March 26, 1929. W. A. BRACKEN 1,707,110

AUTOMOBILE AWNING

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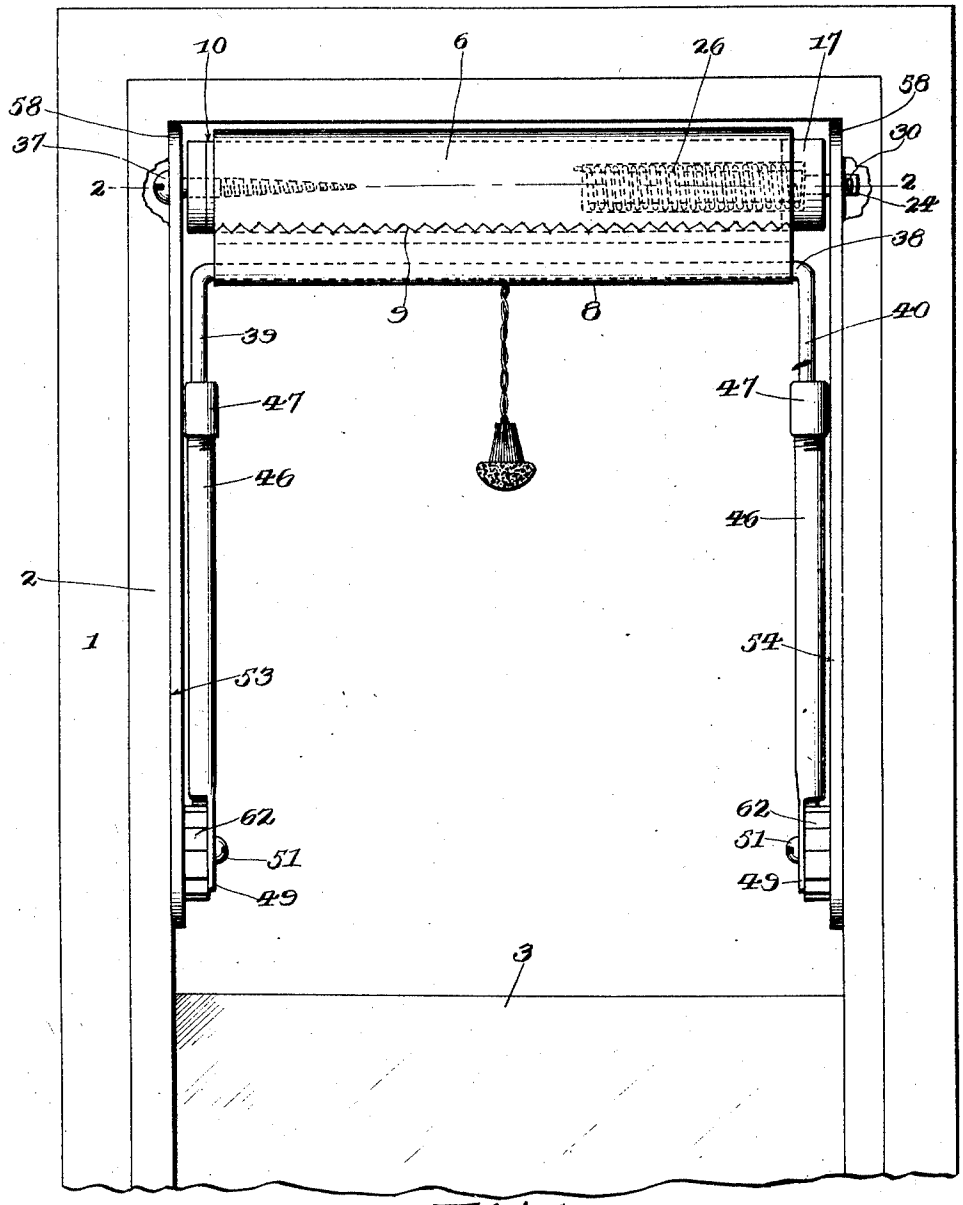


Fig. 1.

