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J. YODER

3,502,292

JOINT FOR MECHANDISE DISPLAY UNIT

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Fig. 1

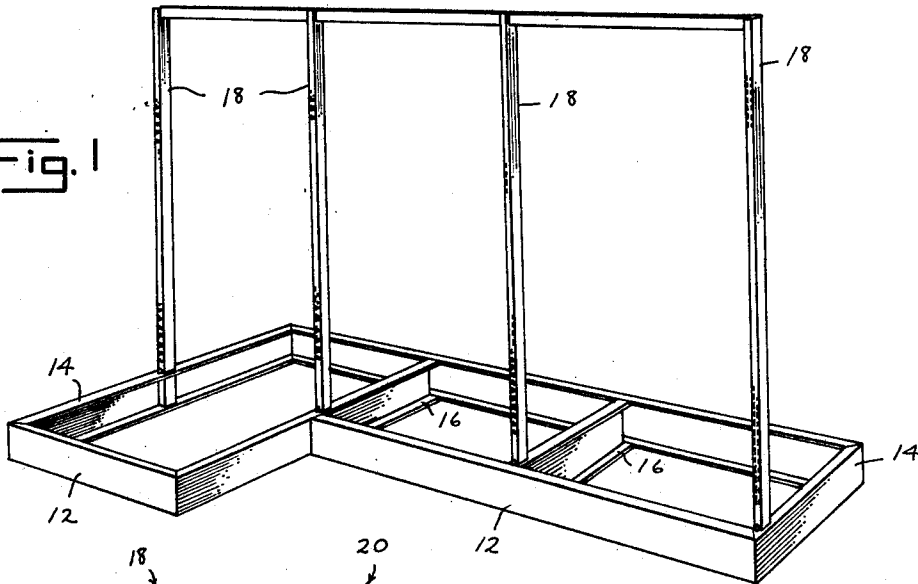


Fig. 2

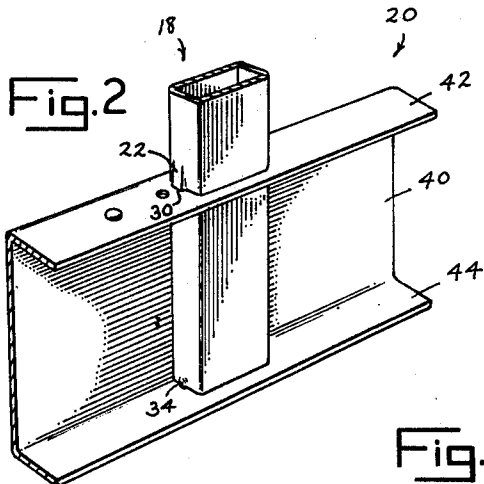


Fig. 3

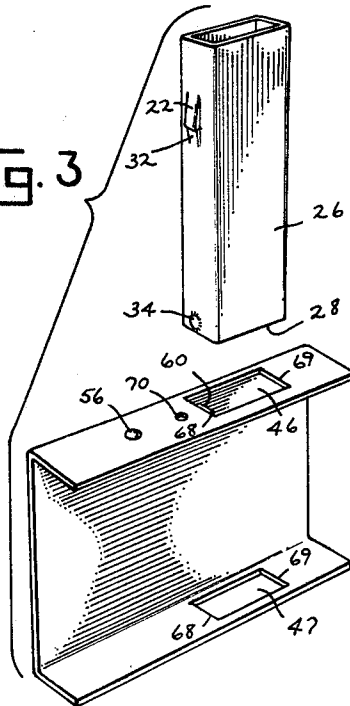


Fig. 4

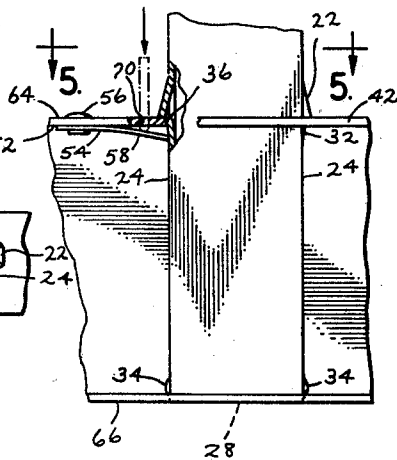
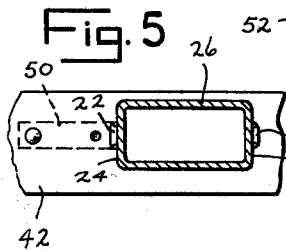


