

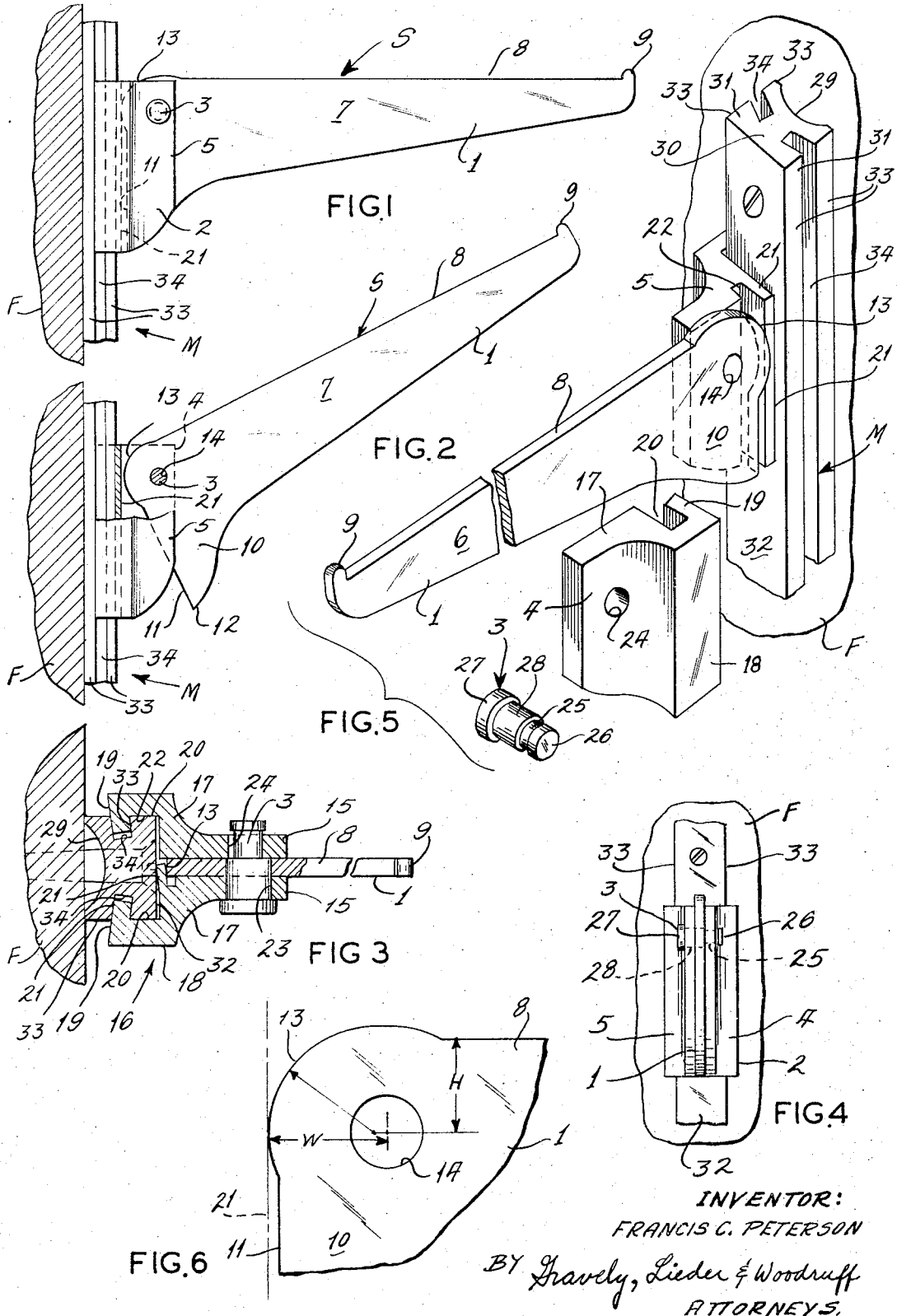
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ADJUSTABLE SHELF BRACKET

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ADJUSTABLE SHELF BRACKET

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This invention relates to an improved shelf bracket or holder, and in particular, to an adjustable shelf bracket which can be secured on a vertical support at any desired height.

In the past, adjustable shelf brackets have had projections which fit into holes or openings on the front face of vertical supports, which are usually mounted against a wall. The bracket could be adjusted by inserting the projection thereon into an opening at the height closest to the height desired. These openings on the forward face were unattractive, and the bracket could be adjusted only within certain spaced intervals, depending upon the distance between the openings.

