Dec. 15, 1931. B. J. OSBORN 1,836,548

AWNING STRUCTURE

Filed May 24, 1930 3 Sheets-Sheet 1

Fig. 1.

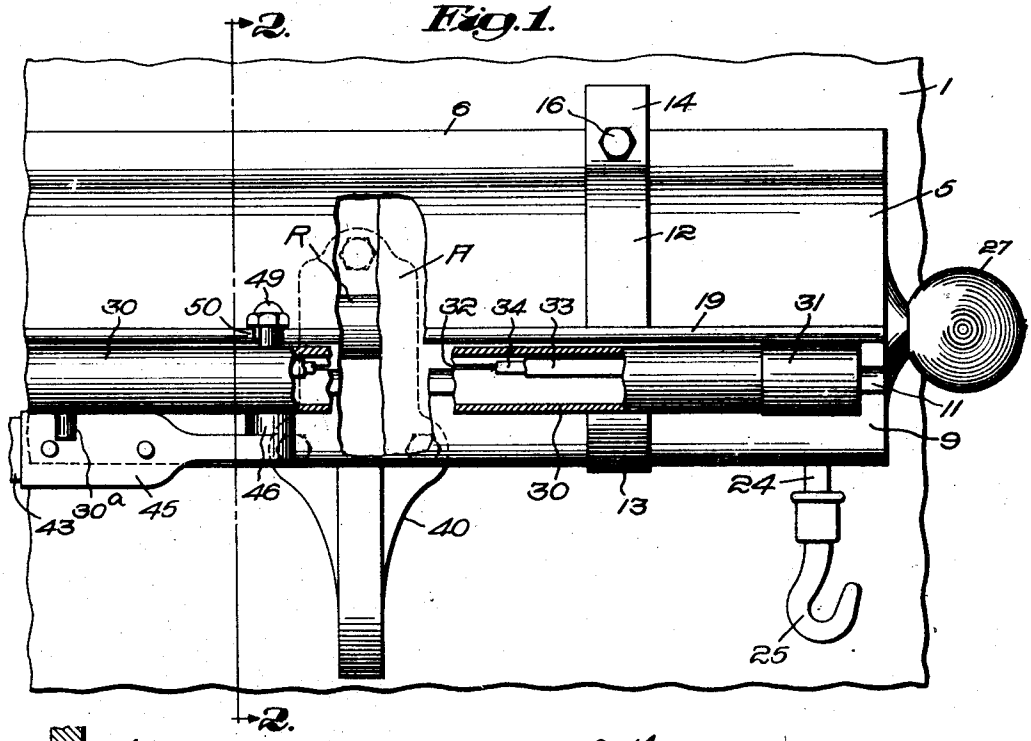


Fig. 2.

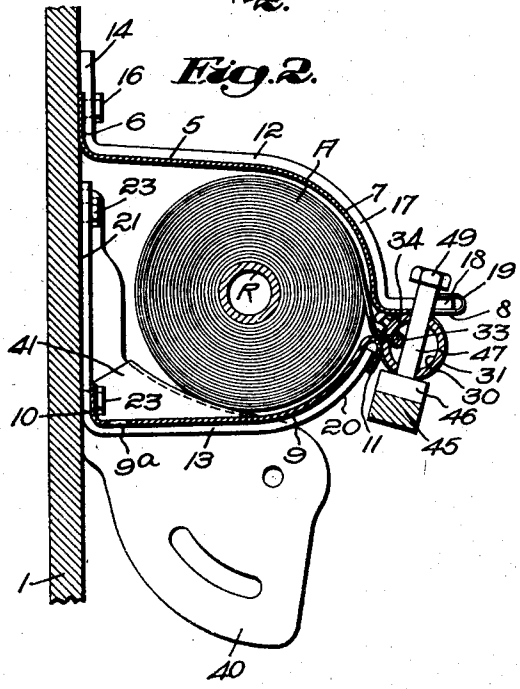
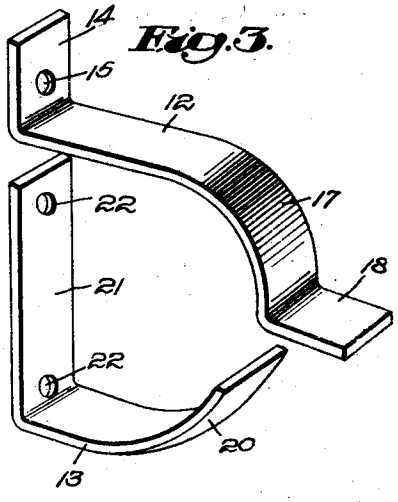


Fig. 3.



