

No. 665,453.

Patented Jan. 8, 1901.

C. W. MONROE, W. L. TOWER & G. W. RU TON.

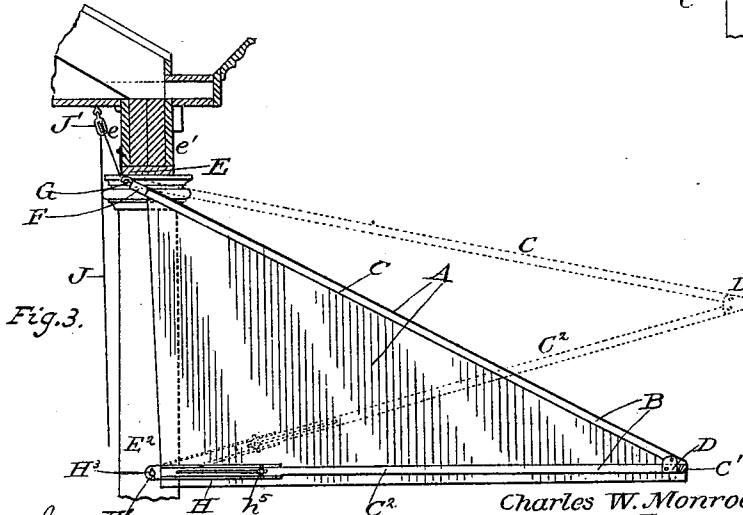
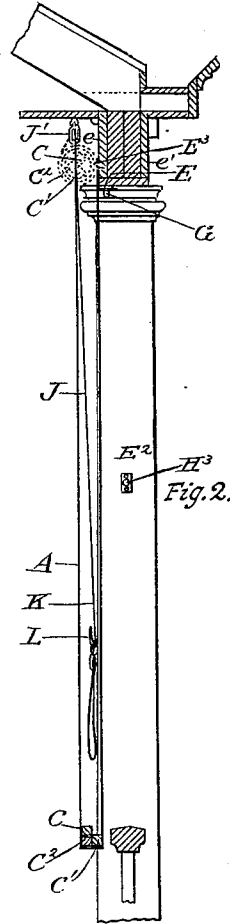
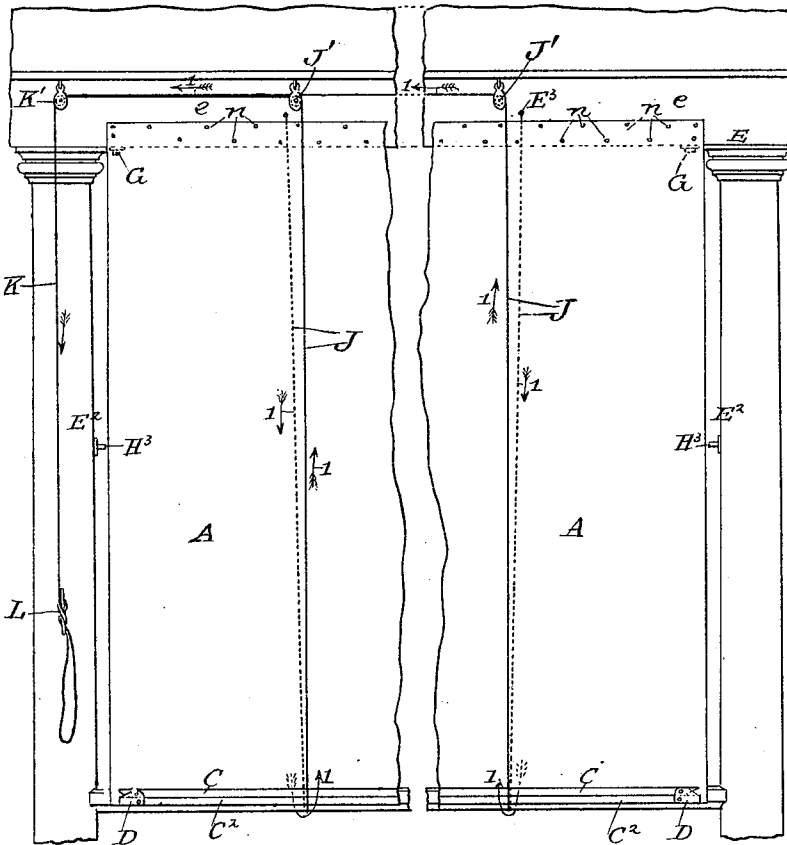
AWNING.

