Feb. 1, 1938. J. M. SULLIVAN 2,106,962

COMBINATION METAL AWNING AND SCREEN

Filed Feb. 11, 1935

Fig. 1

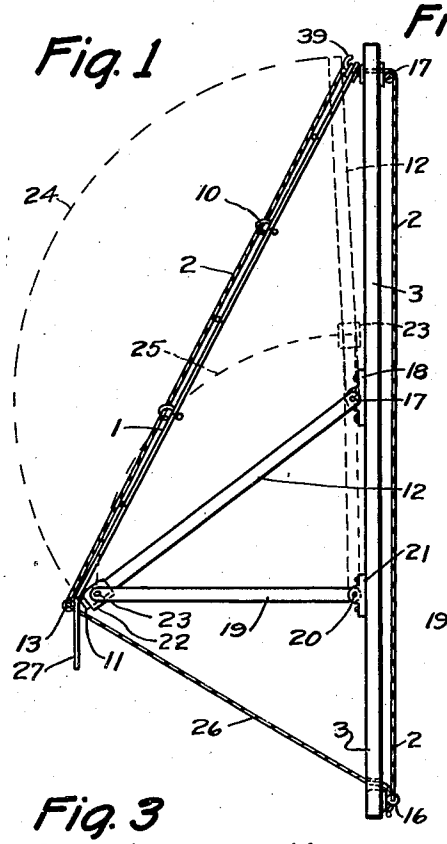


Fig. 2

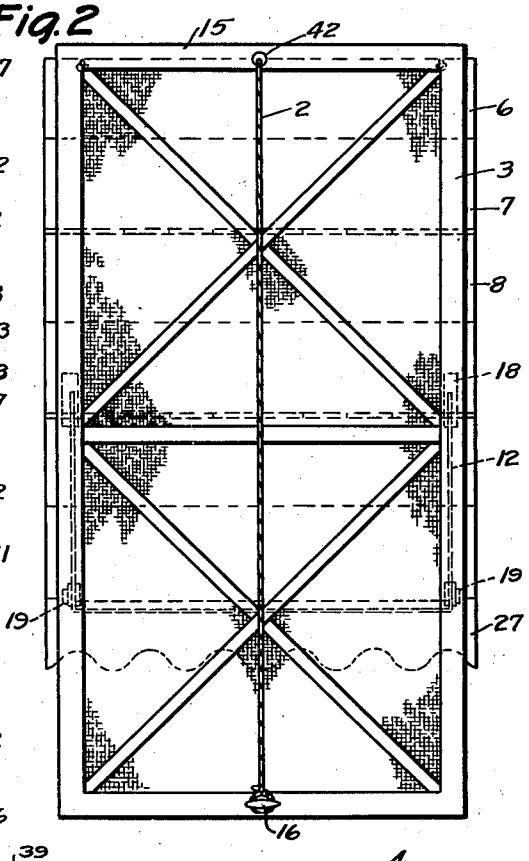


Fig. 3

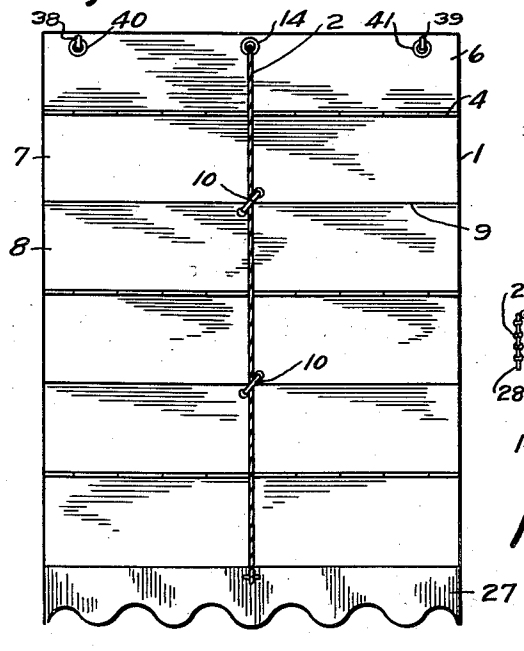


Fig. 4

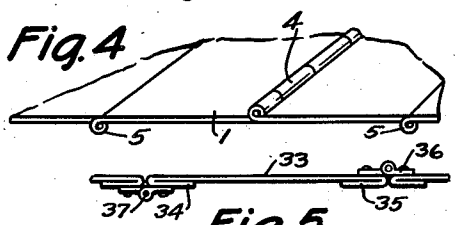


Fig. 5

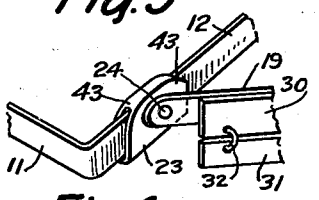


Fig. 6

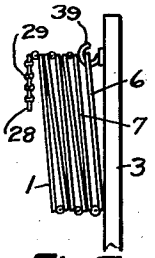


Fig. 7

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2,106,962

COMBINATION METAL AWNING AND SCREEN

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Application February 11, 1935, Serial No. 6,061

1 Claim. (Cl. 156—43)

The purpose of this invention is to provide a metal awning adapted for domestic use, that may be raised and folded by a pull cord, and which may be used in combination with a screen having a metallic frame.

