May 17, 1960 H. K. SCOTT 2,936,498

AWNING AND STORM SHUTTER

Filed May 26, 1955 3 Sheets-Sheet 1

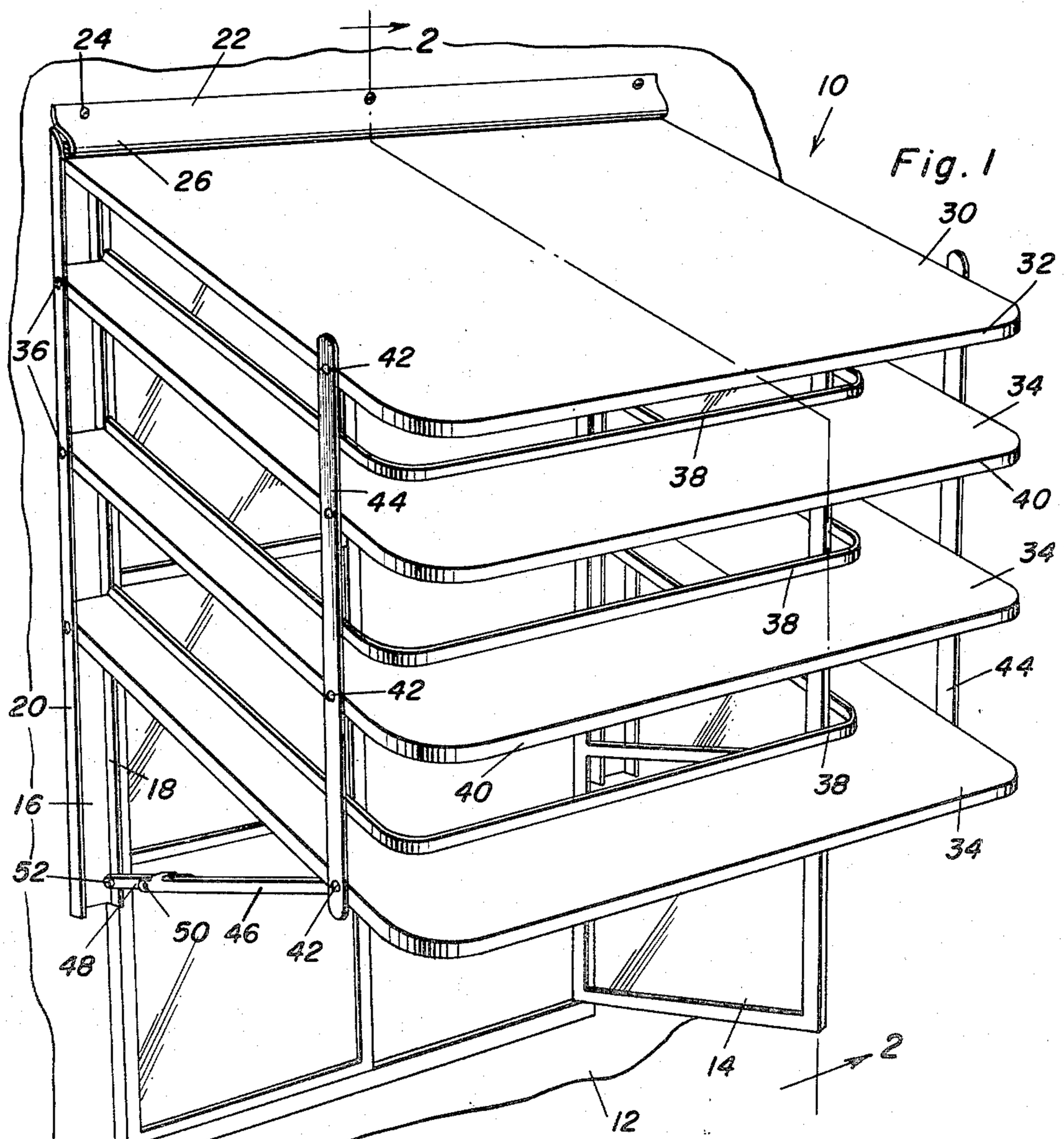