(No Model.)

(Application filed Aug. 10, 1900.)

3 Sheets—Sheet 1.

Fig. 1.



Witnesses.

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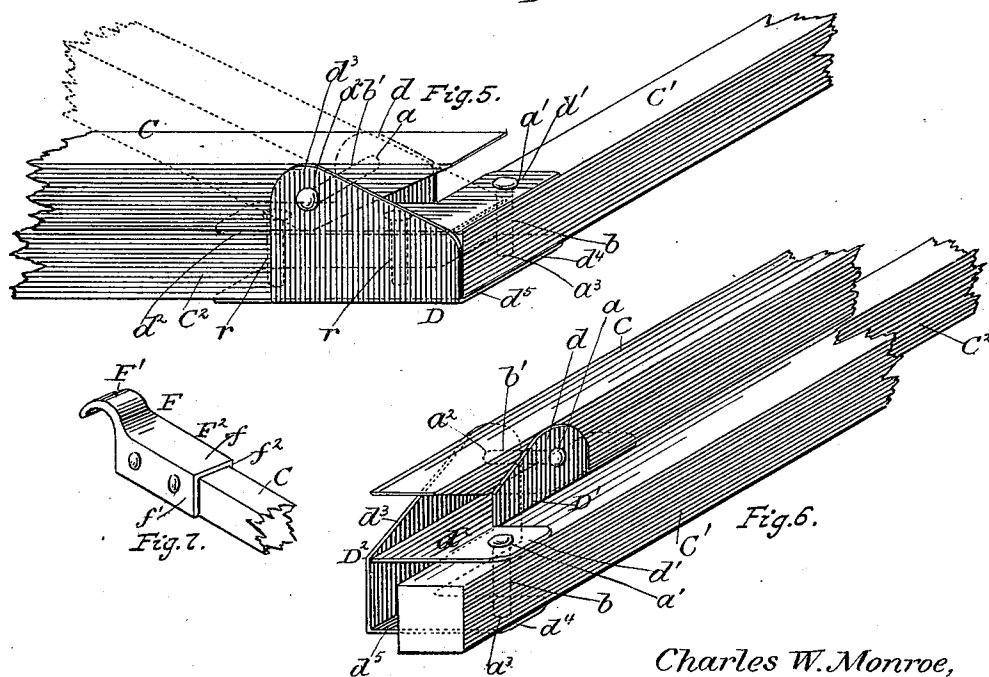
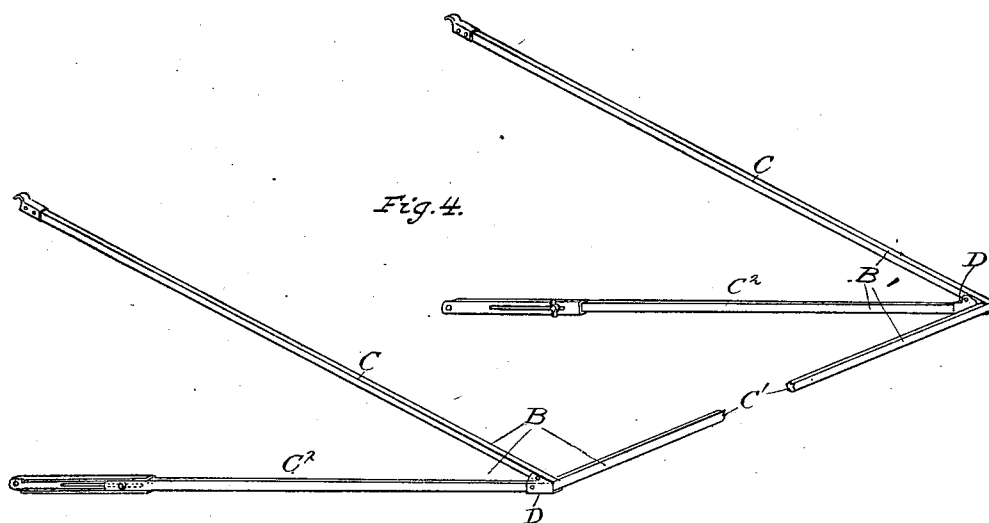
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AWNING.

