

March 28, 1967

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3,311,072

CANTILEVER SLIDE-OUT SHELF

Filed April 1, 1966

2 Sheets-Sheet 1

FIG. 1

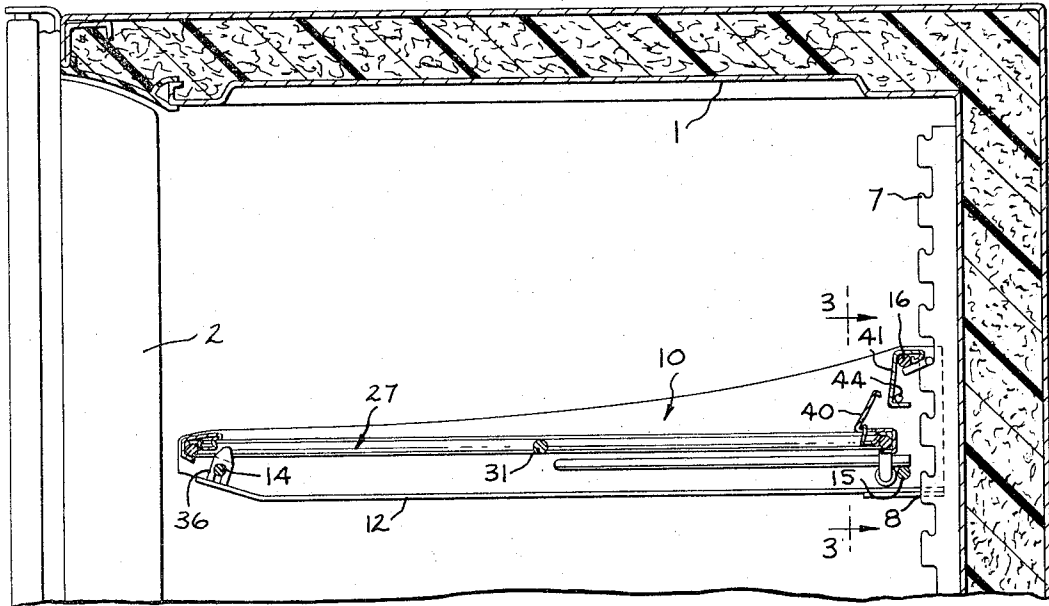


FIG. 2

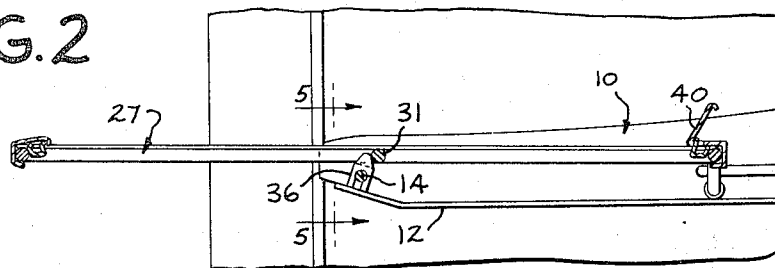
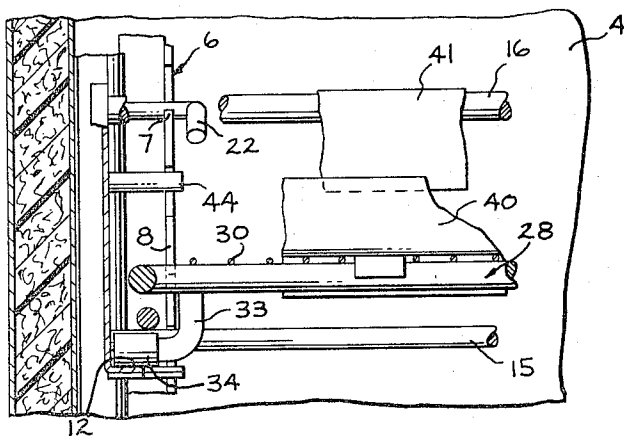