Fig. 1

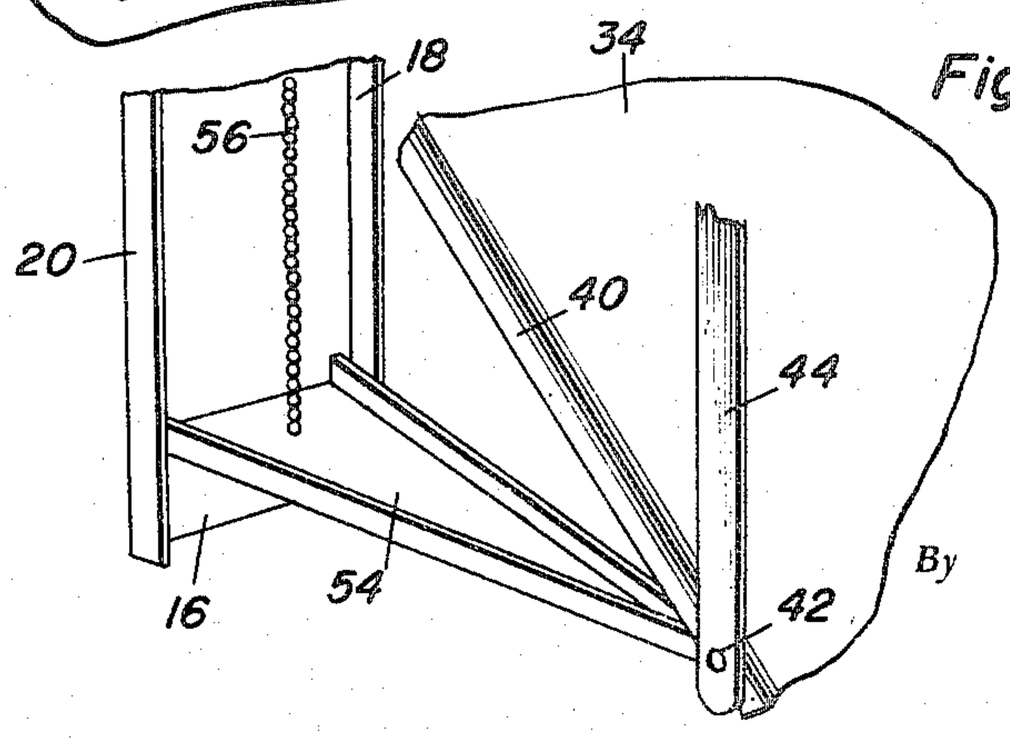


Fig. 5

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May 17, 1960 H. K. SCOTT 2,936,498

