Jan. 6, 1942. R. J. WILLIAMS 2,269,350

AWNING

Filed Sept. 26, 1940

Fig. 1.

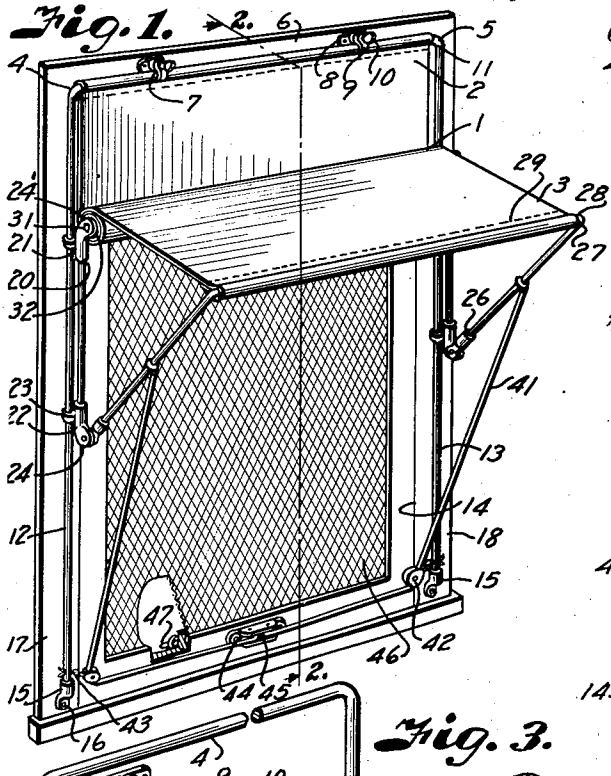


Fig. 2.

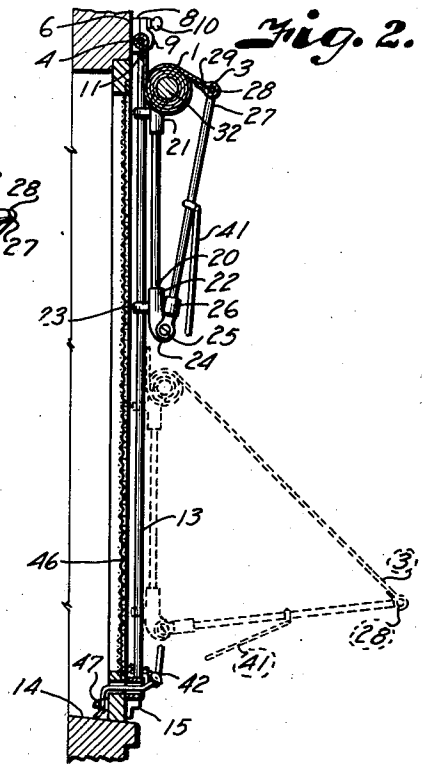


Fig. 3.

