Jan. 24, 1967 C. RAFFA 3,300,170

SHELF CONSTRUCTION WITH ADJUSTABLE BRACKET

Filed April 26, 1965 2 Sheets-Sheet 1

FIG. 1

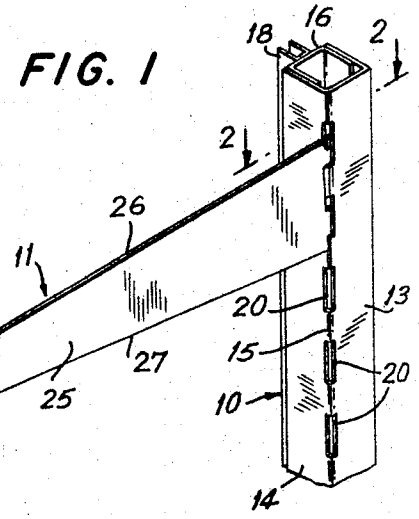


FIG. 2

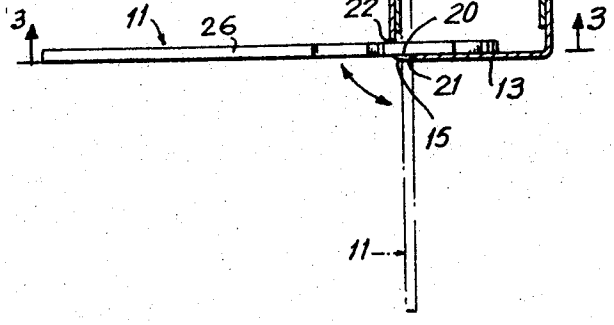
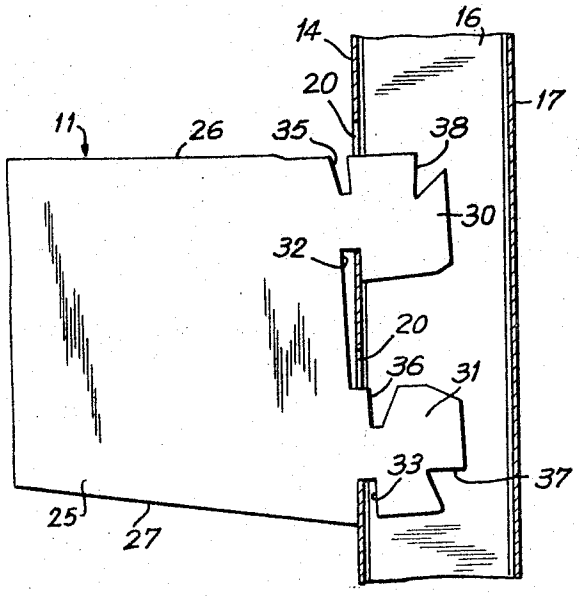