(Application filed Aug. 10, 1900.)

(No Model.)

3 Sheets—Sheet 2.



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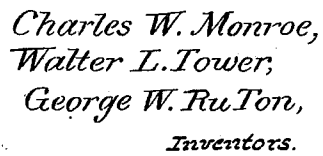
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AWNING.

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(No Model.)

(Application filed Aug. 10, 1900.)

3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

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AWNING.

SPECIFICATION forming part of Letters Patent No. 665,453, dated January 8, 1901.

Application filed August 10, 1900. Serial No. 26,472. (No model.)

To all whom it may concern:

Be it known that we, CHARLES W. MONROE, a resident of Pittsfield, and WALTER L. TOWER and GEORGE W. RU TON, residents of Dalton, in the county of Berkshire, State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Awnings, of which the following is a specification.

Our invention relates to awnings for buildings and structures; and it consists in certain novel features of construction of parts and devices and novel combinations of parts and devices herein shown and described, and pointed out in the claims.

One object of our invention is to provide with awnings simple means by which an awning may at pleasure be turned down to serve as a vertical curtain or screen or be turned to an inclined position and projected outwardly for service as ordinary awnings for windows, verandas, piazzas, show-windows of stores, &c., and at pleasure be raised near a horizontal plane for admitting light on cloudy days or after sundown and at pleasure be readily folded in a compactly-rolled-up form and carried to a suitable housing-place overhead, there to be kept in place until required to be used as a curtain or awning.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, Sheet 1, is a view of the awning when serving as a drop-curtain and viewed from its rear side. Fig. 2 is a vertical section of the same. Fig. 3 is a side elevation in section, illustrating the awning and its frame projected for shading an opening. Fig. 4, Sheet 2, is a perspective view of the frame of the awning. Fig. 5 is a perspective view, on an enlarged scale, of a front corner of the frame, illustrating the bar members of the same coupled by our preferred jointed coupling device. Fig. 6 is a perspective view of the same, illustrating the bars in closed position when the awning-cover is to serve as a drop-curtain or is to be folded and out of place as an awning or curtain. Fig. 7 is a perspective view of the coupling device provided with the in-

clined upper bar members of the frame. Fig. 8, Sheet 3, is a view of our two-part jointed coupling device viewed from the front of the same, the bar members of the frame being omitted. Fig. 9 is a side elevation of the upper part or member of our preferred jointed coupling device. Fig. 10 is a plan of the same. Fig. 11 is a side elevation of the lower part or member of said jointed coupling device. Fig. 12 is a plan of the same. Fig. 13 is a perspective view of our preferred form of coupling device for coupling the rear ends of the upper and inclined bar members of the frame to a stationary pin. Fig. 14 is a perspective view of the coupling-pivot used in connection with the coupling device shown in Fig. 13. Fig. 15 is a perspective view of our preferred coupling device for attachment with the rear ends of the horizontal lower bar members of the frame. Fig. 16 is a section taken at line 1 in Fig. 15. Fig. 17 is a perspective view of the pivot-form stud preferred to be employed in connection with the coupling device shown in Fig. 15, and Fig. 18 is a perspective view of a bar member of the frame made of wood and reinforced by angle-iron or steel.

Similar letters of reference refer to similar parts throughout the several views.

In the drawings, A represents the awning, made of a suitable piece or pieces of woven fabric of any suitable kind and quality and of dimensions for service as an outwardly-projected awning, as in Fig. 3, or as a drop-curtain, as in Figs. 1 and 2.

B is the awning-frame embodying the features of our invention and adapted to be so connected with the stationary parts of a window or other opening, as sides or posts, to which the awning is to be connected and applied as to allow its parts to be variously operated and relatively changed in situation for effecting changes of plans and purposes of the fabric of the awning. The members of this frame may be made of any suitable material, as strong wood or metal, or both combined, as may be preferred. This frame B comprises the parallel side bars C C, adapted to be arranged in inclined position, as shown in Fig. 4, end bar C', jointed to said parallel inclined side bars C, and the hori-

zontal bracing-bars C^2 C^2 , having their outer ends jointed on the ends of the said bars C C and also on the ends of said end bar C' , as shown in Fig. 4 and also as shown on an enlarged scale in Figs. 5 and 6, so that these folding bars C and C^2 may be folded against each other, as shown in Fig. 5, and these folded bars be together folded against the outer end bar C' , as shown in Fig. 6 and also as shown in Figs. 1 and 2, for dropping the awning from position shown in Fig. 3 to that shown in Figs. 1 and 2 when serving as a curtain or when rolled up.

