June 24, 1930. H. E. WILLIAMS 1,766,769

AWNING FOR AUTOMOBILES

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Fig. 1

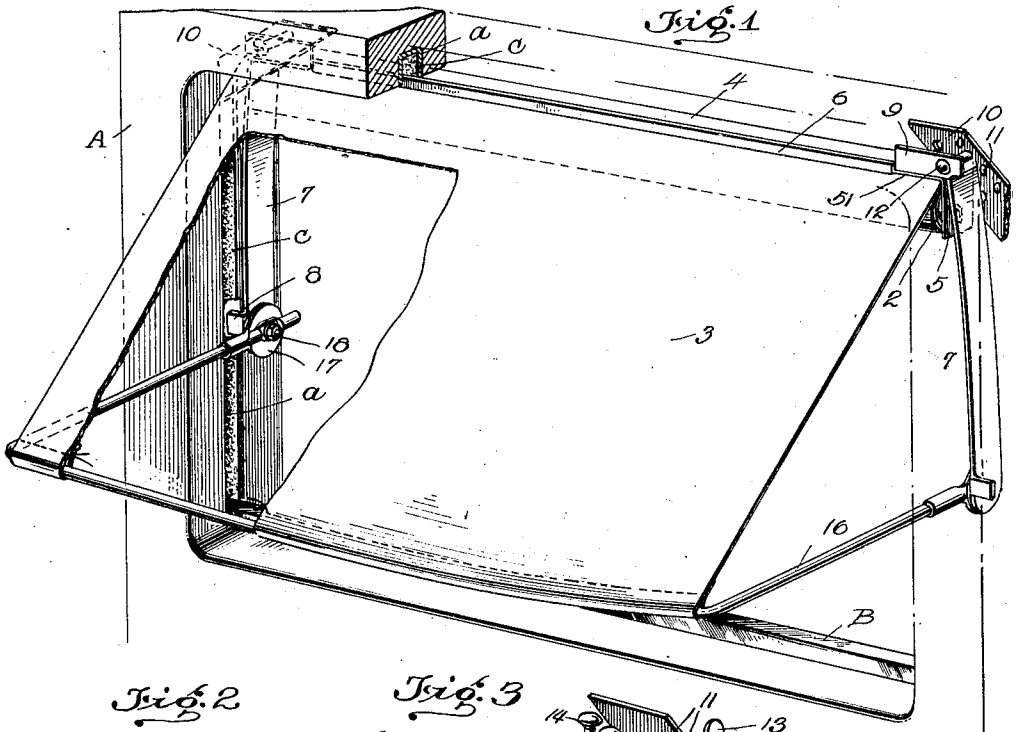


Fig. 2

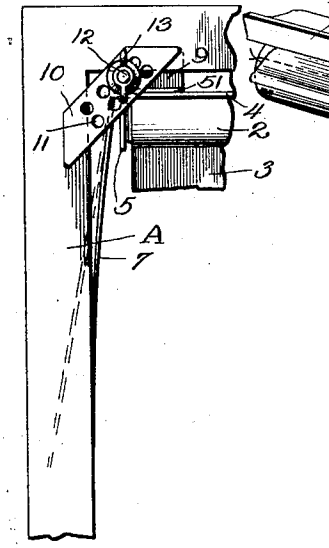
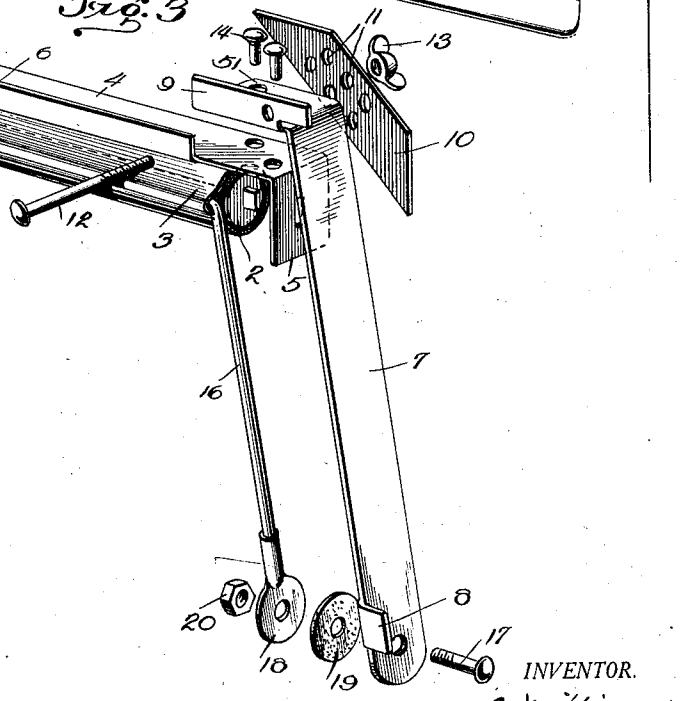


