United States Patent

Kronenberger

[15] **3,635,355**

[45] **Jan. 18, 1972**

[54] DRAWER SUPPORT FOR WIRE SHELF

[72] Inventor: **Paul E. Kronenberger,** Dayton, Ohio

[73] Assignee: **General Motors Corporation,** Detroit, Mich.

[22] Filed: **Nov. 13, 1969**

[21] Appl. No.: **876,305**

[52] **U.S. Cl.**.....**211/183,** 248/188.8, 312/351

[51] **Int. Cl.**.....**A47f 5/00**

[58] **Field of Search**.....211/182, 184, 183, 153, 181; 312/236, 351, 214, 116, 140.4; 287/115, 23; 248/188.8, 188.9. 432, 163, 226 E; 16/43, 29, 30, 18

[56] **References Cited**

UNITED STATES PATENTS

1,937,438	11/1933	Schacht	248/188.9 X
3,145,406	8/1964	Lay	16/43 X
3,208,406	9/1965	Maslow	211/182 X
3,273,845	9/1966	Jepsen	248/226 E
3,356,327	12/1967	Schreyer et al.	248/188.8 X
3,469,813	9/1969	Rizzi	248/226 E X

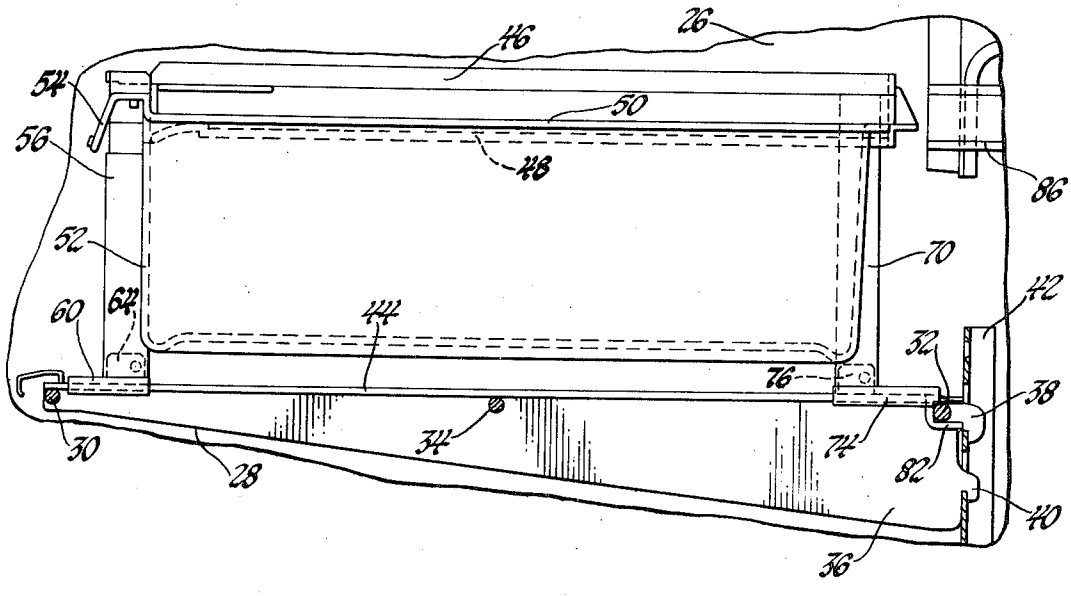
Primary Examiner—Ramon S. Britts

Attorney—William S. Pettigrew, Frederick M. Ritchie and Edward P. Barthel

[57] **ABSTRACT**

In the preferred form, a drawer cover is provided with guide ways for supporting a flanged drawer. The drawer cover is provided with downwardly extending hollow legs of sheet metal formed into a closed rectangle. The bottoms of the front legs are supported upon an adjacent pair of wires by an inverted U-shaped foot of resilient plastic having inwardly extending projections at the bottom so that it will snap over the wires. Each of these feet also has an upwardly extending projection extending a substantial distance into the bottoms of the legs and provided on each side with chamfered projections which snap into apertures provided at the bottom of the sides of the legs. The rear feet are provided with similar projections snapping into apertures in the bottom of the legs. However, the rear feet while they rest upon two wires, do not snap over the wires but have a U-shaped rearwardly extending projection between the wires having legs which extend above and below the heavy rear cross wire thereby limiting upward, downward, rearward and sideward movement.

