July 18, 1933. A. Y. DOWELL 1,918,457

SHELF RETAINER

Filed Aug. 10, 1932

Fig. 1.

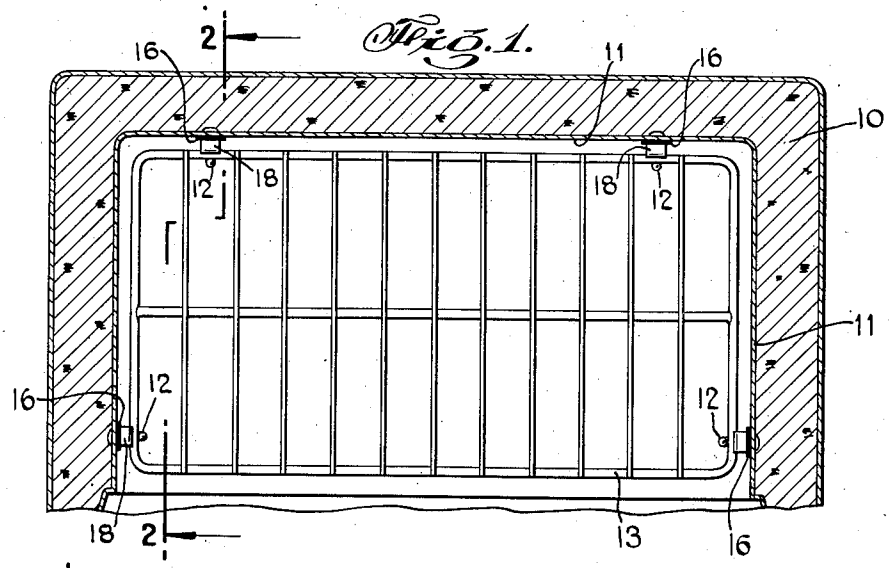


Fig. 2.

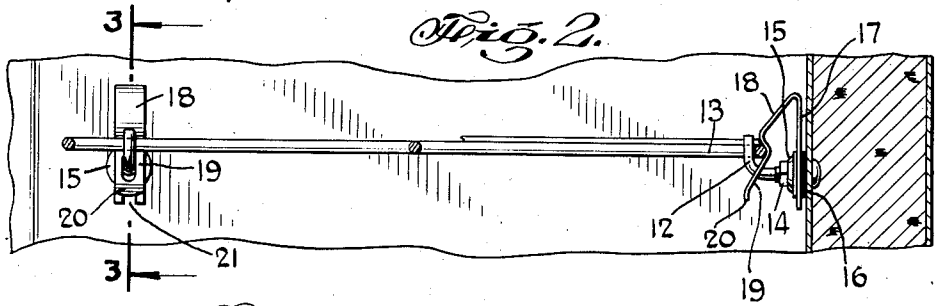


Fig. 4.

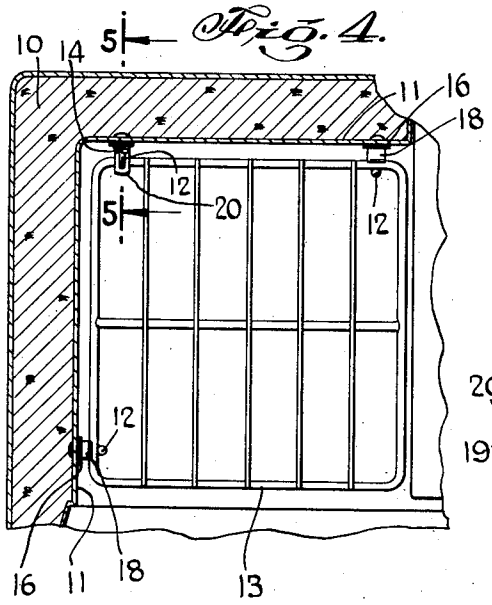


Fig. 3.

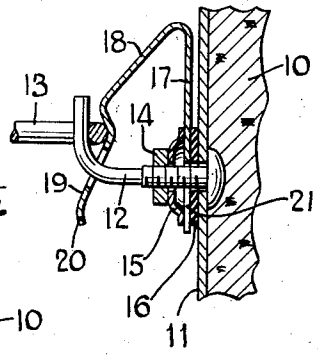
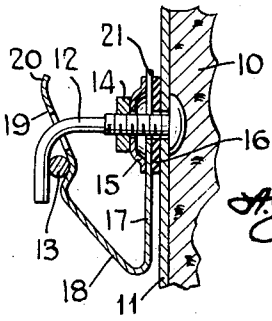


Fig. 5.



INVENTOR.

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UNITED STATES PATENT OFFICE

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SHELF RETAINER

Application filed August 10, 1932. Serial No. 628,146.