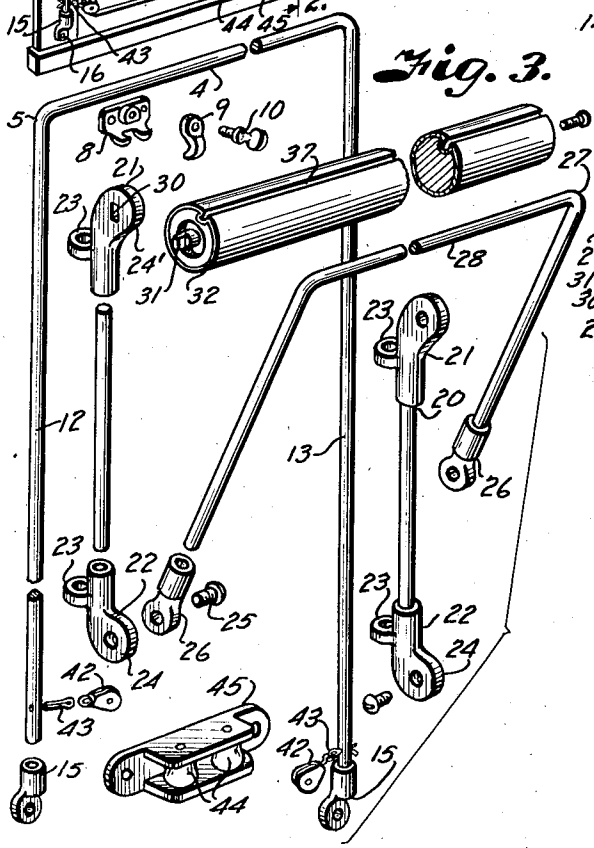


Fig. 4.

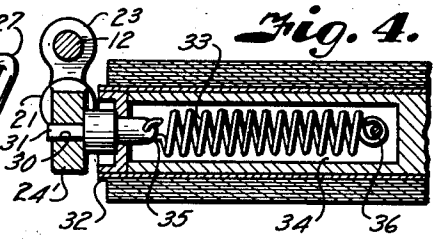
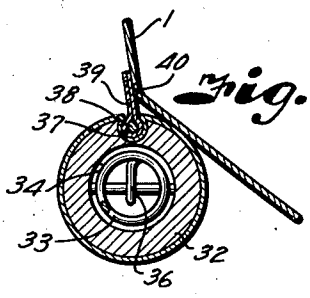


Fig. 5.



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AWNING

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9 Claims. (Cl. 156—44)

This invention relates to awnings, and more particularly to awning structures wherein the amount of protection provided by the awning may be regulated; the principal objects of the present invention being to provide a convenient, relatively economical, and highly efficient awning of the character noted.

Other objects of the invention are to provide for winding the awning in such a manner that when wound it will be arranged in substantially protected position relative to a window frame; to provide for carrying portions of the awning upwardly and downwardly relative to a window frame upon winding and unwinding the same respectively; to provide carriages for conveniently shifting the awning to desired position; to provide a convenient manner of raising and lowering the awning; and to provide improved elements together with improved arrangements thereof in an awning structure of the character and for the purposes noted.

In accomplishing these and other objects of the present invention, I have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawing wherein:

Fig. 1 is a perspective view of an awning structure embodying the features of the present invention.

Fig. 2 is a vertical cross sectional view through the awning structure, substantially on the line 2—2, Fig. 1 showing the awning in raised inoperative condition in full lines and in lowered operative position in dotted lines.

Fig. 3 is a detail disassembled perspective view of the awning roller carriage, the slide therefor, and a movable support for an end of the awning.

Fig. 4 is a detail horizontal cross section through the awning roller and support therefor showing the relation between the awning, roller and support therefor.

Fig. 5 is a detail vertical cross sectional view through the awning roller and portions of the awning thereon, particularly illustrating connection therebetween.

Referring more in detail to the drawing:

1 designates an awning structure embodying the features of the present invention, the awning structure preferably including a rectangularly shaped sheet of suitable awning material comprising an upper or inner end 2 and a lower or outer end 3. The upper end 2 of the awning material is mounted on the upper base end 4 of a preferably inverted U-shaped standard 5, the said base 4 of which is preferably secured to a window opening lintle 6 as by spaced fastening devices 7. The fastening devices 7 each preferably includes brackets 8 suitably secured to the lintle 6. Lugs 9 are removably engageable with the brackets as by fastening devices 10, to clamp the standard 5 in position on the window frame. The awning material is folded around the end 4 of the standard and secured to itself, as by stitching to form a loop or hem 11 of the awning material which may be suitably applied to the standard.

The arms 12 and 13 of the standard 5 project downwardly on opposite sides of the window opening 14 and are provided at their lower ends with caps 15 which, by suitable fastening devices 16, are secured to the jambs 17 and 18 at the lower ends thereof. The window sill, as illustrated, completes the frame for the window opening, which may be provided with sashes and panels in a conventional manner.