AWNING AND STORM SHUTTER

Filed May 26, 1955 3 Sheets-Sheet 2

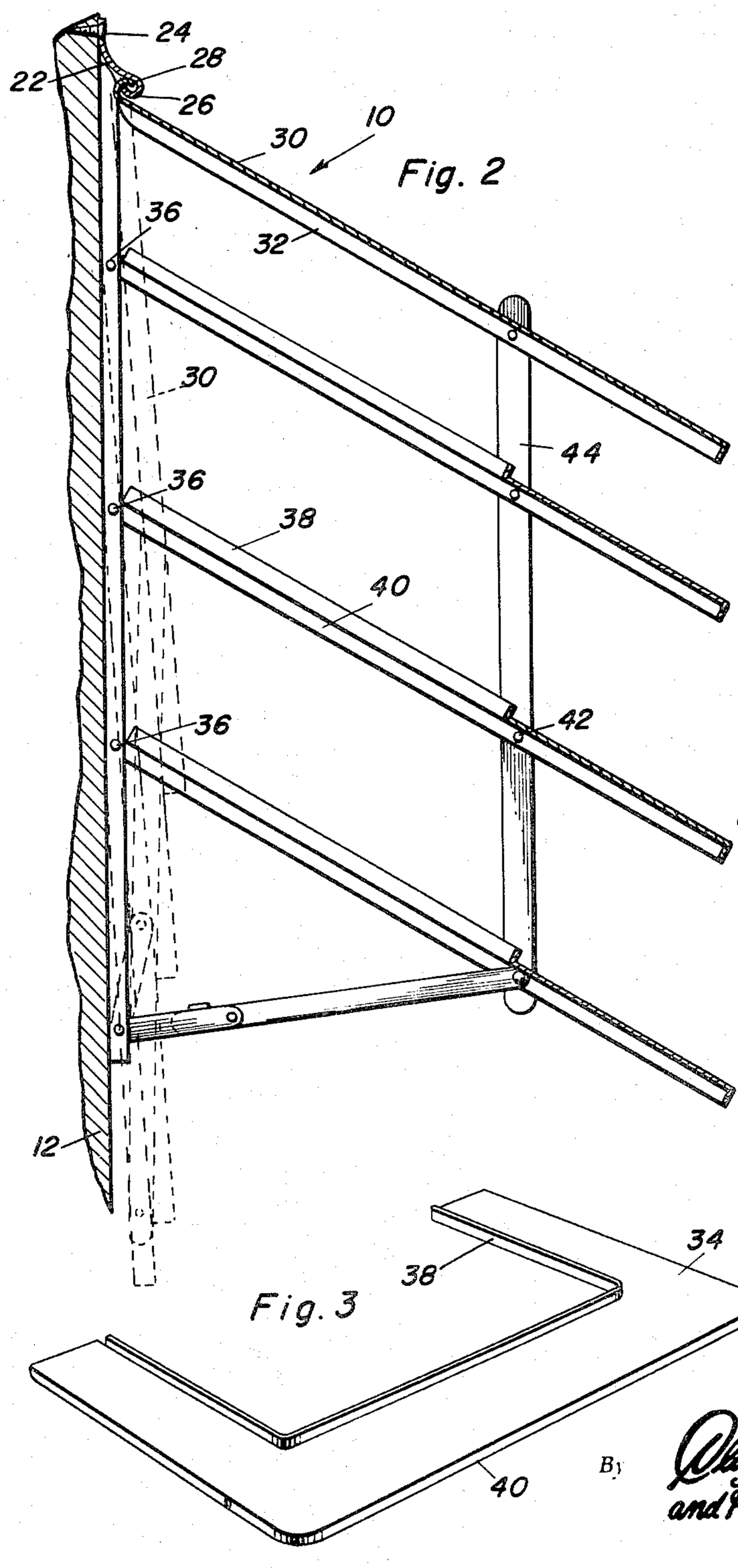


Fig. 2

Fig. 3

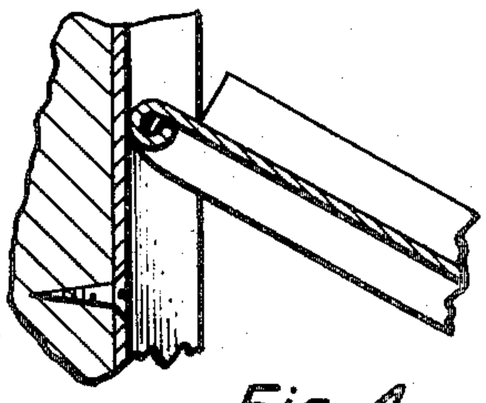


Fig. 4

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May 17, 1960 H. K. SCOTT 2,936,498

