Feb. 17, 1959 D. C. BLANCHARD 2,873,487

SUPPORTING MEANS FOR AWNING SHUTTERS

Filed Oct. 9, 1957 2 Sheets-Sheet 1

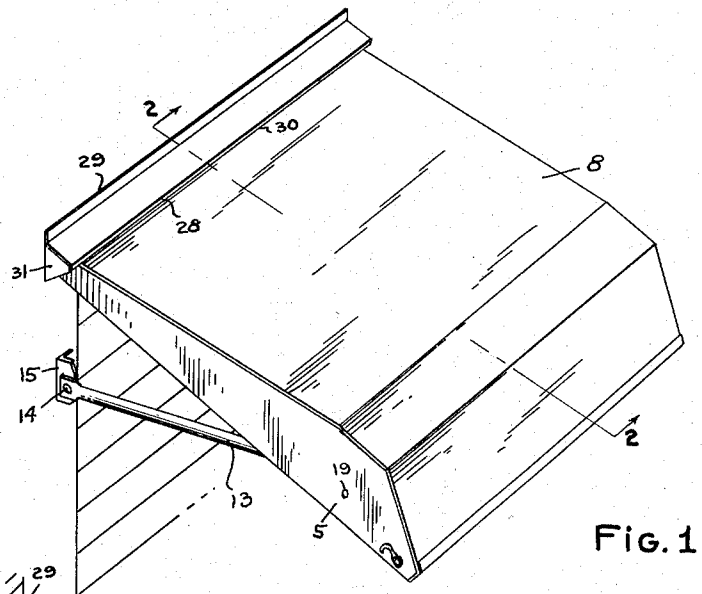


Fig. 1.

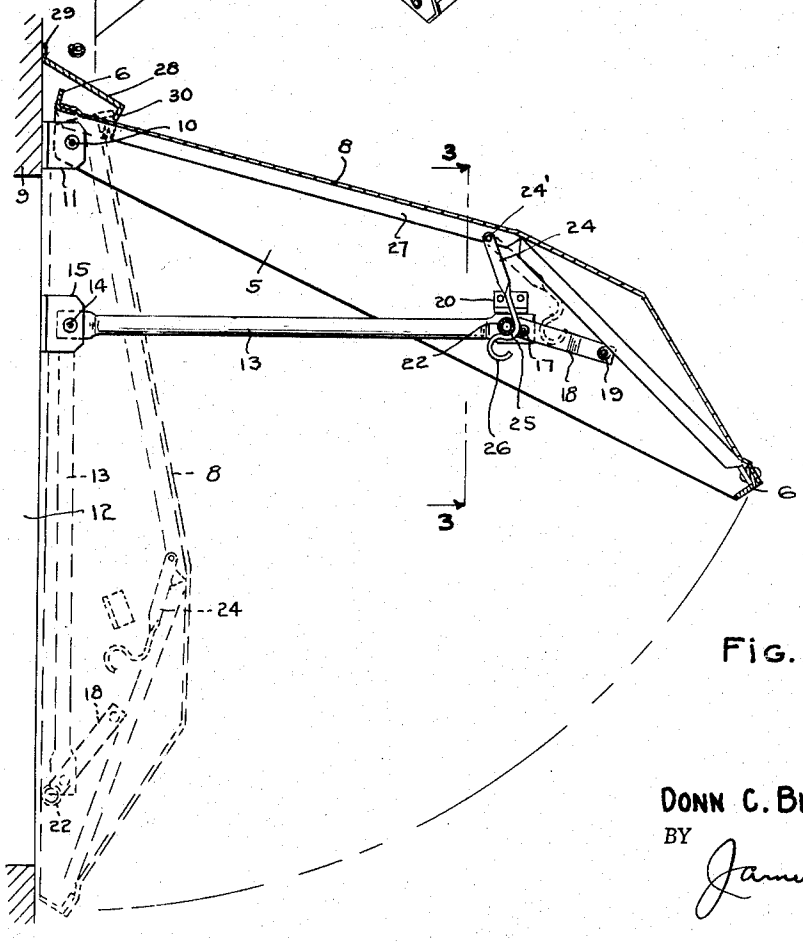


Fig. 2.

