United States Patent [19]

Cadman

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[54] **FOLDING SHELF AND SHELF BRACKET**

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[52] **U.S. Cl.** **248/240.4,** 108/46, 248/293

[51] **Int. Cl.** **A47g 29/02**

[58] **Field of Search** 248/240.4, 240, 240.1, 248/293, 291; 211/88, 90, 99; 108/46, 6

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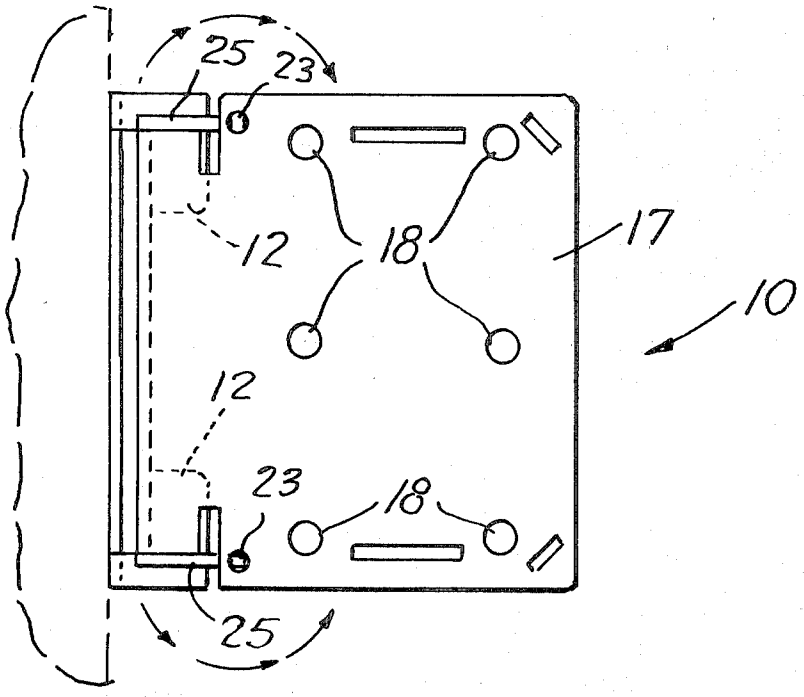
Primary Examiner—J. Franklin Foss

Attorney, Agent, or Firm—Blair & Brown

[57] **ABSTRACT**

A folding shelf and shelf bracket which includes a pair of elements pivotally mounted to swing from a position in which they are parallel to a position in which they are perpendicular to each other. One of the elements is provided with swinging slotted latch members which can be swung into a position with the slot engaging over a portion of the other member to latch the elements in their 90° related positions. A modified form of the invention includes a sliding latch bar for additionally locking the members in their 90° related position.

6 Claims, 9 Drawing Figures



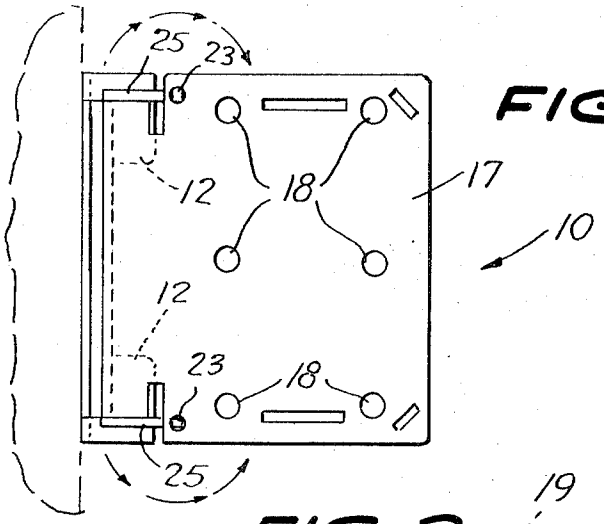


FIG. 1.