FIG. 3

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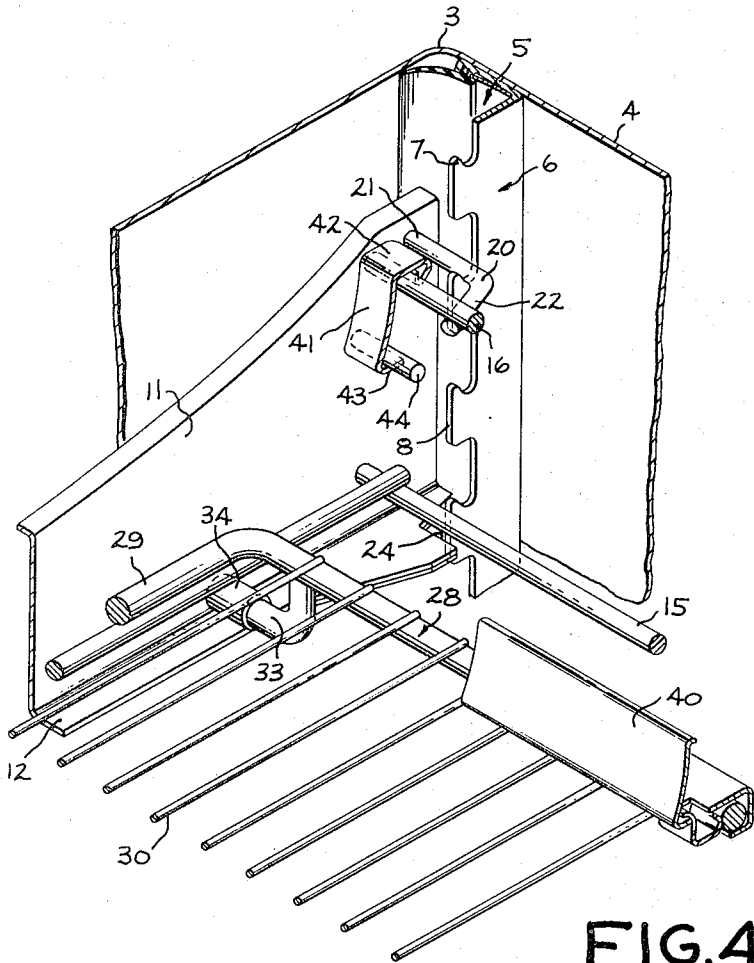


FIG. 4

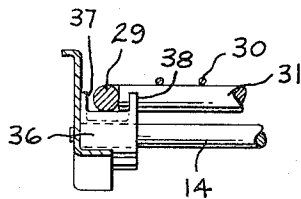


FIG. 5

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3,311,072

CANTILEVER SLIDE-OUT SHELF

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3 Claims. (Cl. 108-143)

The present invention relates to shelves for cabinets and is more particularly concerned with a vertically adjustable cantilever supported sliding shelf structure for refrigerator cabinets and the like.

A general object of the present invention is to provide a shelf structure for refrigerator cabinets and the like in which the advantages of cantilever support, vertical adjustability, and horizontal slidability are combined in a shelf structure which is also characterized by a pleasing and attractive appearance.

Further objects and advantages of the invention will become apparent as the following description proceeds and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming part of this specification.

In accordance with the illustrated embodiment of the present invention, there is provided a vertically adjustable cantilever supported sliding shelf structure comprising a generally rectangular frame on which a shelf is slidably mounted. The frame includes longitudinally extending sheet metal side members having inwardly extending shelf supporting flanges at the bottom edge thereof, a plurality of cross bars interconnecting the side members adjacent the front and rear ends thereof and means for cantilever supporting the frame for vertical adjustment within a cabinet. The storage shelf slidably supported on the frame for movement between a normal and an extended position includes a shelf guard extending upwardly from the rear edge thereof while the frame includes a decorative strip supported on one of the rear cross bars in a position such that it is in overlapping relationship with the upper edge of the shelf guard when the shelf is in its recessed position thereby providing a shelf structure having a sturdy and pleasing appearance due largely to the portions of the frame side members and the shelf guard and decorative strip extending upwardly above the storage area of the shelf.