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Dec. 15, 1931. B. J. OSBORN 1,836,548

AWNING STRUCTURE

Filed May 24, 1930 3 Sheets-Sheet 2

Fig. 5.

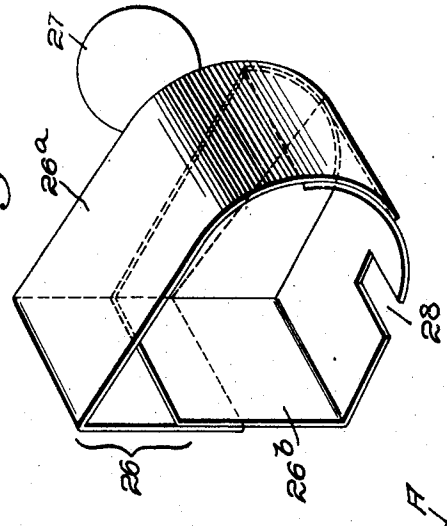


Fig. 4.

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Dec. 15, 1931. B. J. OSBORN 1,836,548

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Filed May 24, 1930 3 Sheets-Sheet 3

Fig. 6.

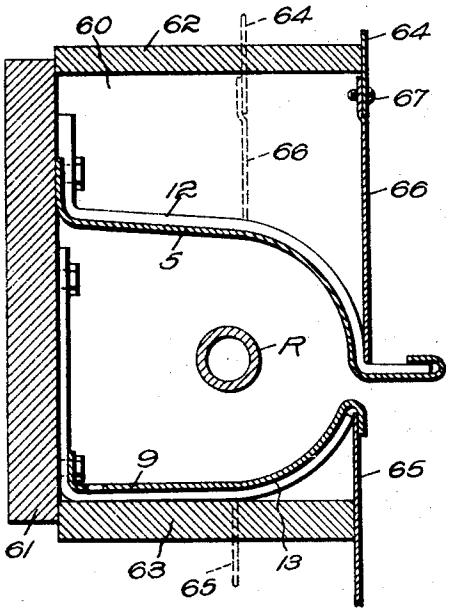


Fig. 7.

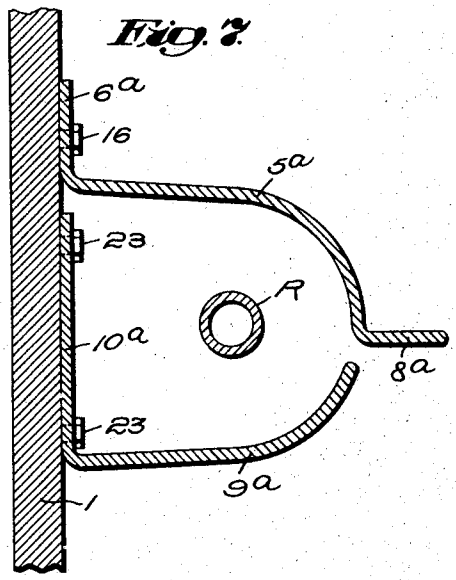


Fig. 8.

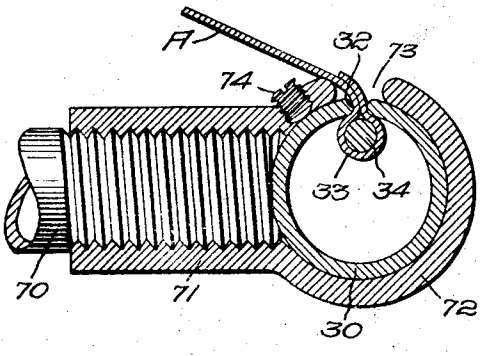
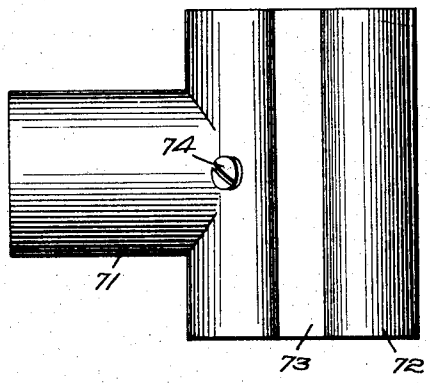


Fig. 9.