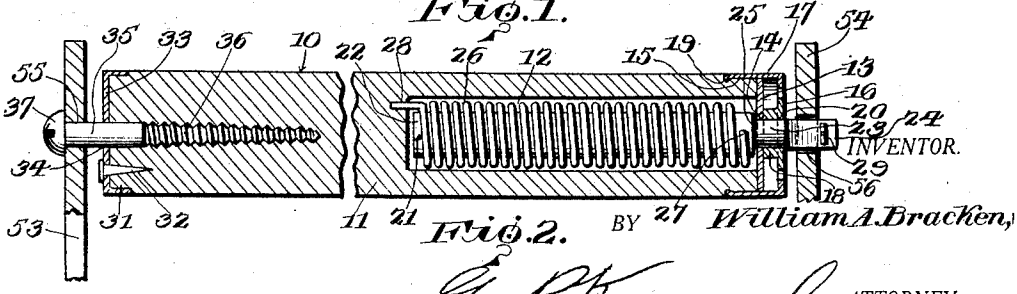


Fig. 2.

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Fig. 3.

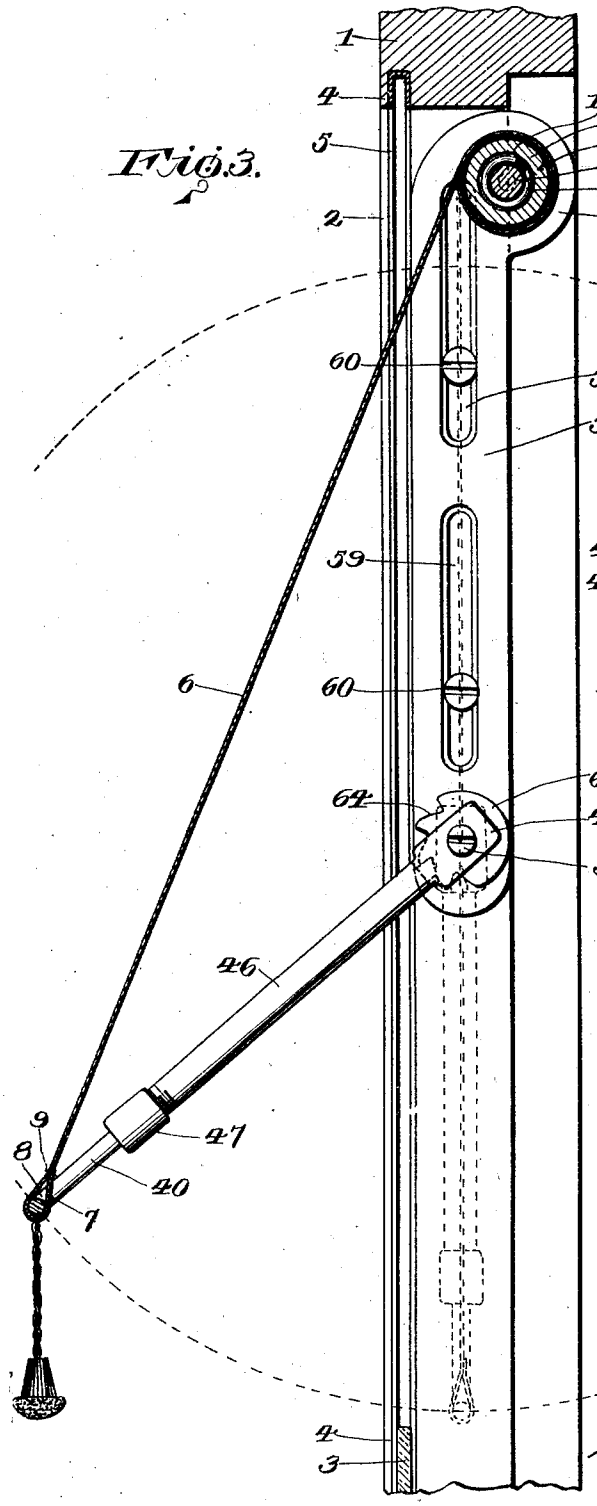


Fig. 4.