The invention is a metal awning made of a plurality of relatively wide metal strips hinged together and provided with a pivotally mounted supporting frame which is adapted to be attached to the outer surface of the metal frame of a continuous screen, and also provided with means whereby it may be raised and lowered from the interior, and without removing the screen.

This invention is an improvement over my copending application with the Serial Number 739,726 in that the awning of the former application is replaced by a metallic awning and provided with a supporting frame which swings directly upward and downward, replacing the vertical rods upon which the lower ends of the awning frames slide.

It is appreciated that there are many metal awnings of different types, however, substantially all of these are rolled upon a roller, or formed with telescoping plates which slide in relation to one another, and it has been found desirable to provide an awning of this type which may fold at the top of the window somewhat similar to a fabric awning, and which may be raised and lowered in the same manner.

The object of the invention is, therefore, to provide a metal awning which may be used in combination with a complete metal screen in which the awning may readily be raised and lowered from the inside of the screen and without removing the screen from the window.

Another object is to provide an awning frame in which the vertical rods upon which the lower end of the supporting members slide are eliminated.

Another object is to provide means for hinging a plurality of plates to form an awning so that the plates will alternately fold as the lower end of the awning is drawn upward.

A further object is to provide a metal awning which may readily be hung in substantially the same manner as a fabric awning.

And a still further object is to provide a folding metal awning which is of a comparatively light weight and also of a simple and economical construction.

With these ends in view the invention embodies a plurality of transverse plates alternately hinged, and a screen frame with the upper plate of the awning mounted upon hooks extending from the screen frame, with supporting members holding the lower end of the awning outward and permitting the said lower end to fold upward, and a cord extending from the lower end of the awning upward through the upper end of the screen and downward on the inside thereof, providing means for raising and lowering the awning from the interior of a window upon which it may be used.

Other features and advantages of the invention will appear from the following description, taken in connection with the drawing, wherein:

Figure 1 is a view showing a side elevation of the awning in the lower or open position and with the awning mounted upon a screen.

Figure 2 is a view looking toward the inside of the screen showing the cord by which the awning may be raised and lowered, and also showing the awning in dotted lines.

Figure 3 is a front elevation of the awning.

Figure 4 is a detail showing the method of hinging the plates.

Figure 5 is a similar detail showing an alternate type of construction.

Figure 6 is a detail showing one of the outer corners of the supporting members.

Figure 7 is a detail showing the awning in the folded position.

In the drawing the awning is shown as it may be made wherein numeral 1 indicates one of the plates, numeral 2 the cord by which the awning may be raised and lowered, and numeral 3 the screen upon which the awning may be mounted.

It will be understood that although the awning is shown and described as mounted upon a metal screen, it may also be used upon a screen of any other material or type, and the supporting frame may be used for an awning of any other type or design.

In the design shown the plates 1 are comparatively wide and extend continuously across the awning as shown in Figure 3, and these plates are hinged together with continuous hinges 4 on the upper side, and similar hinges 5 on the lower side, and with the upper and lower hinges alternated, as shown, it will be noted that the plates may bend upward where the hinges are on the lower side, and downward where the hinges are on the upper side, so that with one of the hinges 4 at the lower edge of the upper plate, which is indicated by the numeral 6, the next plate 7 may fold upward and the following plate 8 downward. This may be continued throughout the length of the awning and it will be understood that as

many plates as desired may be used, and these may be of any width. The joints that fold upward, such as the joint 9 between the plates 7 and 8, are provided with rings 10 through which the lifting cable 2 passes, and it will be noted that as the ends of the awning are drawn together these points will be held upward by the cable, whereas the intermediate points will be free to drop downward, and therefore as the cable 2 is drawn upward it will raise the lower end of the awning, and the joints corresponding with the joint 9 will raise, and the intermediate joints lower so that the awning will assume the position shown in Figure 7 in which half of the joints extend upward and half downward so that the plates are folded together similar to an accordion. The lower end of the cable 2 is attached to a supporting cross member 11 of a supporting brace 12 through an eye 13, and this cable passes upward over the plates and through an eyelet 14 in the upper edge of the upper plate 6. The cable then passes through the upper member 15 of the screen 3, and downward on the inside of the screen where it may be attached to a cleat 16 as shown. The inner part of the screen frame may be provided with a pulley 17 over which the cable passes. It will be understood that the cable may be held or mounted in any other manner, and also that any other means may be used for raising and lowering the awning.