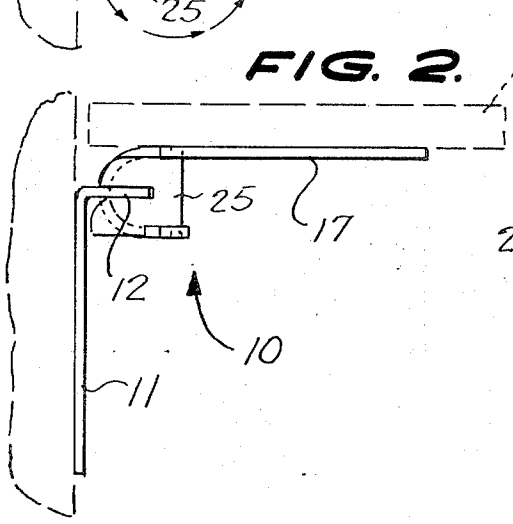


FIG. 2.

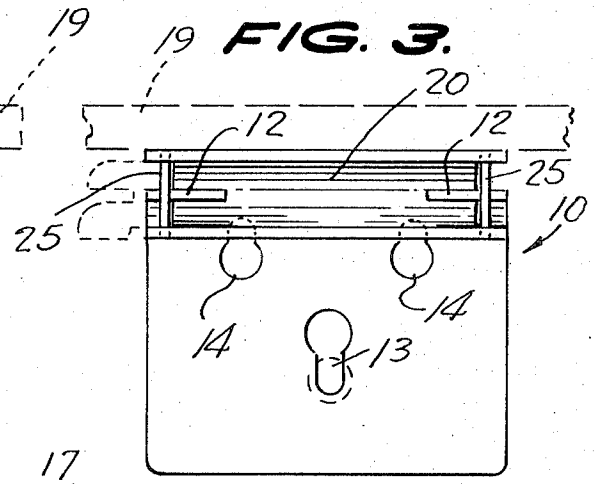


FIG. 3.

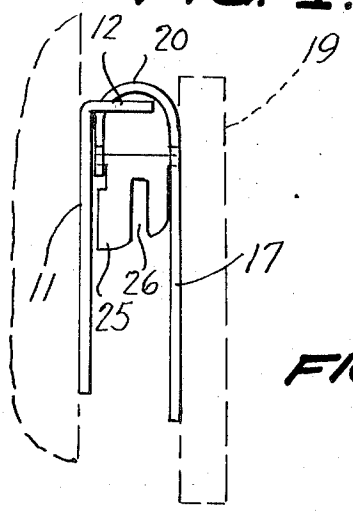


FIG. 4.

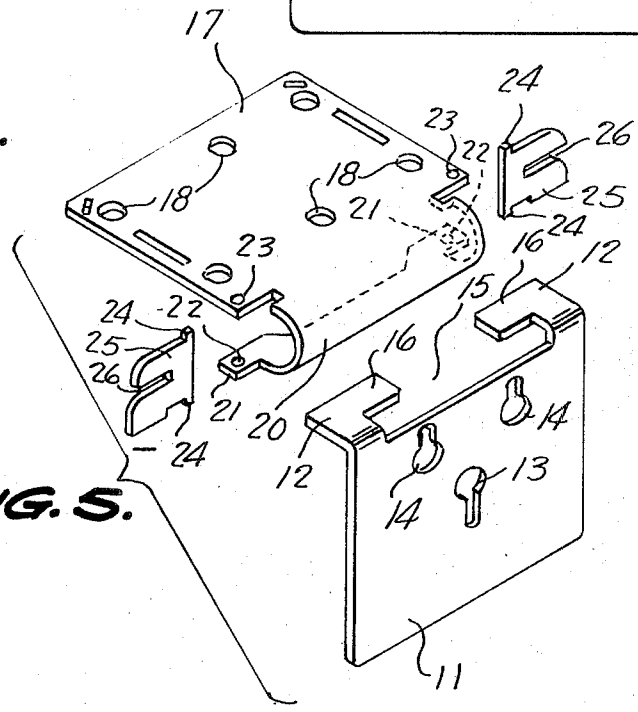


FIG. 5.