AWNING AND STORM SHUTTER

Filed May 26, 1955 3 Sheets-Sheet 3

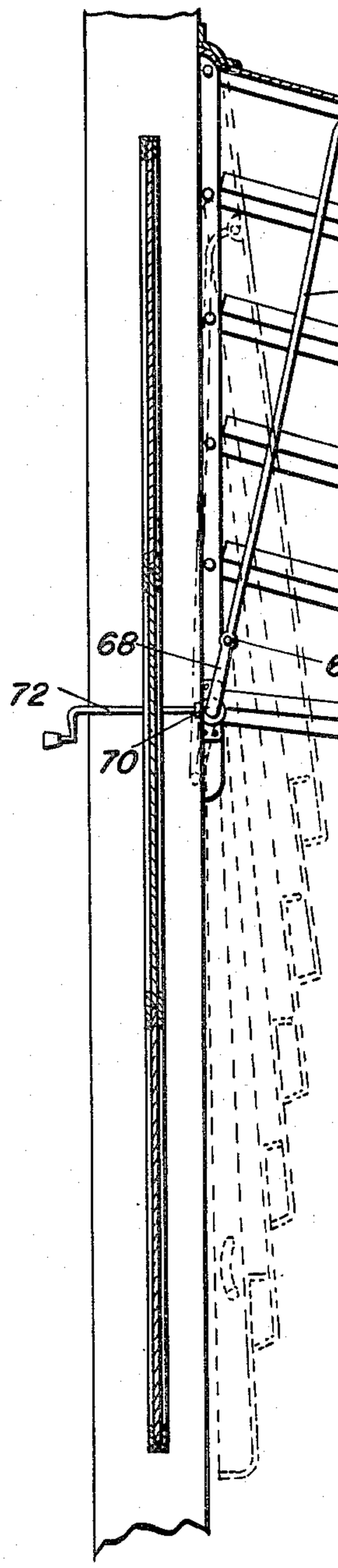


Fig. 6

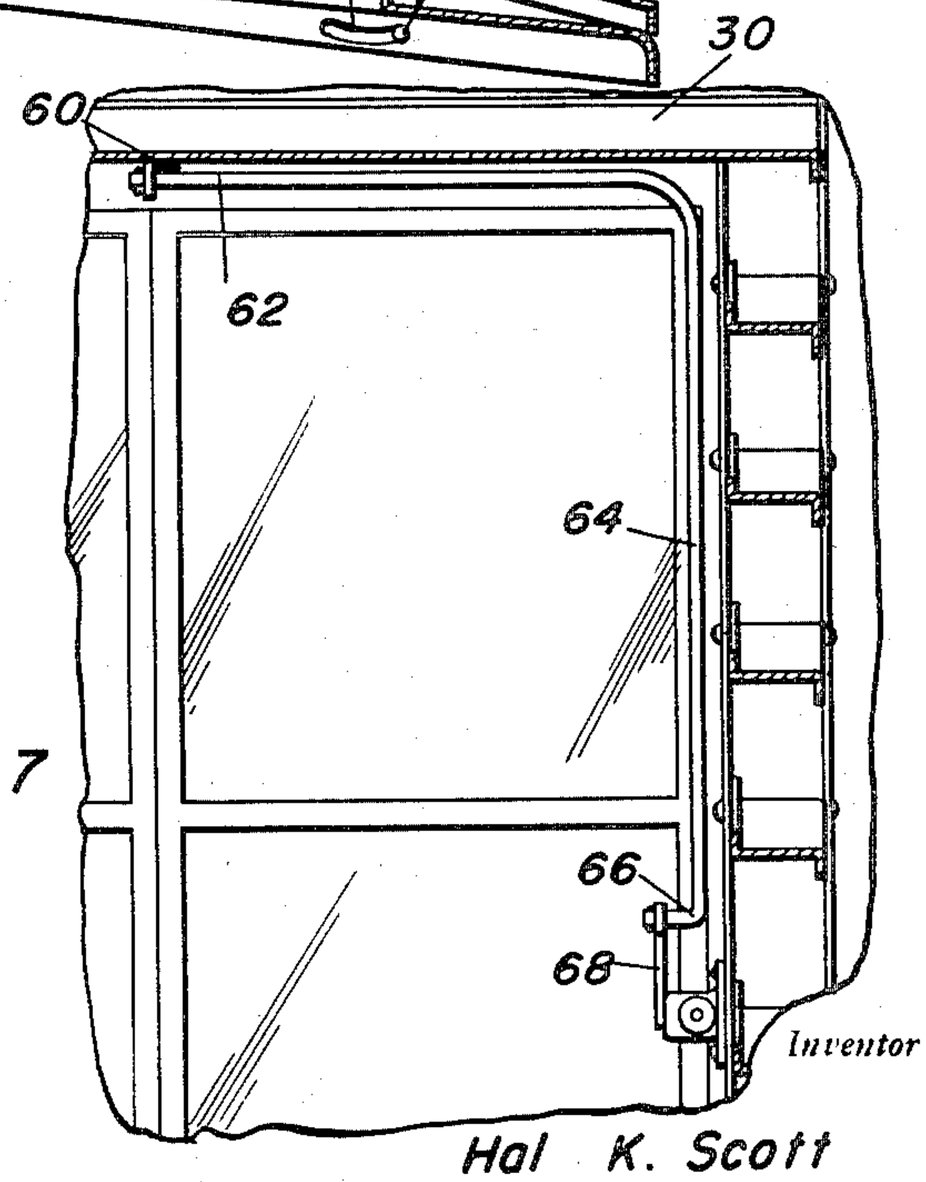


Fig. 7

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AWNING AND STORM SHUTTER

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Application May 26, 1955, Serial No. 511,222

9 Claims. (Cl. 20—57.5)

This invention comprises novel and useful improvements in an awning and storm shutter and more specifically pertains to a device which will permit casement windows to be opened when the awning and storm shutter is in its elevated position.

The primary object of this invention is to provide an improved awning and a storm shutter construction which may be applied to windows and which will not interfere with the opening or closing of the windows in the raised position of the awning.

A further object of the invention is to provide an awning and a storm shutter construction which in the raised position of the device will permit the passage of air and light to the space beneath the awning while affording substantial protection against the direct rays of the sun, and against the ingress of rain, snow and the like.

A still further object of the invention is to provide an improved construction of ventilated awning which is mounted for vertical pivoting movement and may be selectively positioned in its raised position to function as an awning, or may be selectively lowered into its closed position as a storm shutter.

Yet another important object of the invention is to provide a device as set forth in the foregoing objects which shall be of simple and inexpensive and yet improved construction, may be easily operated, and may be readily applied or removed as desired.

These, together with various ancillary features and objects of the invention which will later become apparent as the following description proceeds, are attained by the present invention, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a perspective view showing a suitable embodiment of the invention attached to a window opening and positioned in the operative or raised position of the device, a casement window being shown in its open position;