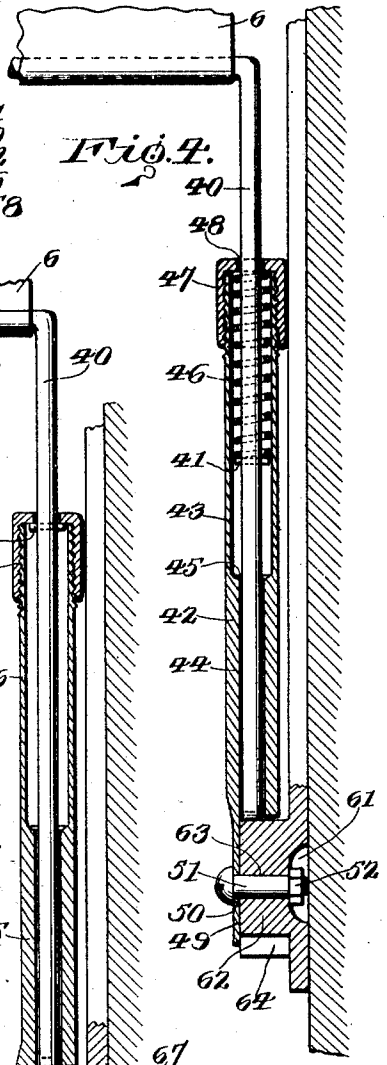
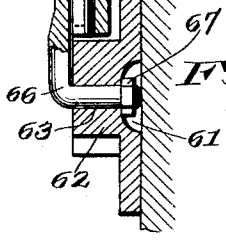


Fig. 5.



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UNITED STATES PATENT OFFICE.

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AUTOMOBILE AWNING.

Application filed July 26, 1927. Serial No. 208,632.

This invention relates to an awning structure, of the spring controlled rolling type, more especially to that class of awning structures for use in connection with doors, windows, etc., more particularly the doors and windows of automobiles, and the object of the invention is to provide, in a manner as hereinafter set forth, and awning structure of the type referred to which can be readily and conveniently mounted within the frame of a window or door and when so mounted can be conveniently adjusted, to position the awning body in projected relation at an angle relative to the window or door, or extends in a vertical plane with respect to the window or door for shutting out light from without, and with the structure being of novel form and including means whereby the awning body is maintained taut when adjusted relative to the window or door and further will be automatically rolled up when not in use and furthermore whereby the awning structure is so constructed and arranged that it will not in any manner detract from the appearance of the window or door piece, either when the awning body is extended when in use or rolled up when not in use.

A further object of the invention is to provide, in a manner as hereinafter set forth, an awning structure of the spring controlled rolling type, including means whereby the structure can be mounted and supported in window or door frames of different widths, or in other words said means providing for supporting the structure in window or door openings of a width greater than the length of the structure, by this arrangement an awning structure of one length can be employed in connection with window or door openings of a width greater than the length of the structure.

A further object of the invention is to provide, in a manner as hereinafter set forth, an awning structure of the spring controlled rolling type including means to permanently maintain the awning body, when extended taut at all times.

A further object of the invention is to provide, in a manner as hereinafter set forth, an awning structure of the spring controlled rolling type, including means whereby the awning body can be employed as a shade or a blind and when employed as a shade will be disposed in a vertical position exteriorly of or within a vertically adjustable glass panel forming an element of a window or door now employed in automobiles, or in other words providing means whereby the awning body can be adjusted at various angles with respect to the window or door to provide a canopy and also shifted to a vertical position to constitute a blind or a shade positioned exteriorly or interiorly with respect to the transparent panel of a window or door.

A further object of the invention is to provide in a manner as hereinafter set forth, an awning structure of the spring controlled rolling type, including a combined pintle and supporting element for one end of the winding roller and with said element adjustably connected with the roller to provide for the supporting of the latter in window or door openings of materially greater width than the length of the roller and by this arrangement the awning structure can be made to fit several different sized openings.

Further objects of the invention are to provide, in a manner as hereinafter set forth an awning structure, of the spring controlled rolling type, which is comparatively simple in its construction and arrangement, strong durable, compact, thoroughly efficient in its use, conveniently adjusted, not impairing in any manner the appearance of the door or window with which it is associated, readily installed with respect to the window or door opening, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Figure 1 is a front elevation of an awning structure, in accordance with this invention, showing the adaptation thereof with respect to a window frame.

Figure 2 is a section on line 2—2 Figure 1.

Figure 3 is a vertical sectional view of the awning structure when extended and further

illustrating, in dotted lines, the path of the yoke.

Figure 4 is a fragmentary view in vertical section of the awning structure.

Figure 5 is a view similar to Figure 4 of a modification.