One of the principal objects of the present invention is to provide an adjustable shelf bracket which can be mounted on a vertical support having no holes or openings therein on its forward surface. Another object is to provide an adjustable shelf bracket which can be secured at any desired height whatever to the vertical support. Another object is to provide an adjustable shelf bracket which is divided so that it can be mounted directly to the vertical support without having to be inserted from the top or bottom to gain entry to the track. Another object is to provide a shelf bracket which can be moved by simply pivoting the arm upwardly to move it to the new and desired position, which bracket is fixed in said new position by merely pivoting the arm downwardly to a position substantially perpendicular to the support. Another object is to provide means to secure a bracket to a vertical support which do not bite into the vertical support as weight is applied to the top of said shelf bracket so there is no marring of the front surface of the vertical support. Another object is to provide a pivoting arm arrangement which does not travel on the vertical support as the arm is locked into its supporting position.

These and other objects will become apparent hereinafter.

The invention is embodied in an adjustable shelf bracket which uses a vertical support without holes or openings therein on its forward surface, said vertical support adapted to receive brackets in sliding relation along tracks in the side edges thereof, said brackets adapted to receive said arm in pivotal relation, said arm dimensioned so as to wedge a portion of a bracket against the vertical support when at a substantially right angle thereto but freeing said portion of said bracket from said support when at an acute angle thereto.

The invention also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed. In the accompanying drawings which form part of this specification and wherein like numerals and letters refer to like parts wherever they occur:

FIG. 1 is a side elevational view of an adjustable shelf bracket embodying the present invention and secured to a vertical support,

FIG. 2 is a side view similar to that shown in FIG. 1 but with the arm in raised position so that it can be moved vertically,

FIG. 3 is a fragmentary top plan view of said adjustable shelf bracket,

FIG. 4 is a front elevational view of the bracket shown in FIG. 1,

FIG. 5 is an exploded perspective view showing the

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bracket portion removed so that the bracket can be attached to the vertical support, and

FIG. 6 is an enlarged fragmentary view of the upper rear corner of the arm.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises an adjustable shelf bracket S mounted on a vertical support or upright member M. The adjustable shelf bracket S has an arm 1 pivotally mounted on a bracket 2 by means of a pin 3. The bracket 2 has two bracket portions 4 and 5 positioned adjacent to each side surface 6 and 7, respectively, of the arm 1.

The arm 1 has a straight outwardly extending top edge 8 terminating in an upstanding stop 9. The inner end 10 of the arm 1 is enlarged to provide a long upstanding rear edge 11 having a lower edge 12 and an enlarged rounded upper corner 13. The arm 1 has a hole 14 for receiving the pin 3. The hole 14 is a distance H from the top edge 8, which distance H is slightly less than the distance W from the center of the hole 14 to the most remote part of the rear edge 11.

Each bracket portion 4 and 5 has an arm contacting portion 15 and a channel or U-shaped portion 16 comprising an outer wall 17, a side wall 18, and an inwardly sloping rear wall 19, said walls forming an opening 20 therein. The left bracket 5 has a vertical flange 21 adjacent to a small cut-out portion 22, which permits the flange 21 to bend or flex more easily. The left bracket 5 has a hole 23 which receives the pin 3 in fixed relation. The hole 14 in the arm 1 is slightly larger than the pin 3 to permit the arm 1 to pivot thereon. The right bracket portion 4 has a hole 24 which is larger in diameter than the recessed portion 25 and the right head 26 of the pin 3. Thus, the hole 24 in the right bracket 4 can be slipped over the head 26 to remove it from the arm 1 and left bracket 5 and the vertical support M. The left head 27 of the pin 3 is larger in diameter than the hole 23 in the left bracket 5. The central portion 28 of the pin 3 receives the left bracket 5 (FIG. 4) in fixed relation and the arm 1 in pivotal relation.

The vertical support M is preferably hollow at the rear 29 to save metal, and is preferably an aluminum extrusion, although any other suitable metal or other material may be used if desired. The vertical support M has a forward section 30 having tracks 31 and a forward surface 32 which requires no openings for the arm 1 or any other portion of the standard S. The vertical support M is suitably secured to a wall or supporting surface or frame F by screws or other fasteners inserted through holes at vertically spaced intervals in the forward surface 32 and into said wall F. These fasteners or screws have their heads either flush with or inset inwardly of the forward surface 32. The support M has side edges 33 with grooves 34 therein for receiving the rear walls 19 of the brackets 4 and 5. As shown in FIG. 3, the channels 16 of the brackets 4 and 5 engage the laterally extending arms 31 of the forward section 30 of the vertical support M. In this position, there is great pressure and a wedging action between the top portion 13 of the rear wall 11 of the arm 1 and the vertical flange 21 which is forced toward the forward surface 32. This wedging action is controlled by the distance W.

