Sept. 21, 1965 D. H. PEDERSEN 3,207,322

SHELF SUPPORTS

Filed Jan. 3, 1964

Fig. 1.

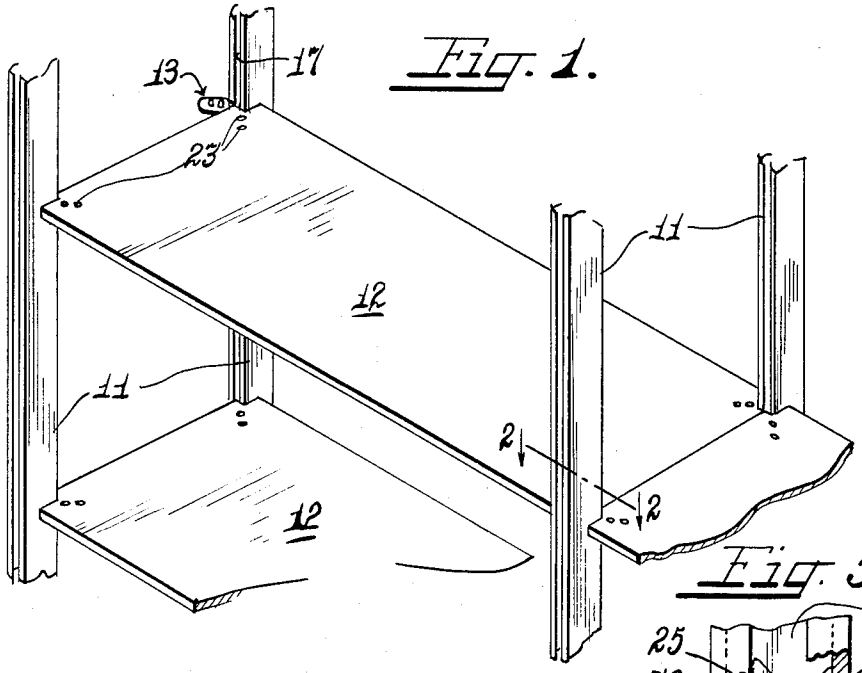


Fig. 5.

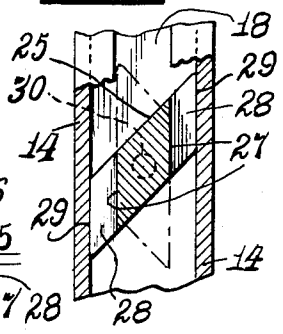


Fig. 2.

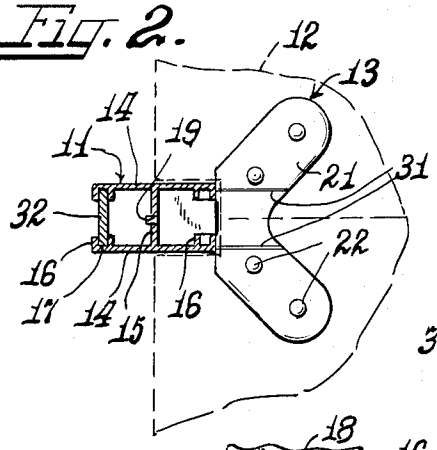
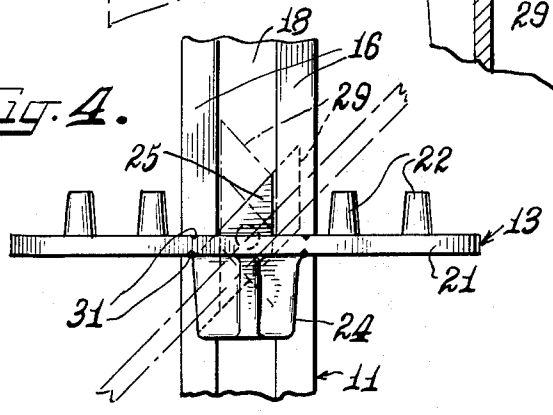


Fig. 3.

Fig. 4.



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SHELF SUPPORTS

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4 Claims. (Cl. 211—148)

The present invention relates to improvements in shelf supports and is more particularly concerned with the novel construction and assembly of a standard and a readily removable shelf support bracket.

The structure is characterized by upstanding channel-shaped standards having inwardly turned flanges at opposed faces thereof and a web having at least one hole formed inwardly of said flanges. A shelf support bracket, shaped to be fitted between the flanges while held in a first position, is formed with integral means to engage firmly behind said flanges when moved into a second position and is formed with a stud that enters the hole. When in position of use the shelf support bracket is locked firmly in place so as to support heavy loads.

It is, therefore, an object of the invention to provide a shelf support of novel construction.

Another object is to provide a shelf support bracket of novel construction.

Another object is to provide a novel shelf support construction which is not expensive to manufacture, is easy to assemble, very ruggedly constructed, and extremely efficient in use.

The structure by means of which the above noted and other advantages and objects of the invention are attained will be described in the following specification, taken in conjunction with the accompanying drawings, showing a preferred illustrative embodiment of the invention, in which:

FIG. 1 is a fragmentary perspective view of a shelf support structure embodying the invention;

FIG. 2 is a horizontal sectional view of one of the upstanding channel-shaped support members or standards, showing the novel shelf support bracket locked therein, as viewed along line 2—2 of FIG. 1;

FIG. 3 is a vertical sectional view, on an enlarged scale, of the support standard showing the bracket locked therein;

FIG. 4 is a front elevational view of the FIG. 3 assembly; and

FIG. 5 is a vertical sectional view taken substantially on line 5—5 of FIG. 3.