The lower end of the awning is mounted upon a U-shaped supporting member 12 which is in the form of a yoke with the open ends pivotally attached to the side of the screen frame 3 through pins 17 and bearings 18, and the cross member 11 which forms the lower end of this member, and which is attached to the lower plate of the awning, is held outward by braces 19 which are also pivotally mounted on the frame 3 through pins 20 and bearings 21, whereas the opposite ends are pivotally attached to sliding sleeves 22 on the side bars 12 of the supporting frame through pins 23. These mountings are similar at each end, and it will be noted that as the cable 2 is drawn upward it will raise the supporting member 12 about the pin 17 so that this will move upward through an arc, as indicated by the dotted line 24, whereas the outer ends of the members 19 will pass upward through an arc as indicated by the line 25. The lower end of the awning may be held in the downward position by a cord or cable 26 which may extend through an opening in the bottom of the screen frame and be tied to the cleat 16. It will be understood, however, that the awning may be supported in any other manner, or by any other means.

It is preferred to make the awning as simple and plain as possible, however a small skirt 27 may hang downward from the lower end, and this may be formed of a continuous plate as shown in Figures 1 and 3, or a plurality of small plates which are indicated by the numeral 28 and shown in Figure 7. These plates may be of any design, and may be freely held together by rings 29, or by any means. Similar plates 30 and 31 may also be attached to the brace 19 as shown in Figure 6, and these may be held together by rings 32 and may hang straight downward or may be made in different designs, or arranged in any manner.

The plates forming the awning may be hinged together by rolling hinges at the edges, as shown in Figure 4, which would provide a relatively simple construction, however it will also be understood that these plates may be formed and connected as shown in Figure 5 in which the plates are indicated by the numeral 33, and the edges thereof are reinforced by bending edges 34 and 35 under the plates, and in this design the plates are hinged together by hinges 36 attached to the upper surface, and hinges 37 attached to the lower surface, and these hinges are alternately positioned to permit the plates to fold as shown in Figure 7. It will be understood that the plates may be hinged together in any manner, or the edges connected by any means.

The awning is directly supported on the outer surface of a screen frame 3 with hooks 38 and 39 extending outward from the upper cross member of the screen frame and the upper plate 6 is fastened over these hooks with the hooks extending through eyelets 40 and 41 in the plate. The eyelets may, of course, be omitted, and any means may be used for reinforcing the openings through which the hooks pass. The upper edge of the awning may, however, be removably or permanently attached to the outer surface of the screen in any other manner, or by any other means.

It will be understood that other changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the use of plates of any other material instead of metal plates as shown and described, another may be in the use of any other means for pivotally attaching the plates, another may be in the use of other means for supporting the lower end of the awning, and still another may be in the use of other means for raising and lowering the awning.

The construction will be readily understood from the foregoing description. In use the awning may be mounted upon the outside of the screen frame 3 by placing the hooks 38 and 39, or as many hooks as may be desired, on the outer surface of the screen, and the upper plate of the awning may be held on these hooks. The inner end of the members 12 and 19 may be permanently attached to the outer surface of the screen thru the bearings 18 and 21 which may be bolted to the frame or mounted thereon in any manner. The cord or cable 2 may then be attached to the lower end of the frame 12 and the upper end may pass through the eyelet 14 and an opening 42 in the upper end of the screen frame, and then downward to a cleat 16 to which it may be tied. As the cord 2 is drawn downward on the inside the outer and lower end of the awning will raise upward with the joints having the rings 10 therein following the cable and with the intermediate joints folding downward until the awning folds against the outer surface of the frame, as shown in Figure 7. At the same time the members 23 at the outer ends of the side braces 19 will slide down on the members 12 so that the awning and the supporting frame therefor may fold directly against the outer surface of the screen frame. The upper corners of the members 23 may be rounded as shown at the points 43 in Figure 6, so that as they slide upward and downward over the plates they will not catch upon the edges thereof. This awning may, therefore, be readily opened and folded from the inside of the screen frame and from the inside of the window, and may readily be moved upward and downward with a comparatively easy movement, and the supporting members therefor will readily swing about the points where they are mounted upon the frame, thereby eliminating the vertical rods

upon which the lower ends of the normal awning frame slide.

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

A combination metal awning, screen and support, in which the awning portion is formed of a plurality of metal plates hingedly attached in such a manner that, as the awning is raised, the plates collapse like an accordion, and in which said plates are mounted upon a screen frame through hooks at the upper end and a bracket, with the entire bracket positioned in a triangle, in which the altitude corresponds with the screen frame, the hypotenuse with the awning, and the base with a horizontal plane extending from the lower edge of the awning, with the awning in the open position, and connecting the said lower edge to the frame, and also in which said awning is raised and lowered by a flexible strand connected to the lower edge of the awning, extending upward through an opening in the upper part of the frame and downward on the inside thereof; said device characterized in that the said flexible strand also extends from the lower edge of the awning, with the awning in the open position, downward diagonally to the lower part of the screen frame and through the said frame, providing means holding the lower edge of the awning downward, and also characterized in that the said awning is mounted upon a bracket, in which the inner ends of the side members of said bracket are hingedly attached to the surface of the screen frame at a point equidistant from both the lower edge of the awning and upper end of the screen frame, and positioned a considerable distance above the plane forming the base of the triangle, and additional braces with their outer ends slidably attached to the said former side members of the bracket, and with their inner ends hingedly attached to the surface of the screen frame also at a point in the horizontal plane forming the base of said triangle.

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