5 Claims, 8 Drawing Figures



PATENTED JAN 18 1972

3,635,355

SHEET 1 OF 2

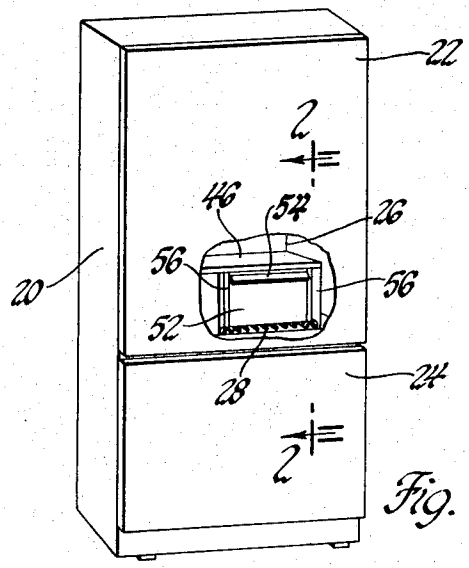


Fig. 1

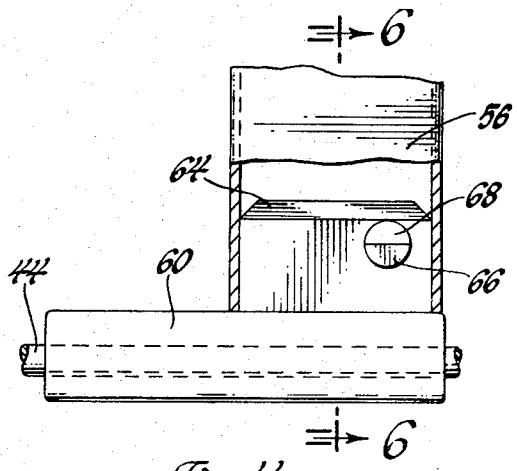


Fig. 4

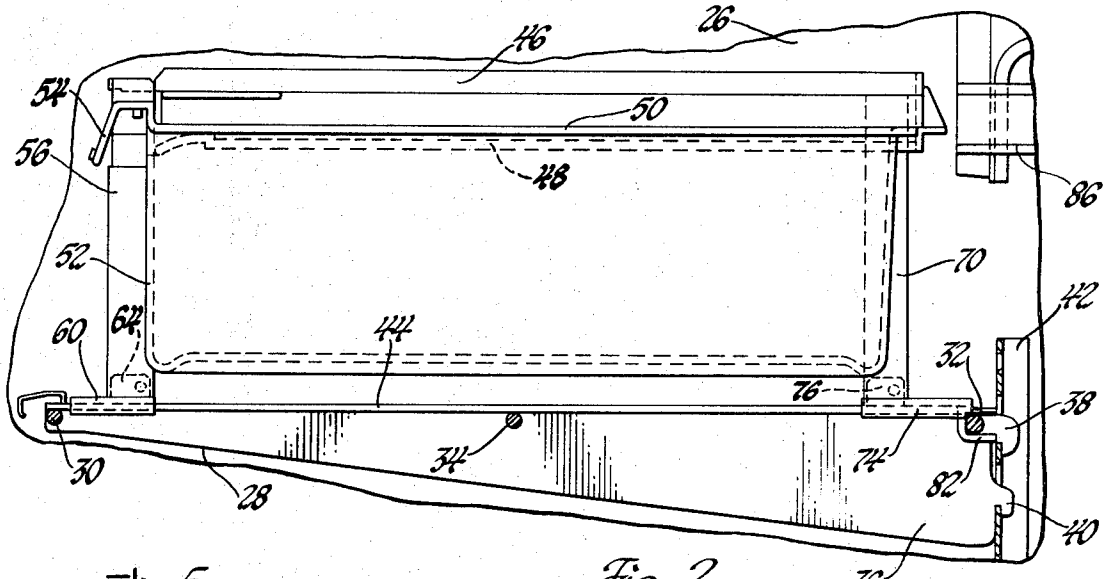


Fig. 2

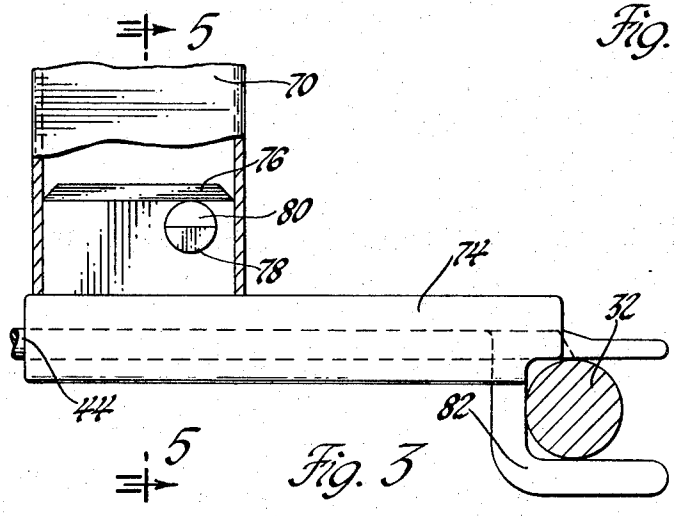


Fig. 3

INVENTOR.
Paul E. Kronenberger
BY
Carl A. Stickel
ATTORNEY

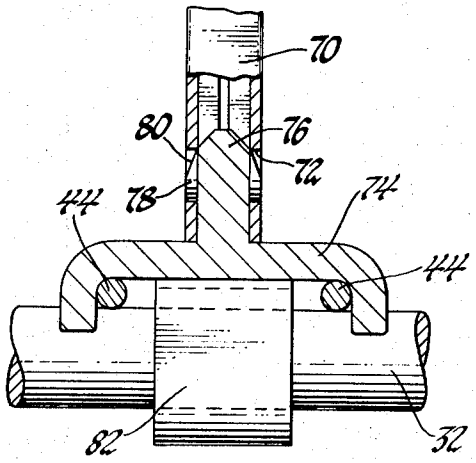


Fig. 5

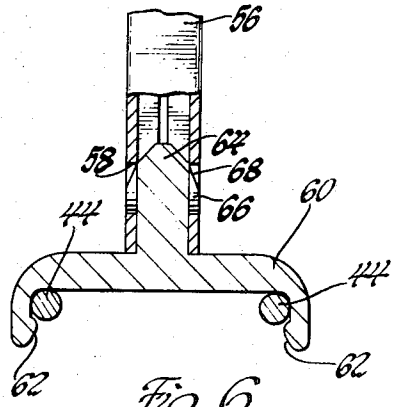


Fig. 6

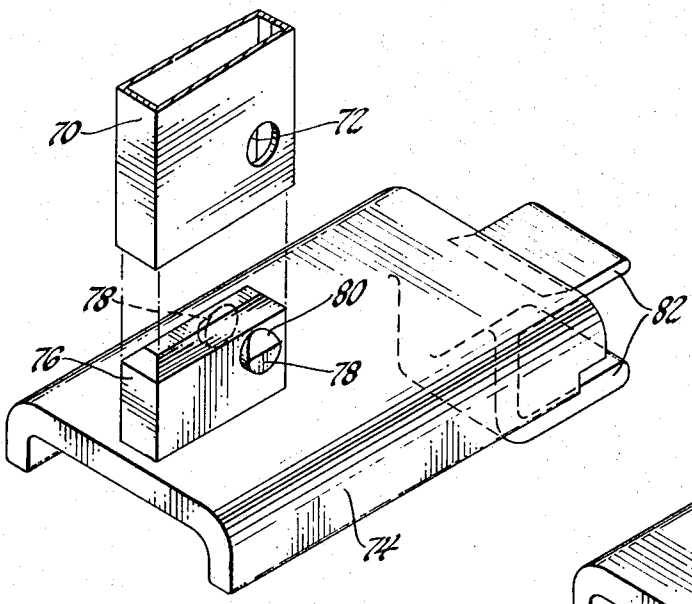


Fig. 7

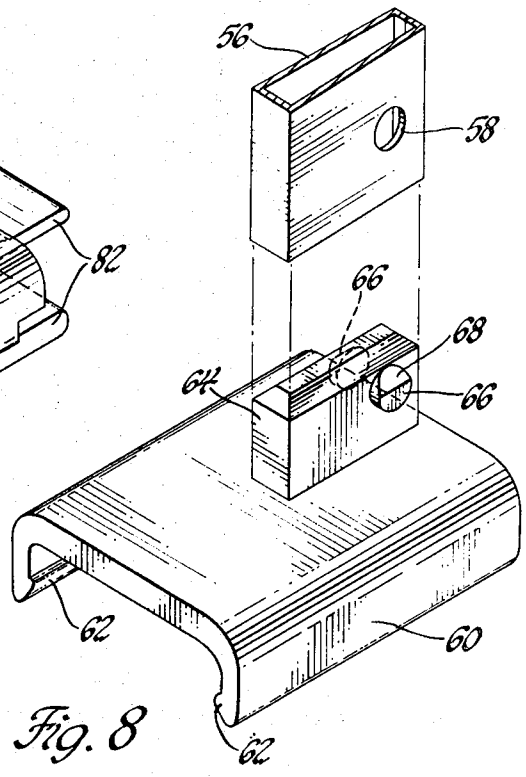


Fig. 8

INVENTOR.
Paul E. Kronenberger
BY
Carl A. Stickel
ATTORNEY

DRAWER SUPPORT FOR WIRE SHELF

This invention pertains to movable drawer supports for mounting on wire shelves.

In the past, drawer supports have been permanently fastened above or below wire shelves. However, greater flexibility would be advantageous if such drawer supports could be readily removed to other locations upon the shelf or to other shelves.

