

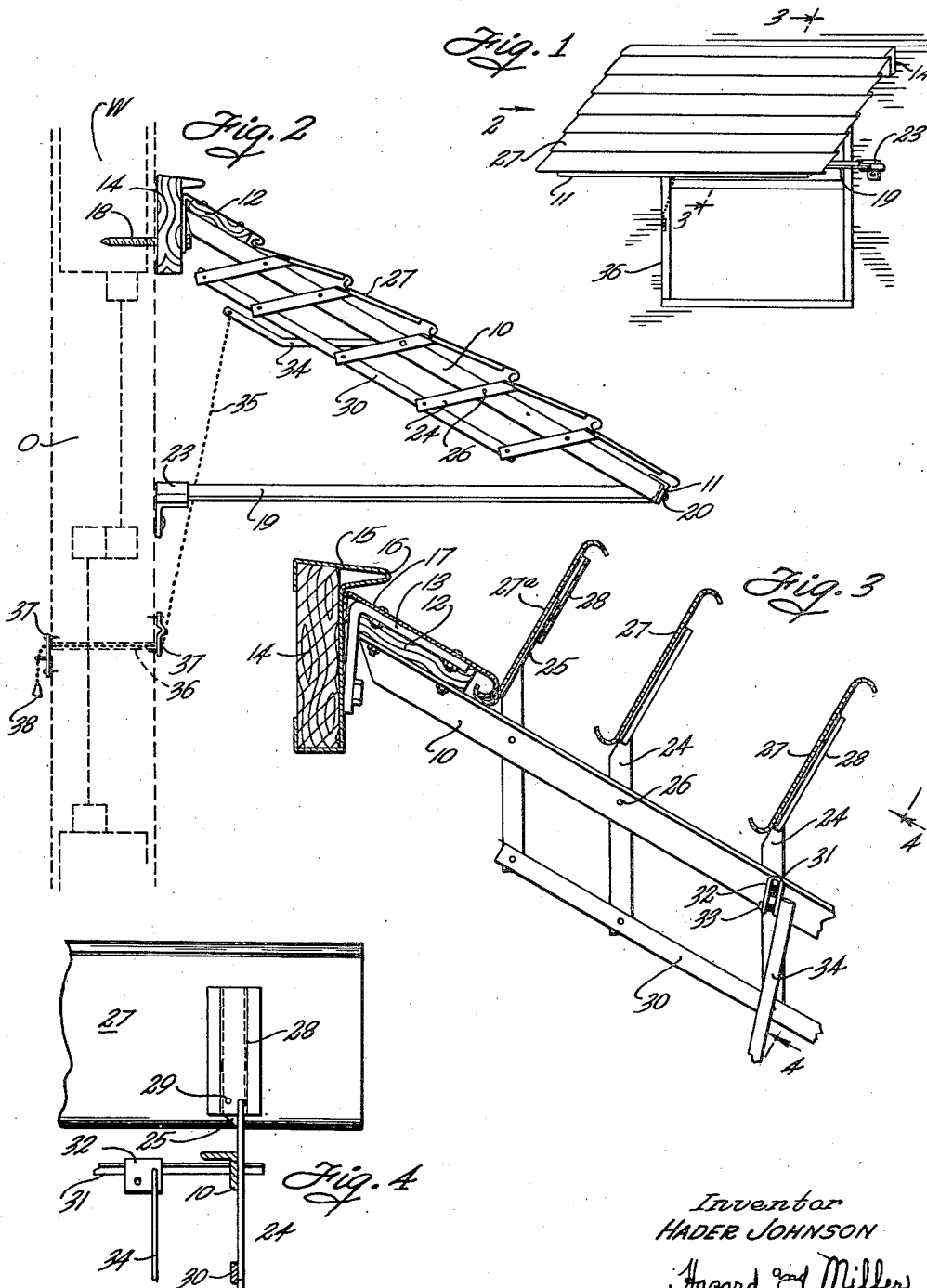
June 3, 1941.

H. JOHNSON

2,244,012

SHUTTER AWNING

Filed Oct. 3, 1939



Inventor
HADER JOHNSON
By Hazard and Miller
Attorneys

UNITED STATES PATENT OFFICE

2,244,012

SHUTTER AWNING

Hader Johnson, Los Angeles, Calif.

Application October 3, 1939, Serial No. 297,699

4 Claims. (Cl. 156—15)

This invention relates to improvements in so-called shutter-awnings.

