Sept. 16, 1930. A. O. HIGHSMITH 1,775,857

ADJUSTABLE AWNING SUPPORT

Filed March 21, 1929

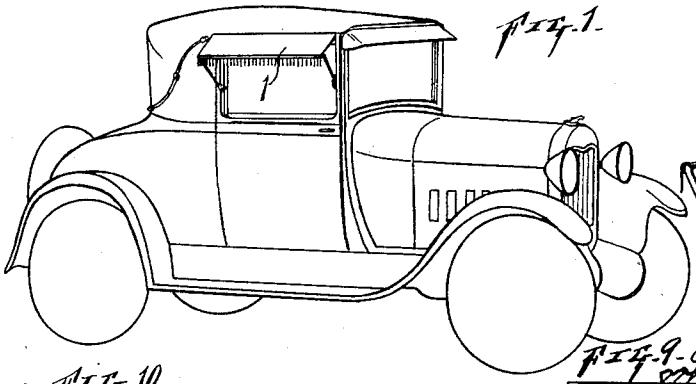

Fig. 1.

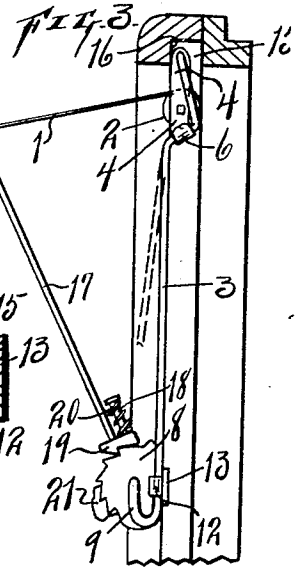

Fig. 3.

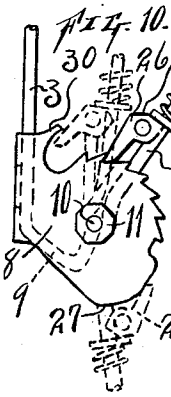

Fig. 10.

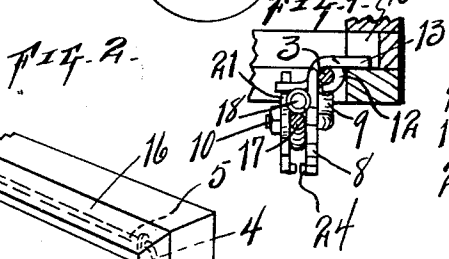

Fig. 9.

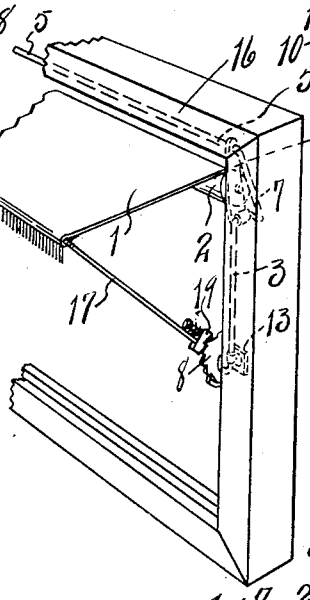

Fig. 2.

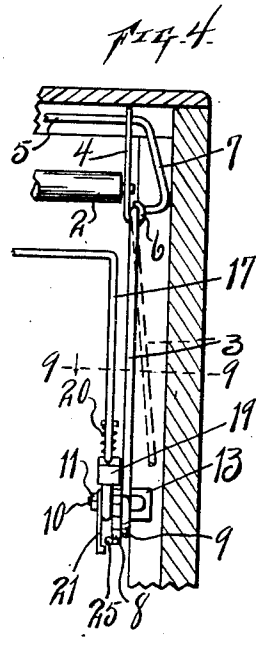

Fig. 4.

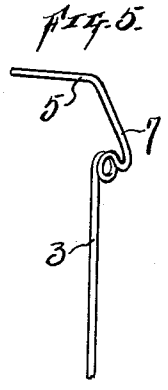

Fig. 5.

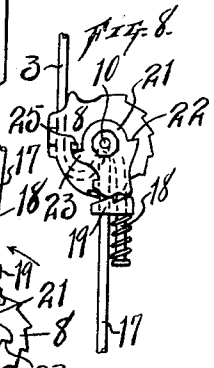

Fig. 8.

Fig. 7.