It is an object of this invention to provide a readily removable arrangement for firmly supporting drawer supports upon wire shelves in different lateral positions.

It is another object of this invention to provide a rear drawer support which will prevent lifting as well as downward, sideward and rearward movement relative to the wire shelf upon which it is supported.

It is another object of this invention to provide a drawer support with legs readily removable from a supporting shelf, with the bottoms of the legs receiving feet which are readily snapped into or locked into place therein.

It is another object of this invention to provide a drawer support in which each of the legs is removably supported by a plurality of wires of a wire shelf.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein preferred embodiments of the present invention are clearly shown.

IN THE DRAWINGS

FIG. 1 is a perspective view of a refrigerator cabinet embodying one form of my invention;

FIG. 2 is a fragmentary side sectional view of a portion of the refrigerator cabinet shown in FIG. 1;

FIG. 3 is a fragmentary side sectional view showing the bottom of one of the rear legs and feet;

FIG. 4 is a side sectional view showing the bottom of one of the front legs and its front foot;

FIG. 5 is a fragmentary transverse sectional view through the bottom of the rear leg taken along the line 5—5 of FIG. 3;

FIG. 6 is a fragmentary front sectional view of the bottom of one of the front legs and its foot taken along the line 6—6 of Flg. 4;

FIG. 7 is an exploded perspective view of the bottom of a rear leg and its rear foot; and

FIG. 8 is an exploded perspective view of the bottom of one of the front legs and its front foot.