For a better understanding of the invention reference may be had to the accompanying drawing in which:

FIGURE 1 is a side elevational view, partly in section, of a portion of a refrigerator cabinet including the shelf structure of the present invention;

FIGURE 2 is a view similar to FIGURE 1 with the shelf in extended position;

FIGURE 3 is a sectional view of the shelf structure of FIGURE 1 taken generally along line 3-3 of FIGURE 1;

FIGURE 4 is a perspective view of a portion of the shelf structure of the present invention; and

FIGURE 5 is a sectional view taken generally along line 5-5 of FIGURE 2.

With reference to FIGURE 1 of the drawing there is shown a refrigerator cabinet including a liner 1 forming a storage compartment within the cabinet, the access opening to which is closed by a door 2. Spaced from each vertical rear corner 3 of the liner 1 and secured to the rear liner wall 4 are horizontally spaced vertically extending supports 5 (only one of which is shown) each of which includes a forwardly extending flange portion 6 shaped to provide a plurality of vertically spaced hooks 7 separated by coplanar bearing surfaces 8.

The shelf structure also includes a generally rectangular frame adapted to be cantilever supported on the supports 6. The frame 10 is of a generally rectangular shape and

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includes opposed longitudinally extending sheet metal side members 11 each having an inwardly extending horizontal flange 12 at the bottom edge thereof. The side members 11 are interconnected by a plurality of cross bars including a front cross bar 14, a lower rear cross bar 15 and an upper rear cross bar 16, the upper rear cross bar 16 being above and spaced from the lower rear cross bar 15.

Means for supporting the frame on the supports 5 comprise an L-shaped rod 20 at each corner of the frame adjacent the upper cross bar 16. As is shown more particularly in FIGURE 4 of the drawing these L-shaped rods 20 include a transverse arm 21 secured to the adjacent portion of one of the side members 11 rearwardly of the cross bar 16 and a second arm 22 secured to an adjacent portion of the cross bar 16. The transverse arm 21 is so positioned relative to the rear edge 24 of the slide 12 that when the transverse arm 21 is supported on one of the hooks 7, the rear edge 24 of the flange 12 of each side member 11 bears against one of the plane surfaces 8 on the support 5. By providing a plurality of vertically spaced hooks 7, the frame 10 may be supported in any of a plurality of vertically spaced positions within the cabinet.

A wire shelf generally indicated by the numeral 27 is slidably supported on the frame 10 for movement between a normal or recessed position within the cabinet as illustrated in FIGURE 1 of the drawing to an extended position as illustrated in FIGURE 2 of the drawing. The shelf 27 includes a generally rectangular frame 28 including side portions 29 and a plurality of longitudinally extending wires 30 secured to the frame to provide a supporting surface for articles stored on the shelf. A relatively heavy rod-like cross member 31 extends transversely of the shelf near the central portion thereof for strengthening the wires 30. The shelf 27 also includes depending legs 33 including end portions 34 adapted to be slidably supported on the flanges 12 while the forward portion of the shelf 27 is supported on Nylon combination slide and guide members 36 snapped onto the forward cross bar 14 adjacent each end thereof and including channels 37 for receiving the respective side members 29. As is shown in FIGURE 5, the upwardly extending inner side wall 38 of each of the Nylon members 36 provides stop means adapted to be engaged by the central cross bar 31 and stop forward travel of the shelf as it is moved to its extended position.

An upwardly extending sheet metal guard 40 is secured along the entire rear edge of the shelf 27, the purpose of this guard being two-fold; one, to prevent articles stored on the wires 30 from falling off of the rear of the shelf when the shelf is moved to its extended position and the other to provide a pleasing and decorative appearance to the shelf structure in cooperation with a decorative strip generally indicated by the numeral 41 and supported on the rear portion of the frame 10.