Although the jointing of the forward ends of the inclined upper bars C C with the bracing-bars C^2 C^2 , respectively, may be effected by use of ordinary butt-hinges, (not shown,) and the jointing of the forward ends of the said bracing-bars C^2 with the respective ends of the outer end bar C' may also be effected by the use of butt-hinges, also not shown, yet we prefer to employ a jointed coupling device of our own construction and comprising parts and elements which may be cheaply produced and be readily secured to said bars in a strong manner, whether they are of wood or metal. This preferred jointed coupling device D , Figs. 3, 4, 5, 6, and 8, consists of the two parts D' and D^2 , which embody, respectively, the elements which when suitably combined produce the completed jointed coupling device D . Part D' , Figs. 8, 9, and 10, comprises the two pivot-ears d d' , both integral with a suitable attaching-body d^2 , which latter is shown in Figs. 9 and 10 to be a plain flat web adapted to be secured to the flat surface of a bar C^2 of square form by means of rivets, yet said attaching-body may be made with other form suitable for securing said part D' to bars of round or tubular form. The pivot-ear d , integral with the attaching-body d^2 , is projected vertically upward from said body and is perforated by pivot-hole a , and the pivot-ear d' , integral with body d^2 , is projected forward at right angles to said body and on the same plane and is at right angles to the plane of the pivot-ear d and is perforated by pivot-hole a' . The part D^2 comprises the two pivot-ears d^3 d^4 , both integral with a suitable attaching-body d^5 , as shown in Figs. 5, 6, 8, 11, and 12, the pivot-ear d^3 being projected vertically upward from attaching-body d^5 and provided with pivot-hole a^2 , which is in alinement with the pivot-hole a in ear d of part D' , and the pivot-ear d^4 is extended horizontally from the same attaching-body d^5 and on the same plane and is provided with pivot-hole a^3 , which is in alinement with pivot-hole a' in part D' . These two parts D' and D^2 of our jointed coupling device D are so assembled and combined with each other and the bars C , C' , and C^2 that the attaching-body d^2 of part D' will be applied to the upper side of the bracing-bar C^2 , and the attaching-body d^5 of part D^2 will be applied to the lower side of the same bracing-bar C^2 , when the two said

parts will be rigidly secured to that bar by suitable means, and preferably by rivets r , when the vertical pivot-ears d and d^3 of the parts D' D^2 will be in position to receive between them the bar C and also pivot b' , passing through both said ears and said bar, as shown in Figs. 5 and 6, and the pivot-ears d' and d^4 will receive between them the front end bar C' , when the latter will be secured therein by pivot b , as shown in said Figs. 5 and 6. These parts D' D^2 of this coupling device D being thus assembled, combined, and secured with each other and bars C C' C^2 , these latter may at will be opened out in relation to each other, as shown in Figs. 3 and 4, and at pleasure be progressively folded, first as shown in Fig. 5 and then as shown in Figs. 6 and 2.

The rear ends of the inclined upper bars C C are provided with suitable devices for coupling said rear ends to some fixed part of a casing or side of the opening from which the awning is to be extended, as to part E of the building or structure, (shown in Fig. 3 as being to the lower side of a soffit on a plane above the crown of a column,) yet these coupling devices for said bars C may be connected with the sides of the casing of a window or with the posts of a veranda or piazza or other stationary pieces. We have produced for such purpose the coupling device F of construction which allows the coacting parts to be readily connected and disconnected at pleasure. This coupling device F , Fig. 3, comprises the coupling-hook F' , Figs. 3, 7, and 13, integral with the attaching-body F^2 , which is shown to be of angular form comprising webs f f' f^2 , Figs. 7 and 13, and provided with suitable perforations for receiving rivets or screws for securing said coupling-hook F' to bar C , as in Fig. 7. G is a coupling-pivot (shown in Figs. 3 and 14) for coaction with the coupling-hook F' and with said hook supporting the rear ends of the bars C C in a jointed manner, so that said bars may be elevated at pleasure from position shown by full lines in Fig. 3 to that shown by dotted lines C in the same figure. This coupling-pivot G , Fig. 14, is shown viewed from its lower side and is shown to be integral with attaching-flanges G' G' , provided with perforations g for reception of screws or other suitable fastening devices for securing said coupling-pin in place, as shown in Fig. 3.