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Patented Dec. 15, 1931 1,836,548

UNITED STATES PATENT OFFICE

BYRLE J. OSBORN, OF BOSTON, MASSACHUSETTS

AWNING STRUCTURE

Application filed May 24, 1930. Serial No. 455,253.

My present invention relates to awnings for office, store, residential and other buildings; more particularly it aims to provide simplified and otherwise improved housing and cooperating supporting mechanism for awnings of the roll type.

In the drawings illustrating one embodiment of the invention, by way of example,

Fig. 1 is a front elevation of the right end portion of mechanism embodying the invention with parts broken away, the awning being rolled and the front curtain removed;

Fig. 2 is a vertical cross section on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of a pair of adjustable brackets in accordance with the invention;

Fig. 4 is a view corresponding to Fig. 2 but with the awning extended and with the detachable front curtain in position;

Fig. 5 is a perspective view of an end-closure for the roll housing or container;

Fig. 6 shows the mechanism of Figs. 1 to 4 in combination with a concealed recess box construction of a building front;

Fig. 7 illustrates a modified construction, also embodying my invention, and wherein the casing elements are self-supporting, dispensing with the brackets of Figs. 1 to 4; and

Figs. 8 and 9 are respectively a vertical section and a plan, on a large scale, of a front-bar fitting which may be employed in connection with awning arms of the straight, vertically moving type.

Referring to Fig. 1, the mechanism as a whole may be attached directly to a wall, transom or other structural part of the building or to a backboard in turn is secured to the building any of which mounts are herein indicated at 1. The invention contemplates the provision of a combined awning-roll housing or casing and canopy, the rolled awning sheet A being rotatably supported within the casing and adapted to be drawn out therefrom and returned to it through a narrow elongated opening at the casing front. This housing or roll container, in accordance with my invention, while arranged to afford complete protection to the awning roll is so constructed that it is adjustable to receive and cooperate with awning rolls of different diameters and whereby a single housing and associated mechanism is adapted for use with substantially any awning. In this and other respects my invention constitutes an improvement upon the non-adjustable devices heretofore employed, such, for example, as those of the patents to De Young 854,933 or to Clark 1,257,316.

Referring again to the drawings, and particularly Figs. 2 and 4, the housing or container as illustrated includes a combined upper casing portion and canopy 5, comprising a rear upright attaching portion 6, a projecting main cover portion or casing proper 7 extending forwardly and downwardly, substantially in the manner shown, and terminating in a forwardly extending gutter and front-bar protector or canopy portion 8. Cooperating with this upper casing portion and with the wall or backboard 1 to complete the entirely-enclosing tubular container is a lower casing portion 9 also including a rear upright attaching portion 10. Said lower casing element, referring to its installed position, extends forwardly and somewhat upwardly to a line substantially in the vertical plane of the axis of the awning roller R, from which line forward this lower casing element follows an upward arc substantially concentric with the roller axis. Its upper and outer edge is reversed upon itself as indicated at 11, leaving a smooth rounded formation spaced from and substantially vertically opposite the lower portion of the upper casing element 5.