Figure 2 is a vertical longitudinal sectional view taken substantially upon the plane indicated by the section line 2—2 of Figure 1, the awning being shown in its raised position in full lines but the same as functioning as a ventilated awning, and shown in closed position in dotted lines with the device as functioning as a storm shutter;

Figure 3 is a perspective view of one of the lower panels forming an essential element of the awning;

Figure 4 is a detailed vertical sectional view showing the manner of hingedly mounting an end of one of the panels to its supporting member for vertically pivoting movement;

Figure 5 is a fragmentary detail perspective view of a slightly modified form of means for locking the awning in its raised position;

Figure 6 is a view similar to Figure 2 but showing the awning provided with a modified actuating means for raising and lowering the same; and,

Figure 7 is a further vertical sectional detail view showing the awning and actuating structure of Figure 6.

Referring now more specifically to the accompanying drawings, wherein like numerals designate similar parts throughout the various views, attention is directed primarily to Figures 1 and 2, wherein the numeral 10 designates generally the improved awning and storm shutter construction, which is adapted to be mounted upon any suitable supporting surface such as the wall 12 of a building construction, which wall is provided with a casement window having outwardly opening windows 14. The attachment forming the subject of this invention is adapted to be mounted upon the supporting surface 12 beneath means of a pair of side channel members 16, these channel members having the usual parallel side walls 18 and 20. The channel members 16 are adapted to be secured to the supporting surface 12 in any suitable manner such as by screws or the like, not shown.

Likewise secured to the supporting surface 12 is a combined storm cap and hinged support for the upper handle of the awning, which consists of a laterally extending strip of material as indicated at 22, this being attached to the supporting surface as by fastening screws 24, and having at its lower end a cylindrical, downwardly and inwardly turned beaded portion 26 forming a substantially cylindrical recess upon the inner surface of the member 22, as will be more apparent from Figure 2.

