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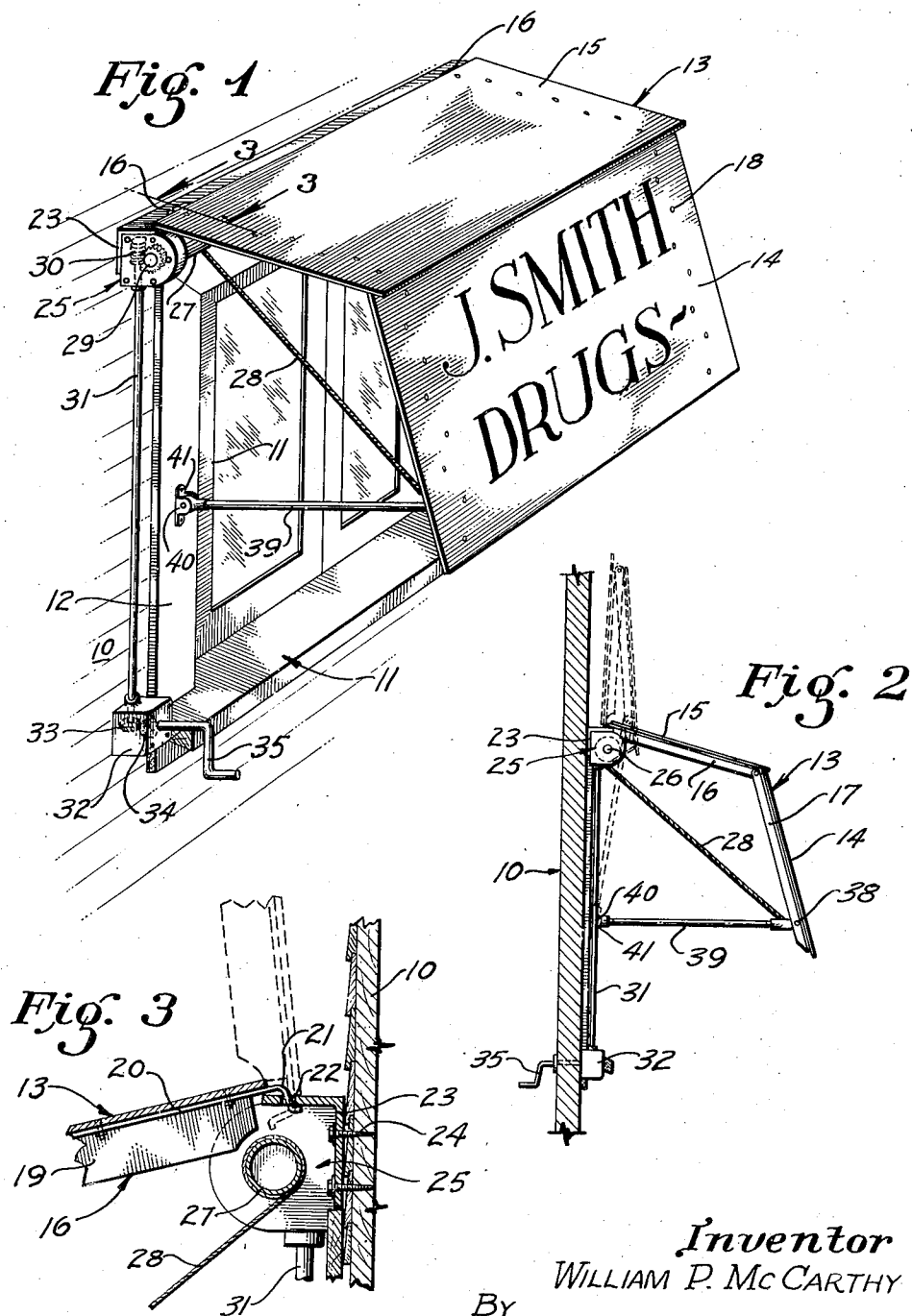
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FOLDING AWNING

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FOLDING AWNING

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3 Claims. (Cl. 156—15)

This invention relates to a folding awning.

Most awnings now used are made of fabric which may be folded or rolled to a closed position, or are made of a plurality of slats which may be simultaneously moved to various degrees of opened position with relation to each other. These structures for the most part do not afford a very great degree of permanency since the fabric readily deteriorates and the mountings for the various slats get out of order. Furthermore, when awnings of the commonly constructed types are used on fronts of stores or the like, it is evident that any signs which have been painted on the awnings will be concealed when a fabric awning is rolled up or folded, and that at various degrees of opening of the slat awning the signs would be rendered illegible. It is the principal object of the present invention to provide an awning or shelter structure of a permanent character which is so constructed as to be readily moved to or from its sheltering and non-sheltering positions, the awning being so constructed as to display any signs carried upon it whether the awning is positioned in its folded or outstretched position, the awning structure being simple in its construction and easily installed.