More specifically, the decorative strip 41 which extends between the opposed side members 10 of the frame has its upper edge 42 formed to slip over and hook onto the upper cross bar 16 and its lower edge 43 bent rearwardly and adapted to snap onto pins 44 provided on each of the side members 10.

The vertical dimensions of the decorative strip 41 are such that when the shelf 27 is in its recessed position as illustrated in FIGURE 1 of the drawing, the strip 41 is positioned slightly rearwardly of the shelf guard 40 with the upper edge of the shelf guard 40 in overlapping relationship with the lower edge 43 of the strip 41. In these relative positions the decorative strip 41 and the guard 40 give the appearance of a relatively solid generally continuous guard structure at the rear of the shelf structure while the portions of the side members 10 extending up-

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wardly above the shelf 27 continue this solid appearance about the two sides of the shelf.

While there has been shown and described a specific embodiment of the present invention, it is to be understood that it is not limited thereto and is intended by the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A cantilever-supported sliding shelf structure comprising:

a generally rectangular frame including longitudinally extending sheet metal side members each having an inwardly extending horizontal flange at the bottom edge thereof,

a plurality of cross bars interconnecting said side members including a front cross bar and a lower rear cross bar above and spaced from said flanges and an upper rear cross bar above and spaced from said lower rear cross bar,

means on the rear corners of said frame for supporting said frame in a horizontal position,

a sliding shelf supported on said frame for movement between a normal and an extending position including the side members slidably supported on said lower front cross bar and a leg adjacent each rear corner of said shelf adapted normally to ride on the rear portion of one of said flanges,

said shelf including a shelf guard extending upwardly from the rear edge thereof;

said frame including a decorative strip supported on upper rear cross bar and extending downwardly therefrom in overlapping relationship with the upper edge of said shelf guard when said shelf is in its normal position.

2. The shelf structure of claim 1 in which said frame includes a longitudinally extending guide rod at each rear corner portion thereof above the one of said rear legs riding on a side member flange and secured to and extending from a mid portion of a side member to a point on said lower rear cross rod spaced from said side member for preventing forward tilting of said shelf upon movement thereof to the extended position.

3. A vertically adjustable cantilever supported sliding shelf structure comprising:

horizontally spaced, vertically extending supports, each of said supports including a plurality of vertically spaced hooks separated by coplanar bearing surfaces; a generally rectangular frame including longitudinally extending sheet metal side members each having an inwardly extending horizontal flange at the bottom edge thereof,

a plurality of cross bars interconnecting said side members including a front cross bar and a lower rear cross bar above and spaced from said flanges and an upper rear cross bar and spaced from said lower rear cross bar,

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said frame including a longitudinally extending guide rod at each rear corner portion thereof above and spaced from a side member flange and secured to and extending from a mid portion of a side member to a point on said lower rear cross rod spaced from said side member,

means for supporting said frame on said supports including an L-shaped rod at each rear corner thereof having a transverse arm secured to a side member rearwardly from said upper rear cross bar and adapted to be supported on one of said hooks and the other arm secured to said upper rear cross bar.

said transverse arm being spaced a distance from the rear end of said flange such that when said transverse arm is supported on one of said hooks, the rear edge of said flange engages one of said bearing surfaces;

a sliding shelf supported on said frame for movement between a normal and an extended position including side members slidably supported on said lower front cross bar and a leg adjacent each rear corner of said shelf adapted normally to ride on one of said flanges beneath one of said guide rods;

said shelf including a shelf guard extending upwardly from the rear edge thereof;

said frame including a decorative strip supported on said upper rear cross bar and extending downwardly therefrom in overlapping relationship with the upper edge of said shelf when said shelf is in its normal position.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,311,072

March 28, 1967

Wesley S. Pattison

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 3, line 18, for "bas" read -- bar --; line 32, before "upper" insert -- said --; line 57, after "bar" insert -- above --; column 4, line 12, for "bar." read -- bar, --; line 28, after "shelf", first occurrence, insert -- guard --.

Signed and sealed this 21st day of November 1967.

SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

EDWARD J. BRENNER

Commissioner of Patents