Hingedly secured to the bead 26 for vertical pivotal movement therein is the upturned, horizontally extending flanged portion or edge 28 of a top awning panel 30 constituting a roof panel or cover for the entire device. By means of the engagement of members 28 and 26, it will be seen that this top panel 30 is further provided with a downturned flange 32 extending about three sides of its outer edge.

In addition to the top or roof panel 30, the device is further provided with a plurality, which may be of any desired number, of substantially identical lower panels 34. Each of these lower panels, which is substantially coextensive as to size and shape with the top panel 30, is notched or cut away so that the same is substantially of a U-shape, and has the extremities of the legs of the U-shaped panel pivotally secured as by screws or other fasteners 36 to the side walls 18 and 20 of the vertical channel 16, whereby the lower panels are likewise mounted in vertically and linearly spaced position relative to the top or cover panel 30, for vertical pivoting movement as set forth hereinafter.

As will now be readily apparent from Figures 1 and 3, the lower panels are each provided with an upturned flange 38 at what may be termed the inward edge of the U-shaped panels, and with a downwardly turned flange 40 at the outer edge of the panels. Flange 38 serves to prevent rain or other matter from being blown or passing inwardly of the lower awning panels into the space formed by the notched or recessed portions of the same, in a manner which will be readily understood.

The top panel 30, and each of the lower panels 34 are pivotally secured together for simultaneous pivoting movement as by means of pivotal connections 42 with a connecting rod member 44.

A brace member is provided for locking or securing the awning in its raised position. This brace may conveniently comprise a pair of straps 46 and 48 forming leg members, and pivoted to each other as at 50, and having their extremities pivoted to a channel member 60 as at 52, and to one of the awning panels and/or the connecting rod 44 as by one of the pivots 42. The construction may be similar to that of the well known lock-

ing device for the folding legs of a card table, whereby the hinge **50** of the brace members **46** and **48** may be raised, thus permitting the members **46** and **48** to pivot upwardly about their respective pivots **42** and **52**, as the awning panel members pivot vertically to their downward position.

It will now be understood that the recess or notched space provided by the cut away portions of the lower panels, will be of sufficient size to permit the casement window **14** to be opened as shown in Figure 1 while the awning is in its raised position. The awning itself is intended to provide a sloping awning **30** over the opened windows, while the vertically spaced passages between the successive panels of the awning permit the inflow of air and light, whereby ventilation may be readily had to the space below the awning as well as to the interior of the room provided with the window **14**, but which will clearly prevent the ingress of rain, snow or the like in a manner well understood in the art.

It is of course understood that other equivalents for the brace member illustrated in Figure 1 may be provided for securing the awning in its raised position. For this purpose, some such construction as that shown in Figure 5 may be found to be expedient. In this arrangement, the brace member illustrated in Figure 1 may be replaced by a channel member **54** which is of tapering width from its pivoted connection at **42** with the connecting rod **44** and the flange **40** of the awning panel **34**, to its maximum width at the extremity which is slidably received in the channel member **16** between the side walls **18** and **20**. The extremity of the brace member **54** may be attached as by a suitable chain **56** or the like whose upper extremity is anchored at any suitable point upon the channel member **16**, so that the brace member **54** in its lowered position as shown in Figure 5 will abut against the bottom wall of the channel **16** between the side walls **18** and **20** thereof to prevent downwardly pivoting movement of the awning panels; while being moved in the direction indicated by the arrow in Figure 5, the brace member may be folded upwardly against the panel **34** and thus permit the entire awning assembly to be collapsed into the dotted line position shown in Figure 2.