Fig. 3



INVENTOR.
Harold E. Williams
BY
John S. Barker
ATTORNEY.

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Fig. 4

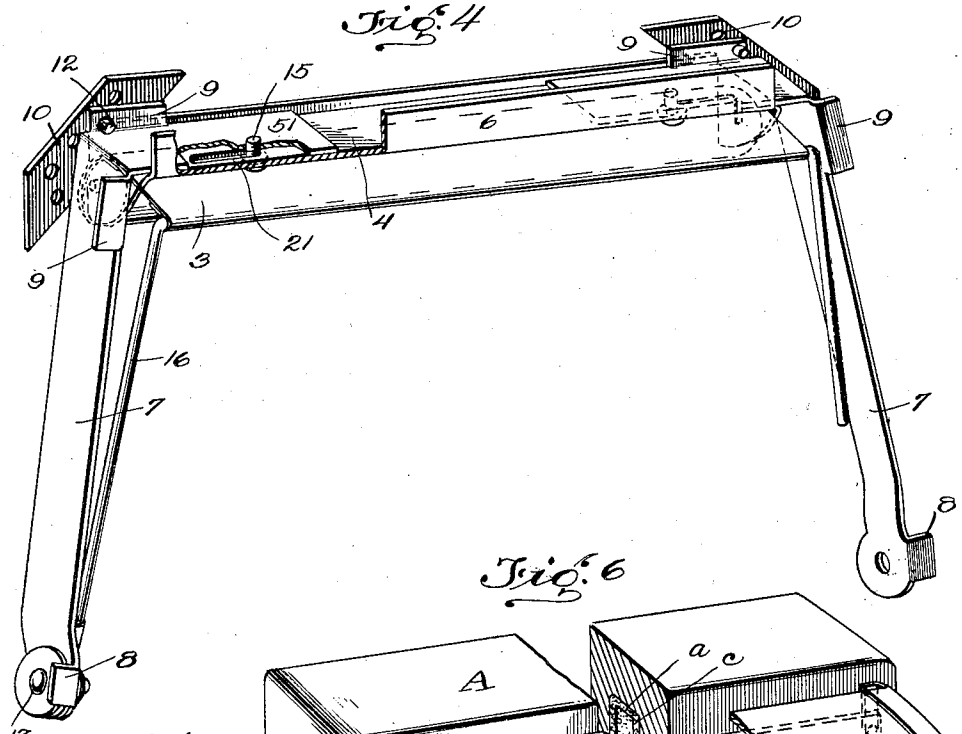


Fig. 6

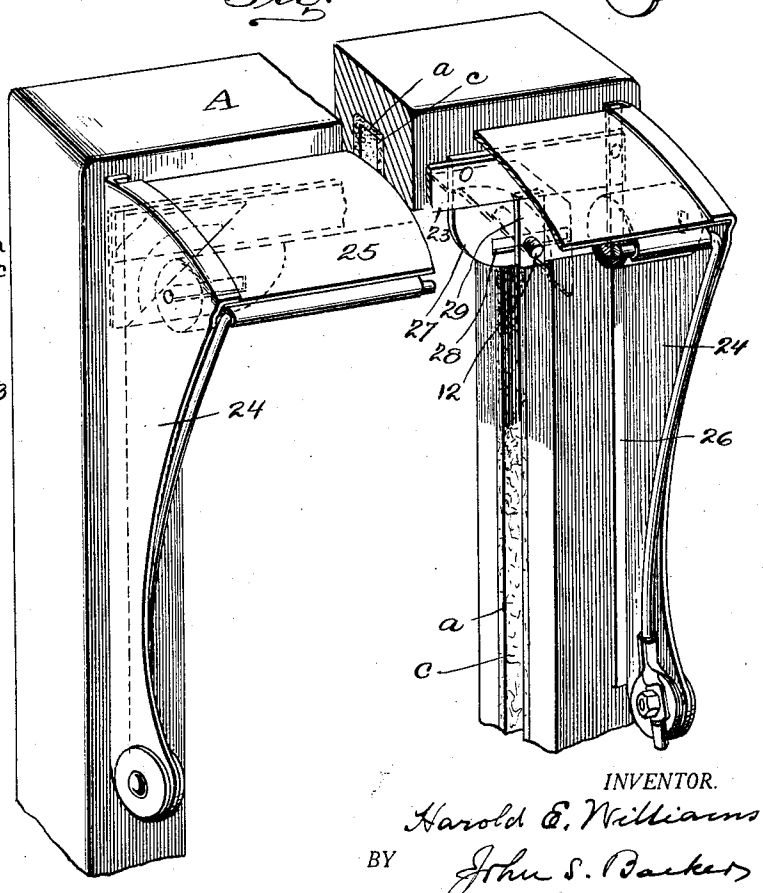