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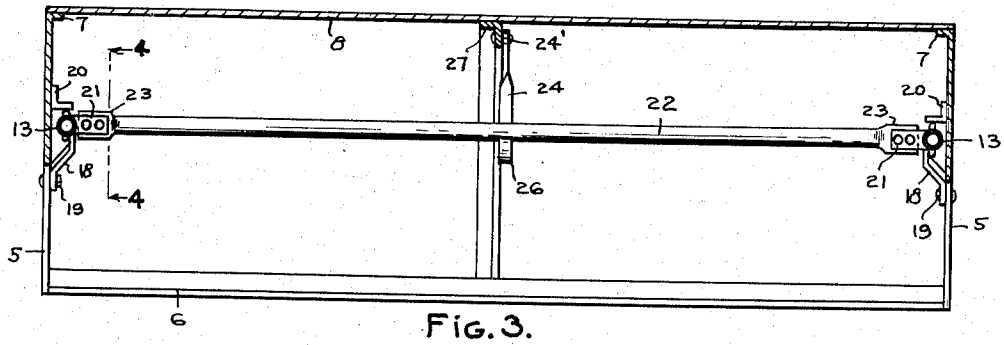


Fig. 3.

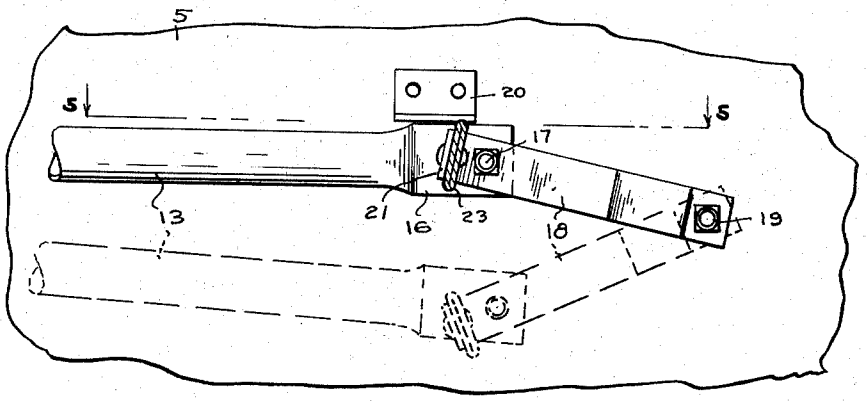


Fig. 4.

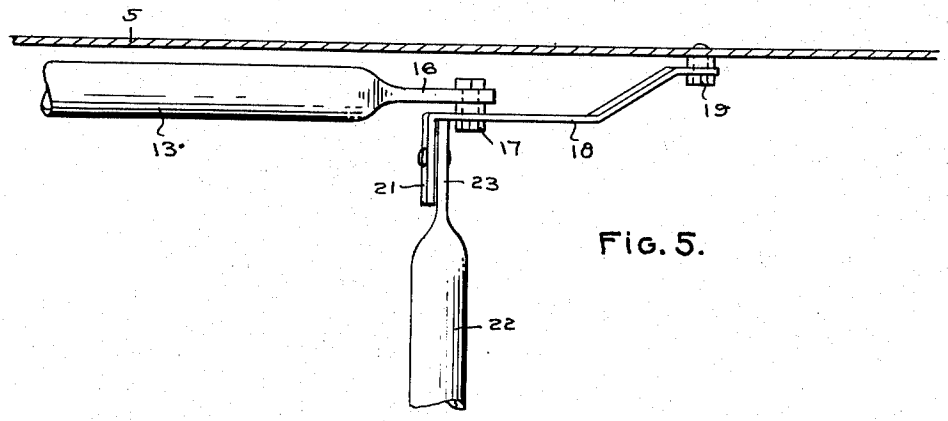


Fig. 5.

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SUPPORTING MEANS FOR AWNING SHUTTERS

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5 Claims. (Cl. 20—57.5)

This invention relates to awning devices and particularly a metallic awning that is shiftable from an awning-forming position to constitute a storm shutter and overlying a wall opening, such as a window.

The invention contemplates novel means whereby the awning is supported in its elevated position by the simple expedient of elevating the awning and whereby brace arms and linkage mechanism are shiftable to a past center position to hold the awning in an extended position and with additional means whereby to latch the brace arms and the linkage in the upper past center position against accidental reverse movement under the influence of air currents.

