Sept. 22, 1959 A. L. SNOW 2,905,424

FOLDING SHELF BRACKET

Filed Jan. 19, 1959

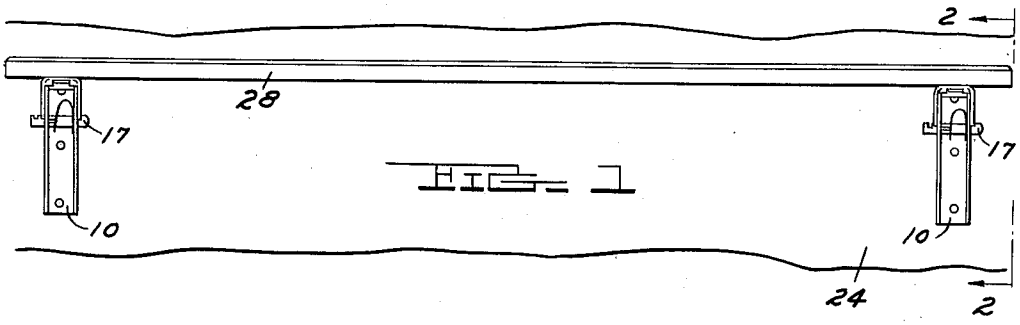


FIG. 1

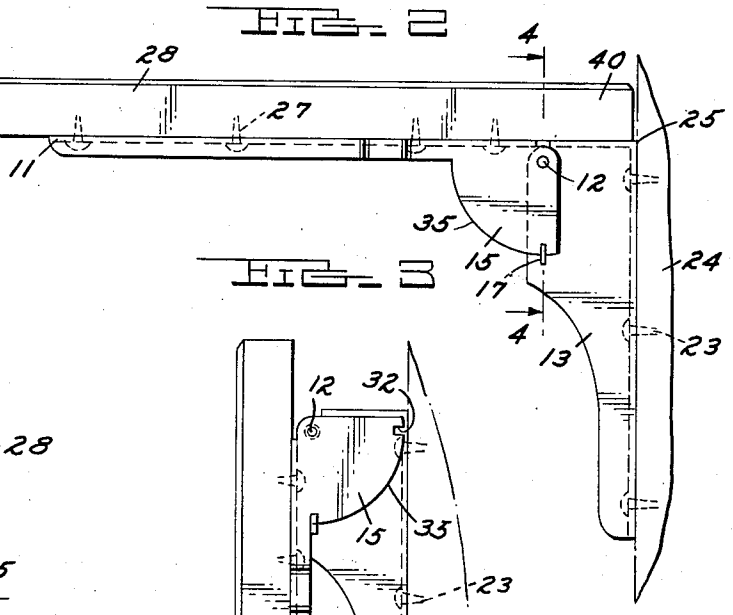
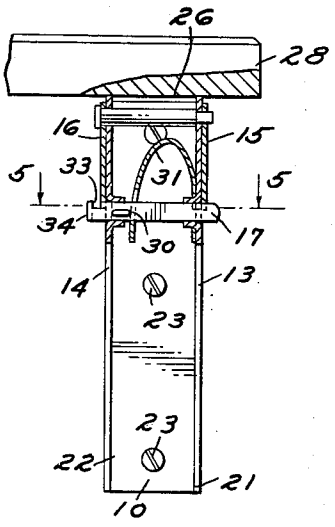


FIG. 2

FIG. 3

FIG. 4



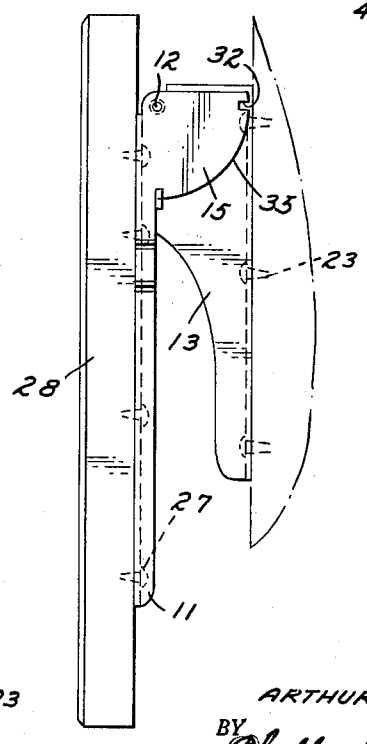
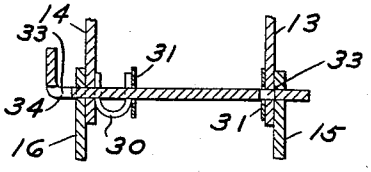


FIG. 5



INVENTOR.
ARTHUR L. SNOW
BY William P. Sewald
ATTORNEY

United States Patent Office

2,905,424

Patented Sept. 22, 1959

2,905,424

FOLDING SHELF BRACKET

Arthur L. Snow, Royal Oak, Mich.