Referring to the drawings in detail and for the purpose of showing the adaptation, of an awning structure in accordance with this invention, there is illustrated a portion of an automobile body, indicated at 1, and which includes a window frame 2 in which is arranged a vertically shiftable transparent panel or glass 3 slidably mounted in a groove 4, and as is well known the groove 4 has mounted therein a packing member 5 for the panel 3. An awning structure, in accordance with this invention, is positioned within the frame 2, at the upper portion thereof and rearwardly of the panel 3.

An awning structure in accordance with this invention, includes a flexible awning body 6 of appropriate length and width and formed from any suitable material. The outer end of the body 6 is formed with a hem 7 disposed transversely thereof and open at each end and which forms a pocket 8 for a purpose to be presently referred to. The hem is formed by overlapping the outer end terminal portions of the body 6 against its inner face and securing the overlap by a row of stitching 9. The inner end of the body 6 is connected to a winding element therefor and the latter is indicated generally by the reference character 10. The body 6 automatically winds on the element 10 and is extended therefrom manually against the action of a controlling spring forming a part of the winding element 10.

The winding element comprises a roll 11 of appropriate length preferably of a length greater than the width of the body 6. The roll 11 is formed with a longitudinally extending socket 12 which opens at one of the ends thereof. Positioned against said end of the roll 11, where the mouth of the socket 12 is arranged, is a disc 13 formed with a centrally disposed opening 14. That end of the roll 11, against which is positioned the disc 13, is reduced as at 15 and the disc 13 corresponds in diameter to the diameter of the reduced end 15. Surrounding the reduced end 15 of the roller 11, as well as engaging therein, is a flanged stop member 16 which projects a substantial distance from the disc 13. The member 16 is formed with an outer flange 17 and an inner flange 18. In cross section the flange 17 is of greater length than that of the flange 18, but the latter has its body of greater thickness than the body of the flange 17, and said flange 17 at its free end is formed with an inwardly extending part 19 which engages in the body of the roller 11. The flange 18 abuts against the disc 13 and maintains it in position against the end of the roller 11. The inner diameter of the flange 18 is the same as the inner diameter of the opening 14 and said flange 18 registers with said opening 14. The member 16 has a central opening 20 which registers with the flange 18. The wall of the opening 14, inner face of the flange 18 and wall of the opening 20 provide a bearing for that end of the roller 11 with which the disc 13 and member 16 are connected. Mounted in the socket 12, extended therefrom and also from the member 16 is a supporting shaft or pintle referred to generally at 21 and which is formed of a pair of cylindrical portions 22, 23, the latter being of less length and of less diameter than the diameter and length of the portion 22. The shaft 21 further includes a polygonal shaped portion 24. The portion 23 is interposed between the portions 22 and 24. The portion 22 is arranged within the socket 12 and is of a length substantially the same as the length of said socket, but of less diameter than the diameter of the latter. The portion 24 is of greater length than the portion 23 and the latter is arranged within the openings 14, 20 and flange 18. The providing of the shaft or pintle 21 with the portions 22, 23 of different diameters form a shoulder 25 which abuts against the inner face of the disc 13. Surrounding the portion 22 of the shaft 21, is a coiled controlling spring 26, which has one end, fixed as at 27, and its other end fixed as at 28. The end 27 is fixed to the portion 22 of the shaft 21 and the end 28 is fixed to the roller 11. The spring 26 permanently tends to revolve the roller 11 for the purpose of winding the body 6 thereon. The element 10 does not include a pawl and ratchet device, as generally employed in spring roller constructions to arrest the action of the controlling spring, therefore the element 10 includes a controlling spring permanently free of the retarding device therefor. By this arrangement spring tension is applied to the body 6 at all times, and which would not be the case if the element 10 was provided with a pawl and ratchet or catches or dogs to interrupt the action of the controlling spring.

The portion 24 is formed with an opening 29, through which extends a cotter pin 30 for a purpose to be hereinafter referred to. The roller 11 has its other end terminal reduced as indicated at 31 and secured to said end 31 by a suitable holdfast means, as indicated at 32, is a cap piece 33 formed with a centrally disposed opening 34. The reduced end 31 of the roller 11 is supported by an adjusting screw formed of a cylindrical shank portion 35, which merges into a peripherally threaded tapered shank portion 36. The outer end of the shank portion 35 is provided with a head 37. The shank

portion 35 provides what may be termed a supporting shaft or pintle for the end 31 of the roller 11.