The invention contemplates an awning construction that is formed in variable dimensions for a particular wall opening and with the shifting of the awning to and from a shutter position being accomplished by a single person.

Heretofore awning devices of this nature have been cumbersome and are difficult of operation by a single person, except in those awnings of relatively small size, since the awnings heretofore are relatively flexible and with an awning of relatively large size, it has necessitated the operation of the awning from one end, after which the operator must leave the awning partially suspended to then release the opposite end and this construction has created severe damage to the awning structure and is extremely difficult of operation, especially where shrubbery is positioned adjacent the wall of the building. The device of the present invention may quickly and easily be shifted by a single person to and from a shutter forming position, since the individual may actuate the device at a point intermediate the length of the awning, by a simple procedure of lifting upwardly after the latch has been released and whereby to shift the brace arm and the linkage to the downward past center position after which the awning is lowered to overlie the wall opening where it is secured in any conventional manner, such as hooks.

Novel features of construction and operation of the device will be more clearly apparent during the course of the following description, reference being had to the accompanying drawings wherein has been illustrated a preferred form of the device and wherein like characters of reference are employed to denote like parts throughout the several figures.

In the drawings:

Figure 1 is a perspective view of an awning constructed in acordance with the invention,

Figure 2 is an enlarged longitudinal section taken substantially on line 2—2 of Figure 1,

Figure 3 is a transverse section taken substantially on line 3—3 of Figure 2,

Figure 4 is a fragmentary greatly enlarged section taken substantially on line 4—4 of Figure 3, and

Figure 5 is a horizontal section taken substantially on line 5—5 of Figure 4.

Referring specifically to the drawings, the awning embodies end panels 5 that are connected at their upper and

lower ends, by angle braces 6, riveted or otherwise connected to the end panels through flanges 7. The flanges 7 are co-extensive with the upper marginal edges of the end panels, see particularly Figure 3. Overlying the flanges 7 to be co-extensive with the end panels 5 is a metallic cover 8. The cover 8 is riveted, welded or otherwise connected with the flanges of the end panels and this cover may assume various structural shapes, such as a plurality of parallel steps and the invention is not to be restricted in any sense to the particular form of cover. The end panels 5 taper toward and from their rear end and are pivotally supported upon the wall 9, by pivots 10, carried by fixed brackets 11 and whereby the awning may swing in a vertical plane to and from a covering relation to a window opening 12 formed in the wall 9.

The means for supporting the awning in the extended awning-forming position, comprises preferably tubular metallic braces 13, pivotally connected at their rear ends as at 14, to fixed brackets 15 rigidly secured upon the wall 9 adjacent the sides of the window opening 12. The braces 13 are preferably flattened at their opposite ends as at 16 for convenience in establishing the pivotal connections. The forward flattened portions 16 of the brace 13 is pivotally connected at 17 to an offset link 18. The link 18 at its forward end is pivotally connected at 19 to the end panels 5. The braces 13 and the links 18 are shiftable in a vertical plane to and from an upper and lower past center position, see particularly Figure 4. As shown in Figure 4, the brace and its associated link have been shifted to the upper past center position in full lines, and in such position supports the awning against downward swinging movement. A bracket 20, riveted to the panels 5, is disposed in the path of upward movement of the forward ends of the braces 13 to determine the upper maximum past center position of the parts. Each of the links 18 are extended rearwardly and have their ends bent at a right angle, to form a connecting lip 21. The links 18 are connected together by a transverse and horizontally arranged tubular bar 22, the opposite ends of which have been flattened as at 23 and with the flattened ends being riveted to the lips 21 and whereby the links are caused to be simultaneously movable to and from the past center position with respect to the braces 13. When the awning is elevated, the braces 13 and the links 18 will be disposed in a straight line position and in such position, the operator merely engages the cross bar 22, and shifts it upwardly causing the links 18 and the braces 13 to be disposed in the upper past center position and in abutment with the brackets 20.

