

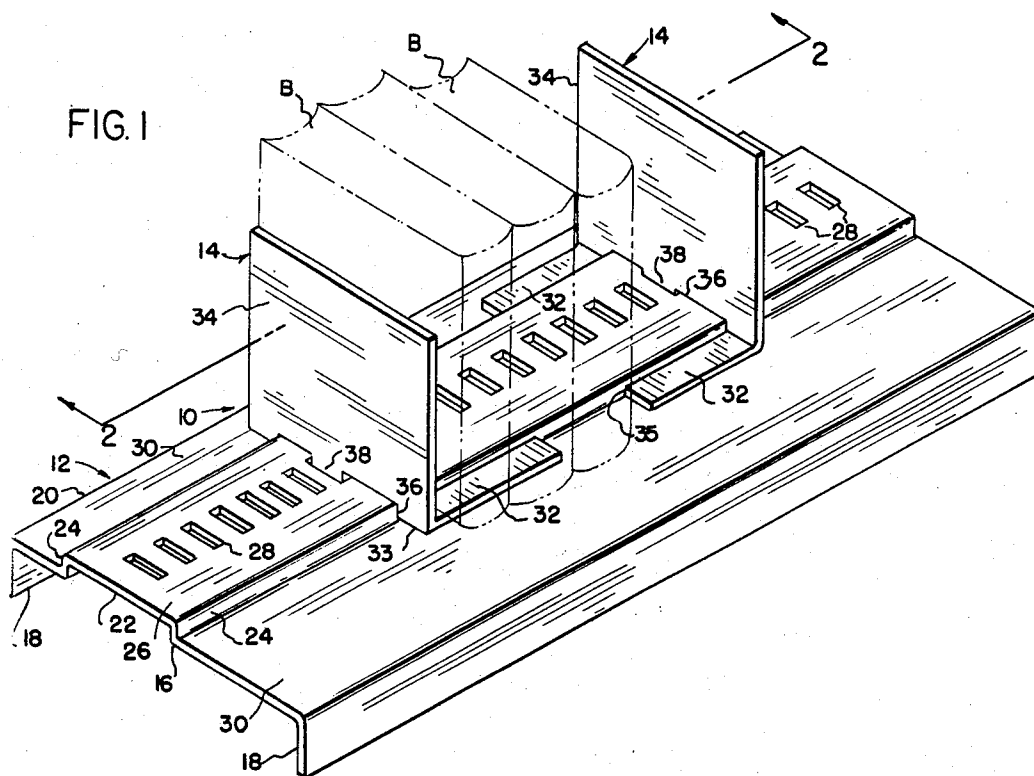
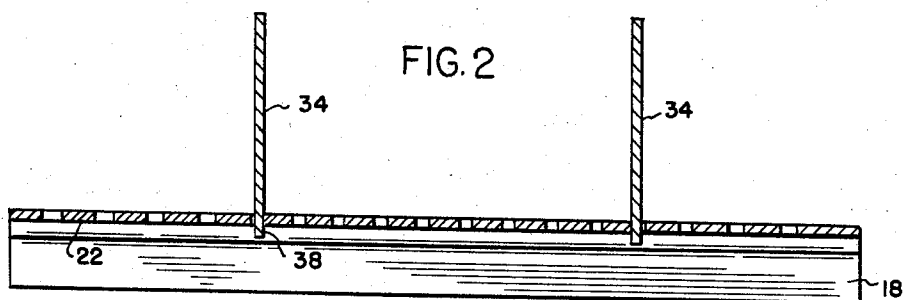
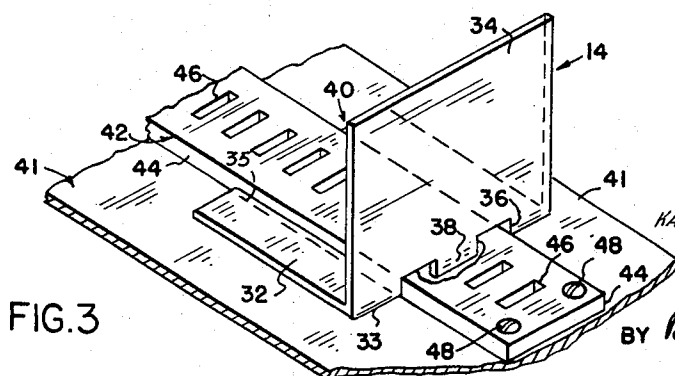
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ADJUSTABLE STORAGE-SHELF-DIVIDING STRUCTURE