Application January 19, 1959, Serial No. 787,494

2 Claims. (Cl. 248—240)

This invention generally relates to shelf brackets and more particularly pertains to a folding shelf bracket having an integral triangulated supporting web formed by pivotally telescoped flanges on the wall plate and shelf plate.

Folding shelf brackets have been employed heretofore to facilitate the foldably mounting of a shelf on a wall, however, the several devices of the prior art have not proven entirely satisfactory inasmuch as they are complicated in design and construction, expensive to manufacture, difficult to use, and usually employ separate triangulating brace members.

With the foregoing in view, the primary object of the invention is to provide a folding shelf bracket which is simple in design and construction, inexpensive to manufacture, easy to use, and easy to operate between the up and down positions, and which embodies integral pivotally telescoped flanges for forming a triangulating supporting web to support the shelf in the up position.

An object of the invention is to provide a face plate for attachment to a wall which has extending flanges to both locate the hinge pin outwardly from the wall and to form a portion of triangulating support web.

An object of the invention is to provide a shelf plate which is equipped with extending flanges pivotally telescoping with the wall plate flanges with the shelf plate flanges being so sized that they will lie between the pivot pin and the wall with the shelf retracted in the down position.

An object of the invention is to provide automatic means for locking the shelf in the up position upon manual movement thereto which means are manually releasable to move the shelf to the down position.

These and other objects of the invention will become apparent by reference to the following description of a folding shelf bracket taken in connection with the accompanying drawing in which:

Fig. 1 is a face elevational view of a portion of a wall showing a pair of inventive brackets mounted thereon supporting a shelf.

Fig. 2 is an enlarged side elevational view of the device seen in Fig. 1 taken on the line 2—2 thereof showing the bracket structure in more detail.

Fig. 3 is a view similar to Fig. 2 showing the shelf in the retracted down position.

Fig. 4 is a cross sectional view of Fig. 2 taken on the line 4—4 thereof showing the automatic locking means in more detail; and

Fig. 5 is a cross sectional view of Fig. 4 taken on the line 5—5 thereof showing the locking bar construction.

Referring now to the drawing wherein like numerals refer to like and corresponding parts throughout the several views, the folding shelf bracket disposed therein to illustrate the invention comprises a flanged wall face plate 10, a flanged shelf plate 11, a hinge pin 12 pivotally interconnecting the flanges of the plates 10 and 11, and a locking bar 17 for securing the flanges together remote from the plates and pivot point to support the shelf plate

11 in the up position by a strong triangulating web formed by the plate flanges.

More particularly the wall face plate 10 is equipped with side edges 21 and 22 at which points the flanges 13 and 14 are mounted on the wall plate 10 and the wall plate is equipped with apertures for receiving the screws 23 or other fastening means for securing the plate 10 to a wall 24. The flanges 13 and 14 extend sidewise outwardly from the wall a relatively long distance to locate the hinge pin 12 corner at a point remote from the wall and the flanges 13 and 14 each are equipped with a paired aperture for receiving the hinge pin 12 in the upper outer corner thereof and it is to be noted that the face plate is equipped with a top edge 25 to which is attached a top flange 26 which lies between the side flanges 13 and 14 in abutting relationship to strengthen the side flanges.

The side plate 11 has side edges at which the flanges 15 and 16 are attached and these flanges extend a substantial distance outwardly or downwardly from the shelf plate 11 and are so sized so as to be receivable between the hinge pin 12 and the wall to which the base plate 10 is mounted as seen in Fig. 3. The shelf plate 11 is also equipped with apertures for receiving the screws 27 for attachment to the shelf 28.

A locking bar 17 is slidably disposed between the flanges 13 and 14 and is equipped with a spring boss 30 which abuts the spring 31 lying between the boss 30 and the flange 13 so as to urge the locking bar 17 into the locked position of engagement with the notches 32 of the shelf flanges 15 and 16 and it is to be noted that the spring boss 30 limits the travel of the sliding locking bar 17 and that the bar 17 is equipped with notches 33 which, when the bar is moved manually against the spring 31 to the right as seen in Fig. 4 via the head 34 on the bar 17, the head 34 abuts the flanges 16 limiting the travel of the bar 17 locating the bar notches 33 in the alignment with the flanges 15 and 16 permitting the flanges 15 and 16 to bypass the locking bar 17, and it is to be further noted that the flanges 15 and 16 are equipped with an arcuate surface or edge 35 on radii from the hinge pin 12 so that they will slidably bypass the locking bar 17.

