

[72] Inventor **Stuart P. Whitcomb**
Willingboro, N.J.
 [21] Appl. No. **2,264**
 [22] Filed **Jan. 12, 1970**
 [45] Patented **Jan. 11, 1972**
 [73] Assignee **Philco-Ford Corporation**
Philadelphia, Pa.

[56]

References Cited

UNITED STATES PATENTS

2,769,677	11/1956	Courson et al.	312/270 X
2,801,146	7/1957	Mikulas	312/201
3,331,646	7/1967	Peters	312/270
3,490,823	1/1970	Neu et al.	312/270

Primary Examiner—Paul R. Gilliam

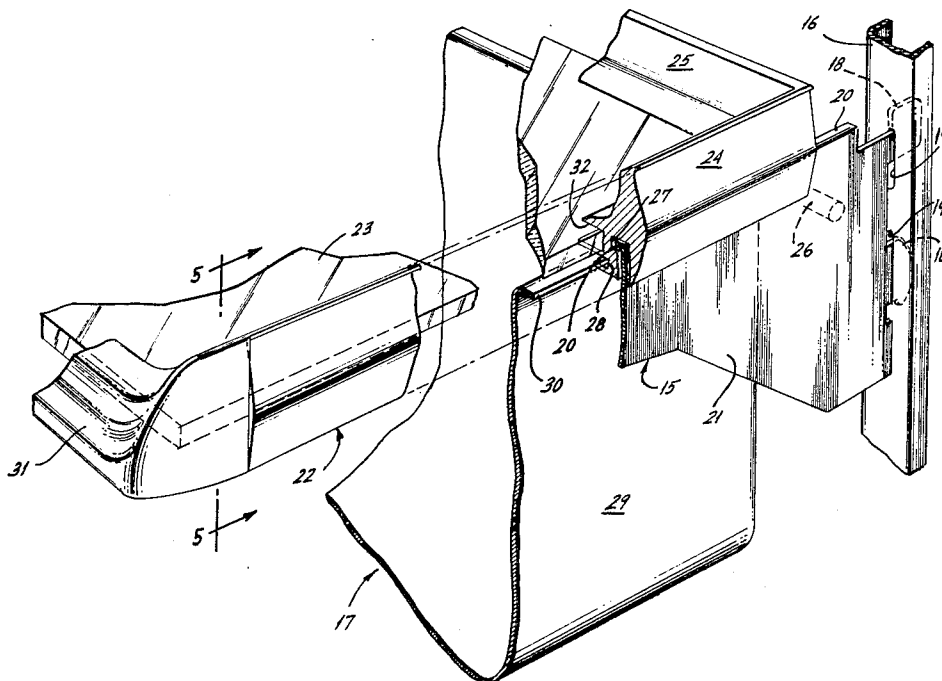
Attorney—Carl H. Synnestvedt

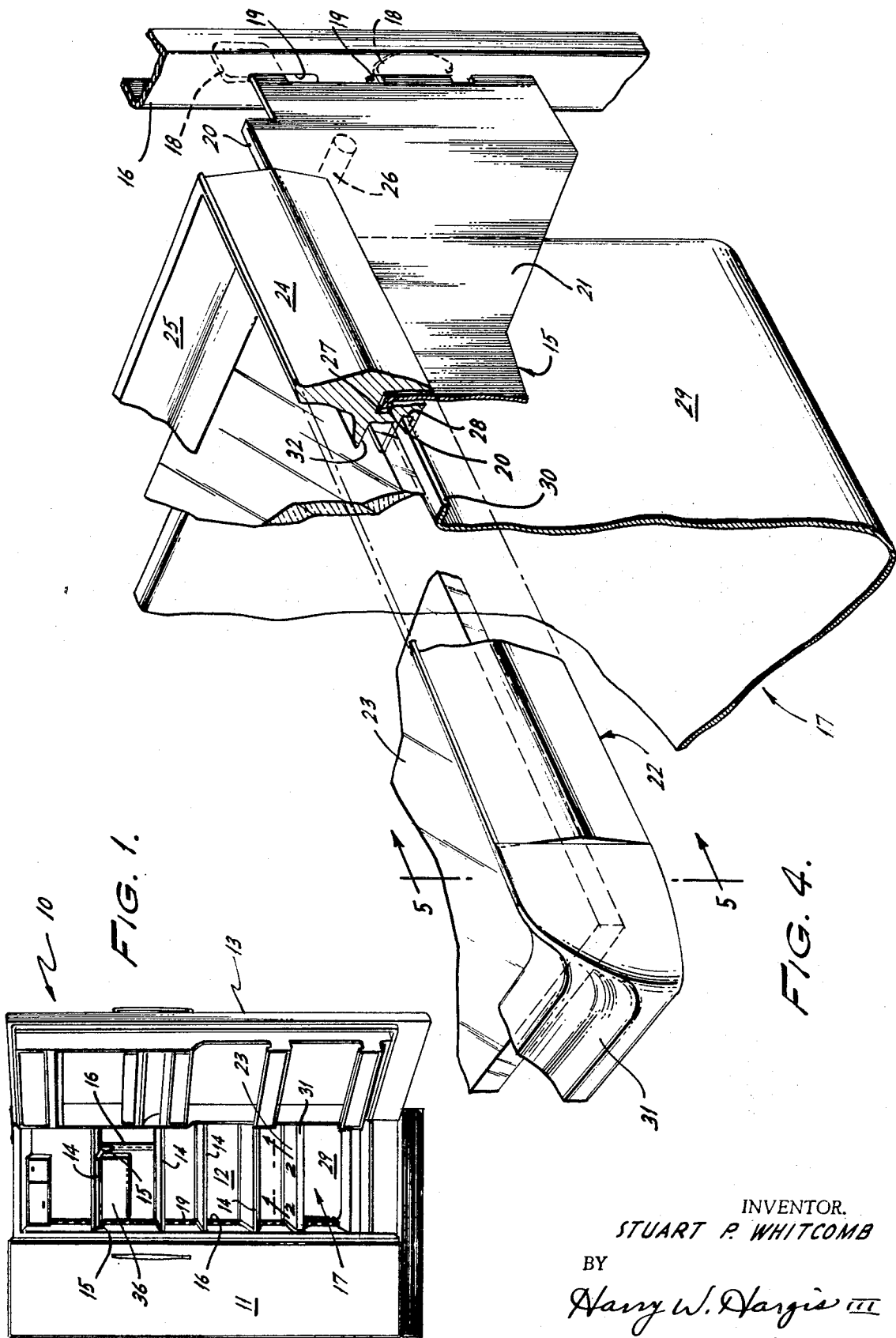
[54] SHELF STRUCTURE

6 Claims, 6 Drawing Figs.

[52] U.S. Cl. **312/306,**
 312/270, 312/301, 312/351
 [51] Int. Cl. **A47b 57/00,**
 A47b 51/00, A47b 88/00
 [50] Field of Search. 312/308,
 306, 311, 270

ABSTRACT: A unitary shelf and food storage pan support structure for cabinets. An extruded member supported on cantilevered shelf brackets includes a pair of opposed runners which frame an imperforate shelf and are provided with a set of grooves that slidably support a food storage pan. The runners include another set of grooves that slidably engage the shelf brackets. The arrangement, in combination with selectively releasable detent means, affords either sliding withdrawal of the storage pan relative to the imperforate shelf, or sliding withdrawal of the pan and shelf as a unit.





