Aug. 7, 1945. F. G. DUEWEKE 2,380,928

AWNING

Filed July 17, 1944 2 Sheets-Sheet 1

Fig. 1

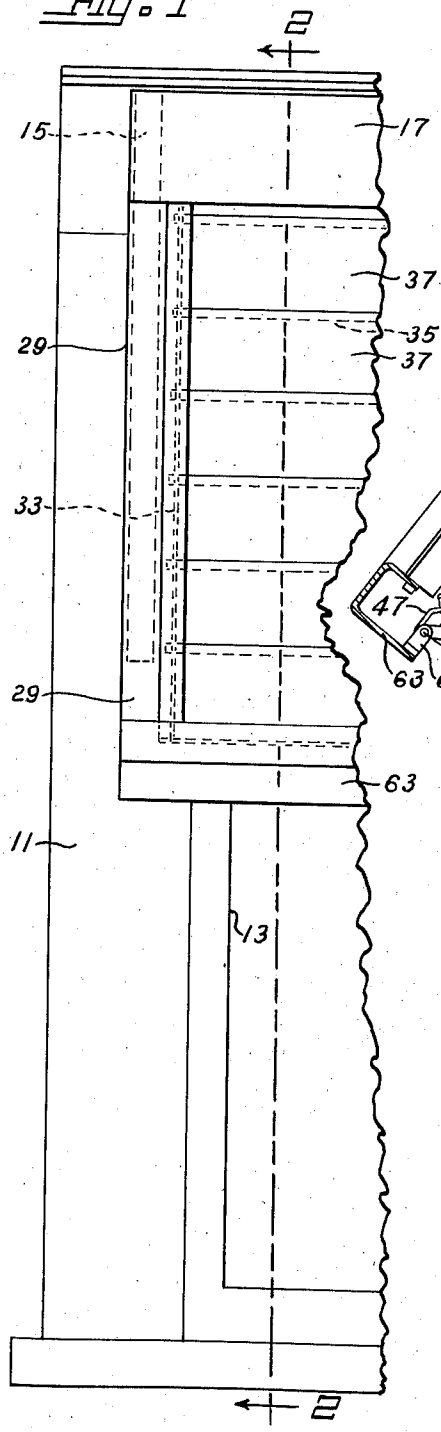


Fig. 2

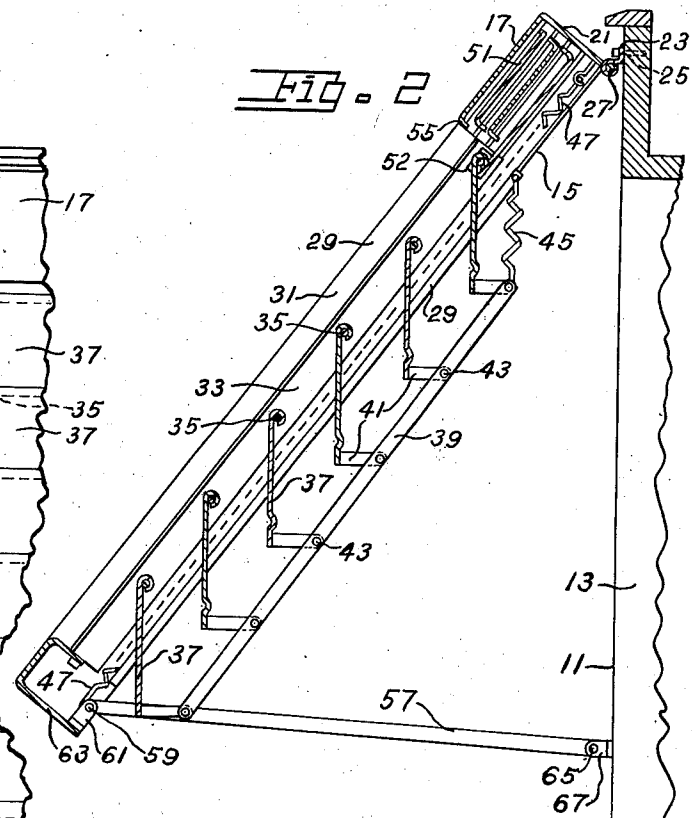
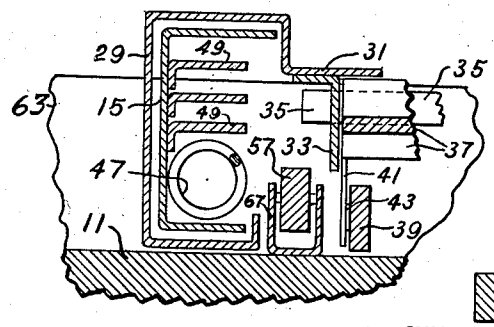