Mounted on each arm 12 and 13 of the awning structure standard is a carriage 20, Fig. 3, which preferably consists of a rod having upper and lower bosses 21 and 22 each having aligned apertured ears 23 of a size sufficient to allow sliding movement of the carriages on the arms 12 and 13.

The outer end of the lower boss of each carriage 20 is preferably provided with a forwardly laterally extending ear 24 having an aperture for receiving a pivot pin 25 that extends therethrough and through a similar aperture in an end cap 26 that forms a socket for the inner end of each of the arms of a preferably U-shaped standard 27. The outer end of the portion 3 of the awning material is secured to the base 28 of the standard 27 as by providing a hem 29 in the awning material that loops about the base 28 and which may be secured in such position by stitching.

It is apparent that with the structure thus far described the awning is secured at its upper end above the top of the window opening and is pivotally or swingingly mounted at its lower or outer end on the standard 27; further, that the standard 27 is vertically adjustable relative to the window opening.

In order to control the protective qualities of the awning and to selectively cover a desired portion of the window opening, the upper end of each carriage is provided with a forwardly laterally extending ear 24′ one of which is provided with a slot 30 therein for receiving a pin 31 on a tension roller 32 that is mounted between the ears 24′.

A coil spring 33 is mounted in a housing 34 in the roller, one end of the spring being engaged with the pin 31, as at 35, and the other end of the spring being anchored to the roller, as at 36. It is apparent that the roller may be placed under tension to wind or unwind objects engaged therewith as and when desired.

In the present instance, the inner adjacent ends of the awning material sections 2 and 3 are engaged with the roller 32 as by providing the roller with a longitudinal slot 37 and arranging a rod 38, Fig. 5, in the slot. A sheet of suitable, preferably fabric, material 39 is wrapped about the rod and the awning sections are suitably secured to the sheet 39, as shown at 40. The awning sections are wound on the roller in such a manner as to open the awning, as shown in full lines in Figure 2, and/or unwound therefrom to close the awning relative to the window opening, as shown in dotted lines in Fig. 2.

The spring 33 of the roller 32 is preferably placed under tension when the awning material is lowered to window covering condition and in such a manner that the awning material is wound on the roller under tension of the spring, the condition of the awning shown in full lines in Fig. 2 being its normal condition.

In order to unwind the awning material from the roller, each arm of the U-shaped bracket 27 is provided with an end of a cord or the like 41, the said ends of the cord being frictionally slidably engaged with said arms, whereby adjustments in tension may be made. The intermediate portions of the cord 41 pass over pulleys 42 secured, as by cotter keys 43, to the arms of the bracket 5. From the pulleys 42, the cord portions are brought together and passed between rollers 44 rotatably mounted in spaced relation on a bracket 45 that is preferably centrally secured to the bottom frame element of a screen 46. The screen is preferably provided with an opening therethrough and a fastening device 47 on the opposite side of the bracket 45 for securing the cord in desired position.

The operation of an awning structure constructed as described is as follows:

Assuming the awning structure to be in its normal conditon, as shown in full lines in Fig. 2, the cord 41 may be loosened relative to its fastening device 47 and pulled inwardly to draw on the cord ends in the direction of the sill of the window opening. Such pulling action draws the carriages 20 downwardly on the slide rods 12 and 13 and unwinds the section 2 of awning material from the roller into covering relation to the window opening. As the roller rotates responsive to tension on the cord 41, the section 3 of awning material is unwound due to the pulling action of the cords on the arms of the standard 27.

The standard 27 pivots outwardly relative to the carriages and forms a visor that extends outwardly and angularly on the roller in protecting relation to the lower portion of the window opening. When the awning has been positioned as desired, the normally free end of the cord 41 may be wound on the bracket 47 to secure the awning in the position desired. When it is desired to close the awning and wind the same on the roller, the cord 41 need only be released from the bracket 47 and tension of the spring in the roller causes the same to wind the awning material on the roller thus drawing the carriages upwardly on the slide rods and uncovering the window opening.