With the awning in the upper position, and with the braces and links in the upper past center position, it becomes possible for relatively strong air drafts to lift the awning sufficient to cause the braces and the links to move to the straight line position, such a position possibly permitting the braces and the links to drop downwardly sufficient to cause the awning to fall toward the wall. Means are provided to latch the bar and its associated links 18 in the upper past center position, such means comprising a latch dog 24, preferably formed of a flat strip of metal that is shaped at its lower end to constitute a semi-cylindrical socket 25 and a finger or tool engaging loop 26. The socket 25 has a radius substantially corresponding to the tubular bar 22. The upper end of the dog 24 is pivotally connected at 24' to an angle brace bar 27, that is disposed substantially along the longitudinal center of the awning, to be riveted or otherwise connected to the cover 8 and with the bar 27 at its forward extremity being connected to the angle bar 6. The bar 27 constitutes the pivotal support for the dog 24. The dog 24 is shift-

able manually to and from a supporting engagement with respect to the cross bar **22** and, when engaged with the bar, the links **18** are positively held against accidental shifting to thereby firmly support the awning in the extended position. While the latch dog **24** is a very desirable means of retaining the links and braces in their upper past center position, it follows that the dog may be omitted and any suitable shiftable latch means connected with the end panels and movable to underlying engagement with the forward flat ends **16** of the braces **13**, thus also holding the parts in the past center position and in such cases, the operator would of necessity, be obliged to release such latch means at either side of the awning prior to lowering the awning to the shutter forming position. All bearings for the pivots **10**, **14**, **17** and **19** are preferably in the form of nylon bushings, requiring no lubrication and that have an extremely long life.

The upper angle **6** is disposed beneath a weathering canopy **28**, having a vertical flange **29**, that is engaged with the wall **9** as a means to prevent water from running down along the wall to the window opening. The canopy **28** at its forward edge is provided with a longitudinal flange **30**, that has abutting engagement with the vertical leg of the rear angle **6** when the awning is shifted to the shutter position and whereby to form a definite water-stop against the entry of water under the influence of wind. The opposite ends of the canopy **28** are covered by angle panels **31**, likewise protecting the ends of the canopy against any tendency for water to be blown therethrough.

Operation

In the use of the device, the awning is mounted upon the wall area by the brackets **11** and the canopy **28** also rigidly connected in overlying relation to the awning. The braces **13** and associated mechanism are then connected with the fixed brackets **15**. Now, when the awning is manually shifted upwardly, the braces **13** and the links **18** will be shifted to a straight line position, at which time the operator engages the cross-bar **22** and forces it upwardly, causing the links and the braces to move to the past center position, thus positively supporting the awning in normal conditions against downward swinging movement. Since there is always a possibility that strong air gusts might lift the awning and cause the linkage to move to a straight line position, the latch dogs **24** are then engaged by the operator and shifted to latching engagement with the bar **22**. The latch dog is sufficiently flexible as to permit of a snapping engagement with the bar **22** by engaging the finger loop **26**. When the awning is to be lowered to a covering position with respect to the wall opening **12**, the operator first releases the latch dog by swinging it forwardly to the dotted line position illustrated in Figure 2, at which time the awning is engaged at its forward edge and lifted upwardly, causing the links and the braces to be initially shifted to a straight line position and, in such position they will drop downwardly to a lower past center position, permitting the entire awning to be lowered to substantially parallel relation with the wall **9** and in engagement therewith and any suitable means may be employed to securely fasten the lower end of the awning to the wall area, such means being in the form of hooks, screws or other fastening devices. When the awnings are disposed at relatively high elevations, such as in two-story buildings, it becomes necessary that a pole or similar tool be employed to reach upwardly from the ground to not only shift the dogs **24** to locking engagement with the bars **22** but also to shift the dogs to a release position at which time the tool is employed to engage the forward edge of the awning and lift it upwardly to cause the braces and the links to move downwardly, as before described and the awning is then lowered to the shutter forming position. The tool may also be employed to shift the locking hooks in order to secure the awning against movement. In each instance, with the latch dog released, it only becomes necessary to lift upwardly upon the awning and, such movement automatically shifts the braces and the links first to a straight line position and when the awning is permitted to swing downwardly, the braces and the links automatically move to the lower past center position.

It will be apparent from the foregoing that a very novel form of awning and supporting means therefor has been provided. The braces and linkage is simple in construction, is easily operated and forms a very positive brace for retaining the awning in the extended position. The latch **24** or other latch devices enable the parts to be locked against accidental shifting movement. The arrangement is such that a single person may easily control the movement of the elements in shifting the device from the awning forming position to the shutter forming position. The parts are economical to manufacture, are strong, durable and most effective as a supporting means for awning structures.

