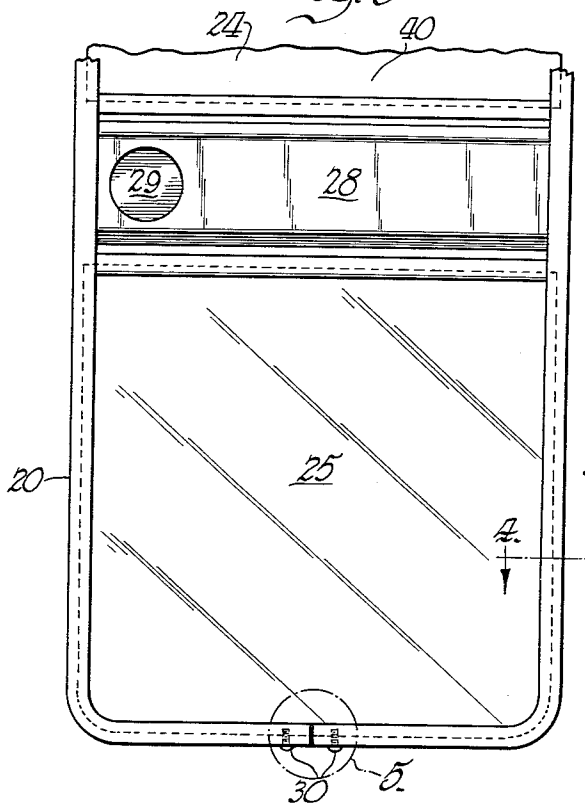


Fig. 5

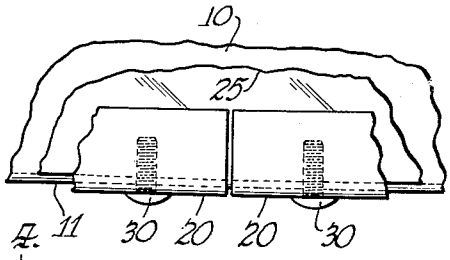
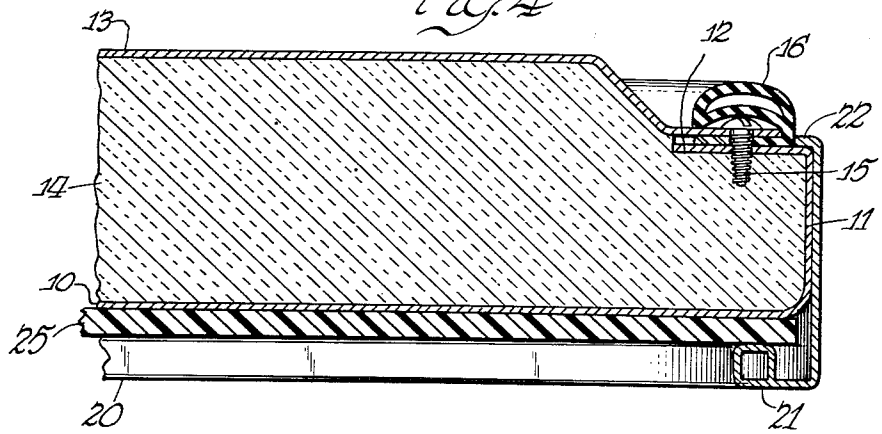


Fig. 4



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REFRIGERATOR DOOR

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Application January 2, 1953, Serial No. 329,431

13 Claims. (Cl. 20—35)

This invention relates generally to refrigerator doors, and more specifically to a refrigerator door having novel means for mounting decorative panels to the outer surface of the door.

It is an object of this invention to provide a refrigerator door with means whereby decorative panels may be removably mounted to the outer surface of the door.

It is another object of this invention to provide means for a refrigerator door whereby decorative panels of different thicknesses may easily be mounted upon the outer surface of the door.

It is a feature of this invention that novel trim strips and retainer strips are mounted about the edge of a refrigerator door for maintaining decorative panels mounted to the outer surface of the door.

Other objects and features of this invention will be apparent upon a perusal of the following specification and drawings of which:

Figure 1 is a front plan view of a refrigerator door embodying the invention;

Figure 2 is an enlarged cross sectional view of the refrigerator door shown in Figure 1 and taken along the line 2—2;

Figure 3 is a partial front plan view of another embodiment of the invention;

Figure 4 is a cross sectional view of the refrigerator door shown in Figure 3 taken along the line 4—4; and

Figure 5 is an enlarged view of the portion of the refrigerator door shown in Figure 3 and designated with the dotted circle and the numeral 5.

The present embodiments are the preferred embodiments but it is to be understood that changes can be made in the present embodiments by one skilled in the art without departing from the spirit and scope of this invention.