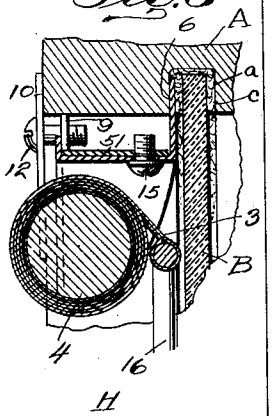


Fig. 5



INVENTOR.

Harold E. Williams

BY John S. Barker

ATTORNEY.

June 24, 1930. H. E. WILLIAMS 1,766,769

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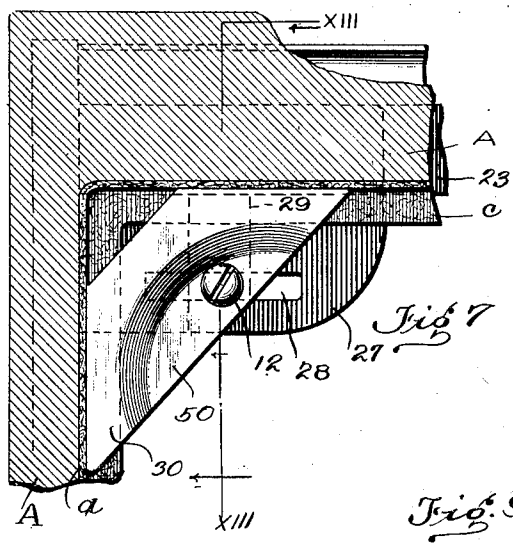