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3,425,565 ADJUSTABLE STORAGE-SHELF-DIVIDING STRUCTURE

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ABSTRACT OF THE DISCLOSURE

An adjustable storage-shelf-dividing structure (FIGURES 1 and 2) has parallel longitudinal guideways with multiple longitudinally-spaced laterally-extending stop slots therebetween. Angle plate shelf dividers or book ends have longitudinal fingers engaging the longitudinal guideways to prevent twisting and also have downwardly-extending lugs or tongues entering a selected stop slot for preventing slippage. A modification attachable to existing shelves employs an elongated plate with multiple longitudinally-spaced laterally-extending slots holding the same shelf dividers or book ends (FIGURE 3) in the same manner except that the longitudinal fingers now engage the opposite side edge surfaces of the elongated slotted plate, which is bolted or otherwise secured to the existing shelf.

Background of the invention

Hitherto, shelf dividers or book ends have been provided for article storage shelves such as library shelves, usually metal shelves, so as to adapt the shelves to varying numbers of books or other stored articles. Such prior shelf dividers, however, have been subject to slippage or twisting or both and also in some instances have been structurally weak and ineffective in holding tall heavy books or other heavy articles of abnormal height.

Summary of the invention

The construction of the adjustable storage-shelf-dividing structure of the invention has been summarized above in the abstract of disclosure. In addition, it has the advantage that the combined action of the flat base portion of the angle plate with the edges of its opposite longitudinal fingers slidably engaging parallel guideways consisting either of the parallel side edges of the raised broad rib in the shelf or of the parallel side edge surfaces of the elongated slotted plate, effectively prevent twisting, regardless of the size and weight of the books. Furthermore, the lug or tongue projecting downwardly into the selected slot from the vertical part of the angle plate equally effectively prevents slippage.

FIGURE 1 is a perspective view looking downward from above, of an adjustable storage-shelf-dividing structure, according to one form of the invention, as applied to factory-manufactured shelving;

FIGURE 2 is a vertical longitudinal section taken along the line 2-2 in FIGURE 1; and

FIGURE 3 is a perspective view, partly broken away, of one of the shelf dividers or book ends of FIGURE 1, viewed from the opposite side and applied to an elongated laterally-slotted supporting plate which is attachable to existing storage shelving.

Referring to the drawing in detail, FIGURES 1 and 2 show an anti-slip adjustable storage-shelf dividing structure, generally designated 10, according to one form of the invention as applied to a factory-manufactured assembly consisting generally of a longitudinally-ribbed and slotted channel shelf 12 provided with similar but oppositely-facing shelf dividers or book ends 14 placed on the opposite sides of books or other stored articles B. It will be understood, however, that in many instances the

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uprights which hold the shelves serve as abutments so that only one of the shelf dividers or book ends 14 is required between because the books or other stored articles lean against the uprights holding the shelves.

The shelf 12 is preferably of inverted channel construction with an elongated web or main portion 16 having down-turned parallel flanges 18 at its opposite edges 20. The main web portion 16 of the shelf 12 is provided with a broad upstanding guide rib portion 22 conveniently formed by rolling operations and having side edges forming elongated parallel guide shoulders 24 which serve as guideways. The inner top wall portion 26 of the web portion 16 on the upstanding guide rib portion 22 of the shelf 12 is provided with multiple longitudinally-spaced and laterally-extending parallel stop slots 28.

Slidably mounted on the outer top wall portions 30 lying on opposite sides of the guide shoulders 24 are the two laterally-spaced parallel flat base portions or guide fingers 32 of each shelf divider or book end 14. The guide fingers 32 extend horizontally and perpendicularly to an upright or abutment portion 34 from the corner edge 33 therebetween to form an angle plate. The inner edges 35 of the guide fingers 32 extend against and slidably engage the parallel guide shoulders 24 so as to prevent turning of the shelf dividers or book ends 14 around a vertical axis. Struck downwardly from a notch 36 in the plane of the upright portion 34 of each shelf divider 14 is a stop portion consisting of a lug or tongue 38 of substantially the same width as the length of each stop slot 28 so as to extend downwardly therein.