FIG. 3



INVENTOR.
CHARLES RAFFA

BY Bruce Freeman

ATTORNEY

Jan. 24, 1967 C. RAFFA 3,300,170

SHELF CONSTRUCTION WITH ADJUSTABLE BRACKET

Filed April 26, 1965 2 Sheets-Sheet 2

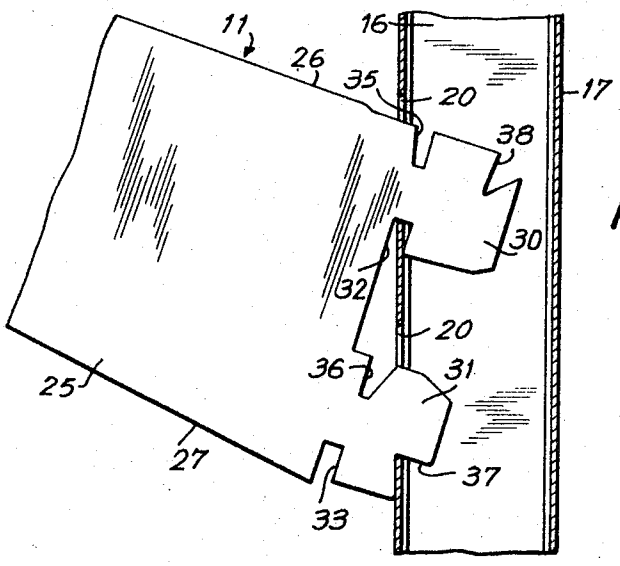


FIG. 4

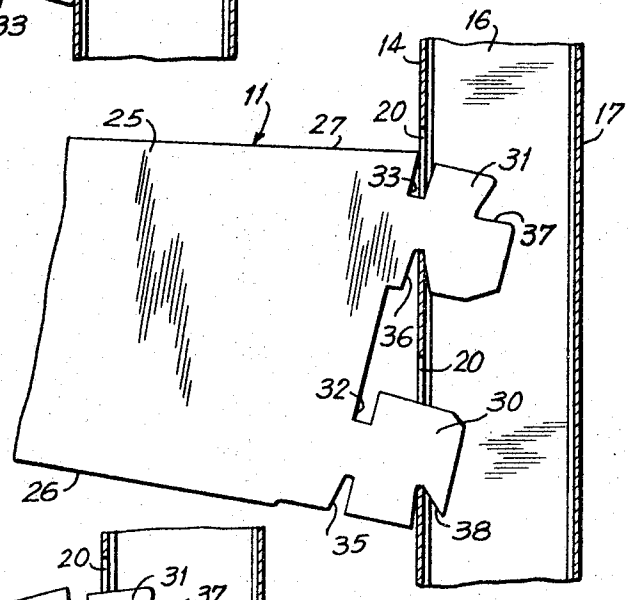


FIG. 5

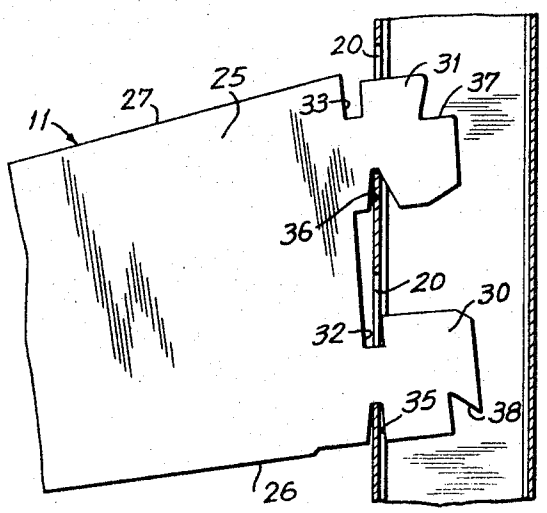


FIG. 6

INVENTOR.
CHARLES RAFFA

BY Percy Freeman

ATTORNEY

United States Patent Office 3,300,170 Patented Jan. 24, 1967

3,300,170

SHELF CONSTRUCTION WITH ADJUSTABLE BRACKET

Charles Raffa, 4701 Avenue K, Brooklyn, N.Y. 11234

Filed Apr. 26, 1965, Ser. No, 450,810
6 Claims. (Cl. 248—242)

This invention relates generally to shelf hardware, and is especially concerned with a unique standard and bracket construction.

It is an important object of the present invention to provide shelf hardware including a standard and bracket, wherein the bracket is selectively adjustable to afford a relatively great number of supporting positions for a shelf.

It is still a further object of the present invention to provide shelf hardware wherein a bracket is readily adjustable to a substantial number of different predetermined inclinations.

It is still another object of the present invention to provide shelf hardware wherein a shelf-supporting bracket is very conveniently adjustable to a range of angular positions in a predetermined inclination.

It is still a further object of the present invention to provide unique improvements in shelf hardware, including a shelf bracket and standard having an extremely simple construction, conveniently adjustable throughout a wide range of positions, which is durable and reliable throughout a long useful life, and which can be economically manufactured for sale at a reasonable price.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

FIGURE 1 is a top perspective view showing a standard and bracket assembly constructed in accordance with the teachings of the present invention.

FIGURE 2 is a horizontal sectional view taken generally along the line 2—2 of FIGURE 1, and illustrating in phantom an alternate angular bracket position at the same predetermined inclination.

FIGURE 3 is an enlarged sectional elevational view taken generally along the line 3—3 of FIGURE 2.