Fig. 5



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AWNING

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Fig. 3

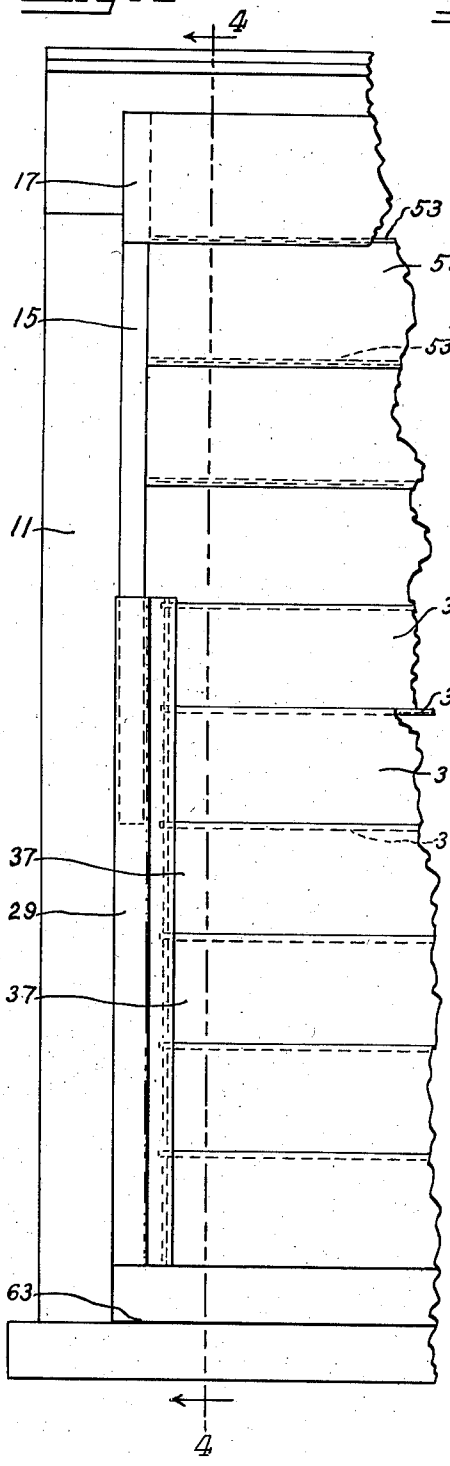
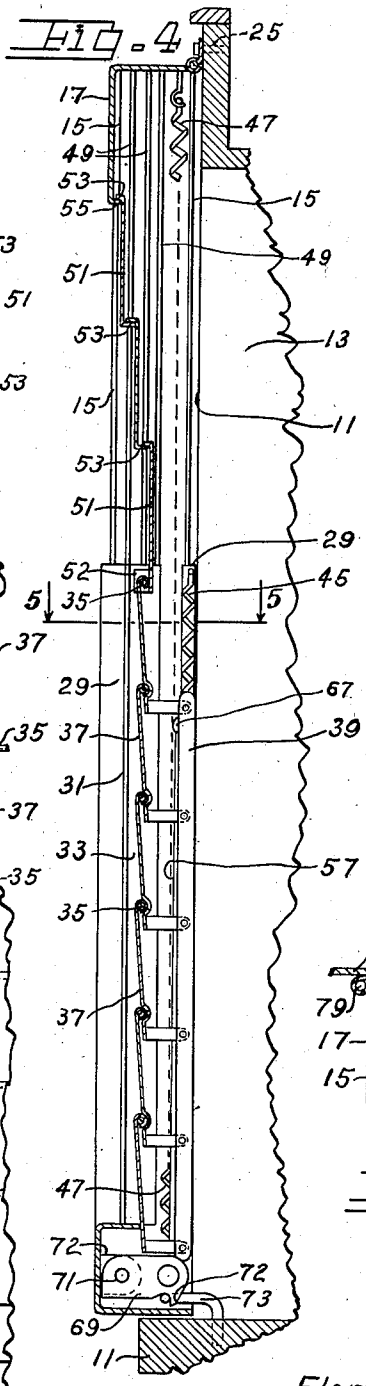