Referring to the structure shown in the accompanying drawings, and particularly to FIG. 1, the shelf support assembly may include any required number of upstanding channel-shaped support members, or standards **11**, arranged one at each corner of a rectangle and each adapted to receive one or more, depending upon the number of shelves **12** desired, shelf support brackets **13** which are aligned horizontally so as to receive seated thereon the shelf **12**.

Each upstanding channel-shaped standard **11** is alike. As best shown in FIG. 2, it is extruded and includes spaced side walls **14** connected intermediate their edges by a web **15**. The free edges of said side walls have formed thereon opposed flanges **16** which preferably are longitudinally grooved as at **17**, and which define a longitudinal slot **18** (FIG. 4) on opposed faces of the standard. The web **15** is provided, at spaced intervals along its length, with holes **19** (one shown) that align with the longitudinal center of slots **18**.

The shelf support bracket **13** is cast, preferably of aluminum, and it includes a shelf support plate **21** which may be of any practical configuration, in plan, such as the V-shape shown and formed on its upper face with suitable projections such as the nubs **22** that are engaged in holes or recesses **23** formed in shelf **12**. The plate **21** has

a depending reinforcing flange **24** which is adapted to rest firmly against the outside surfaces of the channel flanges **16** when the bracket is in position of use.

Extending rearwardly from and integral with the flanged end of plate **21** is a parallelogram-shaped neck **25** of a length corresponding substantially to the thickness of flanges **16** and having its opposed faces spaced apart a distance nearly corresponding to the width of slot **18** through which it is projected. The rear end of said neck **25** terminates in a parallelogram-shaped locking body **26** having a width nearly corresponding to the width of said slot and a length greater than the slot width so as to define, with ends **27** of the neck (FIG. 5) a pair of shoulders **28**. The overall length of body **26**, that is the distance between its ends faces **29**, is substantially equal to the spacing between the channel side walls **14** and its thickness from front to rear corresponds substantially to the distance between the channel web **15** and the inside faces of flanges **16**. The body **26** terminates in a stud **30** of such diameter as to be received in one of the holes **19** in web **15**.

The shelf support bracket can be mounted in and removed from the channel-shaped support **11** very easily and quickly. To mount a bracket, it is held substantially in the position illustrated in dot-dash lines in FIG. 4 and the body **26** and neck **25** are thrust freely into the channel slot **18**. It can then be shifted longitudinally of the channel until the stud **30** falls into a hole **19** at which time the body lies wholly within the space defined by web **15** and the inside faces of flanges **16**, and the neck lies between said flanges. The bracket then is rotated into the full line position shown which rotation carries the shoulder **28** into locking position in back of the opposed flanges **16**. The bracket is held against sliding in the channel by stud **30** and when a shelf **12** is seated on the plate **21** the bracket is held firmly against reverse rotation and is thereby locked securely in place.

When a bracket is used at the end of a shelf assembly, the unused portion of plate **21** can be broken off along weakened lines **31** (grooves) formed therein. Also, in order to provide a finished appearance to the shelf assembly, the outside exposed channels of the upstanding supports **11** may have a strip **32** (FIG. 2) of stiff material slidably engaged in the opposed grooves **17** in the flanges **16**.

Although I have described a preferred embodiment of of my invention in considerable detail, it will be understood that the description thereof is intended to be illustrative, rather than restrictive, as many details of the structure disclosed may be modified or changed without departing from the spirit or scope of the invention. Accordingly, I do not desire to be restricted to the exact construction described.

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

1. An adjustable shelf bracket assembly comprising, in combination, a vertical shelf bracket channel having a web portion interconnecting a pair of longitudinal side walls, the web portion having a plurality of aligned longitudinally spaced apart openings therein, each of said side walls of the channel having inwardly opposing flanges along their free edges facing each other across a slot defined therebetween, and a shelf bracket mounted in said channel and adjustable to different positions displaced longitudinally thereof, said bracket including a flat shelf-support plate having a downwardly extending reinforcing flange seated against the face of the inwardly opposing flanges on the channel walls, a parallelogram-shaped neck on the back side of said reinforcing flange seated within the slot between said walls, a parallelogram-shaped body integral with the end of said neck and of a length greater

than the spacing between said channel walls, and disposed at an angle to the plane of the plate and seated firmly between said walls, a stud on the back surface of the body engaged in one of said openings, said body and neck being of a width whereby the bracket by an oblique positioning thereof may be introduced into and taken out of the channel in a direction substantially at right angles, thereto, and the said body having angularly disposed end surfaces that abut against the walls when the bracket is in a position to support a shelf thereon.

2. The adjustable shelf bracket assembly recited in claim 1, in which the neck has angularly disposed end surfaces that abut against the wall flanges when the bracket is in a position to support a shelf thereon.

3. The adjustable shelf bracket assembly recited in claim 1, in which the shelf support plate has nubs on its upwardly facing surface.

4. The adjustable shelf bracket assembly recited in claim 1, in which the shelf support plate has score lines therein to facilitate separation of a part thereof.

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