Fig. 5



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JOINT FOR MERCHANDISE DISPLAY UNIT

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6 Claims

ABSTRACT OF THE DISCLOSURE

A merchandise display unit having a base which includes a horizontal frame support. An upright for supporting backboards, trays and the like and having a stop protruding therefrom is inserted into vertically aligned apertures in said support and is positioned therein by engagement of said stop with the upper surface of said support and by contact of projecting pimples thereon with the support at said apertures. A flexed spring mounted interiorly of said support and engaging said upright locks the upright within the support.

Summary of the invention

This invention relates to a merchandise display unit having a base which includes a frame support member having spaced top and bottom parts. The top and bottom parts of said support member have vertically aligned apertures formed therein. An upright having a stop projecting from at least one of its sides in inserted within said aligned apertures in said support member with said stop engaging said support top part. Pimples on the upright engage the top and bottom parts of the frame at the apertures. A spring mounted interiorly of said support member has its free end part projecting into the path of said upright so as to be downwardly flexed into frictional locking engagement with said upright when the upright is inserted within said support member apertures.

Heretofore the uprights of merchandise display units, gondolas and counters have been inserted and rigidly mounted within frame support members by means of separate wedges, clamps, screws or bolts. These separate mounting means added to the number of parts required per unit, which in turn renders the cost of the unit high. Also, the use of such parts makes the assembly of a display unit difficult. This invention concerns a construction for mounting an upright to a frame support member rapidly and without the use of separate wedges, clamps or bolts. The frame support members and uprights of the merchandise display unit of this invention are constructed so that each part is of substantially constant outer cross sectional dimension, thereby rendering the parts suitable for compact packing for shipment.

Accordingly, it is an object of this invention to provide a merchandise display unit having uprights which are rapidly and easily assembled and disassembled.

It is a further object of this invention to provide a merchandise display unit of simple construction and low cost whose parts are shaped for firm interlock upon assembly and which doesn't require the use of separate connectors or securing members.

Further objects of this invention will become apparent upon a reading of the invention's description.

Brief description of the drawings

FIG. 1 illustrates a typical display unit having uprights interlocked with frame supports.

FIG. 2 is a fragmentary perspective view showing an upright mounted within a frame support.

FIG. 3 is an exploded view of the upright and support shown in FIG. 2.

FIG. 4 is a side elevation of the upright and support shown in FIG. 2 with parts in section.

FIG. 5 is a sectional view taken along line 5—5 of FIG. 4.

Description of the preferred embodiment

The preferred embodiment illustrated is not intended to be exhaustive or to limit the invention to the precise form disclosed. It is chosen and described in order to best explain the principles of the invention and its application and practical use to thereby enable others skilled in the art to best utilize the invention.

The frame 10 of a typical merchandise display unit is shown in FIG. 1. Frame 10 has a base comprising longitudinal frame support members 12, transverse frame support members 14 and internal frame support members 16. Uprights 18 are carried by selected frame support members and are interconnected and utilized to support backboards, trays, counters and like parts or accessories associated with or forming parts of a display unit. The arrangement of the frame support members and the position of the uprights vary with the function and design of the display unit.

A frame support member 20 having an upright 18 mounted therein is shown in FIGS. 2-5. Frame support member 20 is shown to be a rigid member of C-shape cross section, but may be of tubular construction. Support member 20 includes side wall or web 40, upper flange or top part 42 and lower flange or bottom part 44. Upper flange 42 and lower flange 44 have one or more pairs of vertically aligned apertures 46 and 47 formed therein. Each aperture 46 and 47 is of a size to snugly receive one end part 26 of an upright 18.

Upright 18 is rigid and preferably tubular, but may consist of an elongated member having a C-shaped or I-shaped cross sectional configuration. Two laterally opposed stops 22 are provided therein, positioned preferably at opposite side walls 24 of upright 18 at its lower part 26. Stops 22 are positioned the same distance from edge 28 of upright 18 and preferably comprise integral outwardly projecting parts struck from side walls 24 and defined in part by substantially horizontal bottom edges 30. Stops 22 may project from any side of said upright. Alternatively, stops 22 may comprise small plates fixedly secured to upright side walls 24, as by welding. Although at least two stops 22 are preferred, a single stop could be utilized.