Fig. 4



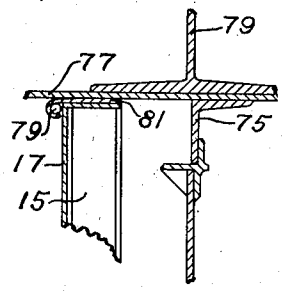


Fig. 6

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2,380,928

UNITED STATES PATENT OFFICE

2,380,928

AWNING

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Application July 17, 1944, Serial No. 545,207

5 Claims. (Cl. 160—62)

My invention pertains to closures for openings in buildings, and more particularly to fireproof blackout shutters and awnings.

It is an object of my invention to provide a closure for building openings which is of a simplified light weight construction and which is convenient and reliable in operation.

It is also an object of my invention to provide a telescoping shutter or awning which is substantially self-balancing so that very slight effort is required to draw it down in a closing position over the building opening to be closed and protected, or to hoist it to a telescoped extending position projecting inclined away from the building to serve as an awning for shading and protecting the building opening from sunlight and heat and preventing any light in the building from being visible from the outside thereof, and which may also be made of fireproof material for use as a blackout shutter for protecting buildings during conditions of fire or air raids.

It is a further object of my invention to provide a combined shutter awning construction comprising a pair of upper telescoping members, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation on a building above an opening to be protected, a lower telescoping member associated in a sliding telescoping relation with each upper member, and a plurality of relatively movable shutter vanes or panels extending horizontally between the parallel spaced telescoping members for protecting the building opening both when said telescoping members are extended or retracted.

Further objects and advantages are within the scope of my invention, such as relate to the arrangement, operation and function of the related elements of the structure, to various details of construction and to combinations of parts, elements per se, and to economies of manufacture and numerous other features as will be apparent from a consideration of the specification in conjunction with the drawings disclosing specific embodiments of my invention, similar reference characters being applied to corresponding elements, and in which:

Fig. 1 is a front elevational half view of an installation showing the closure retracted and inclined away from the building as an awning;

Fig. 2 is a sectional view taken on line 2—2 in Fig. 1;

Fig. 3 is a front elevational half view showing the closure extended and closed down over the building opening as a blackout shutter;

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is an enlarged detail sectional view taken on line 5—5 of Fig. 4 through one side of the closure for showing the cooperative arrangement of the upper and lower telescoping members; and

Fig. 6 is a detail sectional view showing a modified arrangement for pivotally mounting the upper end of the closure for a steel window sash construction.

Referring more specifically to Figs. 1, 2 and 5 of the drawings, my combination shutter and awning is shown installed on the wall 11 of a building over an opening 13 to be protected, which opening may be either a window or doorway. My improved shutter and awning comprises a pair of upper telescoping members 15 connected together at the upper ends in spaced parallel relation by an upper cross-piece 17 and pivotally hinged on the building wall over the building opening, in any suitable manner. To prevent metal sliding against metal, the usual felt packing is provided.

Although my improved shutter-awning may be made of any suitable material for a convenient light-weight construction suitable to snugly close the building opening or to serve as a sun-shade, a stronger and fireproof construction is preferable for a blackout shutter and to provide protection from fire under all conditions. For this purpose the upper telescoping members 15 are made of metal and, as may be seen in Fig. 5, light weight channel cross-section structural members are preferably utilized for this purpose. The upper ends of the telescoping members 15 are secured together through a cross-piece casing 17, also of metal, and are disposed in a spaced parallel relation with open sides of the channels toward each other. The upper cross-piece casing 17 may be formed by a front plate 17 and a top plate 21 extending across and between the front, and the top or end portions respectively of the two upper telescoping members 15. The front and top walls of the upper cross-piece may be formed of a single sheet of metal, suitably bent, and secured to the telescoping side members in any suitable manner, as by welding.