Referring now to the drawings, and more particularly to FIG. 1, there is shown a refrigerator cabinet 20 having an upper door 22 closing the above freezing compartment and a lower door 24 closing the lower below freezing compartment. Within the upper above freezing compartment 26 is a wire shelf 28 visible through the broken away portion of FIG. 1. This shelf 28 is of the cantilever type and includes a front crossbar 30 and a rear crossbar 32 which, like the front crossbar 30, is of heavy wire. The wire shelf 28 also includes a central crossbar 34 of heavy wire parallel to the front and rear crossbars 30 and 32. A cantilever arm 36 in the form of a wedge-shaped thin plate is fastened to the opposite ends of the crossbars 30, 32 and 34 and forms the sides of the wire shelf 28. Each of the cantilever members is provided with an upper rear hook 38 and a lower rear hook 40 which extend and hook into adjacent notches in the adjacent vertical cantilever rail 42 extending up the backwall of the upper refrigerator compartment 26 near the corners thereof. The shelf 28 also includes a series of uniformly spaced wire supports 44 parallel to the arms 36 resting upon and bonded to the bars 30, 32 and 34 to form the main supporting surface of the shelf 28.

Spaced above the shelf 28 is a rectangular drawer cover 46 in the form of injection molded plastic. This cover adjacent its opposite edges is provided with an inwardly extending rail 48 on each side for supporting the outwardly extending flange 50 at the top of a suitable drawer 52 which may be used either as a meat storage receptacle or a high-humidity storage receptacle for fresh fruits and vegetables. The drawer is provided with a suitable handle 54 at the front thereof.

The drawer cover is provided at each of its four corners with downwardly extending legs. Each of the legs is formed of thin resilient sheet metal such as aluminum formed into a closed rectangular loop in which the wide sides are parallel to the sides of the cover. The edges meet substantially along the vertical center line of the narrow side facing the rear of the cover.

The front legs 56 are provided with an aperture 58 adjacent the bottom of each of the sidewalls thereof. Each of the front legs is provided with a front foot 60 which is of inverted U-shape wide enough to span two adjacent longitudinal wire supports 44 preferably longer than they are wide. The axis of the U-shape is parallel to the sides of the legs. The long bottoms of the inverted U-shaped legs of the front foot 60 are provided with inwardly extending projecting ribs 62 which snap over and curl around and resiliently hold the adjacent wire supports 44.

A rectangular projection 64 extends upwardly from the U-shape and is adapted to snap into the bottom of either of the front legs 56. It is of such a shape as to fit snugly within the bottom of either leg. On the opposite sides of this projection 64 are a pair of round projections 66 having the upper surface thereof provided with a chamfer 68 so that when the projection 64 is forced into the bottom of one of the legs 56, the chamfered surface 68 will cam the sides of the leg outwardly and permit the leg 56 to be pushed onto the projection 64 until the projections 66 are aligned with the holes 58. When this alignment is achieved the sides of the legs 56 will snap over the projections 56 with the projection 66 entering the holes 58 in the legs and the bottoms of the legs engage the top of the U-shape portion. The entering of the projection 66 into the holes 58 locks the foot 60 firmly to its leg 56.

The rear legs 70 are similarly provided with apertures 72 in the opposite sides thereof. Each of these legs 70 are provided with a foot 74 of inverted U-shape which is sufficiently wide to span the same two adjacent wire supports 44 as the front feet 60 as shown in FIG. 5. This U-shape 74 is not shown as provided with inwardly extending projecting ribs since they are not necessary. However, projecting ribs similar to the projecting ribs 62 may be provided if desired. The axis of the U-shape is parallel to the sides of the legs. The rear foot 74 receives an upwardly extending projection 76 which may be identical to the projection 64 and which is similarly provided with circular projections 78 on opposite sides thereof which are adapted to fit into the apertures 72 in the lower portion of the sides of the leg 70. These projections 78 are likewise provided with upper chamfered surface 80 which allows the projection 76 to be readily fitted into the bottom of either of the rear legs 70 until the projections 78 are aligned with the apertures 72. Preferably, the projections 66 and 78 are located at such a distance from the top of the U-shaped surface of the feet that the bottoms of the legs will rest thereon when the projections 78 and 76 enter the apertures 72 and 58 to firmly lock the feet to the legs.