Each side wall 24 of upright 18 also preferably has an upper outwardly projecting offset part, protrusion or pimple 32 and a lower outward protrusion or pimple 34. Each upper protrusion 32 is formed adjacent to and below the level of the bottom of stop 22 and it preferably extends to the edge 36 below a stop 22. Upper protrusions 32 are preferably formed in laterally opposed walls of the upright. Lower protrusions 34 are formed adjacent the bottom edge 28 of the upright and are also preferably formed in laterally opposed walls of the upright. Protrusions 32 and 34 project only slightly from the planes of the outer surfaces of upright side walls 24 in which they are formed, for example, .025" or less, and their outermost opposed surfaces are preferably spaced apart slightly more than the spacing of the opposite edges of the apertures 46 and 47, i.e. a few thousandths of an inch.

A flat or leaf spring 50 is longitudinally secured to the upper flange 42 of support member 20 and extends along the lower or inner surface 52 of flange 42. Spring 50 consists of a substantially horizontal portion 54 secured, as by a rivet 56, to flange 42 spaced from aperture 46, and an integral downward inclined portion 58 whose free end projects inwardly relative to the distant edge 69 of aperture 46, i.e. beyond the planes of corresponding edges 68

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of the apertures 46 and 47. The free edge 60 of spring portion 58 is preferably parallel to the proximate edge 68 of aperture 46.

Upright 18 is inserted through aperture 46 and into aperture 47 to a position at which stops 22 engage upper surface 64 of flange 42 of the support member. The bottom edge 28 of the upright preferably does not extend below the outer surface 66 of flange 44. When upright 18 is so mounted in frame support 20, the upper and lower protrusions 32 and 34 thereof frictionally engage the edges 68 and 69 of the apertures 46 and 47 as shown in FIG. 4. By having the spacing of opposite protrusions greater than the aperture size, a firm frictional fit is assured between the upright at the protrusions and the upper and lower flanges of the frame member 20. Spring 50, which projects into the path of upright 18, is downwardly flexed during insertion of the upright 18, with its edge 60 engaging a side wall 24 of the upright in a manner resisting or preventing withdrawal of the upright from the support 20.

To facilitate release of upright 18 from support member 20, the upper flange 42 of member 20 may have an aperture 70 therein which is positioned above and over the inclined portion 58 of spring 50. A pin or similar insert member (shown in dotted lines) may be inserted through aperture 70 and pressed against spring portion 58 causing its further flexure and disengagement from the upright 18.

It will be understood that the invention is not to be limited to the details herein given but may be modified within the scope of the invention.

What I claim is:

1. A merchandise display unit comprising a rigid frame support member having spaced top and bottom laterally extending flanges each having an aperture therein, said apertures being substantially axially aligned, an upright fitting within said support member apertures and having a cross section substantially corresponding to the shape of said apertures, a stop projecting from a side of said upright and engaging said top laterally extending flange, and a protrusion formed on said upright at a point opposite an aperture defining edge of one of said flanges, the transverse dimension of said upright through said protrusion being slightly greater than the correspond-

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ing transverse dimension of the associated aperture, thereby assuring a firm frictional fit of the upright within the associated aperture.

2. The merchandise display unit of claim 1 having protrusions formed on said upright at points opposite the aperture defining edges of said top flange and said bottom flange.

3. The merchandise display unit of claim 1 having a leaf spring mounted interiorly of said support member and having a free end part downwardly flexed and frictionally engaging said upright.

4. A merchandise display unit comprising a rigid frame support member having spaced top and bottom laterally extending flanges each having an aperture therein, said apertures being substantially axially aligned, an upright fitting within said support member apertures and having a cross section substantially corresponding to the shape of said apertures, a stop projecting from a side of said upright and engaging said support member top flange, and a leaf spring mounted interiorly of said support member and having a free end part downwardly flexed and frictionally engaging said upright.

5. The merchandise display unit of claim 4, and protrusions formed in said upright at points opposite the aperture defining edges of said support member top and bottom flanges, the transverse dimension between opposing protrusions being slightly greater than the transverse dimension of the apertures thereby assuring a firm frictional fit of the upright within each aperture.

6. The merchandise display unit of claim 4, and means for causing further flexure of said leaf spring to disengage said spring from said upright.

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U.S. Cl. X.R.

211—177; 248—224; 287—20.3