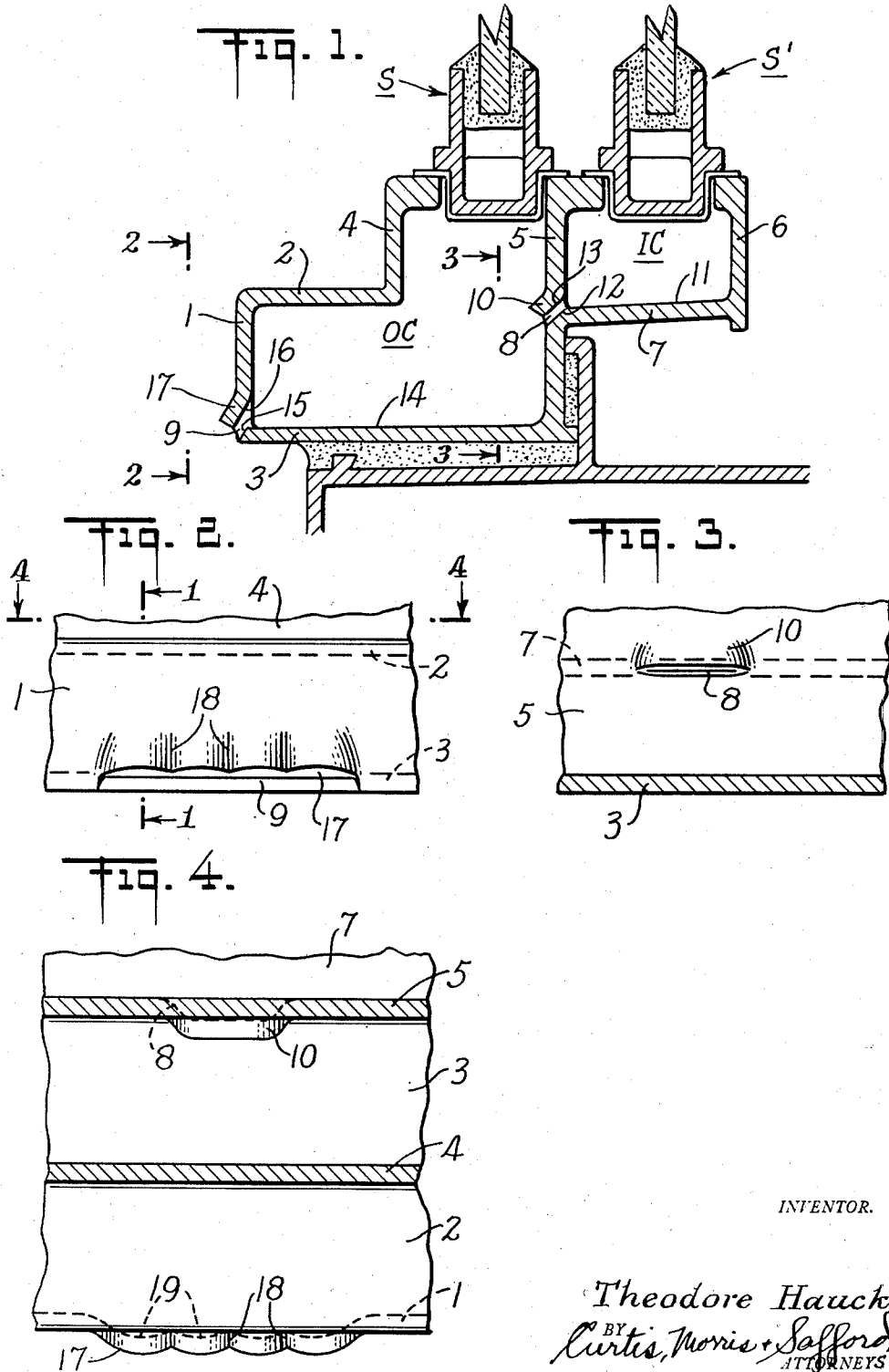


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METALLIC WINDOW SILL

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METALLIC WINDOW SILL

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4 Claims. (Cl. 20—70)

This invention relates to a metallic window sill construction and particularly to the provision of weep holes for discharging the water from the inner and outer sash channels.