Obviously, means may be provided for manually operating the awning, from its raised to its lowered position from the interior of the construction upon which the awning is mounted. For this purpose, as shown in Figures 6 and 7, the top panel or cover **30** of the awning may be provided with one or more downwardly extending lugs **60** having apertures for pivotally receiving the laterally extending arms **62** of a connecting rod operating member **64**, having at its lower end a further laterally extending arm **66** pivotally received in the extremity of a crank arm **68** mounted upon a crank shaft **70**. The crank shaft **70** is suitably journalled for rotational movement, and is connected as by a worm and pinion gearing, not shown, to an operating crank **72** disposed within the building construction and extend ng through the casement of the same. In place of the brace members previously described for holding the awning in its raised position, there is provided a lower panel **74** substantially similar in construction and shape to the lower panels **34**, but angularly inclined with respect to the same, and being provided with an arcuate slot **78** engaging a pivot pin **76** on the connecting rod **44**, the latter being pivoted as at **42** to each of the various lower panels **34** and the top or cover panel **30**. This arrangement is such that upon rotation of the handle **72**, the gearing connection of the same with the crank shaft **70** will rotate the crank arm **68**, and thus pivotally raise or lower the connecting rod and through this engagement of the same with the lug **60**, will raise or lower the entire awning assembly. In this operation the thrust is imparted directly to the top panel **30** and through the connecting rod **44** to each of the lower panels **34** and to the brace panel **74**, the latter being of course coextensive with and of the same construction as the lower panels. Owing to the difference in inclination or to the nonparallel relation of the lower panels to the brace panel **74**, the arcuate slot **78** is necessary to permit the pin **76** to have a lost motion connection with the brace panel so that the awning may be collapsed into its fully lowered position as shown in dotted lines in Figure 6, from the open position shown in full lines therein.

As in the preceding embodiment, the notches or recesses in the lower panels and in the brace panel **74** permit the casement window to be opened when the awning is in its raised position. In all of the arrangements shown however, the casement windows may be closed, whereupon the entire awning assembly may be fully collapsed and will function as a storm shutter.

Having described the invention, what is claimed as new is:

1. A ventilated awning comprising an imperforate flat roof panel, a plurality of vertically spaced lower panels, means hingedly and individually mounting each of said panels to a substantially vertical supporting surface in vertically and lineraly spaced relation, each of said lower panels being cut away at their hinged side to provide a vertical chamber of uniform area extending through the set of lower panels, means secured to the outer edges of and connecting said panels for simultaneous movement, actuating means for imparting pivotal movement to said panels.

2. In combination with a building structure having an outwardly opening window, a combined storm shutter and ventilated awning comprising a flat, imperforate top panel and a plurality of lower panels, means for hingedly mounting said panels to said structure in linearly and vertically spaced relation for vertical pivoting movement, each of said lower panels having a cut away portion providing a vertically extending clearance of uniform area in the panels in their vertically elevated position for receiving said window in its opened position, said top panel being positioned above said window, means for actuating said panels in vertical pivoting movement.

3. The combination of claim 2 wherein each of said lower panels has relatively upwardly and downwardly extending flanges upon its inner and outer edges.

4. The combination of claim 1 wherein said mounting means includes a channel member, said panels being pivoted within said channel member.

5. The combination of claim 2 wherein said mounting means includes a channel member, said panels being pivoted within said channel member.

6. A convertible ventilated awning and storm shutter comprising a vertical support means for mounting upon a vertical surface upon the opposite sides of an outwardly opening window, a plurality of panels each pivoted to said support means at vertically spaced locations thereon, said panels being vertically swingable between raised, substantially horizontal, parallel awning forming positions and lowered, substantially vertical, storm shutter forming positions, the uppermost of said panels being imperforate and constituting in its raised position a roof for said awning and in its lowered postion constituting a complete closure for said window, the remainder of said panels having each a cut away portion in the edge thereof adjacent said vertical surface, said cut away portions in the raised position of said panels being vertically alinged and providing a clearance for receiving the window in the outwardly opened position of the latter.

7. The combination of claim 6 wherein each of said other panels has an upstanding flange along the rim of its cut away portion whereby to prevent the flow of water along the top surface of said panel into said clearance in the raised position of said panels.

8. The combination of claim 6 wherein each of said other panels has an upstanding flange along the rim of its cut away portion whereby to prevent the flow of

water along the top surface of said panel into said clearance in the raised position of said panels, and a downturned depending flange upon the outer edge of each of said panels for shedding water therefrom when the panels are in their raised position.

9. The combination of claim 6 including rigid members pivoted to each panel, a foldable brace pivoted at its opposite ends to said vertical support and to one of said panels for securing said panels in their raised position.

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