The U-shaped rear feet 74 have at the rear a U-shaped extension 82 with legs adapted to extend on and substantially in contact with the top and bottom of the rear crossbar 32 in between any pair of adjacent wire supports 44 spanned by the U-shape as particularly shown in FIG. 5. This U-shaped extension 82 should be slightly narrower than the space between adjacent wire supports 44. The axis of the U-shape extends horizontally and transverse to the axis of the U-shaped feet 74. The U-shape extension 82 prevents rearward movement of the feet 74 as well as limiting lateral and up and down movement by the restraint provided by the wire supports 44 and the rear crossbar 32. The front feet 60 and the rear feet 74 are extended a sufficient distance forwardly and rearwardly so that they are confined between the front crossbar 30 and the rear crossbar 32 as long as the drawer support 46 is in position on the shelf 28.

The drawer support 46 can be readily removed and/or moved merely by lifting the front legs 60 until the projecting ribs 62 pass above the wire supports 44 by which they are resiliently retained. Thereafter, the drawer support can be moved forwardly until the rear U-shaped extension 82 is free

of the rear crossbar **32**. Thereafter the drawer cover and support can be moved to another position in the lateral direction upon the shelf **28** or it can be moved to another shelf having a somewhat similar configuration. The drawer cover **46** and the drawer **52** may be placed in widely varied lateral positions. To keep meat it is placed in the path of cold circulating air delivered from the deflector **86** between the cover **46** and the drawer **52**. They are placed in a path of circulation of slightly warmer air for the storage of fruits and vegetables.

The feet preferably are injection molded of acrylic-butadiene-styrene plastic for suitable resiliency. However, other suitable plastics such as nylon, polyethylene, polypropylene or acetal plastics may be used if desired.

While the embodiments of the invention as herein disclosed constitute preferred forms, it is to be understood that other forms might be adopted.

I claim:

1. A removable support for refrigerator wire shelving and the like, said support having a rear set of downwardly extending legs and a front set of downwardly extending legs all provided with feet at the bottom of each of said legs, each of said feet having a wide inverted U-shaped portion of resilient material adapted to extend over and onto a set of spaced parallel bars of the shelving, the feet of said rear legs having extending portions extending rearwardly from the inverted U-shaped portions incorporating a second transversely and horizontally extending U-shaped portion adapted to be positioned between a set of spaced parallel shelf bars for engaging a transversely extending bar of the shelving thereby preventing rearward movement of the feet of said rear legs as well as limiting lateral and up and down movement thereof.

2. The support as defined in claim **1** wherein the inverted U-shaped portion of the feet of said front legs each having adjacent their bottom inwardly extending rounded projections adapted to snap onto their associated set of spaced parallel shelf bars.

3. A removable support for refrigerator wire shelves and the like, said support having downwardly extending hollow legs of a thin sheet of spring metal extending in the form of a rectangle in horizontal cross section, said legs being provided with an aperture in two opposite sides thereof and a foot having an upwardly extending projection extending into the bottoms of said legs and having a pair of laterally extending projections extending in opposite directions into said apertures for locking each of said feet to said legs, each said foot at the bottom of said legs provided with a wide inverted U-shaped portion of resilient material adapted to extend over and into a set of spaced parallel bars of the shelving, certain ones of said feet having their U-shaped portions provided with extending portions extending rearwardly from the inverted U-shaped portions incorporating a second transversely and horizontally extending U-shaped portion adapted to be positioned between a set of spaced parallel bars for engaging a transversely extending bar of the shelving and thereby preventing rearward movement of said certain ones of said feet as well as limiting lateral and up and down movement thereof.

4. A support as defined in claim **3** in which said laterally extending projections have their upper portions beveled for easy insertion.

5. A support having a rear set of downwardly extending legs and a front set of downwardly extending legs all provided with feet having inverted U-shaped portions at the bottom, the feet of the rear legs having extending portions extending from the inverted U-shaped portions incorporating a second transversely extending U-shaped portion adapted to engage a transversely extending member.

* * * * *