These two main casing elements 5 and 9, adjustable toward or away from each other vertically, are supported in the desired relationship to cooperate with any given awning roll. For this purpose I employ relatively adjustable upper and lower brackets 12 and 13, one pair of which is seen separately in perspective in Fig. 3. Each upper bracket 12 is variably positionable vertically of the wall or backboard 1, and comprises an attaching ear 14 having one or more apertures 15 for the securing lugs or screws 16, Figs. 1, 2 and 4, a main bracket portion 17, shaped to conform with the outer surface of the upper cas-

ing element 5, and a projecting supporting flange 18. As best seen in Figs. 2 and 4, the upper casing element has its outer edge bent back upon itself as at 19, thus providing a loop into which the bracket flanges 18 extend, and affording positive support for this outer extremity of the upper casing. The attaching portion 6 of the upper casing is clamped between the securing ears 14 of the upper brackets and the adjacent face of the wall or backboard, one or more of the securing lugs 16 preferably being passed through the casing, so that the top of the latter is carried entirely into and flush with the supporting wall or backboard, leaving no opening through which rain, snow or dirt can enter the housing. It will be understood that a suitable plurality of pairs of brackets is distributed along the housing, their number and spacing depending upon the length of the latter; also that the casing elements may each include one or more longitudinally overlapped sections; particularly in instances of relatively long casings.

Each of the lower brackets 13 includes a forwardly and upwardly projecting arm 20 shaped to conform to the under surface of the lower casing element and terminating upwardly within the reversed portion 11 thereof, and a vertical securing portion 21 having one or more holes 22 for adjustably securing the bracket to the wall or backboard, as by means of the lugs or screws 23. The attaching section 10 of the lower casing may be carried upwardly for any desired extent, one or more of the attaching lugs 23 for each of the lower brackets being passed through it.

The roller R for the awning is rotatably supported within the container 5, 9. Any preferred or usual gear means is provided at one end of the roller, not necessary to show herein but preferably also within the container, such gear means including a projecting operating rod 24, Fig. 1, conveniently terminating in a hook 25 adapted to receive a wind-up device whereby the awning may be raised or lowered.

The described housing is preferably closed at its ends as by a cap or ferrule indicated as a whole at 26, see Fig. 5, received by the upper and lower casing elements, either externally or internally. Different sized caps may be provided for use with the different positions of relative adjustment of the two main casing elements, or the end-closing caps may themselves be adjustable, for example, as shown. In said Fig. 5, the cap comprises vertically telescoped upper and lower sections 26*a* and 26*b* which may be relatively extended or brought together to conform them to any given relative position of adjustment of the casing elements 5 and 9. An ornamental end knob or like device 27 may be provided for each cap, to serve as a grip by which the cap may be positioned or withdrawn. The cap for the end at which the wind-up rod 24 is located, herein the right end, is slotted to give clearance thereto, as at 28, if the cap is made of sufficient depth to extend into the casing as far as said rod.

In cooperation with the described adjustable container or housing I have provided a novel front bar structure and supporting means therefor. As illustrated, the front bar 30 is a tubular member, preferably metallic, and desirably closed at its ends as by brass or other end caps 31; see Fig. 1. Heretofore, so far as I am aware, awning front bars have been secured to the awning sheet by looping the awning material around the bar or in some manner which leaves considerable material exposed about the bar. Inasmuch as the front bar always remains outside the roll housing, such exposed awning material is subject to the undesirable effects of the elements, dirt and the like. In accordance with my invention the awning sheet is removably secured to the front bar in such manner as to leave the latter bare. Accordingly the front bar 30 is provided with a narrow longitudinal slot 32 adapted to receive the leading edge of the awning sheet. The latter is formed with a relatively small loop or pocket 33 receiving an anchoring rod 34 of a diameter sufficiently greater than the width of the slot 32 to prevent its escape therethrough, whereby the awning sheet is internally but removably attached to the front bar.

A front curtain or panel 35, Fig. 4, is desirably provided and is detachably secured to the front bar as by means of the snap fasteners or other releasable securing means 36 distributed along the front bar. During the seasons when the awning is to be used this front curtain may be left in place but in the winter, or at such other times as it is not desired for use, the front curtain can readily be removed. In the rolled condition of the awning, as in Fig. 2, all awning material will then be completely housed, and the bare front bar will close the awning passage between the two sections of the container, thus entirely sealing in the awning.