It is apparent that substantially duplicate castings are provided in the present awning structure, thereby facilitating interchanging carriage rods of different lengths in the bosses therefor, together with different sizes of standards 27 to provide for adequately supporting suitable sizes of awnings on or about windows of varying size.

It is also apparent that while the brackets 8 and sockets or caps 15 are normally fixed to the window frame, the fastening devices 9—10 are easily removable to allow removal of the awning from the window frame for any purpose, such as storage, repair, cleaning and the like.

It is apparent, therefore, that the present invention provides a convenient, relatively economical and highly efficient awning structure in which a movable carriage controls the winding and unwinding of awning material relative to a window opening and which may be adjusted to desired position to facilely regulate the amount of protection provided by the awning.

What I claim and desire to secure by Letters Patent is:

1. In an awning structure of the character described, a carriage, means reciprocably mounting the carriage relative to a window opening, awning material having one end fixed adjacent the window opening and another end mounted on said carriage in winding and unwinding relation thereto for covering and uncovering the window in response to movement of the carriage relative to the window opening, and a standard pivotally mounted on said carriage and engaged with a portion of said awning material.

2. In an awning structure of the character described, an inverted U-shaped frame, carriages respectively mounted on the arms of said frame, a roller mounted between said carriages, a standard having arms pivotally mounted on said carriages respectively, and a sheet of awning material having opposite ends secured to the bases of said U-shaped frame and standard respectively, the intermediate portions of said awning being secured to said roller and being adapted to be wound and unwound relative thereto.

3. In an awning structure of the character described, an inverted U-shaped frame, carriages respectively mounted on the arms of said frame, a roller mounted between said carriages, a standard having arms pivotally mounted on said carriages respectively, a sheet of awning material having opposite ends secured to the bases of said U-shaped frame and standard respectively, the intermediate portions of said awning being secured to said roller and being adapted to be wound and unwound relative thereto, and means for winding and unwinding said awning material relative to said roller.

4. In an awning structure of the character described, a frame, a carriage reciprocably mounted on said frame, a roller on said carriage, a frame pivotally mounted on said carriage, and awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller.

5. In an awning structure of the character described, a frame, a carriage reciprocably mounted on said frame, a roller on said carriage, a frame pivotally mounted on said carriage, awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller, and means on said roller engaged with said carriage for acting on said roller responsive to movement of said car-

riage to wind and unwind the awning material relative to the roller.

6. In an awning structure of the character described, a frame, a carriage reciprocably mounted on said frame, a roller on said carriage, a frame pivotally mounted on said carriage, awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller, a pulling device having an end secured to said pivotal frame, and means for removably mounting the other end of the pulling device whereby the awning may be adjusted.

7. In an awning structure of the character described, a frame, carriages reciprocably mounted on said frame, a roller on said carriage, a U-shaped frame having arms pivotally mounted on said carriages respectively, awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller, and means connected with the arms of said U-shaped frame for moving the same to wind and unwind the awning material relative to the roller.

8. In an awning structure of the character described, a frame, a carriage reciprocably mounted on said frame, a roller on said carriage, a frame pivotally mounted on said carriage, awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller, and a coil tension spring in said roller engaged with said carriage for winding and unwinding said awning material on the roller responsive to movement of the carriage.

9. In an awning structure of the character described, a frame, a carriage reciprocably mounted on said frame, a roller on said carriage, a frame pivotally mounted on said carriage, awning material having ends respectively mounted on said frames and intermediate portions engaged with said roller, a pulley on said first named frame, and a pulling device having an end adjustably mounted on said pivotal frame, said pulling device passing over said pulley and having another end removably engageable with a suitable support for holding the awning in desired adjusted position.

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