Fig. 7

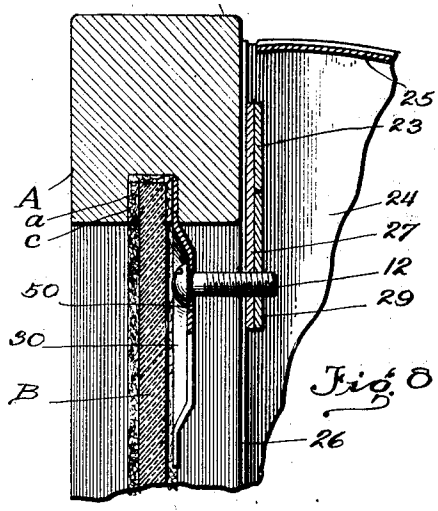


Fig. 8

Fig. 9

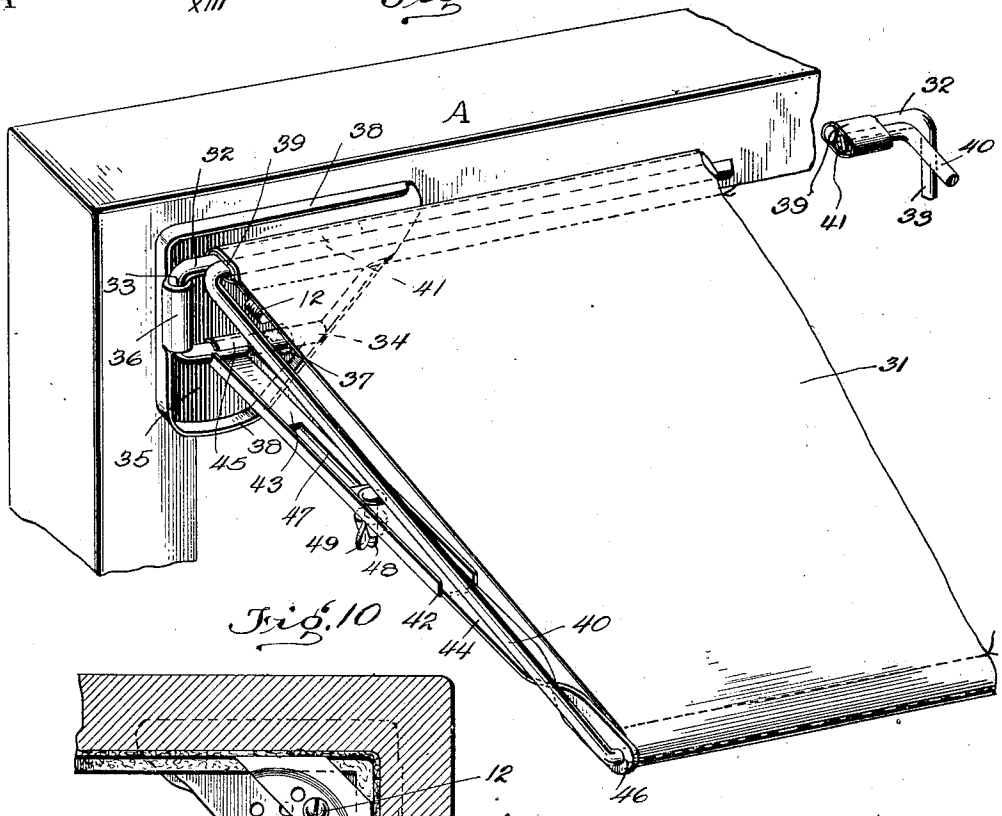
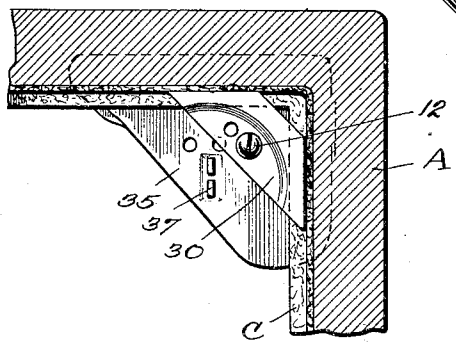


Fig. 10



INVENTOR.
Harold E. Williams
BY John S. Barker
ATTORNEY.

Patented June 24, 1930

1,766,769

UNITED STATES PATENT OFFICE

HAROLD E. WILLIAMS, OF CARTHAGE, MISSOURI

AWNING FOR AUTOMOBILES

Application filed December 16, 1927. Serial No. 240,504.

My present invention relates to improvements in shades or awnings such as are particularly adapted for use on automobiles or other vehicles, though not limited to such uses. It is illustrated in several forms having common features of novelty, while each different form illustrated embodies in itself characteristic novel features.

In the accompanying drawings

Fig. 1 is a perspective view of one form of awning embodying my invention, parts being broken away and the awning shown as extended.

Figure 2 is an elevation of one corner of the shade, seen from the outside;

Figure 3 is a detail perspective view, the parts being separated;

Figure 4 is a perspective view illustrating a different form of the invention;

Figure 5 is a vertical sectional view of the form of the invention shown in Figure 4;

Figure 6 is a perspective view showing another form of the invention;

Figure 7 is a detail vertical sectional view showing the manner of securing in place the shade illustrated in Figure 6;

Figure 8 is a sectional view taken on the line VIII—VIII of Figure 7;

Figure 9 is a perspective view of still another form of the invention; and

Figure 10 is a sectional view illustrating the manner of supporting the shade shown in Figure 9.