FIG. 6.

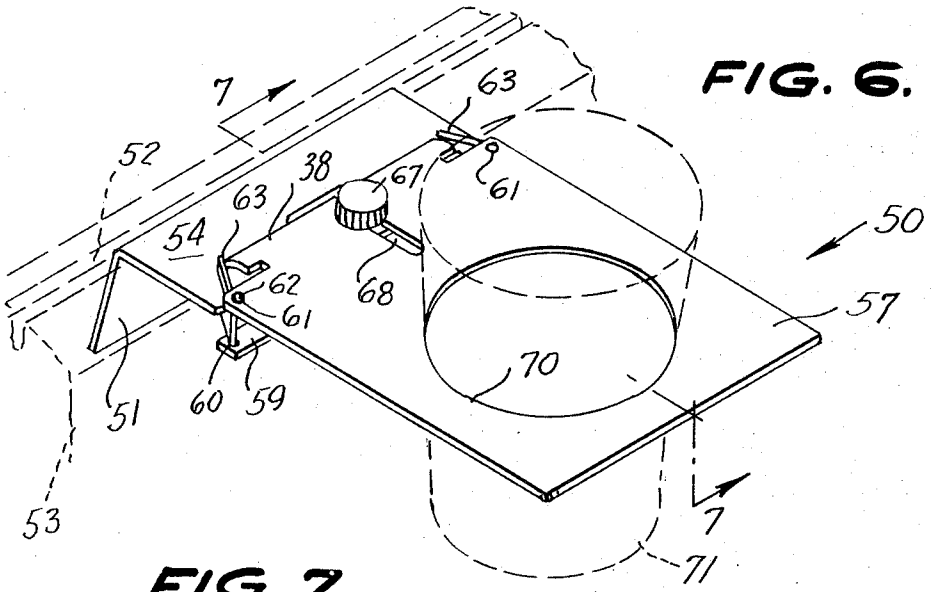


FIG. 7.

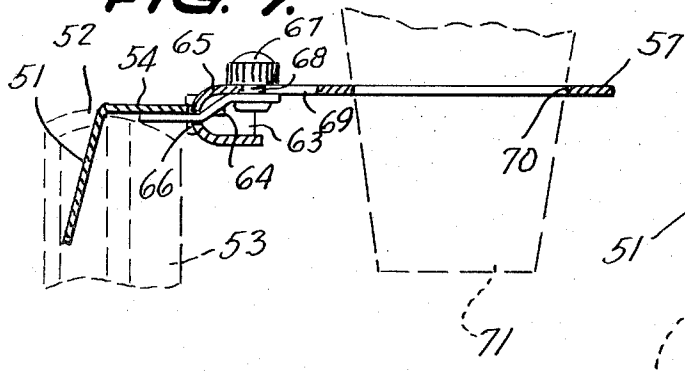


FIG. 8.