There exists a problem of discharging water that accumulates in the channels of the sill of a metallic window construction of the type such as are produced by extrusion processes. The problem requires the taking into consideration of an effective discharge from both of the channels to the outside of the window so that the channels will be kept relatively free of water while at the same time the exclusion of foreign matter and insects from the channels and the room must be provided for. Additionally, the appearance of the sill is of importance. While there are additional considerations, the above are most important and limit to a great degree, the types of construction that may be employed for the discharge of the water.

The object of the present invention is to provide a sill, preferably of extruded metal, having inner and outer channels in which provision is made for the continuous discharge of the water from both the inner and outer channels and which is of such construction that the entry of foreign matter or insects into the channels and into the room is to a great extent prevented.

With these and other objects in view which will appear as the description of the embodiment of the invention herein disclosed progresses, the invention resides in the combination and arrangement of parts as defined in the claims.

In the drawing I have disclosed an extruded metallic sill in which drawings:

Figure 1 is a sectional view on line 1—1 of Figure 2.

Figure 2 is a fragmentary elevation looking in a direction of the arrows on the line 2—2 adjacent Figure 1.

Figure 3 is a fragmentary sectional view on line 3—3 of Figure 1; and

Figure 4 is a fragmentary sectional view on line 4—4 of Figure 2.

In the embodiment of the invention disclosed in the drawings, the sill includes two channels which are arranged horizontally, the outer channel being indicated by the reference character OC and the inner channel by the reference character IC. The sill comprises a wall 1 which is substantially vertical and the length of the sill, a substantially horizontal wall 2, a substantially horizontal bottom 3 and a vertical flange 4. The fourth side of the sill is formed by a flange 5. An inner wall 6 is provided as is also a bottom member 7. The flanges 4, 5, and 6 extending upwardly support sashes S and S¹ for horizontal sliding movements, each of the sashes being of less length than the channels in which they slide as is usual in windows of this type.

The walls 1, 2, 4 and 5 and the bottom 3 form the outer channel OC while the walls 5 and 6 and the bottom 7 form the inner channel IC.

The channels being of substantially the same length and the cross sectional area of the outer channel OC

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being greater than that of the inner channel IC the capacity of the outer channel OC is greater than that of the inner channel IC.

In order that the water continuously may be discharged from the inner channel IC into the outer channel OC I have provided throughout the length of the former a series of weep holes 8 through which the water may pass from the inner channel IC to the outer channel OC, the number of these being dictated by the length of the channel as will be understood in the art.

Additionally I have provided a series of weep holes 9 for discharging the water continuously from the outer channel OC, the number of these being dictated by the length of the channel.

Each of the weep holes 8 is formed by striking out a louver 10 from the flange 5. The inner face 11 of the bottom 7, which is inclined toward the outer channel, is provided with an inclined water discharge face 12 which inclines downwardly from the main portion of the face 11 toward the channel OC and forms the bottom of the weep hole, the upper face of the weep hole being formed by the inclined face 13 which results from striking out of the louver 10.

This face 13 is substantially parallel to the water discharge face 12 and while the distance between the water discharge face 12 and the face 13 is not definitely critical, I have found that if the two are spaced apart substantially one thirty-second of an inch in a weep hole of substantially five-eighths of an inch in length, the continuous discharge of the water which I seek to obtain by this construction, is effectively accomplished. The distance between these two faces not being critical may be slightly increased or decreased but only to such an extent that a continuous flow of water will be attained and there will be no bridge or dam built up in the weep hole 8 to prevent that continuous discharge.

The inner face 14 of the bottom 3 of the outer channel, being substantially horizontal, as stated, is provided with an inclined water discharge face 15 which forms the bottom face of the weep hole 9.

The upper face 16 of each weep hole 9 has substantially the same inclination as that of the face 16 which is produced by striking out the louver 17. While the dimensions of this weep hole 9 are not definitely critical, I have found that in a weep hole one inch in length the continuous flow of liquid from the channel OC that I desire is attained when the distance between the faces 15 and 16 is substantially one thirty-second of an inch. Some variations in this distance may be made without interrupting the continuous flow.