An object of the invention is to provide an improved construction which may be applied to a building over a window opening therein which serves when in collapsed condition, as an awning and when in expanded position, as a type of shutter. In this manner increase of light and air to the window opening can be controlled readily from the window opening.

More specifically, an object of the present invention is to provide an improved device of this character wherein an adjustment is provided that will facilitate mounting or installation of the device over a window opening.

Another object of the invention is to provide a shutter-awning wherein the panels are of novel construction so that when they are in overlapping or collapsed positions the entire structure is weatherproof affording no opportunity for leakage either between the overlapping panels or between the uppermost panel and the attaching means.

Another object of the invention is to provide an improved form of lever construction by which the panels are simultaneously or synchronously tilted, the improved lever construction being such that it may be easily constructed and when constructed is quite sturdy and rigid.

Another object of the invention is to provide a novel and simple form of operating means by which the panels may be tilted.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawing for an illustrative embodiment of the invention, wherein:

Figure 1 is a perspective view of a window opening in a wall illustrating the improved shutter-awning as having been applied thereto;

Fig. 2 is a view is an end elevation of the shutter-awning taken substantially in the direction of the arrow 2 upon Fig. 1.

Fig. 3 is a partial view in section taken substantially upon the line 3—3 upon Fig. 1;

Fig. 4 is a partial view in section taken substantially upon the line 4—4 upon Fig. 3 in the direction indicated.

Referring to the accompanying drawing wherein similar reference characters designate similar parts throughout, the improved shutter-awning comprises a suitable frame shown as being rectangular in form and including side bars 10 having their lower ends connected by a front bar 11.

The side bars and front bars are preferably formed of angle irons but other material may be substituted therefor if desired. The angle irons forming the side bars have the flanges at the tops thereof turned inwardly. The upper ends of the side bars are provided with blocks 12 which are preferably formed of wood and which are bolted to the upper ends. To these blocks 12 there is attached angle members 13 formed of yieldable metal and the vertical legs of these angle members are attached to an attaching bar 14 which may likewise be formed of wood. The attaching bar may be enclosed within sheet metal 15 having a lip 16 which overlies a sheet metal cap 17 applied over the upper blocks 12. The attaching member 14 may be attached to the outer side of a wall W indicated in dotted lines upon Fig. 2 over the window opening therein indicated at O as by means of lag screws 18. Braces 19 are provided, the outer ends of which may be attached to the forward transverse member 11 as by bolts or rivets 20. These braces are preferably in the form of T irons with the forward portions of the vertical webs cut off in advance of the horizontal portions. The projecting ends of the horizontal portions are bent upwardly against the inner face of the forward transverse member 11 as indicated by dotted lines on Fig. 2. The rear ends of the braces are received in sockets 23 shaped to fit the rear ends and to receive them, which sockets are adapted to be attached to the face of the wall.

As there is frequently some slight adjustment necessary in applying the frame to the wall adjacent the window opening the angle members 13 are somewhat bendable at the corners thereof to permit of slight adjustment upon the application of the braces 19 and the sockets 23 and the insertion of the braces into the sockets.

Against the outer sides of the side bars 10 of the frame a plurality of levers 24 are positioned. These levers are in the form of heavy sheet metal bars positioned against the outer sides of the side members 10 with their upper ends laterally bent as indicated at 25 so as to overlie the tops of the side bars 10. Most of the levers are pivotally mounted on the side bars as by rivets 26. A plurality of panels or louvers 27 are provided, these preferably being formed of sheet metal and have small caps 28 which are formed of sheet metal spot-welded or otherwise attached to their under sides. The laterally bent portions 25 of the levers are receivable in these caps and in the instance of all panels below the uppermost panel there is a small aperture in the laterally bent