The present invention contemplates the provision of an awning structure having a pair of substantially rigid panels which are articulately connected together and one of which is mounted on a wall or other supporting structure in a manner to permit vertical swinging movement, the panels being further provided with an operating mechanism whereby they may be moved from their outstretched and sheltering position to a folded position above a wall opening with the outermost panel retained in a non-concealed position, whereby the folded awning will be slightly and any signs or designs thereon may be displayed at all times.

The invention is illustrated by way of example in the accompanying drawings, in which:

Figure 1 is a view in perspective showing an awning of the type disclosed in its outstretched or unfolded position.

Fig. 2 is a view in vertical section and elevation showing the awning in its outstretched position in solid lines and in its folded position in dotted lines.

Fig. 3 is an enlarged view in fragmentary section as seen on the line 3—3 of Fig. 2, and indicates the means by which the awning is mounted on its fixed support.

Fig. 4 is a view in section and elevation showing another form of the invention in which the

operating structure is of slightly different construction.

Fig. 5 is a view in section and elevation showing another form of the invention.

Fig. 6 is an enlarged fragmentary view showing a detail of construction of the hinge of the two panels of the awning.

Referring more particularly to the drawings, 10 indicates a permanent support, such for example as a wall. A window or door opening 11 may be formed through this wall, the opening being bounded by a frame 12. Mounted above said wall opening 11 and adapted to swing downwardly and outwardly is the awning structure 13. This comprises an outer panel 14 and an inner panel 15. The panels are made of relatively rigid material in sheet form, and for example may be wood or metal. It will be understood also that if desired panels may be made with a rigid frame covered with fabric. As shown in the drawings, the two panels are of substantially the same size and are rectangular in shape. It will be understood that the dimensions may be varied as desired. The panels are provided with transversely extending structural supporting elements 16 and 17 to which the panels are secured by some such suitable fastening means as rivets 18. The supporting members 16 and 17 may be of any desired sectional configuration, although it has been found that structural members of T-shape are satisfactory. Referring to Fig. 3 of the drawings, it will be seen that the vertical leg 19 of the T-section is cut away at its upper end on each of the structural elements 16 so that the transverse web 20 may project beyond the leg 16 and terminate in a hook element 21. This hook element extends through a slotted opening 22 in the horizontal leg of an angle bracket 23. The angle bracket may extend the entire width of the awning, as shown in Fig. 1 of the drawings. The vertical leg of the bracket is secured by screws 24 or other suitable means to the fixed support 10. By this arrangement it will be evident that the panel 15 of the awning will be articulately connected to the bracket structure 23 so that it may swing upwardly from the solid line positions in Figs. 2 and 3 to the dotted line positions.

Disposed at opposite ends of the angle bracket 23 and carried thereby are bearing structures 25. These bearing structures support the trunnions 26 of a horizontally extending shaft or roller 27 around which operating cables 28 may be wound. In one of the bearing structures 25 worm gears 29 and 30 are housed. It will be understood that

other types of gears might be used, although the irreversible characteristic of a worm gear makes it desirable, since other holding means are not required to set the awning in any selected position. The gear 29 is mounted upon one of the trunnions 26 of the roller 27. The gear 30 which is in mesh therewith is mounted upon a vertical operating shaft 31 which extends downwardly through a bearing in a gear box 32 supported in convenient reach for operation. Suitable gears 33 and 34 are mounted within the bearing box, the gear 33 being carried upon the shaft 31. The gear 34 which is in mesh therewith may be engaged by a crank arm 35 by which it can be rotated. As shown in Fig. 1 of the drawings, this crank arm may be applied from the exterior of the building. Other views of the drawings indicate the crank arm as extending through the wall so that the awning may be manipulated from the inner dwelling.

The outer free end of the panel 15 is pivotally connected to the panel 14. This connection is particularly shown in Fig. 6 of the drawings, where it will be seen that the frame elements 16 of the panel 15 are connected to the frame elements 17 of the panel 14 by pivot pins 35. The upper transverse portion of the frame elements 17 adjacent to the pivots are bent upwardly, as indicated at 37, to provide an abutting stop for the two panels and to thus determine their angular relation to each other. Secured to the frame members 17 by pivot pins 38 are brace arms 39. These brace arms are pivoted on pins 40 carried by brackets 41 secured to the fixed support 10. They act to hold the lower free end of the panel 14 in its outermost position when the awning is outstretched and to guide the panel 14 as it folds with the panel 15 to the dotted line position shown in Fig. 2.