The adjusting screw further constitutes means to take care of different widths of windows or doors by screwing in or out as needed to provide for the roller 11 fitting different sized window openings or door openings and by this arrangement a roller of one length can be employed for use in connection with window or door openings of a width greater than the length of the roller. The shank portion 35 provides a rotatable pintle for the end 31 of the roller and the portion 23 of the shaft 21 forms a support upon which the reduced end 15 of the roller 11 revolves. The shaft 21 is stationary and the spring 26 winds on the portion 22 of the shaft 21, to increase the tension of the spring, when the roller 11 is revolved by pulling the body 6 outwardly so that it will unwind from the roller and when the body 6 is released, the tension of the spring 26 will cause the winding of the body 6 on the roller 11. The body 6 when extended has always applied thereto tension from the spring 26 and under such conditions maintaining the body 6 taut when adjusted to various positions with respect to the window or door opening, or in other words the spring 26 acts to prevent the sagging of the body 6 when it is adjusted. Immediately upon the release of the body 6, after being extended, the spring will automatically wind it on the roller 11.

The awning structure further includes a yoke for connection with the outer end of the body 6. The yoke is capable of being adjusted upon an arc and when so adjusted carries the body 6 therewith and unwinding the latter against the action of the controlling spring 26. The yoke, or which may be termed the U-frame, includes a head bar 38 and a pair of side arms 39, 40. The width of the yoke is greater than the width of the body 6 and the head bar 38 extends through the pocket 8 formed by the hem 7. The arm 39, as well as the arm 40, intermediate its ends is provided with a diametrically disposed stop pin 41 for a purpose to be presently referred to. The pin 41 provides an abutment.

Mounted on the arm 39, and also on the arm 40, is a pivoted attaching device for the arm and as shown in Figure 4 said device consists of a tubular member 42 of appropriate length and formed of two different inner diameters and the larger is indicated at 43 and the smallest thereof at 44. The providing of the member 42 of two different diameters forms a shoulder 45 on the inner face thereof. That part of the member 42, having the largest inner diameter, forms a clearance for a pin or stop 41 and further provides for the reception of a controlling spring 46 for an arm of the yoke. The outer end of the member 42 is closed by a cap 47 which has threaded engagement with the periphery of the member 42 and is formed with an opening 48 for the passage of an arm of the yoke. The controlling spring 46 surrounds an arm of the yoke and is interposed between the pin or stop 41 and the cap 47 and said spring 46 tends to normally force the inner end of an arm of the yoke projected from the inner end of the member 42. The cap 47 and pin or stop 41 provide abutments for the spring 46 and the latter is in a normally extended position for a purpose of normally maintaining an arm of the yoke projected from the inner end of the member 42.

The member 42, at its inner end is formed with a flat rectangular extension 49 of a thickness less than the body of the member 42 and said extension is formed with an opening 50. Extending through the opening 50 is a headed pivot bolt 51 for the member 42 and said bolt 51 is provided with a retaining nut 52.

Associated with the winding element 10 and the tubular member 42 is a pair of supporting brackets therefor and these latter are indicated generally at 53, 54. The brackets 53, 54 are of like construction, with this exception that the bracket 53 is formed with a circular opening 55 at its top and the bracket 54 with a polygonal shaped opening 56 at its top and said opening 56 corresponds in contour to the shape of the polygonal shaped portion 24 of the shaft or pintle 21. The cotter pin 30 connects portion 24 to bracket.

Each supporting bracket comprises a body portion 57 in the form of a metallic strap of appropriate width and length and the top of the body portion 57 is formed with a rearward extension 58. In the extension 58 of the bracket 53 is positioned the opening 55 and in the extension 58 of the bracket 54 is positioned the opening 56. The body portion 57 is formed with a pair of spaced lengthwise extending slots 59 of appropriate length. The wall of each of said slots is beveled to provide a countersink for the head of a holdfast device 60 which extends through a slot and engages in the window frame for detachably securing the bracket in position. The slots 59 in connection with the holdfast devices 60 provide means for vertically adjusting a bracket with respect to the window frame. The inner face of the body portion 57 at its lower end is formed with a concavity 61 which receives a securing nut 52 and the inner end of a pivot bolt 51. The outer face of the body portion 57 at its lower end is formed with a circular enlargement 62 having an axial opening 63 which communicates with the concavity 61. The edge of the enlargement

62 is formed with a set of ratchet teeth 64 selectively engaged by an arm of the yoke for the purpose of maintaining the yoke in set position and against the pulling action of the spring 26 of the winding element 10. The spring 46 also acts to maintain an arm of the yoke in engagement with a ratchet tooth. The pivot bolt 51 extends through the opening 63 and into the concavity 61. The teeth 64 do not extend entirely around the edge of the enlargement 62, see Figure 3.