As best shown in FIG. 2, when the arm 1 is raised, the rear edge 11 and upper portion 13 thereof move out of contact with the flange 21 which then moves out of contact with the forward surface 32 of the vertical support M, thereby releasing the wedging action and allowing the bracket S with its brackets to be moved up and down any desired distance within the grooves 34. When the desired height is reached, the arm 1 is simply rotated downwardly to a position about 90° from the forward

surface 32 of the vertical support M. As it nears the 75° position, the distance W is such that the upper portion 13 of the arm 1 contacts the flange 21 which then contacts the forward surface 32 of the vertical support M, and as the arm 1 moves toward the 90° position, the arm 1 forces the flange 21 into very tight contact with the surface 32 and pulls the rear walls 19 tightly against the tracks 31, thus frictionally securing the shelf bracket S to the vertical support M. As weight is placed on the bracket S, the weight tends to pivot the arm 1 about the pin 3 to force the flange 21 into tighter engagement with the forward surface 32 of the vertical support M.

If a bracket S embodying this invention is desired to be completely removed from the vertical support M, the bracket S is simply pivoted upwardly (FIG. 2) which releases the pressure or wedging action and allows the right bracket 4 to be moved on the pin 3 so that its hole 24 registers with the head 26 of the pin 3. The right bracket 4 can then be moved over said pin head 26, thereby allowing the entire movable assembly or shelf bracket S to be removed from the vertical support M. In a similar manner, the shelf bracket S can be applied to a vertical support M by placing the channel 16 of the left bracket 5 in position, placing the hole 24 of the right bracket 4 over the head 26 of the pin 3 and moving said right bracket 4 into the position shown in FIG. 3. The arm 1 is then rotated downwardly to automatically secure the bracket S to the vertical support.

This invention is intended to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure which do not constitute departures from the spirit and scope of the invention.

What is claimed is:

1. An adjustable shelf bracket adapted to be mounted on a vertical support having a forward surface without openings therein for receiving said bracket, said bracket being formed from two bracket portions with an arm positioned therebetween and pivotally mounted on a pin connecting the two portions, said vertical support being adapted to receive said bracket portions in sliding relation along tracks provided in the side edges of said vertical support, one of said bracket portions having means thereon positioned adjacent said forward surface of said vertical support, said arm being dimensioned so as to be out of contact with said means when at an acute angle thereto and in tight contacting relation with said means when at right angles thereto to force said means into tight contacting relation with said vertical support to prevent relative movement between said bracket and said vertical support.

2. The combination set forth in claim 1 wherein the bracket portion of one side of said bracket is adapted to

be removed therefrom for installation on and removal from a vertical support.

3. The combination set forth in claim 2 wherein said removable bracket portion is provided with a hole having a diameter larger than the head of the pin on which said bracket portion is mounted.

4. The combination set forth in claim 2 wherein the bracket portion other than the removable bracket portion has said means thereon and said means comprises a vertically extending flange positioned between said arm and said forward surface of said vertical support.

5. The combination set forth in claim 4 wherein said bracket portion with said flange thereon has a cut-out portion adjacent to said flange to allow said flange to move into tight frictional contact and out of contact with said forward surface of said vertical support.

6. The combination set forth in claim 1 wherein said vertical support is provided with a transverse front section with edges which form said track, said track being adapted to receive U-shaped channel portions on said bracket portions, said vertical support having a vertical groove in each side edge thereof rearwardly of said track.

7. The combination set forth in claim 6 wherein said forward portion of said vertical support comprises a continuous track for the bracket portion on said adjustable shelf bracket.

8. The combination set forth in claim 1 wherein the pin which pivotally connects said arm with the bracket portions is mounted a slightly greater distance from the rear wall of the arm than from the top wall thereof, so as to allow the bracket to be moved in a vertical direction when the arm is lifted to be at an acute angle with the vertical support and is fixed to said vertical support when the arm is at an angle of about 90° thereto.

9. The combination set forth in claim 1 wherein the rearward portion of said arm is enlarged and wherein the rearward vertical edge of said arm is straight and has an enlarged curved top portion extending slightly rearwardly of said straight rearward vertical edge of said arm.

10. The combination set forth in claim 1 wherein each bracket portion has a U-shaped channel portion, the rear wall of which slopes slightly forwardly to contact the rear wall of the track.

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