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3,149,381

COMBINATION AWNING AND STORM SHUTTER

Filed Sept. 24, 1962

2 Sheets-Sheet 1

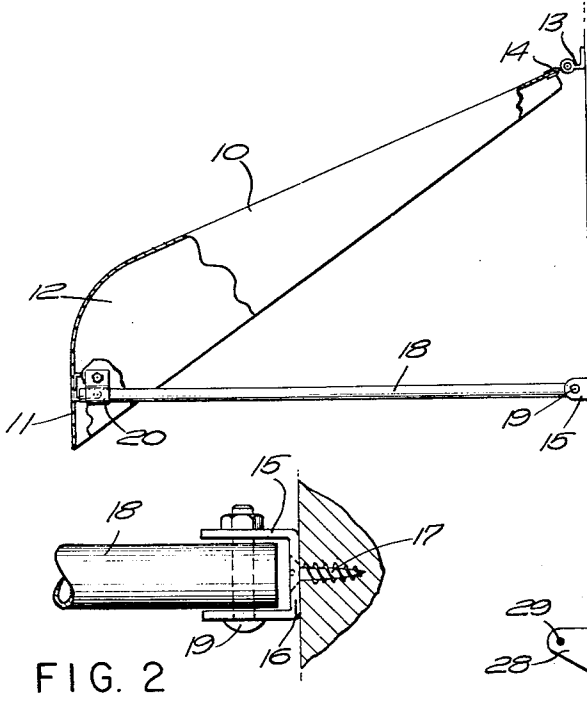


FIG. 1

FIG. 2

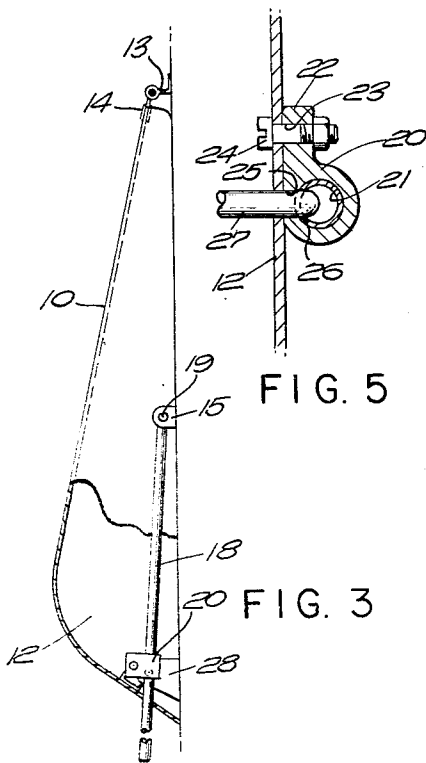


FIG. 5

FIG. 3

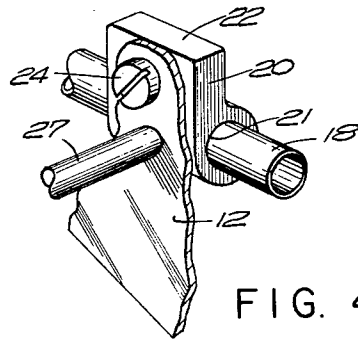


FIG. 4

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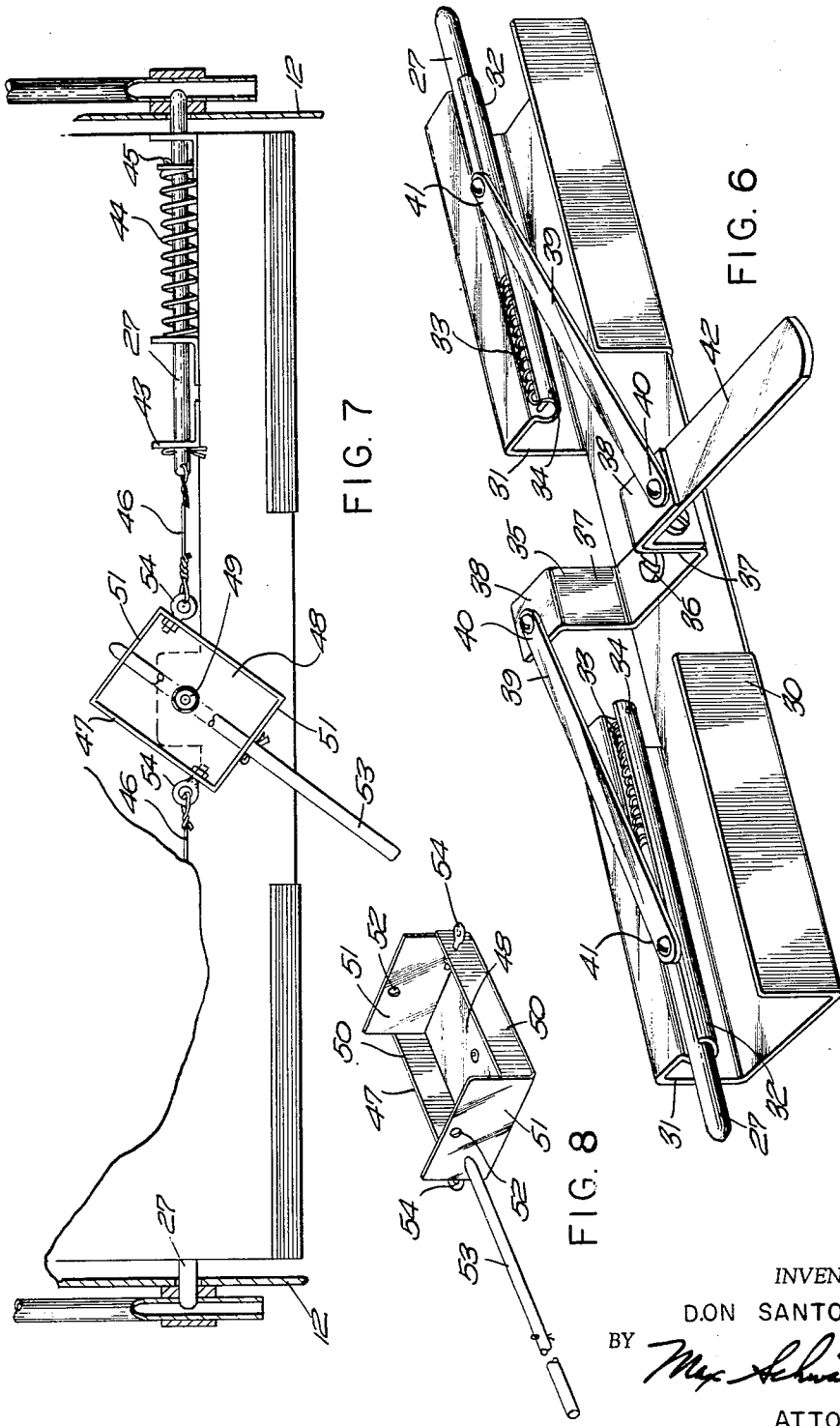
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2 Sheets-Sheet 2



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COMBINATION AWNING AND STORM SHUTTER
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1 Claim. (Cl. 20—57.5)

My present invention relates to window shutters and more particularly to a novel construction of a combination awning and storm shutter.

The principal object of the present invention is to provide an awning construction which can be converted to a storm shutter.

Another object of the present invention is to provide an awning construction which converts to a storm shutter and can be readily locked in either position.

A further object of the present invention is to provide an awning and storm shutter combination which is quickly and easily movable from one position to another.

Another object of the present invention is to provide a combination awning and storm shutter which is simple in construction and easy and economical to manufacture and assemble.

With the above and other objects and advantageous features in view my invention consists of a novel arrangement of parts more fully disclosed in the detailed description following in conjunction with the accompanying drawings and more particularly defined in the appended claim.

In the drawings,

FIG. 1 is a side elevation of an awning embodying my invention.

FIG. 2 is an enlarged section taken on line 2—2 on FIG. 1.

FIG. 3 is a side elevation of the construction shown in FIG. 1 with the awning dropped to a storm shutter position.

FIG. 4 is a perspective fragmentary view showing the locking arrangement at one side edge of the awning.

