My invention relates to refrigerators, and more particularly to shelf supporting structures for refrigerators. An object of my invention is to provide a readily attachable and detachable refrigerator shelf support which will project interiorly of the refrigerator lining and which can be attached and removed from the interior thereof when the lining is assembled in the refrigerator frame.

Another object of my invention is to provide a shelf support for enameled or porcelain coated refrigerator linings which can be associated with the lining to reduce the possibility of cracking or otherwise injuring the coated surface of the lining when loads are put upon the shelves.

Other objects of the invention more or less incidental or ancillary to the foregoing will appear in the following description, which sets forth in connection with the drawing accompanying and forming part of this specification, a preferred embodiment of the invention.

In the drawings:

Fig. 1 is a fragmentary perspective view of a refrigerator showing the shelf pins in place supporting a series of shelves.

Fig. 2 is a cross sectional view of the shelf support assembly.

Fig. 3 is a perspective view of the expansible collar.

Fig. 4 is a perspective view of the spacing member.

Referring more specifically to the drawing by characters of reference, 8 indicates a conventional form of refrigerator having a lining 9 formed to provide a refrigerated compartment 10 and food storage compartment 11. Each structure includes a pin 15 which is preferably cylindrical in shape and provided with a recess 12 concentric with the longitudinal axis thereof for a purpose which will appear as the specification proceeds. The shelf supporting structure is attached to the refrigerator lining 9 at the desired points which are provided with circular apertures 14 through which an expansible member 18 and a spreader member 16 are passed. The spreader member is preferably in the form of a screw threaded bolt having a conical head 17. The spreader member 16 extends through a cylindrical expansible member or collar 18 formed of resilient material and having an inturmed flange 19 at one end thereof and an outward flange 20 at the opposite end thereof. The inturmed flange 19 provides an aperture of such size that the spreader member 16 may be passed there-through and be held centrally positioned thereby while the outward flange 20 is adapted to engage the exterior face of the lining adjacent the apertures 14 and hold the supporting member 15 in place. The collar 18 is provided with slots 24 which permit compression and expansion of the outwardly turned flange of the collar for insertion and removal through the opening 14 from the interior surface of the lining. A spacer 21 formed of resilient sheet metal, comprises a flanged central portion 22 provided with an annular inwardly extending shoulder 23 of slightly greater diameter than the central portion and a laterally outwardly extending flange 27 of greater diameter than the shoulder 23. The shoulder 23 and the central portion 22 defined thereby provide a seat for the pin 15 and a peripheral flange 27 spaces the seat and pin away from the coated surface of the lining. The peripheral flange 27 extending laterally and outwardly beyond the seat serves to distribute the strain placed upon the supporting member 15 by the stocked shelves and thereby transmitted to the lining over an area greater than the cross sectional area of the pin thereby decreasing the possibility of injury to the coating upon the lining.

In applying the invention, the spreaded member 16 is inserted through the aperture 14 in the refrigerator lining and then from the interior surface of the lining. The slotted end of the collar 18 is compressed and inserted through the aperture 14 over the spreader member 16. Upon releasing the collar from the compressed position, it will expand and thereby provide a shelf support which is readily attachable and detachable.
fill the major portion of the aperture. The spacer 21 is passed over the spreader member 18 and the slotted collar 18 into engagement with the refrigerator lining 9. The pin 15 is then threaded upon the spreader member 18, the threads of the spreader member engaging and cooperating with the threads formed in the recess 12 in the pin 15. Rotation of the pin 15 within the seat 22 causes the spreader member 16 to be moved up into the recess of the pin 15 and thus draws the spreader member 16 into engagement with the slotted collar 18 which is expanded into the aperture in the lining of the refrigerator and is securely held thereby.

It will be seen that I have provided a shelf supporting structure that may be readily attached to and removed from the lining of a refrigerator from the interior surface thereof, especially when the lining is assembled within the refrigerator frame. I have further provided a novel form of attaching structure applicable in such manner that the weight of the food on the shelf supported by the pin 15 is transmitted over a large area of the lining, thereby preserving the lining from injury.

It will be seen that although I have illustrated only the preferred embodiment of my invention and described in detail but one application thereof, it will be obvious to anyone skilled in the art that various modifications and changes may be made therein without departing from the spirit thereof or from the scope of the appended claims.

What I claim is:

A shelf supporting structure comprising an expansible member adapted to be inserted within an opening, a spreader for expanding one end of the expansible member, a spacing ring surrounding the opposite end of the expansible member, a supporting member adapted to engage the spacing member and provided with a recess for the reception of the end of the expansible member projecting through the spacing member, and means for moving the spreader axially with respect to the expansible member.

In testimony whereof I hereunto affix my signature.

PERCY T. SEALEY.