For a detailed description of the embodiment of the invention shown in Figures 1 and 2, reference is made thereto. A trim strip **20** is shown as mounted about the outer marginal edges of the refrigerator door. This trim strip **20** is shown as formed in two sections to facilitate the mounting thereof about the outer marginal edges of the refrigerator door. The two sections are joined at the junctions **23**. The junctions **23** may be made at other positions along the trim strip **20** than those positions specifically shown in Figure 1. The trim strip **20** partially maintains three decorative panels **24**, **25** and **28** positioned against the outer surface of the refrigerator door. The panel **28** has an opening **29** therein, through which the door handle (not shown) may project.

The refrigerator door is formed of an outer panel **10**, an inner panel **13**, insulation **14** disposed between these panels, door gasket **16** and screw means **18** for maintaining these parts assembled as a unitary structure. The outer marginal edges of the outer panel **10** are shaped to form a side wall **11** extending thereabout. Projecting inwardly from the side wall **11** and extending thereabout is a flange **12**. The door gasket **16** is formed of a resilient material such as rubber and has a general cross section as shown in Figure 2. A portion of the door gasket **16** is mounted on the flange **12** of the outer panel **10** and the outer marginal edges of the inner panel **13** to act as a breaker strip. A series of holes are formed through the outer marginal edges of the inner panel **13** and the flange **12**, the portion of the door gasket **16** mounted between the flange **12** and the inner panel **13**. Screws **15** are threaded through these holes to maintain these parts assembled as a unitary structure. The remainder of the door gasket **16** projects over the outer marginal edges of the inner panel **13**, so that when the refrigerator door is mounted to a refrigerator cabinet (not shown) the door gasket **16** will seal the outer edges of the refrigerator cabinet.

Turning to the details of the means for maintaining the decorative panels mounted against the outer panel **10**, a retainer strip **17** is mounted about the side wall **11** of the refrigerator door. The retainer strip **17** has a series of longitudinal openings therein, and the side wall **11** has a series of holes formed therethrough which are positioned in alignment with the longitudinal openings of the retainer strip **17**. The longitudinal axis of the longitudinal openings in the retainer strip **17** are positioned transversely of the length of the retainer strip **17**. Screws **19** are threaded through the longitudinal openings in the retainer strip **17** and the openings in the side wall **11** to maintain the retainer strip **17** rigidly mounted against the side wall **11**. The retainer strip **17** has a flange on each side thereof projecting away from the refrigerator door, as can easily be seen in Figure 2. The trim strip **20** is positioned about the outer marginal edges of the refrigerator door and spring mounted to the retainer strip **17**. The trim strip **20** is generally channel-shaped and has flanges **21** and **22** formed thereon. A portion of the flange **21** is bent over as can easily be seen in Figure 2, to give the flange **21** some resiliency. The flange **22** is mounted in cooperation with one of the flanges of the retainer strip **17**, and the flange **21** of the trim strip **20** is pressed over the other flange of the retainer strip **17** to maintain the trim strip **20** rigidly mounted to the retainer strip **17**, and to permit easy removal of the trim strip **20** from the retainer strip **17**.

Further, a retainer strip **40** is also provided. This retainer strip **40** is formed in the shape of a wide channel and has flanges **26** formed at the sides thereof. The shape of the flanges **26** can easily be seen in cross section in Figure 2. A number of holes are provided in the retainer strip **40**, and a corresponding number of holes are provided in the outer panel **10** in a broad band transversely across the outer panel **10**, substantially at the height of the handle of the refrigerator door. Spring clips **27** are pressed through the holes in the trim strip **40** and the holes in the outer panel **10** to maintain the retainer strip **40** mounted to the outer panel **10**. The decorative panels **24**, **25** and **28** are positioned against the outer surface of the outer panel **10** and are maintained thereagainst by the flanges **21** of the trim strip **20** and the flanges **26** of the retainer strip **40**.

It is intended that the panels **24**, **25** and **28** be formed of any convenient material such as plastic, wood or some fiber board, and may be colored or printed with different patterns. These panels can be of varying thicknesses, and these varying thicknesses are easily accommodated by an adjustment of the position of the retainer strip **17**. This adjustment is made by a removal of the trim strip **20**, a loosening of the screws **19** and a sliding of the retainer strip **17** along the longitudinal axis of the openings therein to the required position, and by then tightening the screws **19** and replacing the trim strip **20**. The retainer strip **40** is formed of a material having some resiliency, and further, the flanges **26** are formed, as can

easily be seen in cross section in Figure 2, of a width sufficient to permit the use of the resiliency of the retainer strip **40** in a spring action of the flanges **26**, whereby different thicknesses of the decorative panels **24**, **25** and **28** can be accommodated by the flanges **26** of the retainer strip **40**.