The awning sheet may be held in its extended position of Fig. 4 by any suitable supporting means. In Figs. 1 to 4 I have illustrated for the purpose laterally folding arms having portions peculiarly cooperating with the housing and front bar previously described. Said arms are carried by brackets 40 attached to the wall or backboard 1, the lower casing section 9 being provided with the slotted and up-turned formations 41 overlying the upper portion of said brackets and permitting them to pass upwardly into the container, substantially as shown in Figs. 2 and 4. The supporting arms as illustrated comprise inner and outer sections 42, 43 pivotally connected at their adjacent ends,

as at 44, the inner end of the inner section being pivoted to its bracket 40. The outer ends of the outer arm sections 43 terminate in tips 45 having lugs 46 at their outer extremities. Extending upwardly from each such lug is a stud bolt 47 which passes freely through opposed bearing formations 48 in the front bar 30. The front bar rests upon the upper face of the lugs 46 at the base of the studs 47, while the latter are free to turn within and relative to the front bar during the raising and lowering of the awning, as the laterally folding arms 42, 43 move to closed or open position. Desirably a cap nut 49 is removably applied to each stud, preventing undesired displacement of the front bar therefrom. As best seen in Fig. 1, the forwardly projecting shelf or canopy portion 8 of the upper casing section 5 is slotted as at 50 for the reception of the corresponding stud 47 projecting above the front bar, whereby the latter may be moved up into its container sealing position, below the protecting flange 8, and into engagement with the two casing sections, as in Figs. 1 and 2. A depending pin 30*a*, Fig. 1, may be provided on the front bar 30 adjacent the folded position of each lateral arm 42, 43, to assist in holding them in said position.

It will be seen that the described container and associated parts are so arranged as to be weather-proof. In case it is desired to roll the awning while it is wet, any moisture which may be carried into the housing in such operation is drained backwardly and away from the main awning roll, by reason of the rearward and downward inclination of that portion of the lower casing section. In this connection, suitable drainage apertures 9*a* are desirably provided in said lower casing section. The forwardly projecting shelf of the upper casing section affords an efficient roof or canopy over the awning front bar, protecting both it and the front curtain, when the latter is in use. It will be observed, however, that while the lower casing section is constructed to provide rearward drainage its intermediate and forward portions are nevertheless so arranged as to afford under support to the awning roll throughout its entire length, and particularly at its intermediate section, removing the necessity for special center-supporting means, such as rollers or the like, with their objectionable wear upon the cloth.

The described awning and supporting means is easily installed, due largely to its adjustable features above mentioned, and for the same reason the housing and other elements of my invention may be applied to existing or previously installed awnings, irrespective of the diameter of the awning roller, and of the rolled awning sheet. Similarly the device of my invention may readily be installed in the so-called concealed recess-box type of building construction. Thus my described mechanism is made universally applicable to any type of installation.

In Fig. 6 I have illustrated one such installation of the recess box form. Referring to said figure, the recess box at the building front is indicated in its entirety by the numeral 60. It includes a rear wall 61, and top and bottom walls 62 and 63. The usual metal upper front plate is shown at 64, and the lower front plate at 65. A box concealing panel 66 is secured to the upper front plate 64 as at 67. The adjustable awning roll container and associated parts are the same as previously described in connection with Figs. 1 to 4, including the variably positionable upper and lower casings 5 and 9, and the upper and lower supporting brackets 12 and 13. It will be noted that the upper bracket and casing cooperate with the front panel 66 to provide the support for the lower edge thereof.

Recess boxes vary considerably in their depth from front to rear, but nevertheless the device of my invention accommodates itself to any such construction, irrespective of such variation in depth. The position of the front plates and panel 64, 65, 66 in the instance of a relatively shallow recess box are indicated in dash lines in Fig. 6. In such case the front panel 66 is merely cut off to the proper length to seat on the upper brackets 12, wherever the latter cross the plane of the panel, the lower front plate 65 being similarly treated. Thus the roll housing and related mechanism of my invention presents the additional advantage of adaptability to recess box constructions of any horizontal depth or of any internal height equally or exceeding the minimum adjusted height of the awning housing.

Referring to Fig. 7, I have there shown a roll housing in accordance with the invention, and wherein the casing brackets may be dispensed with. In this instance the upper and lower casing elements 5*a* and 9*a* are formed of a relatively thick sheet metal, such as rolled steel, of sufficient rigidity to be self-supporting. In general shape and operation these casings may otherwise be the same as in Figs. 1 to 6, including attaching portions 6*a* and 10*a*, and the front-bar roof or canopy portion 8*a*.

