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
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 from 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 delineating 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 has 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. 5 and 6.

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. 5 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
are then swung so that their slots engage over the opposite ends of the flange and the knob is moved toward the support plate to engage the latch bar under the flange to further latch the shelf plate 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 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 releasably 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.