The form of the pivoted attaching device for the yoke shown in Figure 5 is the same as that shown in Figure 4, with this exception that the spring 46 and flat extension 49 are dispensed with, and the tubular member 65 which corresponds to the tubular member 42 has its lower end provided with an L-shaped extension 66 which passes through the opening 63 in the circular enlargement 62 and said extension 66 carries a securing nut 67 which is arranged in the concavity 61. In the form shown in Figure 5 the extension 66 provides a pivot, instead of the bolt 51 as shown in Figure 4. Otherwise than that as stated the construction shown in Figure 5 is the same as that shown in Figure 4. With respect to Figure 5 the pin or stop member 41 abuts against the cap member 47 to prevent the spring 26 from pulling the arms of the yoke from the pivoted attaching device.

The body 6 can be extended outwardly at varying inclinations with respect to the window or door opening and latched in such position against the action of the controlling spring 26. The body 6 can also be positioned in a vertical manner to act as a blind or shade as indicated in dotted lines in Figure 3.

It is thought the many advantages of an awning structure, of the spring controlled roller type, in accordance with this invention can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:

1. In a rolling awning structure of that type including a spring controlled windable awning body and a yoke for extending said body against the action of the controlling spring of the winding element, a pivoted attaching device for each arm of the yoke including a tubular member loosely receiving the free end of the arm, an apertured cap piece for the outer end of said member, means for pivotally supporting the inner end of said member, a controlling spring for the arm mounted within said member, and on said rim, and a latching means for and engaged by the free end of the arm, said latching means overlapped by the inner end of said member and further having the pivot means for the member connected thereto.

2. In a rolling awning structure of that type including a yoke for adjusting the position of an awning body, the combination with an arm of the yoke and with said arm provided with a transversely extending pin of a length greater than the diameter of the arm, of a tubular member loosely receiving said arm and pin, a cap piece connected to the outer end of the tubular member formed with an opening for the passage of said arm and coacting with the pin to prevent the separation of the arm from said member, a pivoted extension projecting from the inner end of the tubular member, and a latching means for and engaged by the free end of said arm and having said extension connected therewith.

3. In a rolling awning structure of that type including a yoke for adjusting the position of an awning body, the combination with an arm of the yoke and with said arm provided with a transversely extending pin of a length greater than the diameter of the arm, of a tubular member loosely receiving said arm and pin, a cap piece connected to the outer end of the tubular member formed with an opening for the passage of said arm and coacting with the pin to prevent the separation of the arm from said member, a pivoted extension projecting from the inner end of the tubular member, a latching means for and engaged by the free end of said arm and having said extension connected therewith, and a controlling spring arranged within said member, surrounding said arm and interposed between said pin and cap.

4. In a rolling awning structure of the type including a spring controlled awning body adjusting yoke, the combination with a stop on an arm of the yoke, of a yoke attaching device including means slidably mounted on and extending from the free end of the arm and enclosing and coacting with the stop for coupling of the yoke therewith, said device further including means for pivotally supporting the inner end thereof and for engaging the free end of said arm for detachably latching the arm in set position, said means which detachably latches the arm in set position surrounding the pivot and being in the form of a ratchet.

5. In a rolling awning structure of the type including a spring controlled awning body adjusting yoke, a yoke attaching device including a pivoted tubular element slidably mounted on and extended from the free end of an arm of the yoke, and means for supporting the pivot for such element arranged in the path of the free end of the arm and engageable with said free end to detachably lock the arm in adjusted position.

6. In a rolling awning structure of the

type including a spring controlled awning body adjusting yoke, a yoke attaching device including a pivoted tubular element slidably mounted on and extended from the free end of an arm of the yoke, and means for supporting the pivot for such element arranged in the path of the free end of the arm and engageable with said free end to detachably lock the arm in adjusted position, and means for limiting the sliding movement of said element relative to the arm.

In testimony whereof, I affix my signature hereto.

WILLIAM A. BRACKEN.