July 28, 1931. H. L. POPE 1,816,694

REMOVABLE SHELF SUPPORT FOR REFRIGERATORS

Filed Aug. 31, 1927

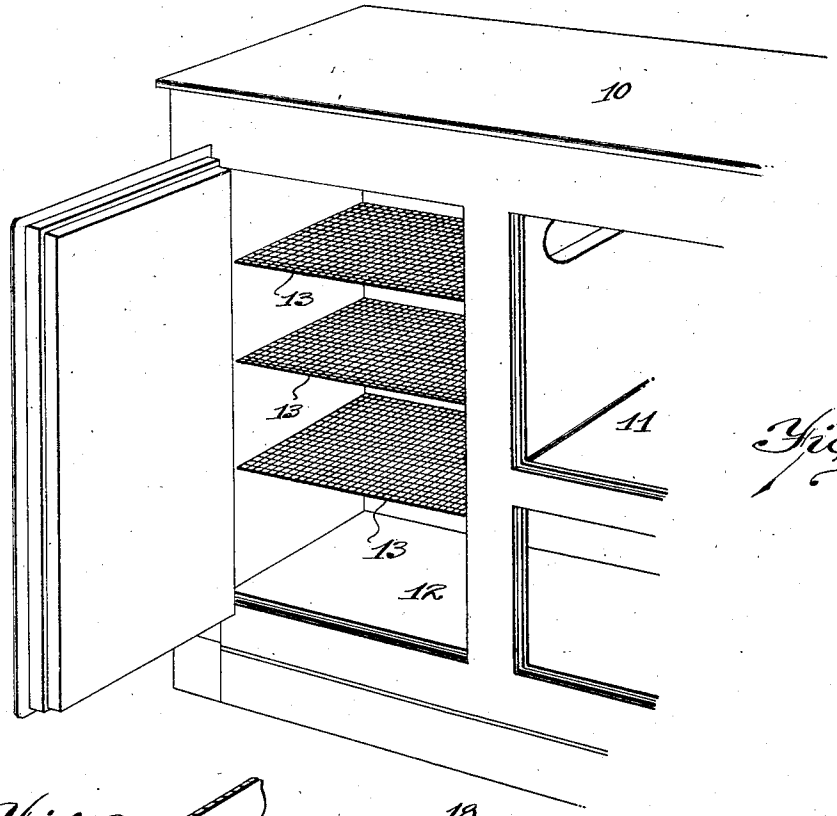


Fig. 1

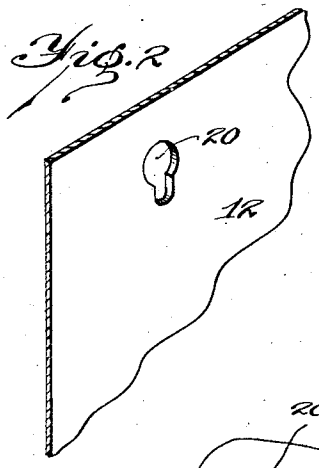


Fig. 2

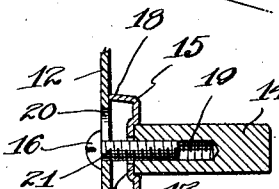


Fig. 4

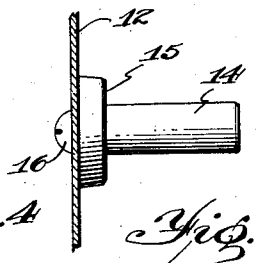


Fig. 3

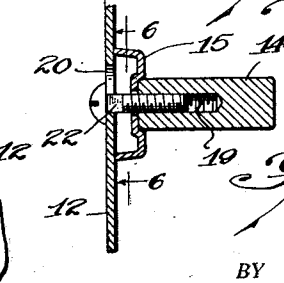


Fig. 5

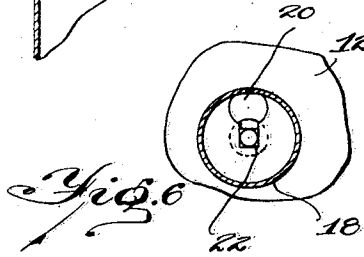


Fig. 6

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UNITED STATES PATENT OFFICE

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REMOVABLE SHELF SUPPORT FOR REFRIGERATORS

Application filed August 31, 1927. Serial No. 216,590.

This invention relates to refrigerators, and more particularly to shelf supports attached to the lining of refrigerators.

An object of my invention is to provide a shelf supporting structure which can be readily attached to a refrigerator lining after it has been assembled within the refrigerator frame.

A further object of my invention is to provide a unitary shelf supporting structure for refrigerators which can be readily attached or detached from the lining after the refrigerator has been assembled.

Another object of my invention is to provide a shelf supporting structure which can be secured against the enameled face of a lining without cracking or defacing of the enamel.