FIG. 5 is a section of the locking arrangement shown in FIG. 4.

FIG. 6 is a perspective view of the lock latch arrangement.

FIG. 7 is an alternative form of lock latch arrangement.

FIG. 8 is a perspective view of the operating pin and housing for operating the arrangement shown in FIG. 7.

Rigid type awnings have been used heretofore. However, in the southeastern portion of the United States there is a great incidence of hurricanes and other violent storms. In such instances it is essential that the awning be either removable or movable against the building to act as a shutter to protect the window. In most communities there are ordinances providing for minimum strength for such a combination awning and storm shutter. This must be so since if the awning is torn off by the storm it can be a dangerous hazard. The awning of the present invention provides a positive locking means for locking the device in awning position and provides for a quick and easy method of converting the awning to a storm shutter and for similarly locking the awning into storm shutter position, and for meeting the minimum required strength for such constructions. The operation is simple and easy enough for women or elderly persons to handle.

Referring more in detail to the drawings illustrating my invention, the awning 10 may be made of any suitable rigid material such as aluminum or plastic and is preferably made in a single integral piece. The awning 10 bends downwardly at the front edge 11 and is provided with integral end wing portions 12. Attachment of the awning to the building wall can be done in any conventional manner. In the illustrated form a hinged header 13 is mounted on the wall of the building and is provided with cooperating male and female hinge portions 14

which are attached to the upper edge of the awning 10. This provides a hinge attachment at the upper edge which allows the awning 10 to drop flat against the building as shown in FIG. 3.

It is contemplated that the awning 10 be normally positioned as shown in FIG. 1 with the lower edge of the end wings 12 at approximately 45° to the vertical wall of the house. In this position a line drawn horizontally from the awning to the house indicates the position of the mounting for the support bracket 15 illustrated in FIG. 2. The support or wall bracket 15 comprises a U-shaped member preferably of cast aluminum, the center portion 16 being permanently attached to the building wall by a screw 17. Each side of the awning 10 is supported by an arm 18 which can be formed of extruded aluminum tubing. Adjacent the inner end, each arm 18 is pivoted to the bracket arms 15 by means of a bolt 19 as shown in FIG. 2. I now provide a slide pivot member 20 having a large opening 21 for receiving the arms 18. The upper end of each pivot member 20 is provided with a post 22 having an opening 23 through which a bolt 24 locks the slide member to the end wings of the shutter. With the parts thus assembled the shutter can be moved from the position shown in FIG. 1 downwardly into the position shown in FIG. 3 where it is against the building. During this movement the side support arms 18 will pivot in their brackets 15 from the horizontal position to the vertical position shown in FIG. 3. Simultaneously the slide pivot member 20 will slide along the arms 18 as shown in FIG. 3.

Locking action either in the position shown in FIG. 1 or the position shown in FIG. 3 is provided by the latch member shown in FIGS. 4 and 5 and the latch mechanism illustrated in FIGS. 6, 7 and 8. Viewing FIGS. 4 and 5, the sliding pivot member 20 is provided with an opening 25 and the side arms 18 are provided with corresponding openings 26. A latch lock bar 27 is passed through both openings to lock the awning in the position shown in FIG. 1. If desired the arms 18 may be provided with a plurality of spaced openings so that the awning can be locked in other desired positions. When the awning is dropped into the position shown in FIG. 3, a tie down bracket 28 is provided on each side having an opening 29 which aligns with the opening 25 in the position shown in FIG. 3, the latch member 27 then enters the opening 29 to lock the awning in the tie down position shown in FIG. 3.