For usual non-metallic window sash buildings, a hinge strap 23 is secured thereto in a usual manner, as by lag screws 25, for pivotally journalling a hinge rod or pin 27 which is secured to the upper and innermost corner of the cross-piece, as by welding, or in any suitable manner.

On each upper telescoping member is slidably disposed a lower telescoping member 29 which also has a substantially channel cross-section but larger than the upper member, as shown in Fig. 5, so that the lower telescoping member may slide freely up and down over the upper member. The open sides of the channel cross-section of the lower members 29 are also turned together, in the same direction as the open sides of the upper members, and the edges of the side flanges of the lower members are turned in to overlap the innermost edges of the side flanges of the same upper members so that the upper and the lower telescoping members are held together and cannot become separated except by pulling apart axially.

As shown in Fig. 5, the side flange of each lower telescoping member most remote from the building wall is provided with an extended portion or flange 31 which is turned toward the corresponding spaced member and parallel to the building wall, for receiving a pivot angle iron 33 secured thereto, as by welding. In each angle iron strip 33 are journalled the ends of a plurality of shafts 35 disposed horizontally in spaced parallel relation between the two lower telescoping members, as shown more clearly in Figs. 1 and 2. Each shaft 35 carries a vane or panel 37 extending horizontally between the two telescoping lower side members 29. When the shutter is telescoped together and extending inclined from the building, as shown in Fig. 2, the vanes 37 open apart and hang in substantially vertical spaced apart positions. To operate the vanes positively and uniformly to such open positions a control bar 39 is provided which is connected pivotally to each pivoted vane, as by a lug 41 struck out of or welded to the vane and secured to the bar by a pivot pin 43. A tension spring 45 is preferably secured to the upper end of the control bar 39 and extending to the upper end of the lower telescoping member 29 continuously urges the pivoted vanes to open position so long as the awning is inclined out from the building. The size and spacing of the pivoted vanes 37 is such as to engage snugly together when closed and the closer bar 39 coming into contact with the building wall, forces the vanes into the closed position shown in Figs. 3 and 4.

A large tension spring 47 is provided which extends down each side through the entire length of each telescoping pair of upper and lower members, as shown in Figs. 2 and 5. Each side spring 47 is attached to the lower end of the lower telescoping member 29 and the top wall 21 on the upper end of the upper telescoping member and is selected of a suitable strength for supporting or balancing the weight of the lower telescoping member and associated vanes, so that the spring automatically raises the awning, when not latched, and very slight effort is required for taking it down and closing the shutter over the opening to be protected.

Fig. 5 shows guide strips 49 secured extending along the inside of each upper telescoping member 15 in spaced parallel relation. The guide strips 49 form guide spaces opening inwardly toward each opposite telescoping member for receiving and supporting the ends of slidable vanes or panels 51 extending horizontally between the two upper telescoping members, as shown in Fig. 2, where it will be seen that when the lower side members 29 are telescoped up over the upper side members 15, in retracted positions for forming an awning, the upper ends of the lower telescoping members push all the slidable vanes or panels up together into the upper cross-piece casing in a side-by-side relation.

Figs. 3 and 4 show the shutter closed over the opening 13 to be protected, and it will be seen that the slidable vanes 51 then slide down and form a contiguous closure, because the lower and upper edges of the vane, along the intermediate portions, between guide strips at the ends, are reversely bent to form laterally projecting flanges 53 which interlock and prevent the vanes from sliding relatively so far apart as to form an opening between. The laterally bent upper edge of the outermost vane 51 engages a flange 55 formed by bending inwardly the lower edge of the outer side wall 17 of the cross-piece casing between the side channel members. The lower sliding vane or panel 51 has lugs 52 struck out and turned from the two lower corners and apertured to pass loosely over the ends of the uppermost shaft 35 for positively drawing the sliding panels down when the lower telescoping side members 29 move down. In the closed position of the shutter, the control bar 39 strikes the building wall 11 along the side of the opening, as shown in Figs. 4 and 5. This turns the pivoted vanes 37 to contiguous and snug interengaged positions forming a closure, as may be seen in Figs. 3 and 4.