INVENTOR,
STUART P. WHITCOMB

BY

Harry W. Davis III
AGENT

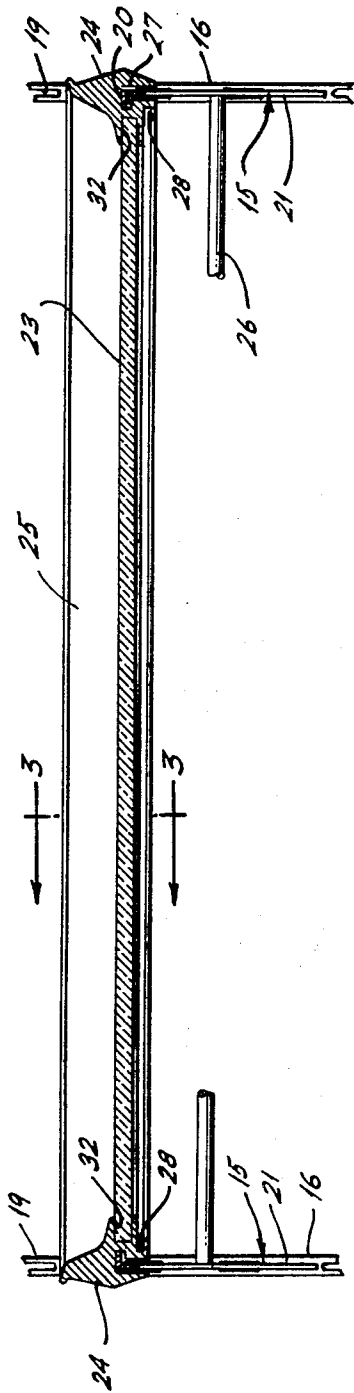


FIG. 2.

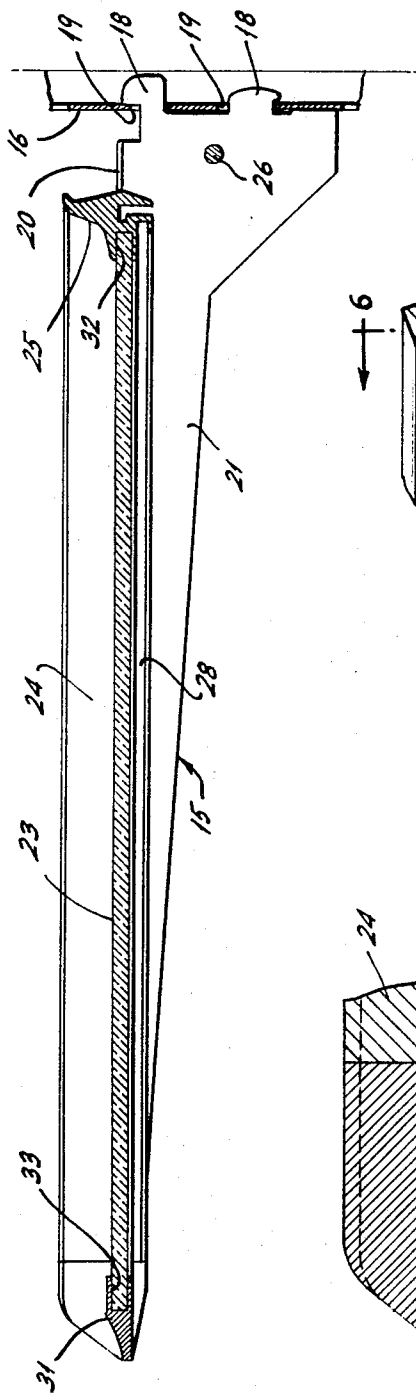


FIG. 3.

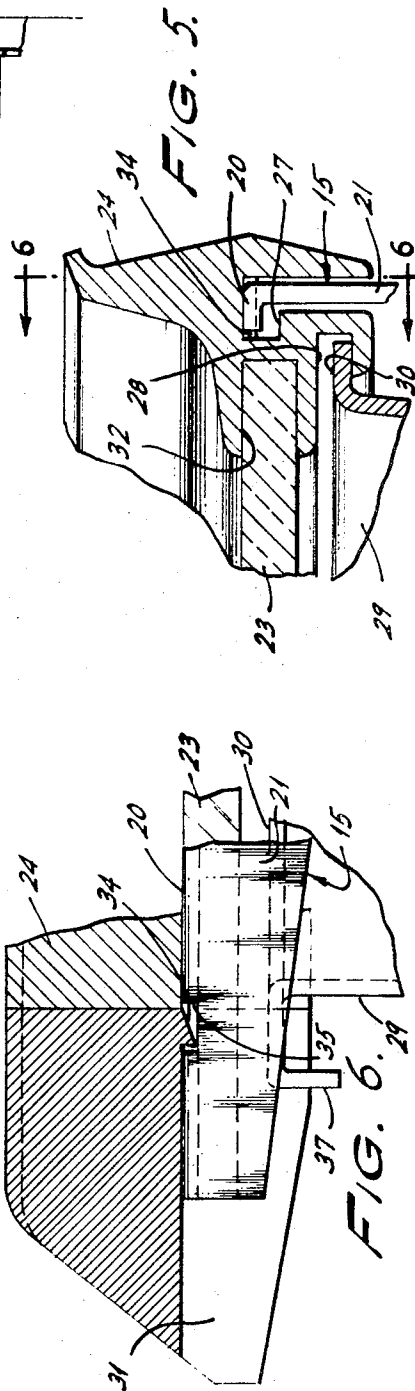


FIG. 5.

