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R. R. STEIN ET AL

3,463,433

ADJUSTABLE BRACKET

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FIG. 1

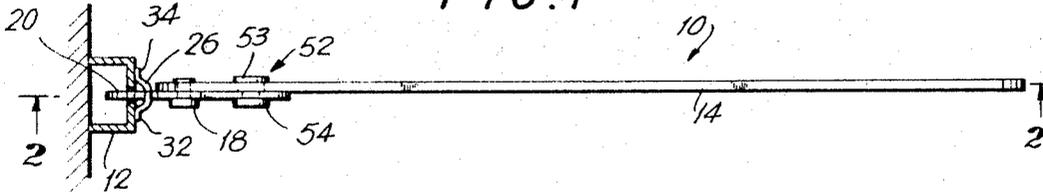


FIG. 2

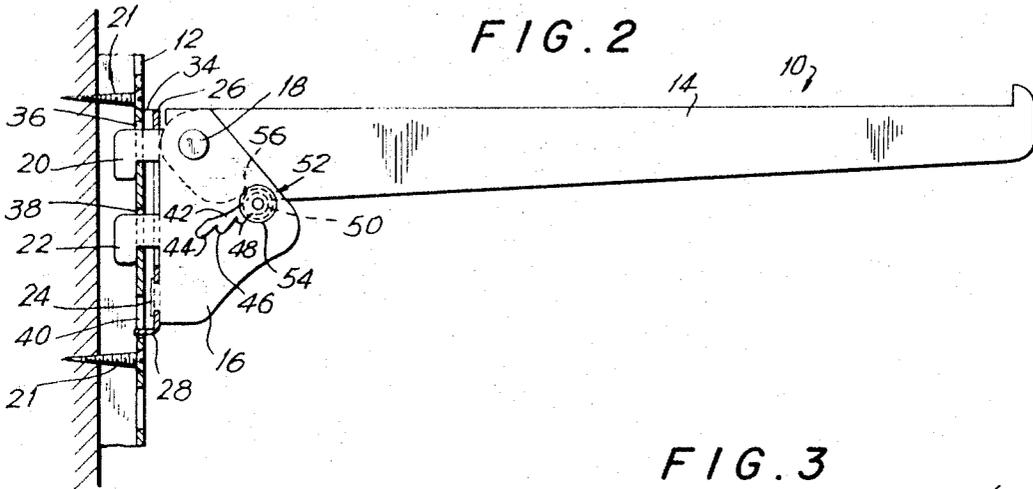


FIG. 3

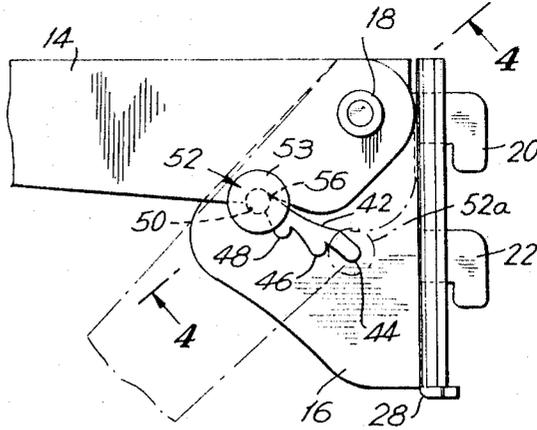
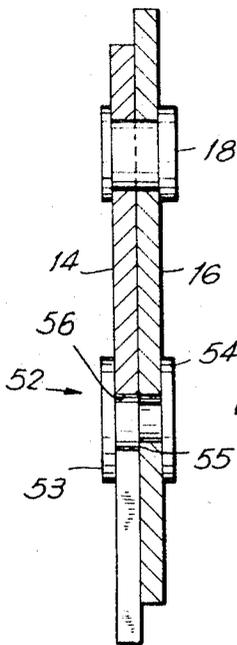


FIG. 4



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**ADJUSTABLE BRACKET**

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5 Claims

**ABSTRACT OF THE DISCLOSURE**

A boltless bracket having one part connectable to a slotted vertical support and a second part pivotally connected to said first part. The first part has a support member slidably positioned about an arc about the pivot point for adjustable supporting the second part in predetermined selected positions of tilted adjustment with respect to the vertical support.