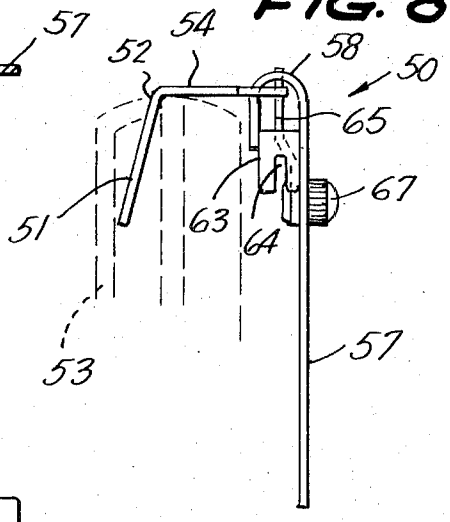
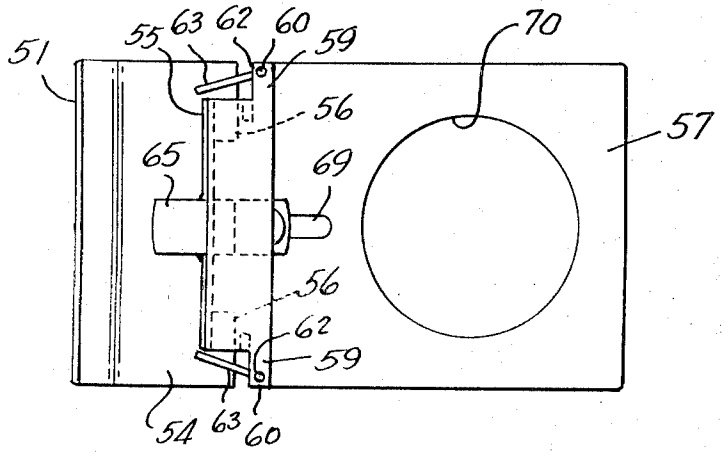


FIG. 9.



FOLDING SHELF AND SHELF BRACKET

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to folding shelves and folding shelf brackets.

2. Summary of the Invention

Folding shelves and folding shelf brackets consisting of a pair of members pivotally connected to swing from a position in which they are parallel to a position in which they are perpendicular to each other. A pair of latch members are mounted on one of the members for swinging movement toward a portion of the other member. The latch members are slotted and engage over the portion of the other member to latch the two members in their perpendicularly related positions. In a modified form of the invention a sliding latch bar is mounted on one of the members and engages the other of the members to further latch the members in their perpendicularly related positions.

The primary object of the invention is to provide a folding shelf and folding shelf bracket which can be simply and inexpensively constructed from stamped metal.

Other objects and advantages will become apparent in the following specification when considered in light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of the invention;

FIG. 2 is a side elevation of the invention;

FIG. 3 is an end elevation of the invention;

FIG. 4 is a view similar to FIG. 2 with the shelf in folded position;

FIG. 5 is an exploded perspective view of the invention;

FIG. 6 is a perspective view of a modified form of the invention;

FIG. 7 is a longitudinal sectional view, taken along the line 7—7 of FIG. 6, looking in the direction of the arrows;

FIG. 8 is a side elevation of the invention with the shelf folded; and

FIG. 9 is a top plan view of the invention with the shelf extended.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings in detail, wherein like reference characters indicate like parts throughout the several figures, the reference numeral **10** indicates generally a folding shelf bracket constructed in accordance with the invention.

The folding shelf bracket **10** includes a plate **11** of generally rectangular form and having a right angularly extending flange **12** integrally formed on the upper edge thereof. The plate **11** has a keyhole shaped opening **13** formed centrally thereof and a pair of keyhole shaped openings **14** adjacent the upper edge of the plate **11** to receive fastening members (not shown).

The plate **11** is adapted to be secured to a supporting wall by fastening elements extending through the openings **13** and **14.** A T-shaped slot **15** is formed in the flange **12** at the upper end of the plate **11** and delineates a pair of inwardly extending tongues **16** which form part of the flange **12.**

A second generally rectangular plate **17** is provided with a plurality of bores **18** to permit fastening elements to pass therethrough to secure the plate **17** to a shelf panel **19.**

A semi-circular U-shaped flange **20** is integrally formed on one edge of the plate **17** and has a pair of tongues **21** extending outwardly of the free end of the flange **20.** The width of the flange **20** is slightly less than the width of the major portion of the T-slot **15** so that the flange **20** may be engaged in the T-slot **15** and held therein by the inwardly extending tongue **16.**

The tongues **21** each has a bore **22** formed therein and aligned with bores **23** in the plate **17.** The bores **22** and bores **23** are substantially spaced apart to receive oppositely extending tongues **24** formed on a latch plate **25.** The latch plate **25** is positioned between the tongue **21** and the plate **17** with the tongues **24** thereof pivotally mounted in the bores **22, 23.** A slot **26** is formed in the latch plate **25** and is adapted to engage over the outer end of the flange **12** when the latch plate **25** is swung about the tongues **24** to thus latch the plate **11** in perpendicular relation to the plate **17.**

In the use and operation of the invention the shelf **19** is raised with the tongue **20** pivoting through the T-shaped slot **15** until the shelf **19** is perpendicular to the plate **11.** The latch plates **25** are then swung until the slot **26** of each engages over the flange **12** to thus secure the plate **17** to the plate **11** perpendicularly thereto.