Referring to the drawings, A indicates a window frame, such as is used to support a window glass B in the body or door of an automobile. In the frame is formed a glass groove *a* which may be lined with some soft material *c*, such as felt. The glass B is vertically movable in the grooves or runs *a*, it being common practice to provide mechanism for moving it, operated from the inside of the car or vehicle.

It is one of the objects of the invention to provide an awning or sunshade that may be easily and quickly applied to a window opening; which may be easily removed therefrom; which may be applied or removed without scarring or marring the frame A, as for instance should screws or similar attaching devices be employed; which may be so supported in or adjacent to the window opening that the window glass B may be moved to complete closing position without necessitating the removal of the awning from the window casing; and which has other advantages that will be later pointed out as the description of my invention proceeds.

Referring particularly to the form of invention illustrated in Figs. 1, 2 and 3, 2 indicates a roller upon which is supported a flexible awning or shade 3, the roller being preferably of the spring-actuated type, such as is in common use. The roller is supported in a frame, comprising a cross bar 4 and side pieces 7, 7. The cross bar, which is located near the top of the window opening, carries the brackets 5 in which the roller 2 is supported. These brackets may be, as indicated, integral with the cross bar 4, being formed by the down-turned end portions of such bar. One edge of the bar 4 may be bent to constitute a flange 6, to add stiffness to the central cross member of the roller frame, and to close the opening between such bar and the window casing or frame.

The side frame pieces 7, 7 are preferably separate from the cross bar 4, their upper ends being angularly bent as at 51 to overlie the ends of the cross bar, to which they are united as by rivets 14. To secure the awning in the window opening the roller-carrying frame is provided with thin flanges 8 and 9 that are adapted to bear against the walls of the glass run or groove *a*, being preferably slipped between the lining C and the window casing. This is represented in Fig. 6.

The flanges 8 are represented as being at the lower ends of the side frame pieces 7, being preferably integral with such pieces and at the inner edges thereof. The upper flanges 9 are preferably carried by the angular or bent portions 51 of the side frame pieces 7, being represented as integral therewith and at the inner edges thereof so as to enter the upper, horizontal glass groove *a*. The arrangement shown in Figs. 1, 2, and 3 is for an awning supported on the inside of the window casing, arranged and constructed so that when the awning or shade is rolled

up the glass run *a* is free to permit the window glass to be raised completely, so that its upper edge lies in the upper groove *a*, without its interfering in any wise with the awning.

10, 10 indicate loose clamp plates adapted to bear against the inside of the window frame, they being of a shape and form to extend across the angular window space between a side frame piece and the upper frame piece. Bolts 12 pass through openings in the flanges 9 and through openings 11 in the loose clamp plates 10, and wing nuts 13 engage with the screw-threaded ends of such bolts, bearing, as represented in the drawings, against the exposed faces of the clamp plates 10. Tightening the wing nuts upon the bolts operates to draw toward each other the clamp plates and the flanges 9 of the roller-carrying frame, and these in turn engage with opposing faces of the window frame, with the result that the roller-carrying frame is rigidly clamped to the window frame and thus securely held, and this is done without necessitating the use of bolts, screws, or rivets that enter the frame A, which when employed mar it.

16 represents a stretcher frame of substantially U-shape, to the intermediate cross member of which is secured the free edge of the awning or shade 3. The free ends of the stretcher frame are united with the lower portions of the side members of the roller-supporting frame by pivots 17. Friction plates 18 are secured to the lower or free ends of the stretcher frame and have, between them and the side frame members 7, friction pads 19. Nuts 20, upon the screw-threaded ends of the pivots 17, serve as means for regulating the force with which the friction pads are clamped between the plates 18 and the faces of the lower portions of the side frame pieces 7, thus regulating frictional resistance to the swinging movements of the stretcher frame and thereby providing means by which such frame will be maintained in the different positions to which it may be adjusted. The side members 7 of the roller-supporting frame are resilient and have a normal tendency to spring apart at their free or lower ends a distance greater than the open window space for which the awning or shade is adapted, as represented by dotted lines in Fig. 2.