This invention relates to a boltless bracket connectable to a vertical support, and more particularly to a boltless bracket having pivot and support means allowing the bracket arm to be adjustable tilted to selected angular positions with respect to the vertical support.

It has been known that boltless brackets can be connected to vertical supports by hooking tabs over the edges of the spaced vertical slots in the support. Heretofore these brackets were generally perpendicular to the supports or at some fixed angle to the support. It was recognized that brackets which had arms adjustable to different positions with respect to the vertical achieved flexibility in use; however, they were awkward to use in that they required physically removing and inserting pins in a series of holes, or had a spring-loaded pin for holding the bracket arm in desired position with respect to the support.

Accordingly, it is a general object of the present invention to provide a unitary boltless bracket which is easily tiltable with respect to the vertical support.

It is a further object of the present invention to provide a wall bracket having an arm tiltable in selected positions with respect to a base part of the bracket, which is mounted on the vertical support.

A still further object of the present invention is to provide an adjustable wall bracket which can be quickly and easily tilted between a right angle and various inclined positions with respect to the support by sliding a pin in a slotted passageway to vary the angle of the article being supported by the bracket and which pin positively supports the article at the various tilt angles.

Yet a further object of the present invention is to provide a bracket having two pivotally interconnected plates and a sliding support member which is quickly positionable to vary the angle of the article supported with respect to the vertical support, such as shelf standards or a perforated board arrangement.

Still another object of the present invention is to provide an adjustable shelf bracket, which is of simple construction, capable of being mass produced at relatively low cost, which is strong and durable, which is readily adjustable and attractive in appearance.

These and other objects and advantages will be apparent upon studying the following specification of one illustrative embodiment in conjunction with the drawings, wherein:

FIGURE 1 is a top plan view of a bracket in accordance with the present invention, mounted on a vertical support attached to a wall;

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FIGURE 2 is a side-elevation view taken along line 2—2 of FIGURE 1;

FIGURE 3 is a fragmentary enlarged rear-elevation view showing the pivoting and tilting mechanism of the assembly; and

FIGURE 4 is a cross-sectional view taken along line 4—4 of FIGURE 3.

Referring now to the drawings, a bracket 10 is shown attached to a vertical support or shelf standard 12, and includes a cantilever support arm or plate 14 pivotally mounted to a base plate 16 about rivet 18. Vertical support 12 is shown mounted to a wall by screws 21. Extending longitudinally from one end of base plate 16 are a plurality of hooking tabs 20 and 22. Also extending from the same end of base plate 16 is a connecting tab 24. Secured to the same end of base plate 16 and straddling hooking tabs 20 and 22 is a clip 26. Integrally extending from clip 26 facing vertical support 12 is an aligning finger 28. Aligning finger 28 is preferably at the lower end of clip 26. Clip 26 is affixed to base plate 16 by deforming tab 24, shown in FIGURE 2. As seen best in FIGURE 1, clip 26 has a pair of laterally positioned flanges 32 and 34, which resiliently contact the front surface of vertical support 12 when tabs 20 and 22 are hooked through corresponding slots 36 and 38. Finger 28 on clip 26 is so positioned as to fit into an adjoining slot in vertical support 12 to align clip 26 and thus bracket 10.

As is evident in FIGURES 2 and 3, support arm 14 may be tilted with respect to vertical support 12, and thereby tilt any article supported by arm 14. As seen, base plate 16 has an arcuate passageway or aperture 42 cut therein. Extending generally diagonally upwardly from the lower surface of aperture or slot 42 away from vertical support 12 are a plurality of seats indicated at 44, 46, 48 and 50. Movable positioned within aperture 42 is a double-headed pin or rod 52. At opposite ends of pin 52 are enlarged heads 53 and 54, which are larger in size than the aperture 42. Pin 52 extends beyond base plate 16 and intersects the plane containing arm 14. To allow easy sliding movement of pin 52 in passageway 42, but yet always be in position to engage arm 14 when it is pivoted downwardly, pin 52 is of a larger diameter beyond base plate 16, so as to form a flange or boss 55 juxtaposed to base plate 16. Hence, pin 52 is maintained in fixed sliding relation to plate 16 by head 54 and flange 55 to prevent pin 52 from inadvertently being displaced from aperture 42. The lower edge of bracket arm 14 adjacent its rear end is recessed to form a groove 56 to mate with pin 52. Groove 56 increases the bearing surface arm 14 makes with pin 52. Head 53 in the end of pin 52 prevents any lateral movement of arm 14 when engaging pin 52. Seats 44, 46, 48 and 50 are arranged in spaced relationships in a radius or arc about pivot 18.