Referring now to FIGS. **6** through **9** a modified form of the invention is illustrated as a folding shelf indicated generally at **50.**

The folding shelf **50** includes a generally rectangular plate **51** which is adapted to engage into a window slot **52** of an automobile door **53.** The plate **51** has an angularly extending flange **54** formed on its upper edge. The flange **54** has a T-shaped slot **55** formed in its outer edge and delinating a pair of inwardly extending tongues **56.** A shelf plate **57** of generally rectangular form is provided at one end with a U-shaped flange **58** having a pair of tongues **59** extending outwardly of opposite ends thereof. The tongues **59** have bores **60** extending therethrough and aligned with bores **61** in the shelf plate **57.** The bores **60, 61** are spaced apart to receive oppositely extending tongues **62** formed on latch plates **63.** Each of the latch plates **63** have a generally rectangular slot **64** opening therein to permit the latch plates **63** to engage over opposite end portions of the flange **54** when the shelf plate **57** is in its generally horizontal position as illustrated in FIGS. **6** and **7.**

A sliding latch bar **65** is adapted to slide through a slot **66** formed in the center of the U-Shaped flange **58** as can be seen in FIG. **7.** The sliding latch bar **65** is secured at one end to a knob **67** by means of a pin **68** which extends through a slot **69** in the shelf plate **57.** Sliding movement of the knob **67** toward the support plate **51** causes the lock bar **65** to engage under the flange **54** as can be seen in FIGS. **7** and **9** so as to further latch the shelf plate **57** in its generally horizontal position.

The shelf plate **57** has a bore **70** formed therein to receive a papercup **71** in the manner illustrated in FIGS. **6** and **7.**

In the use and operation of the folding shelf **50** the support plate **51** is inserted into the window slot **52** of a door **53** and the shelf plate **57** is swung upwardly to be in a generally horizontal position. The latch plates

63 are then swung so that their slots 64 engage over the opposite ends of the flange 54 and the knob 67 is moved toward the support plate 51 to engage the latch bar 65 under the flange 54 to further latch the shelf plate 57 in its horizontal position.

Having thus described the preferred embodiments of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A folding shelf bracket comprising a plate, a generally U-shaped flange integrally formed on one end of said plate, a pair of latch plates pivotally mounted between said plate and said flange on each end of said flange, a support plate, a flange integrally formed on the upper end of said support plate and extending angularly thereto, said support plate flange having a T-shaped slot formed therein pivotally receiving the U-shaped flange on said shelf plate, said shelf plate swinging from a position parallel to said support plate to a

generally horizontal position, said latch plate swinging to latch said shelf plate to said support plate.

2. A device as claimed in claim 1 wherein said latch plates each have a generally rectangular slot formed therein for engaging over opposite ends of the flange on said support plate.

3. A device as claimed in claim 2 wherein said U-shaped flange has an outwardly extending tongue on each end thereof and said latch plate is mounted in said tongue and said shelf plate.

4. A device as claimed in claim 3 including a latch bar slidably mounted on said shelf plate and engageable under said flange on said support plate for releasibly latching said shelf plate in horizontal position.

5. A device as claimed in claim 4 wherein said sliding latch bar moves through a slot centrally positioned in said generally U-shaped flange on said shelf plate.

6. A device as claimed in claim 5 wherein said shelf plate includes a circular opening to support a papercup therein.

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