When the awning is applied the upper supporting flanges 9 are slipped into the upper glass groove *a*, engaging with the inner face or wall thereof. The bolts 12, which are long enough to extend beyond the inner face of the window frame or casing A, are then passed through the holes provided therefor in the flanges 9. The loose clamp plates 10 are then slipped upon the bolts 12 and caused to engage the inner faces of the window frame and the wing nuts 13 applied to the bolts 12 and tightened, thus securing the awning frame in the upper portion of the window opening. The free ends of the side frame members 7 are then forced toward each other until the supporting flanges 8 which they carry are in position to enter the vertical glass runs *a*. The stretcher frame 16 is sprung, along with the side frame pieces 7 as just described, causing the central cross bar thereof to bow upwardly or outwardly. There are at least two advantages incident to this springing of the stretcher frame. Its resiliency is utilized, supplementing that of the side frame pieces 7, to hold the latter in place with the flanges engaging the inner walls of the vertical glass run. In the second place the bowing of the central member of the stretcher frame imparts a slight stretching to the free edge of the awning, thus tending to hold the latter taut and preventing it from wrinkling or buckling. When the awning is folded up, with the central cross bar of the stretcher frame lying close to the roller 2, all of the parts of the awning and its supporting frame are located inside the path of movement of the window B permitting the latter to be moved up or down without disturbance from the awning.

In the form of awning which I have described the part of the frame that immediately supports the awning roller is rigid and non-extensible as to length. It is not necessary for practical purposes that the shade roller and its supporting frame should fit closely between the side members of the window frame. By making the side members of the frame resilient, as described, a given frame will be adapted for application to window openings that may vary considerably in width, the resiliency of the side members 7 insuring that they will properly engage with window casings of different sizes.

In the form of my invention illustrated in Figs. 4 and 5, the side frame pieces of the roller-carrying frame are adjustable bodily with reference to the central cross bar 4. The latter is slotted as at 21, and screws 15 pass through these slots and engage with the angular portions 51 of the side frame parts.

In the form of invention illustrated in Figs. 6, 7 and 8 the support for the awning or shade is located entirely on the outside of the window casing and the loose clamp plates employed to hold it in place are adapted to engage with the glass grooves. Referring to these views, 23 indicates the cross bar of the roller-carrying frame. 24, 24 represent side frame pieces in which may be directly mounted, as shown, the awning roller 2. The supporting frame is provided with a hood 25, adapted to cover and protect the roller and awning. Each of the side frame pieces 24 is preferably provided along its inner edge with a flange 26 that is adapted to form a bearing in engagement with the

vertical member of the window frame. In the angles between the upper portions of the flanges 26 and the cross bar 23 are supported plates 27 in which are formed slots 28 through which pass the screw bolts 12 employed in securing the awning frame to the window frame. Nuts or screw-threaded plates 29 with which the screw bolts 12 engage bear against the inner faces of the plates 27. The clamp plates 30 are preferably of truncated right angular triangle shape and when in use they bridge the spaces at the upper angles of the window openings as represented in Fig. 8.

The edge parts of these loose clamp plates lie within the glass grooves *a* at the upper angles thereof, the arrangement being such that when the bolts are tightened the awning frame will be tightly clamped in place. The slots 28 in the plates 27 permit the clamp plates to be adjusted to properly engage with the window opening whatever its size.

The edge portions of the clamp plates 30 that enter the glass grooves *a* are, by a swaging process, raised relative to the portions 50 of the plates through which the bolts 12 pass, so that in effect the heads of the bolts lie in a recess and hence are not in position to interfere with the free movements of the glass when the awning is applied.

In Figs. 9 and 10 I represent my invention as applied to an awning like that forming the subject of my co-pending application for patent, Serial Number 158,904, filed January 4, 1927, in which the awning or shade is not supported upon a roller but rather is always maintained in flat extended position, the supporting frame, however, being adjustable, so that the awning may occupy a practically horizontal position extending outward from the window, a depending position approximating the vertical in front of the window, or any intermediate position between these two extremes.