Fig. 6.

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UNITED STATES PATENT OFFICE

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ADJUSTABLE AWNING SUPPORT

Application filed March 21, 1929. Serial No. 348,843.

My invention relates to awnings of the adjustable type and it has particular reference to devices for controlling and actuating the supporting structure of the awnings, by which the latter may be adjusted and held in several positions relative to its mounting and the principal object of the invention resides in the novel construction and function of the control whereby an awning of the character above mentioned may be so constructed that no alterations are required in the window construction upon which the awning is mounted.

Another object of the invention resides in the provision in an awning of the character mentioned, an automatic locking and releasing mechanism for holding the awning in adjusted position when the latter is so moved.

Still another object of the invention resides in the provision of an improved awning support capable of being mounted on the windows and doors of an automobile vehicle, in the grooves or channels parallel with the glass therein, and requiring but a minimum of time and effort for installation.

Reference is had to the accompanying drawings which form a part of this application.

Fig. 1 is a perspective view of a car equipped with the improvements.

Fig. 2 is an enlarged perspective view being of a portion of an automobile window showing the awning control in action.

Fig. 3 is an enlarged sectional view, showing the control devices applied to a window frame, this view being taken from one end adjacent to the awning.

Fig. 4 is a front elevation of one side of the control devices.

Fig. 5 illustrates a variation in the rods for mounting the control devices.

Fig. 6 is a detail view of the locking and releasing devices, showing the devices in position to support the awning for shading purposes.

Fig. 7 illustrates the position of the releasing devices in position when the awning is folded or rolled up.

Fig. 8 illustrates the control devices in position for release.

Fig. 9 is a horizontal section, taken on the line 9—9 of Fig. 4.

Fig. 10 is a similar view to Fig. 6, showing a modification.

Similar characters of reference are used to indicate the same parts throughout the several views.

The drawings show an awning 1 of suitable flexible material and a spring roller 2 of the conventional type is provided for operating the awning. Upright frame members 3 are provided, upon the upper ends of which is mounted a bracket 4. The brackets 4 are duplicates except one has a round aperture for a bearing and the other has an oblong opening, to receive the ends of a conventional curtain or awning roller. The supporting rods 3 are of special design or construction, the upper ends 5 project through the brackets 4 and the lower ends are bent to form clamps 6 for engaging the supporting rods 3. Just above the clamps 6, the rods 3 are bent laterally to form groove engaging members 7. The members 7 extend upwardly and then laterally inwardly substantially parallel to the roller 2, passing through the brackets 4 at their upper ends. The groove engaging members 7 occupy the vertical grooves in the window frame and are at angles to the body members 3 of the supports. The supporting members 3 are to be sprung into the vertical grooves in the sash frames of the windows.

The upper ends of the supports 3 with the awning roller mounted therein are first located in the grooves. The parts 5 project through the upper ends of the brackets 4 and occupy a groove in the underside of the sash frame at the top. When first inserted, the parts 3 will be inclined outwardly as shown by dotted out-line in Fig. 3 and at the same time the parts 3 will be inclined laterally outward as indicated in Fig. 4. The lower ends of the members 3 carry plates 8 which are made rigid with the lower ends of the members 3 by bending portions 9 thereof U-shaped and then bending the short ends 10 horizontally and projecting the same through the plates 8 and securing the same by nuts 11. Tongues 12 are struck from the plates 8 and bent about the lower parts of the members 3

to make the plates 8 rigid with the lower ends of the parts 3. Lugs 13 are projected from the plates 8 to project into the grooves in the window frames or sash frame. When the awning is first placed in the sash grooves, the parts 3 will be inclined outwardly as indicated by dotted outline in Fig. 3 and the parts 3 will also be inclined laterally as indicated by dotted outline in Fig. 4.

To complete installation, the members 3 are pressed first towards each other in order that the lugs 13 may pass the stops or edges 14 of the grooves and slip into the grooves 15. The parts 3 are then pressed backwardly between the sash frame members so that the lugs 13 will enter the grooves 15. The awning will be securely held in the grooves 15 by the resiliency of the members 3, each of which has three bearing points. The parts 5 bear against the part 16 of the sash frame. The parts 7 bear against the back wall of the vertical groove 15 and the lugs 13 bear against the front wall 14 of the vertical groove 15.