For a detailed description of the embodiment shown in Figures 3 through 5, reference is made thereto. In this embodiment no retainer strip **17** is provided. The retainer strip **40** is the same as provided in the aforedescribed embodiment. In this embodiment the trim strip **20** is formed as a channel-shaped strip extending about the outer marginal edges of the refrigerator door with the flange **22** in cooperation with the flange **12** of the outer panel and with the flange **21** in cooperation with the outer marginal edges of the decorative panels **24**, **25** and **28**, as can easily be seen in Figure 4. The trim strip **20** is discontinuous at a point at the bottom of the refrigerator door, so that the trim strip **20** can be mounted as described. The ends of the trim strip **20** each have a hole therein, and the side wall **11** of the outer panel **10** also has holes therein which are in alignment with the holes in the ends of the trim strip **20**. Screws **30** are mounted through these holes to maintain the trim strip **20** fixedly mounted about the outer marginal edges of the refrigerator door. The trim strip **20** in turn rigidly maintains the decorative panels **24**, **25** and **28** positioned against the outer surface of the refrigerator door.

As shown in Figures 2 and 4, the outer surface of the refrigerator door is substantially flat. This is preferred if very rigid decorative panels are used. However, if the decorative panels have some resiliency, the outer panel **10** may then be formed to have a curvilinear cross section along one axis of the outer panel **10**. The decorative panels may then be easily bent to conform to that curvilinear cross section and maintained against the outer surface of the refrigerator door.

It is intended that the embodiment shown in Figures 3 through 5 may be modified by the forming of a longitudinal slot along the portion of the trim strip **20** positioned at the top of the refrigerator door, or in the portion of the trim strip **20** disposed along one vertical side of the refrigerator door, so that the decorative panels can be inserted or removed through these slots without the necessity for removing the screws **30** to in turn remove the trim strip **20** from the refrigerator door.

Having described the invention, what is considered new and desired to be protected by Letters Patent is:

1. In a refrigerator door having side walls, a decorative panel positioned against the outer surface of said door, a channel-shaped retaining strip mounted about the outer marginal edges of said decorative panel and said door, said retaining strip further formed to be discontinuous at a point located at the bottom of said door, and securing means secured to each end of said retaining strip and to the bottom of said door for maintaining said retaining strip mounted about said door, whereby said decorative panel is maintained in said position against said outer surface.

2. In a refrigerator door having side walls, a decorative panel positioned against the outer surface of said door, a channel-shaped retaining strip mounted with the legs of said retaining strip positioned over the outer marginal edges of said decorative panel and said door, whereby said decorative panel is maintained against said outer surface, a longitudinal slot extending along the portion of said retaining strip positioned at the top of said door, whereby said decorative panel may be removed and replaced through said longitudinal slot.

3. In a refrigerator door having side walls, two decorative panels, one of said panels positioned against the outer upper surface of said door, the other of said panels positioned against the outer lower surface of said door, means mounted to said side walls and to the portion of said outer surface between said panels and cooperating with said panels for maintaining said panels mounted in said positions against the outer surface of said door.

4. In a refrigerator door having side walls, three decorative panels, one of said panels positioned against the outer upper surface of said door, the second of said panels positioned against the outer lower surface of said door, the third of said penels positioned against the outer surface of said door between said one and said second of said panels, means mounted to said side walls and to the portions of said outer surface between adjacent edges of said one and said third of said panels and between adjacent edges of said second and said third of said panels and cooperating with said panels for maintaining said panels mounted in said positions against the outer surface of said door.

5. In a refrigerator door having side walls, two decorative panels, one of said panels positioned against the outer upper surface of said door, the other of said panels positioned against the outer lower surface of said door, a trim strip positioned about the edges of said door, a flange on one side of said trim strip mounted to extend over the outer marginal edges of said decorative panels which are positioned adjacent to the edges of said door, a second flange on the other side of said trim strip, means mounted to said side walls and cooperating with said first and second flanges of said trim strip for maintaining said trim strip mounted about the edges of said door, a second trim strip positioned to said outer surface and transversely of said door between said decorative panels, a pair of flanges formed on said second trim strip, the first of said flanges of said second trim strip positioned over the lower edge of said one of said panels, the second flange of said second trim strip positioned over the upper edge of said other of said panels, means mounted to said outer surface and cooperating with said second trim strip for maintaining said second trim strip mounted to said outer surface of said door, whereby said decorative panels are maintained in said positions against said outer surface of said door.

6. In a refrigerator door as claimed in claim 5, said first means comprising a retainer strip pressure positioned between said first and second flanges of said first trim strip, and means for securing said retainer strip to said side walls.