In the form of the invention shown in Fig. 4 of the drawings the upper panel 15 of the awning is rigidly secured to a roller 42, which takes the place of the roller 27 previously described, and is rotated by the shaft 31 through the gearing described as being associated with that shaft. Thus, the panel 15 swings bodily as the roller 42 rotates on its axis. In the form of the invention shown in Fig. 5 the awning 13 is shown with its panels 14 and 15 disposed in a common plane when in its unfolded and outstretched position. This makes it necessary for means to be provided to spring the joint at the pivot 35. This is accomplished by the use of an extension arm 43 over which the cable 28 rides. By this arrangement the folding of the panels 14 and 15 with relation to each other may be initiated when the cables 28 are drawn, after which subsequent winding of the cables 28 on the roller 27 will cause the elements to continue their folding operation.

In operation of the present invention the preferred form of the structure is assembled as shown in Figs. 1, 2 and 3 of the drawings. It will be seen that the angle bracket 23 is secured horizontally over a wall opening, and that the brackets 25 for the roller 27 and the gear box 34 are properly positioned. When the awning is to be lowered the cable 28 is paid out from the roller 27 so that the awning structure will move from the dotted line position in Fig. 2 to the solid line position. The downward movement of the panels will be brought about by gravity, while the unwinding of the cable 28 is brought about by manipulation of the operating crank 35, which drives the shaft 31. As the awning structure

swings downwardly it is caused to swing outwardly due to the action of the guide and brace arms 39 which force the lower ends of the panels 14 in an outward spaced position with relation to the fixed support 10. When it is intended to elevate the awning the shaft 31 is rotated through the operating crank 35. This will cause the cable 28 to be wound onto the roller 27 and to lift the entire structure. The panel 15 will hinge on its hinge elements 21 as it is forced to an upper position, and the panel 14 will be elevated to fold against the panel 15 and lie substantially parallel to the wall 10. When this folded position has been reached interruption of the rotation of the shaft 31 will permit the awning elements to remain in their folded positions since the worm gears 29 and 30 will lock and prevent rotation of the roller 27. Attention is directed to the fact that in this folding operation the panel 14 will remain outermost and that any sign or design on it will be at all times presented to view.

In the form of the invention shown in Fig. 4 manipulation of the shaft 31 will cause rotation of the member 42 with a corresponding swinging movement of the panel 15 to its lower position shown in solid lines in Fig. 4 and to its upper position as indicated in dotted lines in that figure.

The operation of the structure shown in Fig. 5 is obvious.

It will thus be seen from an examination of the drawings and from the foregoing specification that the awning structure here disclosed is simple in its design, rigid and rugged in structure, and that it provides means whereby an awning may be quickly and conveniently moved from a closed to an open position and vice versa.

While I have shown the preferred form of my invention as now known to me, it will be understood that various changes may be made in combination, construction and arrangement of parts by those skilled in the art, without departing from the spirit of my invention as claimed.

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

1. A visor comprising an awning like structure consisting of a pair of rigid sections, swingable mounting means for one of the sections, the other section interlapping the complementary section and being swingably connected thereto at said interlapped portion, said sections being provided with side walls, said sections being swingably connected together to be swung with their side walls together, a brace member having one end pivotally secured to a stationary structure and its other end pivotally connected to the last mentioned section, means mounted adjacent the swingable mounting of the first mentioned section, and a line disposed over said means and downwardly to connect to the second mentioned section.

2. An awning structure, comprising an articulate mounting carried upon a fixed support, a rigid awning section secured along one edge to said articulate mounting, a second rigid awning section hinged to and beneath the free end of the first named awning section, rigid brace members pivotally connected at one end to the fixed mounting and pivotally connected by their other ends to the second awning section and adjacent the free edge thereof, a flexible member connected to the free end of the second awning section, rotatable means adjacent to the articulate mounting upon which said flexible member may be wound, and means operated from a remote

point to revolve said rotating member and wind the flexible member.

3. An awning structure, comprising an articulate mounting carried upon a fixed support such as a wall, a rigid awning section secured along one edge to said articulate mounting whereby it may swing upwardly above the mounting and substantially parallel with the wall, a second rigid awning section hinged to and beneath the free end of the first section whereby it may swing substantially flat against the first awning section when the first awning section is swung to its uppermost position, rigid brace members pivotally connected

at one end to the fixed mounting and pivotally connected by their other ends to the second awning section and adjacent the free edge thereof, said braces being of a length to permit the awning sections to swing upwardly to their folded position and downwardly and outwardly to a shielding position, a flexible member connected to the free end of the second awning section and led upwardly to a point adjacent to the articulate mounting of the first awning section, and means for drawing up or paying out said flexible member while moving the awning sections to and away from their folded position.

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