Provision is made for holding the awning at an elevation required. A segmental rack 16 is made on each plate 8. Braces 17 are operatively connected to the out edge of the awning 1 and pivotally connected by the members 10 to the members 3 and plates 8. The ends 18 of the braces 17 are bent back on the braces 17 and dogs 19 are adjustably mounted on the parts 18 and 17. The dogs 19 are held yieldingly in engagement with the racks 16 by springs 20. Means are provided for releasing the dogs 19 from the racks 16. The tendency of the awning is to pull upwardly, therefore the dogs 19 are adapted to engage any pair of the teeth on the plates 8 for holding the awning down at the required elevation, since it will be noted that the dogs 19 are so constructed as to provide two teeth in order to increase their holding efficiency.

A releasing device is provided for each dog. The releasing device 21 is a plate which is pivotally mounted on the member 10. In normal operation of the dogs 19, the releasing devices 21 are idle. The releasing device 21 has two shoulders or stops 22 and 23. When the dogs are to be released, the awning is lowered until the dogs push the release to the position shown in Fig. 8. The dogs will then be pushed on the outer edges of the release devices 21 because the release devices will be stopped by lugs 24 on the plates 8. The lugs 23 of the release will stop against lugs 24. When the awnings are allowed to roll up, being drawn by the spring roller, the dogs 19 will ride on the outer edges of the release devices until they reach the position shown in Fig. 7. The lugs 22 will stop against lugs 25 which are rigid with plates 8. The dogs 19 will then slip off the release devices and the springs 20 will shove the dogs back into engagement with racks 16 on plates 8, whereupon the releasing devices 21 fall to the position shown in Figure 8.

The variation shown in Fig. 10 eliminates the releasing device 21 and the dog 26 is released from the teeth of the ratchet by a cam 27 on the plate 8. The dog 26 is mounted yieldingly on the frame member 17 and seats against a washer or sleeve 28. The dog 26 has a flat edge or straight edge 29 which serves as a lock or holder for the dog in combination with the washer 28 to hold the dog out of engagement with the teeth of the ratchet when the awning is being elevated. When the frame member 17 is brought to the highest position, the dog strikes a trip 30 and this releases the holder 29 from the washer 28. When the dog 26 is being brought to its lowest point, it will be released from the teeth of the ratchet by the cam 27 and this brings the holder 29 against the washer 28.

The simplicity of the present invention is apparent, and its operation requires but minimum effort, which latter feature is of much importance when the awning is applied in the manner and for the purpose illustrated, that is to say, when it is used upon automobile vehicles. Since the driver of a vehicle is required to give his attention to the operation of the latter, it would be difficult for him to adjust an awning, requiring effort, while the vehicle is in motion. The present invention is so designed and constructed that its operation may be brought about without detracting the driver's attention from the operation of the vehicle, since it is only necessary to grasp the outer edge of the awning, pull the same down to the lowest point and release it. The releasing element 21 will then engage and urge the dog or detent 19 radially outward, where the teeth of the plate 8 will have no effect, and the spring contained within the roller 2 will return the awning to inoperative position.

What I claim, is,—

1. In an awning structure, control mechanism including the mounting for said structure having plates rigidly affixed to its lower ends, the said plates having teeth arranged on an arcuate plane, a U-shaped frame pivotally connected at its ends in the center of said plates and having yielding detents normally engaging the teeth of said plate, and means normally inoperative on said plate to urge said detents outwardly out of engagement with said teeth.

2. In an awning structure, control mechanism including a stationary mounting for said awning, a ratchet plate, a frame joined to the outer edge of said awning and pivotally connected to said plate, a detent carried by said frame and yieldingly urged into engagement with the teeth of said plate, and normally inoperative means carried by said plate for urging said detent to inoperative position when said

frame is brought to the lowest position on said plate.

3. In an awning structure, control mechanism including the mounting for said awning, a ratchet plate carried rigidly on said mounting, the teeth thereof being on an arcuate plane, a U-shaped frame to which the outer edge of said awning is affixed and connected pivotally at its lower ends to said plate, means yieldingly engaging the teeth of said ratchet plates, and means held normally inoperative for disengaging said latter means when said frame is brought to the lowest position whereby to permit the latter to be raised to inoperative position.

In testimony whereof, I set my hand, this 16th day of March, 1929.

AUBREY O. HIGHSMITH.