Other objects of the invention, more or less incidental or ancillary to the foregoing, will appear in the following description which sets forth, in conjunction with the accompanying drawings, a preferred embodiment of the invention.

In the accompanying drawings:

Fig. 1 illustrates a perspective view of a refrigerator having the doors open to illustrate my improved form of shelf support associated with the lining;

Fig. 2 is a fragmentary perspective view of the lining showing an opening therein with which the shelf supporting structure is associated;

Fig. 3 is a fragmentary sectional view of one wall of the refrigerator lining showing the shelf supporting structure fixed therewith.

Fig. 4 is a sectional view of a fragment of the lining wall with the shelf support attached thereto;

Fig. 5 is a sectional view corresponding to Figure 4 illustrating a modified form of screw and opening in a lining wall;

Figure 6 is a sectional view of the same taken on line 6—6 of Figure 5.

Referring now to the drawings by characters of reference, 10 represents a refrigerator of a conventional type having a cooling compartment 11 adapted to receive a cooling medium, and a food storage compartment defined by a lining 12, the interior wall of which is preferably formed of enamel.

A plurality of shelf supporting structures are associated with the lining 12 and are arranged to support shelves 13. Each of the shelf supporting structures includes a peg element 14, a spacer member 15 and a screw 16. The spacer member 15 is of a cup shape form and is depressed in the end face thereof to provide a seat 17 within which one end of the peg is arranged. The flanged portion 18 of the spacer member is adapted to bear against the inner wall of the lining in a plane removed from the seat, and the spacer is of an area substantially twice the diameter of the peg 14 so that the flanged portion which engages the lining wall extends over an area considerably larger than that of the peg. The spacer member is preferably formed of sheet metal having a slight resiliency. The end of the peg which is adapted to be secured within the seat 17 of the spacer, is provided with a threaded axially extending aperture 19 to receive the threaded end of the screw 16.

The lining 12 is provided with an opening 20 through which the head of the screw can be inserted and removed. The opening 20 is of the keyhole slot type and the reduced portion is substantially the same width as the diameter of the neck portion 21 of the screw. The screw shank extends through an opening in the seat 17 of the spacer member and is threaded into the threaded aperture 19 in the peg 14. The shelf supporting structure herein described can be assembled by elements with the lining, or it can be assembled with the lining as a unitary structure. When the supporting structure is to be assembled as a unitary structure the screw 16 is inserted through the opening in the seat 17 of the spacer member and is threaded partially into the open end of the peg 14. When assembled in this manner the head of the screw is inserted through the large portion of the opening 20 and is moved downwardly so that the shank rests within the reduced portion of the opening 20, whereupon the peg 14 is screwed toward the spacer member 15 until it rests

against the seat 17 thus firmly clamping the collar flange 18 against the lining wall.

In Figures 5 and 6 the screw is illustrated as having a square shank portion 22 adjacent the head, which is adapted to lie within a reduced portion of the opening 20 having straight sides to prevent turning of the screw when the peg 14 is screwed thereon. The spacer member, as previously stated, is formed of a slightly resilient material such as sheet metal, to permit a certain amount of yielding when the peg 14 is tightly on the screw shank with the result that such clamping pressure is not transmitted to the small area of the wall against which the spacer member engages.

With the shelf supporting structure herein described, it will be seen that attachment or detachment can readily be made with the lining which is especially desirable after the lining has been assembled within the refrigerator frame. It will also be seen that with the shelf supporting structure including the spacer of the character described, the clamping pressure necessary for tightly securing the peg relative to the lining is distributed over a large area at the point of engagement so that a minimum amount of deformation of the lining will be caused when heavy weights are imposed upon the shelves 13 carried by such shelf supporting structures.

Various changes can be made in the details of the construction herein described without departing from the spirit of my invention or the scope of what is claimed.

What I claim is:

1. A shelf supporting structure comprising a wall having an aperture formed therein, said aperture having intercommunicating portions of larger and smaller cross-sectional dimensions, a stud bolt having a head smaller than the larger portion of the aforesaid aperture but larger than the smaller portion thereof, a resilient spacing member adapted to engage the wall on the side thereof opposite the head of the stud bolt, said spacing member having an aperture formed therein through which the stud bolt projects, an internally threaded peg operatively associated with the end of the stud bolt and abutting the spacing member, and a shelf supported by said peg.

2. A shelf supporting structure comprising a wall having an aperture formed therein, said aperture having intercommunicating portions of larger and smaller cross-sectional dimensions, a stud bolt having a head smaller than the larger portion of the aforesaid aperture but larger than the smaller portion thereof, a resilient spacing member having a laterally projecting peripheral flange disposed against the wall on the side thereof opposite the stud bolt head, said spacing member having an aperture formed therein through which the stud bolt projects, an internally threaded peg operatively associated with the end of the stud bolt and abutting the spacing member, and a shelf supported by said peg.

In testimony whereof I hereunto affix my signature.

HAROLD L. POPE.