In operation the plate 10 is secured to a wall 24 by the screws 23 and the plate 11 is secured by the screws 27 to a shelf 28; presuming the device is in the position of Fig. 3, the shelf 28 may be moved to the up-position manually without interference and upon its reaching the position of Fig. 2 the spring 31 moves the bar 17 to the position seen in Fig. 4 wherein the bar 17 lies in the notches 32 of the shelf flanges 15 and 16 securing the device in the shelf up-position. To lower the shelf it is only necessary to manually press the head 34 moving the locking bar 17 to the right as seen in Fig. 4 to locate the bar notches 33 in alignment with the shelf flanges 15 and 16 and whereupon the shelf 28 will move from the up-position seen in Fig. 2 to the down-position seen in Fig. 3. It is to be particularly noted that the flanges 15 and 16 are in the slidably telescoping relationship with the flanges 13 and 14 and provide a strong web portion which is triangulated between the face plate 10 and the shelf plate 11 and that the locking bar is located at a point substantially midway on the hypotenuse of the triangulation so as to give maximum support to the shelf with the back portion of the shelf 40 lying directly on top of the wall plate 10 flanges thereby giving direct support to the back 40 of the shelf 28 which usually supports the maximum weight or load.

The inventive folding shelf bracket with these features constitutes a compact, durable, neat appearing device easily operated to install and move a shelf between up and down positions as desired.

Although but a single embodiment of the invention has been shown and described in detail, it is obvious that many changes may be made in the size, shape, detail, and arrangement of the various elements of the invention within the scope of the appended claims.

I claim:

1. A hinged shelf bracket foldably movable between a locked shelf extending up-position and an unlocked shelf retracting down-position relative to a supporting wall, comprising a wall face plate having a top edge and side edges and a face having apertures for receiving wall attaching means, paired side flanges on said plate face at said plate face side edges disposed at right angles to said plate face and extending outwardly from said plate face, a top flange on said plate top edge extending outwardly therefrom at right angles to said plate face and lying between and abutting said side flanges; said top flange abutting said side flanges to strengthen said side flanges against flexing; said face plate side flanges each having an outward upper corner equipped with a paired hinge pin receiving aperture spaced outwardly from said face plate; said side flanges extending outwardly from said face plate a substantial distance to locate said hinge pin apertures a relatively substantial distance from said plate face; a shelf plate having side edges and apertures for receiving fastening means for securing a shelf to said shelf plate; said shelf plate having a wall adjacent end and a wall remote end; side flanges on said shelf plate edges at said wall adjacent end; said shelf plate flanges each having a rear corner at said shelf plate wall adjacent end equipped with a paired hinge pin receiving aperture; a hinge pin disposed in the apertures of said flanges of both said wall and shelf plates pivotally interconnecting said wall plate and shelf plate; said shelf plate flanges being pivotally telescoped with said wall plate flanges in both the up and down positions of said shelf plate relative to said wall plate; said wall plate and shelf plate flanges forming a triangulating web below said hinge pin in the shelf plate up-position to provide a triangulated brace for said shelf plate, and releasable locking means disposed between said wall plate flanges and said shelf plate flanges at a point on said flanges forming said triangulated web remote from both said pivot plate and said shelf plate to obtain maximum triangulated effect; said hinge pin being located sidewise outwardly from said face plate a distance more than the dimension of said shelf plate flanges so as to receive said shelf plate flanges between said hinge pin and a wall on which said face plate is mounted to clear said shelf plate flanges in said shelf plate down-position.

2. A hinged shelf bracket foldably movable between a locked shelf extending up-position and an unlocked shelf retracting down-position relative to a supporting wall, comprising a wall face plate having a top edge and side edges and a face having apertures for receiving wall attaching means, paired side flanges on said plate face at said plate face side edges disposed at right angles to said plate face and extending outwardly from said plate face; said face plate side flanges each having an outward upper corner equipped with a paired hinge pin receiving aperture; said side flanges extending outwardly from said face plate a substantial distance to locate said hinge pin apertures a relatively substantial distance from said plate face; a shelf plate having side edges and apertures for receiving fastening means for securing a shelf to said shelf plate; said shelf plate having a wall adjacent end and a wall remote end; side flanges on said shelf plate edges at said wall adjacent end; said shelf plate flanges each having a rear corner at said shelf plate wall adjacent end equipped with a paired hinge pin receiving aperture, a hinge pin disposed in the apertures of said flanges of both said wall and shelf plates pivotally interconnecting said wall plate and shelf plate; said shelf plate flanges being pivotally telescoped with said wall plate flanges in both the up and down positions of said shelf plate relative to said wall plate; said wall plate and shelf plate flanges forming a triangulating web below said hinge pin in the shelf plate up position to provide a triangulated brace for said shelf plate, and releasable locking means disposed between said wall plate flanges and said shelf plate flanges at a point on said flanges forming said triangulated web remote from both said pivot plate and said shelf plate to obtain maximum triangulated effect.

References Cited in the file of this patent

UNITED STATES PATENTS

1,889,452 Porter ---------- Nov. 29, 1932

FOREIGN PATENTS

732,640 Great Britain ---------- June 29, 1955