FIG. 6.

INVENTOR.
STUART P. WHITCOMB
BY
Harry W. Hargis III
AGENT

SHELF STRUCTURE

BACKGROUND OF THE INVENTION

This invention relates to shelf structure, and more particularly cantilevered sliding shelf structure. While of broader applicability, the invention has particular utility in the field of household refrigerators.

Adjustable cantilevered shelves have met with considerable success in refrigerators, and it is an objective of this invention to provide novel and improved structure for adapting conventional, adjustably mounted cantilever support brackets of the type used for such shelves, to the support of both shelves and food storage pans, or the like.

SUMMARY OF THE INVENTION

In achievement of the foregoing and other objectives, the invention provides, in cabinet structure, a pair of laterally spaced, parallel extending cantilevered shelf brackets, a slidable shelf runner on each said bracket, a shelf spanning the space between said brackets and supported by said runners, means defining a longitudinal groove on each said runner, and food storage pan means disposed below said shelf and slidably supported in said grooves. Selectively releasable detent means affords either sliding withdrawal of the storage pan means relative to the shelf, or slidable withdrawal of the shelf and pan means as a unit.

The manner in which the foregoing as well as other objectives and advantages of the invention may best be achieved will be more fully understood from the following description, taken in light of the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an elevational showing of refrigerator cabinet structure, including, in the lower portion of its food compartment, sliding food storage pan and shelf support means embodying the invention;

FIG. 2 is a sectional showing, looking generally in the direction indicated by the line 2—2 applied to the support means illustrated in FIG. 1, but with the storage pan removed;

FIG. 3 is a sectional showing of the storage pan and shelf support means as seen looking generally in the direction of arrows 3—3 applied to the illustration thereof in FIG. 2;

FIG. 4 is a perspective showing of the storage pan and shelf support means illustrated in the preceding figures, but on a slightly larger scale and with parts broken away;

FIG. 5 is a sectional view taken generally along the line indicated by arrows 5—5 applied to FIG. 4, and illustrating details of latch means for releasably interlocking elements of the support means; and

FIG. 6 is a sectional showing of the support means as seen looking generally in the direction of arrows 6—6 applied to the illustration thereof in FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With more detailed reference to the drawing, and first to FIGS. 1 and 4, there is illustrated a refrigerator 10 which in this case is of the so-called side-by-side type and comprises a left-hand freezing compartment, over which door 11 is closed, and a right-hand above-freezing food storage compartment 12 provided with a door 13. The latter door is disposed in open position for the sake of convenience of illustration. Compartment 12 is cooled by forced flow therethrough of relatively cold air from the freezing compartment, in accordance with conventional practice. Storage of foods in compartment 12 is accommodated by shelves designated generally by the reference numeral 14, and including cantilevered support brackets of the type seen at 15, and suspended from vertically extending, apertured support bars 16 on the rear wall of the compartment.

The invention is embodied in a combination slidable food storage pan and shelf assembly 17 disposed in the lower region of compartment 12. With reference also to FIGS. 2 and 3, the

lower pair of spaced brackets 15 is supported, in cantilever fashion, by hooks 18 thereon extending into and engaging edges of apertures 19 in bars 16. Each of brackets 15 includes an inwardly turned horizontally extending flange 20 and a vertically extending, longitudinally tapered main portion 21. A tie rod 26 is affixed at each end to a corresponding portion 21 of a bracket 15, whereby the brackets and rod are handleable as a unit.