Figs. 8 and 9 illustrate one modified form of front-bar attaching means for use in lieu of that seen in Figs. 1, 2 and 4, and particularly adapted for awning-supporting side bars of the straight type, which move only in a vertical plane their inner ends being lowered as the awning as raised, bringing them from their substantially horizontal open position to approximately vertical position against the building. The outer end of one side rod is seen at 70 in Fig. 8, it being in this case a hollow tube or pipe. To it is

applied a front-bar fitting comprising a threaded sleeve or attaching portion 71 and a front-bar receiving collar 72 slotted at 73 for the passage of the awning sheet A to the front-bar 30. The awning sheet is internally secured to the front-bar by the anchoring rod 34 as in the previous figures, passing thereto through the front-bar slot 32. The awning side-rod 70 is desirably turned up into the sleeve 71 until it engages firmly against the front-bar 30, acting to hold the latter against turning in the collar 72. Other means may be provided for the same purpose, either alternatively or supplementally, such as the set screw 74.

My invention is not limited to the particular embodiments shown and described herein, its scope being set forth in my claims as follows.

Claims:

1. In awning mechanism, a casing for an awning roll, laterally folding arms pivotally supported at their inner ends adjacent said casing, a tubular front bar for the awning, means for attaching the front edge of the awning thereto, and means for attaching the outer ends of said laterally folding arms to the front bar, comprising a stud secured to the tip of each arm and substantially perpendicular to the line of the extended arm, and bearing formations in the front bar rotatively to receive said studs.

2. A casing for a roll awning, to provide complete coverage and center-support for the awning roll, comprising separately formed upper and lower casing members of sheet-metal oppositely conformed and positioned to constitute with the supporting wall or backboard an enclosing casing having a front awning-cloth passage provided between the forward edge portions of said members, and variably positionable upper and lower brackets supporting said casing members in such manner that the relative spacing of the latter may be varied to adjust the casing for the reception of awning rolls of different diameters.

3. In an awning structure, an elongated roll-supporting housing having a longitudinal passage for the awning cloth at not substantially above mid-height of said housing, a tubular front bar for the awning, a longitudinal slot formation in said front bar, a securing pocket along the front edge of the awning cloth, and an anchor rod having a cross dimension greater than the width of said slot formation and adapted to be received in said pocket, whereby the awning front edge may be entered into the front bar and anchored therein by said rod, the outer surface of the front bar remaining bare of awning cloth, and said bare front bar being adapted to close the longitudinal passage in the housing against entrance of dirt and the elements.

4. A combined casing and canopy for a roll awning, comprising an elongated, sheet-metal upper member having a rear attaching portion and a forwardly and downwardly turned casing portion, a lower sheet-metal member of like length and including a rear attaching portion and an awning-supporting and housing portion upwardly turned at its front into approximate opposition to the front edge of the portion of the upper member but vertically spaced therefrom, a plurality of upper brackets conforming to the upper member, and a plurality of lower brackets having upright attaching arms and supporting arms conforming to said lower member.

5. A combined casing and canopy for a roll awning, comprising an elongated, sheet-metal upper member having a rear attaching portion forwardly and downwardly turned casing portion and a front lip or canopy portion, a lower sheet-metal member of like length and including a rear attaching portion and an awning-supporting and housing portion upwardly turned at its front into approximate opposition to the front edge of the casing portion of the upper member but vertically spaced therefrom, a plurality of upper brackets above and conforming to the upper member, the latter having its outer edge reversed over the outer end of the bracket for support thereby, and a plurality of lower brackets having upright attaching arms and supporting arms underlying and conforming to said lower member.

6. In an awning structure, an awning-roll housing comprising a combined upper casing and canopy member and a lower casing and roll-supporting member, said members being separably formed and relatively adjustable vertically and being oppositely disposed so as to provide an enclosing container with a longitudinal awning-sheet passage between the opposed front portions of said members, and detachable end-closing caps for the container so formed.