FIGURE 4 is a sectional elevational view similar to FIGURE 3 showing an alternative predetermined inclination of bracket.

FIGURE 5 is an additional sectional elevational view similar to FIGURE 3 showing a further alternative bracket position with the bracket inverted.

FIGURE 6 is another sectional elevational view similar to FIGURE 3 showing still a further predetermined inclination of bracket with the bracket inverted.

Referring now more particularly to the drawings, and specifically to FIGURES 1–3 thereof, an upright or standard, generally designated **10**, is of tubular or hollow construction and suitably fixed in its upstanding position. Projecting laterally from the standard **10** is a bracket, generally designated **11**.

The standard **10** may be of generally rectangular, hollow tubular construction including a pair of generally vertical side walls **13** and **14** intersecting or meeting along a vertically extending corner **15**. The complete tubular standard **10** may include additional vertical side walls **16** and **17** respectively parallel to the side walls **13** and **14**. If desired, a panel-receiving channel **18** may be secured along the side wall **16**.

At vertically spaced locations along the standard **10** there is provided a series or row of through openings or slots **20**. The slots **20** are vertically elongate and in vertically spaced, aligned relation with each other, all being located along and opening through the wall intersection or corner **15**. More particularly, the vertically elongate slots **20** each open through the standard corner **15** and extend circumferentially slightly beyond the corner, so that opposite sides of each slot **20** face inward through and normal to respective standard walls **13** and **14**, as at **21** and **22**, best seen in FIGURE 2.

The bracket **11** may advantageously be fabricated of relatively stiff sheet or plate material, including a laterally elongate, normally vertically disposed body **25**. The body **25** of bracket **11** is of outwardly tapering configuration, as between outwardly converging normally upper edge **26** and normally lower edge **27**.

Coplanar with the bracket body **25** and projecting from the larger, inner end thereof, are a pair of vertically spaced, upper and lower lugs or ears **30** and **31**. The upper ear **30** is proximate to and below the upper edge **26**, while the lower ear **31** is proximate to and above the lower edge **27**.

As may be seen in FIGURE 3, the upper and lower lugs or ears **30** and **31** are each formed with a lower cutout or notch, as at **32** and **33**, respectively. The notches **32** and **33** may be generally rectangular and in substantial alignment with each other, generally normal to the upper bracket edge **26**.

It will be observed that the vertical extent of the lugs or ears **30** and **31**, as well as the vertical spacing therebetween, is such as to permit simultaneous movement of the upper and lower lugs inward and outward through a pair of adjacent vertically spaced slots **20**. Further, the lower notches **32** and **33** are adapted to respectively receive the lower edges of a pair of adjacent slots **20** with the lugs inserted through the slots, the condition of FIGURE 3. As the notches **32** and **33** are substantially aligned, generally normal to the bracket edge **26**, the reception in such notches of the lower edges of receiving slots **20** serves to support the bracket **11** with its upper edge substantially horizontal, the condition shown in FIGURE 3.

It will be further observed that the notches **32** and **33** are of a width greater than the thickness of the standard walls, thereby affording a slight degree of play without binding.

In the solid-line condition of FIGURE 2, the lugs **30** and **31** are in facing engagement with the inner surface of wall **13** of the standard, the lugs extending through the side portions **22** of the slots **20**, and the bracket body **25** projecting outward from the standard generally normal to the wall **14**. However, by the configuration of the slots **20**, to extend slightly beyond the corner **15**, and by the loose receiving fit of notches **32** and **33** with the lower edges of the slots, the bracket **11** is swingable to the phantom position of FIGURE 2. In this position the lugs **30** and **31** are in facing engagement with the inner surface of standard wall **14**, extending outward through the side portions **21** of respective slots **20**, with the bracket body **25** projecting outward from the standard **10** generally normal to the wall **13**. Of course, in addition to the solid- and dot-and-dash outline position shown in FIGURE 4, the bracket **11** may be selectively located at any position of its angular swinging movement between the extreme, illustrated positions.

In addition to the lower edge notches **32** and **33** of lugs **30** and **31**, the upper and lower lugs are respectively formed with a pair of upper edge notches **35** and **36**.