A slide member 22 frames a glass shelf 23, and includes spaced parallel sides or runners 24 and an interconnecting rear side 25, each of identically extruded material, such as metal or plastic. The several sides conveniently can be formed of one extrusion bent to generally U-shape by known techniques, or it may be made up of separate, suitably joined lengths of extruded stock. Each side runner 24 includes a glass receiving groove 32, and an inverted L-shaped groove 27 that mates with portions 20 and 21 of the bracket 15 to provide for sliding support of the frame 22 and shelf 23 thereon. Each side runner 24 further includes an inwardly facing horizontally extending groove 28 that slidably receives a flanged upper edge 30 of a storage pan 29. Framing of glass shelf 23 is completed by a front, transversely extending member 31 provided with a groove 33 (FIG. 3) receiving the shelf, and which member 31 blends with and is fastened to, as by cementing, the forward ends of side runners 24.

As is best seen in FIG. 5, the member 22, the glass shelf 23, and the food storage pan 29, which in the preferred embodiment is a crisper pan, are slidable as a unit on rails or brackets 15. Further, crisper pan 29 is slidable on member 22, and, as is seen also in FIG. 6, selectivity of sliding is accommodated by a detent, such as projection 34, on frame member 31 releasably retained in a recess, such as slot 35, formed in each of brackets 15. Although projection 34 is conveniently illustrated as being formed on front frame member 31, it will be understood that the invention contemplates that said projection may be provided instead on a corresponding runner 24.

In operation, and assuming the detent is positioned as shown in FIGS. 5 and 6, an upward and forward pull on member 31 will disengage the above described detent, and will slide the member 22, shelf 23, and crisper pan 29, as a unit, forwardly on brackets 15. As is best seen in FIG. 5, the vertical extent of groove 27 accommodates upward, pivotal movement of member 22 sufficient to move projection 34 out of slot 35. Alternatively, a forward pull on the downturned handle portion 37 of crisper pan 29 (FIG. 6) results in forward sliding movement of the pan with respect to the member 22, as is provided for by sliding engagement of pan flange 30 in groove 28.

It will be appreciated that the novel combination of this invention may be utilized at other convenient locations within the cabinet. For example it may be embodied in the shelf and bracket structure 14, 15 associated with a meat storage pan 36 located in the upper region of food compartment 12. Also, the assembly 17 may be moved to such other locations in the cabinet as may be provided for by the adjustability of the shelf brackets.

Summarizing, the invention herein disclosed provides improved structure for adapting conventional, adjustably mounted cantilever support brackets to the adjustable support of both shelves and pans.

I claim:

1. In cabinet structure: a pair of elongate, laterally spaced, parallel extending spaced rail members having spaced supporting means therefore; means defining a pair of parallel extending shelf support runners mounted for slidable movements on said rail members, and each having a groove formed therein interengageable with said rail members in provision of the recited slidable movements; a transversely extending member positioned to interconnect end portions of said support runners; said shelf support runners having confronting first grooves and said transversely extending member having a first groove aligned with said confronting first grooves, said confronting and aligned first grooves forming first groove means adapted to support at least three sides of a shelf; means

3

4

defining a shelf spanning the region between said shelf support runners and received within said first groove means, in provision of the recited support of said shelf; and each said shelf support runner having confronting second grooves and said transversely extending member having a second groove aligned with said last recited confronting second grooves and forming therewith second groove means positioned to receive and support at least three sides of drawer means beneath said shelf.

2. Cabinet structure according to claim 1, and further including detent means comprising cooperable, releasably engageable elements on at least one of said shelf runners and on a corresponding one of said rail members, and operable to engage and thereby provide for sliding withdrawal of such drawer means relative to said shelf, or to disengage and thereby provide for sliding withdrawal of said shelf and such drawer means as a unit.

3. Cabinet structure according to claim 1 and further characterized in that each of said rail members includes a ver-

tically extending portion and a horizontally extending flange portion, and further in that each of said grooves is generally L-shaped and is slidably engageable with said last recited portions.

4. Cabinet structure according to claim 3 and further characterized in that said rail members are cantilevered supported and rigidly interconnected to one another.

5. Cabinet structure according to claim 1, and further characterized by the inclusion of a front, transversely extending member having a longitudinally extending groove receiving a forwardly presented edge portion of said shelf, and extending across end regions of said shelf support runners.

6. Cabinet structure according to claim 2, and further characterized in that said detent means comprises means defining a recess in at least one of said rail members, and means defining a projection on a corresponding shelf support runner releasably retained in said recess.

* * * * *

20

25

30

35

40

45

50

55

60

65

70

75