Referring to FIG. 6, an elongated supporting member 30 is preferably made of extruded aluminum and is provided at one side edge with spaced support portions 31 having their inner edges rounded to form a tubular trough 32. The latch members 27 are slidably mounted in the troughs 32 with the opposite rear ends of each latch member resting against a coil spring 33. The inner end of each trough 32 is provided with a pin stop 34 for limiting rearward movement of the springs 33. In the gap between the wings 31, the supporting member 30 is provided with a U-shaped retracting member 35 pivotally mounted at 36 to the center of the support 30. The member 35 is provided with vertical arms 37 terminating with flat outwardly extending horizontal wing portions 38. A lever arm 39 is positioned with one end 40 pivotally attached to the wing portion 38 and the other end 41 pivotally attached to the latch member 27. A handle 42 is attached to one of the wing portions 38 and its vertical wall 37 so that the member 35 can be pivoted about the pivot 36. As is obvious from the construction, when the lever 42 is swung to the left, the lever bars 39 will tend to pull the latch members 27 towards each other against the action of the springs 33. When the lever arm is released or moved in the opposite direction the latch members 27 will move outwardly apart urged by the

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springs 33 and the movement of the lever 42. Now reviewing the action as illustrated in FIGS. 1 to 5 inclusive, when the lever arm is moved towards the left as shown in FIG. 6, the pins 27 will retract and be withdrawn from the openings 26 and 25 and the awning 10 will be allowed to slide into the position shown in FIG. 3. Now when the lever 42 is released, the pins 27 will enter the openings 29 in the tie down brackets 28 to lock the awning into the position shown in FIG. 3. To release the awning and lift it back into the position shown in FIG. 1 it is merely necessary to move the lever 42 to the left, lift the awning and release the lever.

FIGS. 7 and 8 illustrate an alternative form of latch construction. In this form a small U-shaped bracket 43 is provided with spaced openings through which the latch members 27 are slidably mounted. A coil spring 44 surrounds the latch member 27 with one end resting against the U-shaped bracket 43 and the other end retained by a cotter pin 45 extending through the latch member. Thus the spring 44 urges the latch member 27 into the closed position illustrated in FIG. 7. The rear end of each latch member 27 is provided with a strap or wire 46. A rectangular housing 47 is provided with a bottom 48 which is pivotally attached to the awning 10 or a support provided therefor at 49. The housing 47 is provided with short side walls 50 and taller end walls 51. The end walls 51 are provided with aligned openings 52 to which an operating lever 53 can be inserted for pivoting the housing 47. The side walls 50 are provided at opposite ends with eye bolts 54 to which the wires 46 are attached. With the parts set up as illustrated in FIG. 7 it is obvious that when the lever 53 is moved to the left, the wires 46 at each side will be drawn inwardly towards each thus moving the latch members 27 towards each other. Movement in the opposite direction will cause the latch members to move outwardly. The operation of the construction shown in FIGS. 7 and 8 is thus identical with that shown in FIG. 6.

I have thus provided an awning mounting which has a positive locking action for locking the awning in raised position and which permits easy unlatching of the awning and again locking the awning in a shutter position. The action is simple so that it is very easy for a woman or elderly person or even a child to move the lever and switch the awning from shutter to awning and back again. The

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parts are simple and easy to manufacture and assemble and the entire construction can be made of extruded and cast aluminum parts. Other advantages of the present invention will be readily apparent to a person skilled in the art.

I claim:

A combination awning and storm shutter for a window comprising a rectangular awning of rigid material having end wing portions at each side, the rear edge of said awning being hinged above said window, a supporting arm pivotally mounted at one end to a fixed pivot on each side of the window, a block bolted to the outer forward portion of each end wing portion, said blocks each having a longitudinal opening, said pivoted supporting arms each slidably extending through one of said block openings, cooperative means on each arm and said awning to releasably lock said awning at an angle to the window, and means for releasably locking said awning in vertical position against the window, said locking means including a base mounted on said awning on the under side thereof, a pair of latch pins slidably mounted in axial alignment on said base, a coil spring mounted on said base behind each latch pin to yieldingly urge said latch pins outwardly from said base and said awning, and means for simultaneously withdrawing said latch pins against the action of said springs, said means including a member pivotally mounted on said base between the inner ends of said latch pins, a lever arm extending from each latch pin to opposite sides of said pivoted member, whereby pivotal movement of said member will draw said latch pins towards each other, and a manually operable lever for pivoting said member, said arms and said end wing portions and said blocks having aligned openings said latch pins extending slidably into said openings to lock said awning at an angle to the window, said vertical locking means including a bracket mounted adjacent the window, said latch pins engaging said bracket when said awning is pivoted to vertical position.

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