It will be observed that the notches **35** and **36** are offset from or out of alignment with each other, the latter being inward of the former. Further, the upper edge notch **35** is generally adjacent to the lower edge notch **33**, but extends at an angle thereto. The upper edge notch **35** is generally adjacent to the lower edge notch **33**, but offset therefrom and of a flaring configuration.

In addition, a lower edge of lower lug **31** is provided with a second notch **37**, spaced inward from the notch **33**. The notch **37** may be of generally triangular configuration, opening both downward and inward from the lug **31**. An upper edge notch **38**, also of triangular configuration, is provided on the upper edge of upper lug **30**, spaced inward from the upper edge notch **35** and opening both upwardly and inwardly from the latter lug.

In FIGURE 4 is shown an alternative position of the bracket **11** wherein the upper, shelf-supporting bracket edge **26** is disposed at an inclination to the horizontal. In this position, the lower notch **32** of upper lug **30** receives the lower edge of its adjacent slot **20**, while the inner lower edge notch **37** of lower lug **31** receives the lower edge of its adjacent slot **20**. This condition is facilitated by the width of notch **32** affording a degree of swingability to the bracket about a horizontal axis.

A further alternative position is shown in FIGURE 5, with the bracket **11** in an inverted condition, the bracket edge **26** lowermost and bracket edge **27** uppermost. In this condition, the now lower edge notch **36** of now upper lug **31** receives the lower edge of an upper slot **20**, while now lower notch **38** of now lower lug **30** receives the lower edge of a lower slot **20**. The bracket edge **27** may support a shelf, or the like, in its illustrated inclination.

The inverted condition of bracket **11** is further illustrated in FIGURE 6, but with the now lower notch **35** of now lower lug **30** receiving the lower edge of a lower slot **20**. The lug **31** in the position of FIGURE 6 is substantially the same as shown in the position of FIGURE 5, but at a slightly different angular relationship, as permitted by the flaring configuration of notch **36**. In the condition of FIGURE 6, it will be apparent that the now upper edge **27** of bracket **11** is retained at still another angular disposition for supporting a shelf or the like.

Of course, in all the above dispositions of bracket inclination, the bracket is swingable about a generally vertical axis substantially at the corner **15** and selectively locatable in any position of its swinging movement.

From the foregoing, it is seen that the present invention provides a shelf bracket and standard construction which fully accomplish their intended objects and are well adapted to meet practical conditions of manufacture, installation and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. In a shelf construction, the combination comprising a hollow standard having a pair of vertically spaced slots, and a bracket having a pair of vertically spaced lugs removably insertable in said slots, said lugs having lower notches removably receiving the lower edges of said slots when said lugs are engaged in said slots to retain said bracket with its supporting upper edge in one predetermined inclination, and said lugs having upper notches removably receiving the lower slot edges when said bracket is inverted and said lugs are inserted in said slots to retain the bracket with its formerly lower edge in an upper supporting position of another predetermined inclination.

2. The combination according to claim **1**, in combination with an additional lower notch on at least one of said lugs and selectively receiving the lower edge of the adjacent slot for retaining said bracket in an additional predetermined inclination.

3. The combination according to claim **1**, the upper and lower edges of said bracket being inclined relative to each other to provide said predetermined inclinations.

4. The combination according to claim **1**, said upper and lower notches being offset to provide said predetermined inclinations.

5. The combination according to claim **1**, said standard comprising a pair of generally upright intersecting walls, and said slots being located at the meeting corner of said walls, whereby said bracket is swingable between positions with said lugs engaging a selected one of said walls.

6. The combination according to claim **2**, said standard comprising a pair of generally upright intersecting walls, and said slots being located at the meeting corner of said walls, whereby said bracket is swingable between extreme positions with said lugs engaging the interiors of said walls.

References Cited by the Examiner

UNITED STATES PATENTS

945,280	1/1910	Lindberg	248—242
2,788,949	4/1957	Gurries	248—242
2,971,658	2/1961	D'Altrui	211—176
3,194,407	7/1965	D'Altrui	211—148

CLAUDE A. LE ROY, *Primary Examiner.*

W. D. LOULAN, *Assistant Examiner.*