A pair of stabilizer bars 57 are provided and one end of each stabilizer bar is pivotally secured on a pin 59 in a pivot bracket 61 which may be a U-shaped member secured to the bottom wall 63 of the bottom cross-piece casing. The other end of each stabilizer bar 57 is pivotally connected to the building wall 11 as by a pivot pin 65 passing through a bracket lug 67 thereon. The lengths of the stabilizer bars 57 and the positions of the wall clamps 67 are so selected that when the telescoping side members are extended and drawn toward the building to cover the opening, the stabilizer bars are turned down in a substantially vertical position, as shown in Figs. 4 and 5, being sure to see that they are about ½'' off center to be freely moved by the spring. When the awning is set, as shown in Fig. 2, the stabilizer bars 57 are swung out to a position which, from the building, may preferebaly be slightly inclined upward, or above horizontal.

To secure the shutter down in a closed position, any suitable lock or latch means may be utilized. For convenience a gravity latch 69 is preferably provided, as shown in Fig. 4 mounted in the lower cross-piece casing on a pivot pin 71 and bracket 72, with the free end toward the building. A hook 72 provided on the lower side of the free end of the latch is turned down and back for hooking over an anchor bolt 73 projecting from the sill or wall adjacent the lower edge of the building opening to be covered. On windows, one such latch may be provided at the center, and on doorways, two such latches are preferably provided, one at each side.

Fig. 6 shows a modified mounting for installing my combined shutter-awning on a building having a steel sash construction supported by angle irons 75 from a plate 77 abutting and connected to an I-beam structural member 79. On such an installation the hinge bolt or rod 79' for supporting the shutter is secured to and along the upper front edge of the upper cross-piece casing 17, as by welding thereto. The hinge rod 79' is pivotally journalled in a hinge plate 81 which extends across the under surface of the plate 77 to which it is secured in any suitable manner, as by welding.

It is apparent that within the scope of the in-

vention, modifications and different arrangements may be made other than herein disclosed, and the present disclosure is illustrative merely, the invention comprehending variations thereof.

I claim:

1. A combined shutter and awning comprising, a pair of upper telescoping members, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation on a building above an opening to be protected, a lower telescoping member associated in a sliding telescoping relation with each upper member, a plurality of relatively movable shutter vanes extending in a horizontal direction between the parallel spaced telescoping members for protecting the building opening, either when said telescoping members are extended or retracted, a plurality of guides provided on the inside surfaces of the upper telescoping members for slidably supporting the ends of the associated vanes extending therebetween, operative as the lower members are moved up to push all said slidable vanes together in a stacked side-by-side relation and alternatively releasing the vanes to slide down said guides as the lower telescoping members move to extended positions, and means for limiting the relative downward movements of the sliding vanes to form a contiguous edge-to-edge assembly when in the extended positions.

2. A combined shutter and awning comprising, a pair of upper telescoping members, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation on a building above an opening to be protected, a lower telescoping member associated in a sliding telescoping relation with each upper member, a plurality of relatively movable shutter vanes extending in a horizontal direction between the parallel spaced telescoping members for protecting the building opening either when said telescoping members are extended or retracted, a plurality of guides provided on the inside surfaces of the upper telescoping members for slidably supporting the ends of the associated vanes extending therebetween, operative as the lower members are moved up to push all said slidable vanes together in a stacked side-by-side relation and alternatively releasing the vanes to slide down said guides as the lower telescoping members move to extended positions, means for limiting the relative downward movements of the sliding vanes to form a contiguous edge-to-edge assembly when in the extended positions, a pair of stabilizer bars, means pivotally connecting one end of the stabilizer bars to the lower ends of the respective lower telescoping members, wall pivot means pivotally securing the other end of each stabilizer bar to the wall of the building on respective sides of the opening to be protected, the stabilizer bars being turned down to a substantially vertical position when said telescoping members are extended down over the opening, and when the telescoping members are telescoped together the stabilizer bars being swung out away from the wall to a position with the swinging end slightly above a horizontal through the pivot end for holding the retracted assembly inclined out from the building to serve as an awning.