My invention relates to shelf retainers adapted to be used in conjunction with supports for shelves or trays in refrigerators or other cabinets and it is an object of the invention to provide shelf retaining means that will prevent rattling of the shelves and noise as a consequence thereof when the shelf or cabinet is subjected to jarring or vibration.

It is a further object to provide shelf retaining means that will hold the shelves firmly and securely in place during shipment and thereby eliminate the necessity of packing the shelves in separate cartons.

A further object of the invention is to provide shelf retaining means which will permit the ready application or removal of the shelves and which is simple and inexpensive to manufacture and easy to apply.

Other objects and advantages will be apparent from the following description taken in connection with the accompanying drawing, wherein:

Fig. 1 is a horizontal section through a cabinet, showing a top plan view of a shelf held in position, and illustrating one application of the present invention;

Fig. 2, a section on the line 2—2 of Fig. 1;

Fig. 3, a fragmentary detail on the line 3—3 of Fig. 2;

Fig. 4, a horizontal section similar to Fig. 1 with the shelf held by three supports, and

Fig. 5, a section on the line 5—5 of Fig. 4.

Referring to the drawing, a refrigerator cabinet 10 is provided with a porcelained liner 11 and a plurality of shelf supports 12 are attached to or carried by the liner for supporting a shelf 13. The shelf supports 12 are of conventional construction formed of wire or the like upset at one end to provide an enlarged integral head, a threaded shank adjacent the head, and a smooth shelf engaging extremity of smaller diameter. The support 12 projects through an aperture in the liner 11 and is fastened in position by means of a nut 14 engaging the threaded portion of the shank and bearing against a convex spring washer 15, a gasket 16 being preferably provided so that the liner will not be marred by the spring washer.

In order to compensate for inequalities in the liner 11 caused by the high temperature to which the liner is subjected during the enamel baking process, the supports 12 are of sufficient length to permit the shelf 13 to have a lateral play or movement and to restrain this movement to prevent rattling of the shelf or dislodgment of the shelf, spring clips are provided. The spring clips or tensioning members are each formed of a metal strip, having a flat back or rear portion 17, folded over and inclined forwardly upon itself at 18 and curved laterally towards its body to provide a latch or shelf engaging portion terminating in a flat slotted portion 19 having its end 20 bent slightly as shown. The free end of the back 17 is provided with a bifurcation 21 to permit the clip to be inserted between the washer 15 and gasket 16 laterally over the threaded shank of the support 12 with the smooth portion of the support extending through the aperture in the free end of the clip. The loop of the clip may be disposed above or below the support, as shown respectively in Figs. 3 and 5. When the support and retainer are in the position shown in Fig. 3, the shelf is placed in position so that it contacts the inclined portion 18 of the clip and is pressed downwardly to bring the shelf to the position shown in Fig. 3, the free leg of the clip permitting the shelf to ride into the recess as shown.

As shown in Fig. 4, a small shelf is held in position by the use of only three supports and cooperating retainers and in order to prevent weight applied to the free corner of the shelf from upsetting the shelf, the retainer at the diagonally opposite corner is inverted so that it is in the position shown in Fig. 5.

It will be apparent to those skilled in the art that various other changes may be made in the construction and arrangement without departing from the spirit of the invention, and therefore the invention is not limited to that which is described in the specifi-

cation and shown in the drawing, but only as indicated in the appended claims.

What is claimed is:

1. In a cabinet having means for supporting a shelf and a shelf supported by said means, shelf retaining means comprising a loop of spring metal provided with an opening at one end to receive the outer portion of the support and having a depression disposed in opposition to a laterally extending portion of the support for clamping a side bar of the shelf therebetween, said retainer being provided with an opening to receive a part of the support and being held in place by the fastening means for said support.

2. With a shelf support having a shank and a laterally extending hook end, a bent spring clip having an opening at one end to receive the shank and be clamped and held in place by mounting means for said support, said spring clip having an opening through the other end so constructed and arranged as to be passed over the hook portion of the support before mounting the parts and to be freely movable upon the support and yet held against outward displacement beyond the hook end, the clip being provided with a depression to receive a side bar of a shelf to be held against casual displacement from the support.

3. In a cabinet having means for supporting a shelf and a shelf supported thereby, said shelf support having a mounting shank and a laterally extending end portion, a bent spring clip having an opening through one end to be fitted loosely over the laterally extending end of the support and the other end bifurcated to be fitted over the shank of the support adjacent to the wall of the cabinet, and means associated with the support to engage the bifurcated end of the spring clip to securely hold the clip in place.

4. In a cabinet having means for supporting a shelf and a shelf supported thereby, said shelf support having a mounting shank and a laterally extending end portion, a bent spring clip having an opening through one end to be fitted loosely over the laterally extending end of the support and the other end bifurcated to be fitted over the shank of the support adjacent to the wall of the cabinet, spacing means to hold the bifurcated end of the spring clip out of contact with the cabinet wall, and means to clamp said end to mount and hold the spring clip in place.

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