portions of the lever into which a portion of the cap is pressed as indicated at 29 such as by a punch. In this way, the connection between all lower panels 27 and their respective levers is in the form of a rigid connection. Any other means may be employed for rigidly fastening the lower panels to their levers if desired. In the case of the uppermost panel 27a the cap is not punched as indicated at 29 so that the laterally bent portions 25 of the levers used in conjunction with this panel are free to slide within the caps 28 on the under side of this panel. The lower ends of the levers are pivotally connected to an operating link or bar 30 so that all levers will be operated simultaneously or synchronously. One of the pairs of levers, as shown in Fig. 3, has its pivotal connection with the side bars provided by a cross bar 31 which is non-circular in cross section and which has a clamp 32 applied thereto that can be tightened in any adjusted position as by a screw 33. This clamp carries a crank or operating rod 34, the swinging end of which may be attached to a chain or other flexible element 35 which is trained through an opening in the stile 6 of the window frame. Suitable fittings may be applied over the ends of the opening as indicated at 37 and a knob 38 may be applied to the chain and arranged on the inside of the wall W. A pull on the chain causes the swinging ends of crank 34 to be swung downwardly to shift the panels from the collapsed position shown in Fig. 2 to the expanded position shown in Fig. 3. Any intermediate adjustment between these two extreme positions may be had if desired.

As clearly shown in Figs. 2 and 3, the lower edge of each panel is curled downwardly and the upper edge of each panel is curled upwardly so that when the panels are in overlapping position as shown in Fig. 2, spill from one panel takes place on the body of the next subjacent panel without danger of leaking between the overlapped panels. The sheet metal covering 17 also has its lower edge curled downwardly so as to overlap the upwardly curled upper edge of the uppermost panel 27a. This construction forms a weatherproof joint between the upper panel and the attaching means and also forms a type of hinged joint between the uppermost panel 27a and the frame. Thus, the uppermost panel is swung about this hinged joint as a center and the levers connected to the uppermost panel slide relatively thereto. The remaining panels 27 being rigidly attached to their respective levers 24 swing about the pivot point 26 of the levers as centers so that when the panels are moved into collapsed position as shown in Fig. 2 the hooked or curled edges may overlap without interference as indicated.

It will be noted that the laterally bent portions 25 of the levers overlies and snugly fit against the tops of the side bars 10. It has heretofore been proposed to use levers wherein the levers were merely twisted intermediate their ends. The use of such twisted levers I find to be unsatisfactory in that the twist is not uniform in the case of all levers with the result that there is some danger of binding and furthermore, I find that the twisted type of lever is generally too weak to provide a stiff, sturdy type of construction. By the present construction I secure the advantages of simplicity and sturdiness and I am able to use uniform levers and caps 28 for all panels whether a rigid con-

nection is provided between the lower panels and the levers, or a slidable connection between the upper panel 27a and its levers depends on whether a portion of the cap is forced into the hole in the laterally bent portion of the levers as indicated at 29 or not.

It will thus be appreciated that the improved construction has a number of advantages and provides for adjustment of the construction to take care of different conditions of installation. When the frame and braces are installed, the position of the crank 34 may be adjusted on the cross bar 31 to any desired position which will facilitate operation by means of the chain 35.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. In a device of the character described, a frame, means for attaching the frame over a window, a plurality of panels, levers pivotally mounted upon the frame connected to the panels, means for tilting the levers so as to tilt the panels relatively to the frame, the uppermost panel having an overlapping hinged connection with the attaching means, the connection between the uppermost panel and its lever being a slidable connection, the connections between the remaining panels and their levers being rigid.

2. A device of the character described comprising a frame, levers pivotally mounted upon the frame, panels on the frame adapted to be caused to assume overlapping positions or spaced open positions by the levers, means for attaching the frame over a window, the upper edge of the uppermost panel having a hinged connection with the attaching means, and means rigidly connecting all panels except the uppermost panel to their respective levers so as to be operable thereby, and means slidably connecting the uppermost panel to its respective levers whereby it may be operated thereby while remaining hingedly attached to the attaching means, and means for simultaneously shifting the levers.

3. A device of the character described, comprising a frame, levers pivotally mounted upon the frame, panels on the frame adapted to be caused to assume overlapping positions or spaced open positions by the levers, means for attaching the frame over a window, the upper edge of the uppermost panel having a hinged connection with the attaching means, caps rigidly secured to the undersides of all panels into which the ends of the levers extend, the lever ends being fastened between the caps and the panels in all instances except in the case of the uppermost panel in which case the lever ends are slidable between the caps and panels to enable swinging movement of the uppermost panel about its hinged upper edge, and means for operating the levers.

4. In a device of the character described, a connection between a lever and a panel comprising a cap secured to the underside of a panel providing a space into which the end of a lever may extend, the end of the lever having an aperture formed therein into which a portion of the cap may be punched to rigidly secure the lever to the panel where desired and into which the cap need not be punched where a slidable connection between a lever and its panel is desired.

HADER JOHNSON.