As seen in FIGURES 2 and 3, to position bracket arm 14 horizontally, arm 14 is raised above the horizontal position and pin 52 is positioned in seat 50. Arm 14 is lowered so that groove 56 is received about pin 52. When pin 52 is positioned in seat 44, such as is evident in shadow as 52a in FIGURE 3, and arm 14 is lowered so that groove 56 engages pin 52, arm 14 is tilted to its lowermost angle about 45°, shown in shadow in FIGURE 3. When pin 50 is positioned in seats 46 or 48, arm 14 is positioned at an angle somewhere between these extreme positions. As shown in FIGURE 3, when arm 14 is urged counterclockwise about pin 18, such as when it supports a load groove 56 urges pin 52 positively into its respective seat, to insure positive positioning.

Adjustment of bracket 14 is easily accomplished by simply lifting slightly on bracket 14 sliding pin 52 into the

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selected seat 44, 46, 48 or 50, and pivoting bracket arm 14 downwardly about pivot 18, so that groove 56 of bracket arm 14 rests on pin 52. The article, such as a shelf, or tray, or the like, supported by at least a pair of bracket arms 14 can be quickly and positively tilted to the desired angle even in relatively tight quarters. Only a slight amount of space and effort is required to move or slide pin 50 in slot 42. The bracket arm 14 is positively secured in position by positive engagement with pin 52 in its selected seat in slot 42. The shape and direction of the seat prevents pin 52 from inadvertent displacement. The weight of the shelf and the article supported by bracket arm 14 further insures maintaining pin 52 in slot 42.

While the aperture in base plate 16 contains four seats, more or less could be used.

It will be appreciated that there is provided in accordance with the present invention an adjustable bracket which provides a large degree of flexibility to users and requires no special skills or manual dexterity to vary the angle of the article supported and further the performance of the adjustment is positive and reliable at relatively little expense.

Although there has been only one illustrated example of this concept of the present invention disclosed herein, various features differing from the specific examples shown may be made without departing from the spirit and scope of the invention.

What we claim is:

1. A boltless bracket for mounting on a vertical support, comprising a first member having means at one end for securement to said vertical support, said first member having a generally elongated slot passing therethrough intermediate of its ends and extending generally diagonally downwardly and toward said one end, a second member pivotally secured to said first member for relative coplanar movement, and a pin supported by said first member and freely movable within said slot and independently of said second member, said pin extending transversely outwardly beyond said first member to at least intersect the plane containing said second member, said slot having a plurality of seats along one of its longitudinal edges for cooperatively seating said pin, said pin being supported in any one of said seats and operably engaging said second member when said second member is pivoted to its se-

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lected position to positively support said second member in any one of a selected predetermined angle with respect to the vertical support.

2. A bracket assembly in accordance with claim 1, wherein said second member is a cantilever support arm and the means for attachment of said first member to said vertical support comprises spaced hooking tabs adapted to interfit with spaced slots in said vertical support.

3. A bracket in accordance with claim 1, wherein said seats are along an arc about said pivot and a portion of the lower edge of said second member has a recess therein forming a seat for matingly receiving said pin.

4. A bracket in accordance with claim 1, wherein said pin has an enlarged head radially larger than the depth of the slot on opposite sides of said first member, seats are along the lower edge of said slot, said second member being pivotally secured to said first member about a pivot point entirely above said slot.

5. A bracket in accordance with claim 4, wherein said support pin has a reduced diameter portion substantially equal to the width of said first member, one end of said reduced diameter portion forming a flange juxtaposed to one surface of said first member, and the other end of said reduced diameter portion being attached to an enlarged head juxtaposed the opposite surface of said first member, said flange and head being larger than the effective depth of said slot, so as to be slidable within said slot and always have a portion thereof extending beyond the plane containing said second member.

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U.S. Cl. X.R.

108—108; 211—150