As will be seen in Figures 2 and 4 the louvers 17 are provided with inwardly extending ridges or barriers 18 which are spaced longitudinally of the louvers and between them form channel-ways 19 of greater discharge area than at the ridge locations. It is also to be noted, as disclosed in Figure 4, that the faces 16 of the weep hole channel-ways 19 are curved between the ridges 18.

With this construction the free continuous flow of water from the outer channel OC will be accomplished, there being no bridging or damming of the weep holes to interrupt this free flow. Since there will also be a free flow through the weep holes 8 from the inner channel to the outer channel, the construction heretofore explained will result in a continuous discharge of the water from both of the channels.

The provision of the ridges 18 and the resultant constricting of the area of the weep holes 9 will result in the formation of a barrier to prevent the passage of dirt or insects, such as mosquitoes, through the weep holes into the room.

What I claim is:

1. In a metallic sliding window construction, a sill

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comprising an outer channel member having bottom and top walls and inner and outer side walls extending between and forming with said bottom and top walls a substantially closed elongated compartment having a longitudinal sash receiving channel-way in said top wall, a sash mounted in said channel-way for movement therein longitudinally thereof and closing said channel-way for a portion, only, of its length, said outer wall having an elongated outwardly and downwardly opening weep hole extending therethrough, the lower face of said weep hole extending outwardly and downwardly from the outer edge of the upper face of said bottom wall, a louver extending outwardly and downwardly from the outer of said side walls beyond the outer face thereof, the lower face of said louver being spaced from said lower face of said weep hole and substantially parallel thereto and constituting the upper face of said weep hole, said lower face of said louver extending outwardly to a greater extent than the lower face of said weep hole, and the lower edge of said louver being substantially in horizontal alignment with the upper face of said bottom wall of said outer channel, said louver having ridges arranged in vertical planes and longitudinally thereof, constricting the discharge end of said weep hole in said outer wall at spaced points.

2. In a metallic window construction, a sill comprising an outer channel member having bottom and top walls and inner and outer side walls extending between and forming with said bottom and top walls a substantially closed compartment with a longitudinal sash receiving channel-way in said top wall, a sash having a lower rail extending into said channel-way, said outer wall having an elongated weep hole therein, the lower face of said weep hole extending downwardly and outwardly from the edge of said bottom wall, a louver arranged over said weep hole and having its lower face extending downwardly and outwardly in spaced relation to said lower face and in substantial parallelism therewith, said louver having ridges longitudinally thereof dividing said weep hole substantially into a series of segments connected together by constricted passageways.

3. In a window construction of the character described wherein two closely spaced vertical windows slide laterally along tracks on a sill and each window extends substantially only half the length of the sill, a self-draining and windproof sill comprising a generally hol-

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low channel-like member having in its top wall an inner and an outer window receiving track each parallel to the other, the interior of said member being subdivided into two separate compartments, each compartment extending directly under a respective one of said tracks, the inner compartment having a bottom wall on a first level, the outer compartment having a bottom wall on a second level lower than said first level and having an outer wall extending upward therefrom along a corner, first drain means connecting said inner and outer compartments between a point very near said first level to a point substantially above said second level, and second drain means connecting said outer compartment to the outside of said sill, said second drain means being formed by at least one slot-like opening extending through the outer wall of said second compartment downward at said corner from an inside mouth just at said second level to an outside mouth, the width of said slot being big enough to allow water to drain there-through and small enough so that every edge of the inside mouth of said slot is above every edge of the outside mouth.

4. In a metallic window construction, a sill comprising an outer channel member having bottom and top walls and inner and outer side walls extending between and forming with said bottom and top walls a substantially closed compartment with a longitudinal sash receiving channel-way in said top wall, a sash having a lower rail extending into said channel-way, said outer wall having an elongated weep hole therein, the lower face of said weep hole extending downwardly and outwardly from the outer edge of said bottom wall, and a louver arranged over said weep hole and having its lower face extending downwardly and outwardly in spaced relation to said lower face of said weep hole and in substantial parallelism therewith and forming the upper face of said weep hole.

References Cited in the file of this patent

UNITED STATES PATENTS

1,823,947 Macauley et al. ----- Sept. 22, 1931

FOREIGN PATENTS

326,006 France ----- Feb. 7, 1903
186,141 Switzerland ----- Nov. 16, 1936
40,629 Netherlands ----- May 15, 1937