3. In combination in a combined shutter and awning, a pair of upper telescoping members, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation on a building above an opening to be protected, a lower telescoping member associated in a sliding telescoping relation with each upper member, a plurality of relatively movable shutter vanes extending in a horizontal direction between the respective pairs of parallel spaced telescoping members for protecting the building opening either when said telescoping members are extended or retracted, a spring connected between the upper end of each upper telescoping member and the lower end of each lower telescoping member slidably associated therewith for balancing the weight of the lower telescoping members and the associated vanes, each of the vanes extending between the pair of lower telescoping members being pivotally supported therebetween, a closer bar pivotally connected between the pivotal vanes for simultaneously opening all said vanes to substantially vertical and spaced apart positions when moved out from the building and for simultaneously turning all the pivoted vanes to contiguous closed positions when moved down toward the building for covering the opening to be protected, a plurality of guides provided on the inside surfaces of the upper telescoping members for slidably supporting the ends of the associated vanes extending therebetween and movable with the lower telescoping members as said lower members are moved up to push all said slidable vanes together in a stacked side-by-side relation and releasing the vanes to slide down said guides as the lower telescoping members move to extended positions, interlocking means between the sliding vanes to limit the relative downward movements thereof to form a contiguous edge-to-edge assembly when in the extended positions, a pair of stabilizer bars, means pivotally connecting one end of the stabilizer bars to the lower ends of the respective lower telescoping members, wall pivot means pivotally securing the other end of each stabilizer bar to the wall of the building on respective sides of the opening to be protected, the stabilizer bars being turned down to a substantially vertical position when said telescoping members are extended down over the opening, and when the telescoping members are telescoped together the stabilizer bars being swung out away from the wall to a position with the swinging end slightly above a horizontal through the pivot end for holding the retracted assembly inclined out from the building to serve as an awning.

4. In a combined shutter and awning, a pair of upper telescoping members, said members having substantially channel cross-sections opening toward each other, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation on a building above an opening to be protected, a pair of lower telescoping members each of a substantially larger channel cross-section associated in a sliding telescoping relation over the respective upper members, a plurality of relatively movable shutter vanes extending in a horizontal direction between the respective parallel spaced telescoping members for protecting the building opening both when said telescoping members are extended and retracted, a plurality of guide strips provided on the inside surfaces of the upper telescoping members for slidably receiving the ends of the associated vanes extending therebetween and movable with the lower telescoping members as said lower members are moved up thereby pushing all said slidable vanes together in a stacked side-by-side relation or releasing the vanes to slide down said guides as the lower telescoping members move to extended positions, and inter-locking means between the sliding vanes to limit the relative downward movements of the sliding vanes

to form a contiguous edge-to-edge assembly when in the extended positions.

5. In combination in a combined shutter and awning, a pair of upper telescoping members, said members having substantially channel cross-sections, means for pivotally hinging the upper ends of said upper telescoping members in spaced parallel relation, channels opening toward each other on a building above an opening to be protected, a pair of lower telescoping members each of a substantially larger channel cross-section associated in a sliding telescoping relation over the respective upper members, a plurality of relatively movable shutter vanes extending horizontally between the parallel spaced telescoping members for protecting the building opening both when said telescoping members are extended and retracted, a plurality of guide strips provided on the inside surfaces of the upper telescoping members for slidably receiving the ends of the associated vanes extending horizontally therebetween, means movable with the lower telescoping members for pushing all said slidable vanes together in a stacked side-by-side relation and alternatively releasing the vanes to slide down said guides as the lower telescoping members move to extended positons, interlocking means between the sliding vanes to limit the relative downward movements of the sliding vanes to form a contiguous edge-to-edge assembly when in the extended positions, a pair of stabilizer bars, means pivotally connecting one end of the stabilizer bars to the lower ends of the respective lower telescoping members, wall pivot means pivotally securing the other end of each stabilizer bar to the wall of the building on respective sides of the opening to be protected, the stabilizer bars being turned down to a substantially vertical position when said telescoping members are extended down over the opening, and when the telescoping members are telescoped together the stabilizer bars being swung out away from the wall to a position with the swinging end slightly above a horizontal through the pivot end for holding the retracted assembly inclined out from the building to serve as an awning.

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