7. In an awning structure; an upper casing and canopy member including an attaching portion an intermediate forwardly and downwardly extending portion, and a forwardly projecting lip having its outer edge turned upwardly and rearwardly; a lower casing member cooperating with said first member to form an awning-roll housing and to provide center-support for the awning roll, said lower casing member having its outer edge downturned. and pairs of upper and lower supporting brackets externally of and conforming to the transverse contour of said housing members, the forward ends of said brackets being received within said turned edges of the respective casing members.

8. An awning roll housing adjustable to cooperate with awning rolls and rollers of various diameters, and adapted for use in recess box constructions of various horizontal

depths, comprising a lower casing element to receive and provide center-support for the awning roll, a separately formed and oppositely disposed upper casing element cooperating with the lower element to form therewith an enclosing housing having a longitudinal awning sheet passage between the two elements, and means for adjustably attaching said casing elements to the rear wall of the recess box, said lower casing element adapted, at any point transversely thereof, to be received by the upper edge of the lower front wall of the recess box, and said upper casing element similarly adapted to receive and support the lower edge of the upper front wall or panel of the recess box.

9. A combined casing and canopy for roll awnings, comprising an elongated upper element of sheet-metal of sufficient inherent strength and rigidity to be self-supporting, said member comprising a rear attaching portion and a forwardly and downwardly turned canopy-like casing portion, a lower element of similar self-supporting construction and including a rear attaching portion and an awning-supporting and housing portion upturned at its front into spaced opposition to the outer part the upper element, the opposed front portions of said elements being rounded for the free passage of the awning sheet between them, and means whereby said attaching portions may be secured to a wall or backboard in the desired and vertically variable relative positions.

10. In an awning structure, in combination with an awning-roll support and vertically movable awning arms, a slotted tubular front-bar for the awning sheet, and fitting members for attaching the front bar to the awning arms, each such member comprising a slotted collar portion receivable externally upon the front-bar, with the slots of the bar and of said member radially aligned, and a portion projecting transversely from said collar portion and attachable to the outer end of the corresponding awning arm.

11. In an awning structure, in combination with an awning-roll support and vertically movable awning arms, a slotted tubular front-bar for the awning sheet, and fitting members for attaching the front bar to the awning arms, each such member comprising a slotted collar portion receivable externally upon the front-bar, with the slots of the bar and of said member radially aligned, and an internally threaded sleeve extending substantially radially from said collar portion and adapted to receive the threaded outer end of the corresponding awning arm.

12. In an awning structure, an awning-roll housing comprising a combined upper casing and canopy member and a lower casing and roll-supporting member, said members being separably formed and relatively adjustable vertically and being oppositely disposed so as to provide an enclosing container with a longitudinal awning-sheet passage between the opposed front portions of said members, and a transervsely expansible cap-like closure for each end of the housing, adjustable to conform to the various relative positions of adjustment of the upper and lower members thereof.

13. An awning structure comprising, in combination, an awning-roll enclosing and center-supporting container having a longitudinal slot-like passage for the awning sheet, and a tubular front-bar having the leading edge of the awning sheet internally anchored thereto so as to leave the front-bar bare, said front-bar, in the rolled condition of the awning sheet, adapted to close the longitudinal sheet passage of the container, leaving no awning material exposed.

14. An awning structure comprising, in combination, an awning-roll enclosing and center-supporting container having a longitudinal slot-like passage for the awning sheet, a tubular front-bar having the leading edge of the awning sheet internally anchored thereto so as to leave the front-bar bare, and fastener means along the front-bar for detachably securing a front-curtain thereto, said front-bar arranged to close the awning-sheet passage in the awning-roll container, leaving, upon detachment of said front-curtain, no exposed awning material.

15. In an awning structure, an awning-roll housing comprising a combined upper casing and canopy member and a lower casing and roll-supporting member, said members being separably formed and relatively adjustable vertically and being oppositely disposed so as to provide an enclosing container with a longitudinal awning-sheet passage between the opposed front portions of said members.

16. A casing for a roll awning, comprising upper and lower casing members of sheet-metal oppositely conformed and positioned to constitute with the supporting wall or backboard an enclosing casing having a front awning-cloth passage provided between the forward edge portions of said members, and variably positionable means supporting said casing members in such manner that the relative spacing of the latter may be varied.

In testimony whereof, I have signed my name to this specification.

BYRLE J. OSBORN.