The modified anti-slip adjustable storage-shelf-dividing structure, generally designated 40, shown in FIGURE 3 employs the same principles of construction and operation as the structure 10 of FIGURES 1 and 2, and uses the same shelf dividers or book ends 14, but is intended to be applied to existing storage shelving 41. Accordingly, similar reference numerals are used for corresponding parts of the shelf dividers or book ends 14.

The shelf dividers 14 in the structure 40 of FIGURE 3, however, are slidably mounted on elongated perforated supporting plates 42 having parallel opposite edge guide surfaces 44 forming parallel guideways slidably engaged by the inner edges 35 of the guide fingers 32. The plate 42 is also provided with multiple longitudinally-spaced laterally-extending slots 46 similar to the slots 26 in the book shelf 12 of FIGURE 1 and similarly receiving the lug or tongue 38 struck out of the notch 36 in the upright portion 34 of the book end 14 and extending downwardly in substantially the same plane as said upright portion 34. The elongated slotted plate 42 is applied to existing shelving 41 in any suitable way, such as by being provided with bolt holes 48 adapted to receive bolts or other fasteners (not shown) extending downwardly through the holes 48 and aligned holes in the pre-existing shelf 41.

In the use of the adjustable storage-shelf-dividing structure 10 of FIGURE 1 or 40 of FIGURE 3, the shelf dividers or book ends 14 are adjusted longitudinally of the respective raised portions 26 or 42 to engage their tongues 38 with a different stop slot 28 or 46 by tilting the upright portion 34 around the ends of the base portions or guide fingers 32 remote from the corner edge 33 of the book end 14 as a fulcrum so as to lift the lug or tongue 38 out of the particular slot 28 or 46 in which it is seated at the moment. While still held in a tilted position, the shelf divider or book end 14 is slid along the raised portion 26 or 42 until the desired stop slot 28 or 46 is reached. The upright portion 34 is then rocked in the opposite direction to lower the lug or tongue 38 into the newly-selected stop slot 28 or 46. The fingers 32 are held down against the shelf 12 or 41 by the books or other articles stacked on top of them against the upright portion 32, thereby preventing the shelf divider or book end

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14 from tilting. At the same time, the side edges 35 of the fingers 32 acting against the side surfaces 24 of the raised guide rib portion 22 or against the opposite edge guide surfaces 44 of the elongated slotted plate 42 prevent turning of the shelf divider or book end 14 around a vertical axis and the lug or tongue 38 engaging the side wall of the selected groove 26 or 46 prevents longitudinal sliding of the shelf divider or book end 14. In FIGURES 1, 2 and 3, the heights of the side edge surfaces 24 and 44 of the slotted raised portions 22 and 42 have been exaggerated to show the fingers 32 more distinctly. In actual manufacture, these heights would be made substantially the same as the thicknesses of the fingers 32 to prevent wobbling or rattling of the book ends 14 on their respective shelves 12 or 41.

I claim:

1. An adjustable storage-shelf-dividing structure, comprising

an elongated upstanding supporting plate member having multiple stop openings disposed at spaced intervals therealong and having laterally-spaced parallel opposite side surfaces constituting longitudinal guideways thereon,

and a shelf divider including an angle plate member having a base portion slidably engaging said supporting plate member and an upright portion adapted to engage the stored articles,

said base portion including a pair of elongated laterally-spaced parallel coplanar guide fingers extending horizontally relatively to said upright portion and having their inner edges disposed in edgewise engagement with said guideways, said upright portion having a stop portion projecting downwardly therefrom intermediate said guide fingers into a selected one of said openings.

2. An adjustable storage-shelf-dividing structure, ac-

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cording to claim 1, wherein said upright portion has a notch in the lower part thereof receiving said upstanding supporting plate member,

wherein said stop portion is integral with said upright portion and extends downwardly from the upper edge of said notch,

and wherein the opposite side edges of said notch extend downwardly adjacent the opposite side surfaces of said supporting plate member.

3. An adjustable storage-shelf-dividing structure, according to claim 1, wherein said structure includes an elongated storage shelf,

and wherein said guideways include the spaced parallel side edge surfaces of a longitudinally-extending raised portion formed in and integral with said shelf.

4. An adjustable storage-shelf-dividing structure, according to claim 1, wherein said supporting plate member is separate from and adapted to be secured to a sustaining structure,

and wherein said guideways include the laterally-spaced opposite side edge surfaces of said supporting plate member.

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