The rear ends of bars C^2 C^2 are provided with suitable coupling devices H for connecting said bars at pleasure to suitable stationary pieces at the sides of the openings which the awning is to shade and at points thereon below the points at which the coupling device F connects bars C C to piece or part E . This coupling device H may be of any suitable form of construction which is adapted to admit in each device one of its parts to be secured to the rear end of the respective bars C C and its other part to a suitable stationary side piece, as E^2 , Fig. 3, and be adapted

at pleasure to be coupled or uncoupled, according as may be required. In our preferred form of construction of this coupling device H we provide a perforated ear H', integral with attaching-body H², which latter is adapted to be secured to the rear end of bracing-bar C², and for coaction with said pivot-ear H' we provide a suitable horizontally-projected stud H³, having through it hole h, in which is a removable pin or key H⁴, which stud is connected to a suitable base h², suitably perforated for adapting it to be rigidly secured to a fixed side piece, as E², by screws or other devices.

Although the attaching-body H² may be plain and be suitably-shaped for being secured on a side of a round bar or tube of metal, we have illustrated said body as being flat for attachment to a square bar of wood, Fig. 16, and also as having flanged side webs h³ h³ for reinforcing the wood and also having in it the lengthwise slot h⁴ for reception of a suitable clamping-bolt h⁵, whereby this coupling device may be adapted to be adjustable longitudinally in relation to the bar C² itself, so that the length of the same between the pivot-hole of the coupling device H and the outer end of bar C² may be lengthened or shortened at pleasure, so that the awning may be adjusted in its pitch or incline at pleasure, as illustrated by full and dotted lines in Fig. 3, for graduating the degree of light to that desired to be admitted at different times between morning and night.

J J are operating-cords secured each by one of its ends to a stationary piece, as E³, and running down therefrom in front of the awning A to the front bar C' of the awning-frame and then turned and run back and up, all as in directions of arrows 1 in Figs. 1, 2, and 3, to and over suitable rollers or pulleys J' J', and from thence to halyard K, running to main roller or pulley K', as shown, which halyard may be secured at any point in its length to cleat L, secured to any suitable fixed piece.

The drawings Figs. 1, 2, and 3 show the upper end of awning A to be secured by means of nails n n to the rear side of a rear side casing-piece e, yet the upper end may be secured to the face side of the front side casing-piece e' when preferred or found to be advantageous.

By our above-described improvements the inclined bars C C of the awning-frame may at will have their rear ends pivotally connected at pleasure to a stationary piece at the upper end of the opening to be screened or be readily uncoupled therefrom. The bracing-bars C² C² of said frame may be variously lengthened or shortened at pleasure for increasing or lessening the angle of inclination of the incline of the awning for admission of more or less light through the opening back of it, and at pleasure the inclined bars and bracing-bars of the awning-frame may have their rear ends readily uncoupled from

their respective attaching-pieces and be so turned and folded together parallel with the front end bar C' as to form a central core on which the awning may be rolled up at pleasure by simply hauling on the halyard K and be carried up into a suitable recess or place of storage above the opening, as indicated by dotted lines in Fig. 2, or said folded bars of the awning-frame may serve as a weight for weighting the awning at its lower end when in situation serving as a curtain for keeping out rain or snow, as from a veranda or piazza or other exposed place.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a frame of an awning, the combination with parallel bars CC adapted to be set at like inclines, horizontal bracing-bars C² C² and a hinging device connecting the respective outer ends of each side bar and adjoining bracing-bar and permitting the same to be folded together at pleasure, of the horizontal front end bar C', hinging devices connecting the outer ends of the respective bracing-bars and outer ends of said front end bar and permitting the former to be folded against the inner side of the latter, a device adapted to couple the rear end of each parallel side bar to a piece fixed to the structure the awning-frame may be projected from, and devices adapted to detachably couple the rear ends of said bracing-bars to suitable pieces also fixed to the same structure, substantially as and for the purposes set forth.