Referring to these views 31 indicates the awning and 39 a hollow or tubular support preferably of approximately elliptical form about which the upper or inner edge of the awning is looped, and thereby supported. In order that the awning may be adjustable to window openings of various widths, I construct the side members of the awning supporting frame each of bars bent each to have an inturned end portion 32 adapted to enter the tubular part 39, a down-turned portion 33, that is a part bent at right angles to the portion 32, which is supported in a bearing 36 and a short inturned portion 34 substantially parallel to the part 32. Supporting plates 35, which preferably carry the bearings 36, are provided, these being arranged to be clamped against the outer faces of the window frame A, each plate extending across an upper corner of the window opening. These plates 35 are not secured permanently to the window casing, but are clamped thereto by the bolts 12 and loose clamp plates 30 in the manner already described and represented in Figs. 6, 7 and 8, such plates corresponding in function with the plates 27 of the said Figs. 6 to 8. The inturned portions 34 of the side-supporting members of the awning frame are secured to the plates by eyes 37. The plates are stiffened by having their edges 38 turned outwardly forming marginal flanges. The side frame members, together with the plates 35 to which they are secured, are laterally adjustable to suit the width of the window opening to which the awning may be applied, the bars 32 sliding within the sleeve 39 when such adjustments are being made.

40 indicates the stretcher frame for the awning, the inner free ends 41 of which are inturned and enter the sleeve 39. 42 indicates an extensible brace, one at each side of the awning, between the inturned end 34 of an awning frame side member and the outer cross part of the stretcher frame. Each brace is preferably formed of a channel member 43 pivotally supported at 45 upon a bar 34 and an outer member 44 having pivotal connection at 46 with the cross bar of the stretcher frame. One member of the brace is slotted at 47 and the other member carries a screw bolt or stud 48 that extends through the slot 47 and has screwed upon its end a wing nut 49. The specific features of the awning just described are not herein claimed, except as to minor details, but form the basis of my aforesaid application 154,904.

What I claim is:

1. An awning or shade for automobiles comprising an awning-carrying frame adapted to have supporting engagement with a frame surrounding a window opening, loose clamp plates extending across corners of the window opening, and having engagement at their ends with the window frame, and bolts passing through the said clamp plates and engaging with the awning frame adapted to draw the latter into binding engagement with the window frame and thus secure it in place.

2. An awning or shade for automobiles comprising an awning-carrying frame adapted to have supporting engagement with a frame surrounding a window opening, flanges carried by the awning frame, loose clamp plates extending across corners of the window opening and bearing against the window frame, and screw bolts for uniting the flanges of the awning frame and the clamp plates adapted to draw these parts toward each other and hold the awning frame in frictional engagement with the window frame.

3. An awning or shade for automobiles and the like comprising a frame having a rigid central portion supporting the awning and side portions adapted to engage with a frame surrounding a window opening, such side

frame pieces being movable toward or from each other adapting the frame to be applied to window openings of different widths, in combination with loose clamp plates adapted to have frictional engagement with the window frame and screw bolts engaging respectively with the clamp plates and the awning frame to draw them toward each other and hold the awning frame securely in frictional engagement with the window frame.

4. An awning or shade for automobiles and the like comprising a frame having a rigid central portion supporting the awning and side portions adapted to engage with the glass grooves of the window frame, the side portions being resilient and normally standing apart at their free ends a distance greater than the width of the window opening to which the awning frame is to be applied, and means for holding the central rigid portion of the awning frame frictionally in engagement with the window casing.

5. An awning or shade for automobiles comprising a frame having a rigid central cross portion and side portions, an awning-carrying roller supported in said frame parallel with and adjacent to the central portion thereof, bearing pieces carried by the frame adapted to have frictional engagement with a frame surrounding a window opening, loose clamp plates adapted to bear against the window frame and screw bolts uniting the clamp plates and the awning frame adapted to draw said plates and the bearing pieces of the awning frame toward each other and into frictional engagement with the window frame to secure the awning frame in position.

6. In an adjustable U-shaped frame for supporting a rolling awning and a swinging bail, a combined, adjusting and supporting clamp comprising a rigid plate adapted to have frictional bearing against flat surfaces of the window frame to which the awning may be applied, and to extend across an angle of the window opening, the plate being perforate and a bolt passing through a portion of the frame that supports the roller and through the clamp plate.

7. An article such as described in claim 6 in which the clamp plate has formed through it a plurality of perforations permitting the plate to support the awning frame adjacent to openings of various sizes.

HAROLD E. WILLIAMS.