It is to be understood that the invention is not limited to the precise construction shown, but that changes are contemplated as readily fall within the spirit of the invention as shall be determined by the scope of the subjoined claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A combined awning shutter of the character described that comprises end panels and a connecting cover, the awning being hingedly connected to a wall to extend outwardly over a wall opening, brace arms pivotally connected at one end to the wall at opposite sides of the opening to support the awning in the extended position, link means pivotally connected to the forward ends of the brace arms and to the end panels, the brace arms and the links being shiftable upward to a past center position to support the awning against downward movement, latch means for retaining the brace arms and links in their upper past center position, the awning being shiftable downwardly when the braces and links are shifted to a lower past center position to overlie the wall opening.

2. A combined awning shutter device of the character described for positioning relative to a building wall opening and to swing in a vertical plane toward and from the wall opening and when swung away from the wall opening to constitute an awning that is angularly disposed away from the wall, the said device embodying parallel end panels and an overlying connected cover, the end panels adjacent the wall being pivotally connected in a horizontal plane to wall brackets, brace arms that are pivotally connected at one end to rigid brackets carried by the wall adjacent the sides of the wall opening, the brace arms at their opposite ends having pivotal connection with link devices and with the link devices being pivotally connected at one end to the side panels, the link devices and the brace arms being shiftable to an upper past center position for bracing the awning against downward movement, stop means for limiting the upper past center position, said stop means being common to each of the links, whereby the links and the brace arms are simultaneously shifted to and from an upper past center position, the brace arms and the links when shifted to a lower past center position permitting the awning to be shifted downwardly to overlie the wall opening and, latch means carried by the awning for retaining the brace arms and the link in the upper past center position against accidental downward shifting.

3. A combined awning shutter device of the character described that is formed of metal and that includes end panels and a connecting overlying cover that is co-extensive with the panels, the said device being pivoted in a

horizontal plane adjacent a wall opening and whereby the awning shutter is shiftable in a vertical plane to and from an overlying relation to the wall opening, fixed brackets carried by the wall above the wall opening for the pivotal support of the inner ends of the end panels, fixed brackets carried by the wall outwardly of the sides of the wall opening, brace arms pivotally connected to the last named brackets, the brace arms at their outer ends being pivotally connected to link devices that are pivotally connected to the end panels and whereby the brace arms and the links are shiftable to an upper past center position when the device is shifted to an extended awning forming position, stops for limiting the upper past center position of the brace arms and the links, a common connector bar fixed at its opposite ends to the links and whereby the links are simultaneously shiftable to and from an upper past center position, a flexible latch lever that is pivotally supported by the cover intermediate the width of the awning and that is shiftable to and from a latched engagement with the said bar, the latch lever having a flexible socket portion that has snapping engagement with the bar when the braces and the links are in their upper past center position and whereby to support the braces and the links against downward movement and a weather shield fixed upon the wall to overlie the rear end of the awning throughout its movement to and from an overlying position with respect to the wall opening.

4. The device according to claim 3 wherein the brace arms and the bar are tubular and with their opposite ends being flattened, the bar and the links being rigidly connected together and whereby movement of the bar in a vertical plane imparts a vertical swinging movement to the links, the said latch lever being disposed substantially intermediate the width of the awning to engage the bar substantially intermediate its length and whereby to impart a substantially equal support for both links, the said brace arms and the links being disposed inwardly of each end panel, a fixed angled bar that is fixed to the underside of the cover intermediate its width and with the latch lever being pivotally connected to the angle bar to be engageable with the link connecting bar, when the brace arms and the links are in their upper past center position.

5. The structure according to claim 3 wherein the latch lever is formed flat and with its lower portion being shaped to form a semi-cylindrical socket, the socket conforming to the tubular bar to have snapping engagement therewith, the terminal portion of the latch lever terminating in an open hook whereby the lever may be shifted to and from an engagement with the bar, the said latch lever when disengaged with the bar permitting the brace arms and the links to be shifted to a lower past center position and whereby to permit the lowering of the awning to a fully overlying position with the wall opening and means to lock the device in its overlying relation to the wall opening.

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