2. In a frame of an awning, the combination with a horizontal front end bar adapted to be secured to the front edge margin of an awning, two parallel inclined side bars, and a pivotal coupling device secured to the respective rear ends of said inclined side bars for engagement with pivots fixed to the structure the awning-frame may be projected from, of horizontal bracing-bars, respectively beneath said side bars, a hinging device connecting the forward end of each bracing-bar to the forward end of the side bar above it, a coupling device secured to the rear end of each bracing-bar and adapted to be engaged at pleasure with a fastening device secured to the structure the awning-frame may be connected with, and hinging devices connecting the forward ends of the respective bracing-bars to the outer ends of the said front end bar, substantially as and for the purposes set forth.

3. In a frame of an awning, the combination with the front end bar of the frame, two parallel side bars and two bracing-bars, respectively, below said side bars, of hinging devices connecting the forward ends of said bracing-bars to the forward ends of said parallel side bars and permitting the latter to be set at like inclines in relation to the former, and hinging devices connecting the forward ends of said bracing-bars to the outer ends

of said front end bar, and permitting each said bracing-bars, together with their respective hinged side bar to be together folded against the inner side of said front end bar, substantially as and for the purposes set forth.

4. In a frame of an awning, the jointed coupling device D formed by the combination with part D' comprising the two pivot-ears d d' integral with an attaching-body d^2 , and part D² comprising the two pivot-ears d^3 d^4 integral with attaching-body d^5 , of pivots b and b' and fastening devices r as and for the purposes set forth.

5. In a frame for an awning, the combination with parallel inclined bars C C, bracing-bars C² C² and front end bar C', of jointed coupling devices hinging together the outer ends of said bars at the respective front corners of the frame, coupling devices F adapted to hinge the rear ends of the inclined bars to an adjoining stationary piece, and coupling devices H adapted to hinge the rear ends of said bracing-bars to adjoining stationary pieces which are below those to which said inclined bars are hinged as and for the purposes set forth.

6. In a frame of an awning, the combination with the front end bar C', parallel inclined bars C C, bracing-bars C² C² and a double-hinge-form coupling device at each forward corner of said frame and secured, respectively, to the outer ends of said front end bar and the forward ends, respectively, of said inclined bars and their bracing-bars and hinging the inclined bars on said bracing-bars and the latter on the respective outer ends of said front end bar, of coupling-hooks F' securely connected on the rear ends of said inclined bars, coupling-pivots G secured to fixed pieces from which said inclined bars may be projected, perforated ears H' secured on the rear ends of said bracing-bars and horizontally-projected studs H³ secured, respectively, to fixed pieces from which said

bracing-bars may be projected, substantially as and for the purposes set forth.

7. The combination with an awning-frame formed by the combination of a front end bar, two inclined side bars, bracing-bars adapted to brace, respectively, said inclined side bars, and a double-hinge-form coupling device securing each outer end of said front end bar to the forward end of its adjoining inclined side bar and the outer end of each bracing-bar, and permitting the said inclined side bars to fold on said bracing-bars and the latter to fold on the inner side of the said front end bar, a coupling-hook and pivot, adapted to be uncoupled at pleasure, between the rear end of each inclined side bar and suitable fixed pieces from which said side bars are projected, the coupling device H, described, between the respective rear ends of said bracing-bars and suitable fixed pieces from which said bracing-bars may be projected, of an awning having its upper edge margin secured to a suitable fixed horizontal piece of a structure and its opposite edge margin secured to the said front end bar of the awning-frame, pulleys J' J' secured to a fixed piece at a line above that at which the upper edge margin of the awning is secured, operating-cords J J secured to a fixed piece at the upper end of the awning and run on the outer side of the same and turned on the front end bar of the frame and then run up on the opposite side of said awning to over said pulleys, main pulley K', halyard K suitably connected to said operating-cords and run over said main pulley, and a suitable device for holding said halyard from slipping, substantially as and for the purposes set forth.

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