7. In a refrigerator door as claimed in claim 6, said means for securing said retainer strip to said side walls comprising a plurality of screws threaded through said side walls, said retainer strip having longitudinal slots therein, said longitudinal slots positioned transversely of said retainer strip, said screws mounted through said longitudinal slots, whereby said retainer strip is slidable transversely of the edges of said door to move said first flange toward and away from said outer surface, whereby decorative panels of different thicknesses may be maintained in said positions against said outer surface of said door.

8. In a refrigerator door as claimed in claim 5, said second trim strip having a plurality of openings therethrough, said outer surface of said door having a plurality of openings therethrough matching said openings in said second trim strip, said last mentioned means comprising a plurality of resilient clips, said clips mounted through said openings in said second trim strip and in said outer surface of said door to maintain said second trim strip in said position against said outer surface of said door.

9. A refrigerator door comprising an outer panel formed to have side walls at the outer marginal edges thereof, an inwardly extending flange formed at the outer marginal edges of said side walls, an inner panel, a gasket, means for mounting said gasket to the outer marginal edges of said inner panel and for mounting said outer marginal edges of said inner panel to said flange, insulation disposed between said panels, a trim strip having a pair of flanges thereon, means cooperating with said pair of

flanges for mounting said trim strip to said side walls with one of said flanges of said trim strip extending over and some distance from said outer panel, two decorative panels, the first of said decorative panels positioned against the upper portion of said outer panel with the side and top edge portions of said first decorative panel positioned between said one of said flanges of said trim strip and said outer panel, the second of said decorative panels positioned against the lower portion of said outer panel with the side and bottom edge portions of said second decorative panel positioned between said one of said flanges of said trim strip and said outer panel, whereby the side and top portions of said first decorative panel and said side and bottom portions of said second decorative panel are maintained against said outer panel, and means mounted to said outer panel between said pair of decorative panels for maintaining the lower edge portion of said first decorative panel and the upper edge portion of said second decorative panel against said outer panel.

10. A refrigerator door as claimed in claim 9, wherein said last mentioned means comprises a second trim strip mounted transversely of said outer panel between said pair of decorative panels, said second trim strip having a pair of flanges thereon, the first of said flanges of said second trim strip disposed over the bottom edge of said first decorative panel, the second of said flanges of said second trim strip disposed over the top edge of said second decorative panel.

11. A refrigerator door as claimed in claim 10, wherein said second trim strip is further formed to have another pair of flanges thereon, a third decorative panel positioned against said outer panel between said first and second decorative panels, said second pair of flanges of said second trim strip formed to project over the upper and lower edge portions of said third decorative panel, whereby said third decorative panel is maintained against said outer panel.

12. In a refrigerator door having side walls, a decorative panel positioned against the outer surface of said door, a trim strip positioned about the edges of said door, a flange on one longitudinal edge of said trim strip mounted to extend over the outer marginal edges of said decorative panel, a second flange on the other longitudinal edge of said trim strip, means mounted to said side walls and cooperating with said first and second flanges of said trim strip for maintaining said trim strip mounted about the edges of said door, whereby said decorative panel is maintained in said position against said outer

surface of said door, said last mentioned means comprising a retainer strip pressure positioned between said first and second flanges of said trim strip and means for securing said retainer strip to said side walls, said means for securing said retainer strip to said side walls comprising a plurality of screws threaded through said side walls, said retainer strip having longitudinal slots therein, said longitudinal slots positioned transversely of said retainer strip, said screws mounted through said longitudinal slots, whereby said retainer strip is slidable transversely of the edges of said door to move said first flange toward and away from said outer surface, whereby decorative panels of different thickness may be maintained in said position against said outer surface of said door.

13. A refrigerator door comprising outer and inner panels and having side walls interconnecting the outer marginal edges of said inner and outer panels, a decorative panel positioned against said outer panel, a trim strip positioned about said side walls, a flange on one longitudinal edge of said trim strip mounted to extend over the outer marginal edges of said decorative panel, a second flange on the other longitudinal edge of said trim strip, means mounted to said side walls and cooperating with said first and second flanges of said trim strip for maintaining said trim strip positioned about said side walls, whereby said decorative panel is maintained in said position against said outer panel, said last mentioned means comprising a retainer strip pressure positioned between said first and second flanges of said trim strip and means for securing said retainer strip to said side walls, said means for securing said retainer strip to said side walls comprising a plurality of screws threaded through said side walls, said retainer strip having longitudinal slots therein, said longitudinal slots positioned transversely of said retainer strip, said screws mounted through said longitudinal slots, whereby said retainer strip is slidable transveresly of the edges of said door to move said first flange toward and away from said outer surface, whereby decorative panels of different thickness may be maintained in position against said outer surface of said door.

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