This invention relates to devices for opening and closing windows of the awning type, the primary object of the invention being to provide a device of this character so designed as to permit a window on which it is installed to be closed automatically in the event of a heavy rain.

Another important object of the invention is to provide an opening and closing means used in conjunction with an awning type window which will embody means for locking a window of the type described in an open position, thus eliminating the possibility of the windows closing accidentally, but which will, nevertheless, still be capable of closing automatically as hereinafter mentioned, notwithstanding this locking feature.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a front elevational view of a threesash awning type window, with the center sash being shown in an open position.

Figure 2 is a vertical sectional view through a threesash awning type window, with the center sash thereof being shown in an open position, and with automatic closing means embodied in the invention, not shown.

Figure 3 is a detail vertical sectional view through a sash of a window of this type, with the sash in a closed position, and with automatic closing means not shown.

Figure 4 is a detail horizontal sectional view through a sash and window frame, parts being cut away, with the sash being shown in a closed position, and with automatic closing means not shown.

Figure 5 is a front elevational view of a two-sash awning type window in a closed position, with parts of the window not being shown, and with automatic closing means illustrated.

Figure 6 is a vertical sectional view through a twosash awning type window shown in a closed position with the invention mounted thereon.

Figure 7 is a detail vertical sectional view through an open sash, with part of the sash not being shown, showing the invention mounted thereon.

Figure 8 is a detail horizontal sectional view showing an open sash, with part of the sash not being shown, showing the invention mounted thereon.

Referring to the above description of the figures of the drawing, no significance is to be attached to the fact that some of the windows are of the threesash type and some of the two-sash type, as the opening and closing means and automatic closing means embodied in the invention each has individual application to each sash.

Referring to the drawing in detail, the invention embodies an awning type window sash 5 pivotally mounted in a window frame 9 by means of trunnions 7. There is in addition a pin 8 fixedly attached to a side of the frame 9 serving as a fulcrum, there being a lever 9 pivotally mounted on the pin 8. At the rear end of the lever 9, a handle 10 is pivotally mounted, which is provided with pivotal means, in the form of a pin, connecting the forward end of the handle 10 and the rear end of the lever 9. Pivotally mounted on the forward end of the lever 9 is a link 11, which is also provided with pivotal means, in the form of a pin, connecting the rear end of the link 11 and the forward end of the lever 9. The forward end of the link 11 is pivotally secured by bracket means 12 to the side of the window sash 5.

At the forward end of the lever 9, and at the rear end of the link 11, are formed cooperating stops 13, said stops 13 being located on the upper edges of said ends. The stops 13 on the lever 9 and link 11 serve to lock the sash in an open position, as they are so disposed as to engage each other at a point below a straight line drawn between the point at which the link 11 is secured to the sash 5, and the pin or fulcrum 8.

Similarly formed cooperating stops 13 are provided on the rear end of the lever 9 and forward end of the handle 10, the stops in this instance providing assistance to the handle 10 in increasing the leverage of the lever 9.

In raising the sash 5 to an open position, the handle 10 is swung upwardly, and when the cooperating stops 13 on the handle and lever become engaged, the lever is pivotally swung in a counter-clockwise direction, forcing the linking member 11 to be moved downwardly and outwardly, thereby moving the sash outwardly into an open position, and locking it in such position, in the manner hereinafter described.

In closing the sash 5 manually, the handle 10 is pulled downwardly and vertically, thus raising the forward end of the lever 9 and breaking the joint between the lever 9 and locking member 11, the sash 5 then closing by reason of its own weight.

Automatic means for closing the sash 5 in the event of heavy rains are also embodied in the invention in addition to manual means, and will be described hereinafter in detail.

Aligned openings 14 are disposed in the sides of the window frame 9 adjacent the opening and closing means hereinafter described, and an elongated arm or rock shaft 15 is positioned through these openings, said arm 15 having
each end formed at right angles and having the ends then extended horizontally and parallel to the house wall in a direction away from the window. The forward end of the arm 15 is extended through a vertical slot 16 formed in the down-spout 17, and there is suspended from the forward end and within the down-spout 17, a cylindrical receptacle 18 provided with an open top, the receptacle 18 having a bottom in which are disposed a number of openings 18.

Approximately intermediate the ends of the arm 15, is secured a finger 20 which projects horizontally from a slot 21 disposed in the side member of the window frame 6. When the sash 5 is in an open position, the projecting end of the finger 20 is disposed immediately below the toggle comprising members 8 and 11, and is disposed under lever 8 near the lever's forward end, and it will be seen that in the event of a heavy downpour of rain, the receptacle 18 will tend to fill with water, the weight of which will pull the end of the arm 15 downwardly, causing the end of the finger 20 to press upwardly against the forward end of the lever 8 breaking the lever and moving the lever from its locked position and causing the window to close. In the event of a downpour, it is pointed out, the openings 18 on the bottom of the receptacle 18 will eventually permit the water accumulated in the receptacle 18 to run out after the water has served its purpose.

Should it be desired to maintain the automatic closing means inoperative during a rain fall, the invention further embodies a locking pin 22 removably positioned in an opening disposed in the interior side of the house wall immediately below the rear end of the arm 15. When the locking pin 22 is positioned in said opening, it has the effect of holding the arm 15, stationary, despite filling of the receptacle 18, thereby rendering the automatic closing means inoperative. Further, serving the purpose of preventing rain from coming in the window, the side and bottom edges of the sash 5 have flanges 23 overlapping the vertical and lower sides of the window frame 6, and there are in addition longitudinally extended drip strips 24 covering the upper edge of the sash.

What is claimed is:

In combination with an awning type window sash, a window frame, and a down spout; a toggle pivotally connected at its opposite ends to the frame and sash respectively for opening and closing the sash, said toggle having a center joint movable past a dead center to lock the sash in an open position; a rock shaft journaling at opposite ends in the outside and inside walls of the frame and extending through the interior of the frame; a finger rigid with the middle portion of the rock shaft and extending laterally therefrom, said frame having a slot in its side wall through which the finger projects, said finger extending transversely of and below the toggle adjacent the center joint; and a receptacle connected to one end of the rock shaft and positioned within the down spout to rock the shaft responsive to the deposit of water in the receptacle, said finger having an upward throw responsive to rocking of the shaft, said throw being over a distance sufficient for engagement of the toggle by the finger and shifting of the center joint to the other side of the dead center.

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