Sept. 20, 1949. F. GUNNISON 2,482,170

WINDOW SILL CONSTRUCTION

Filed July 2, 1946

FIG. 1.

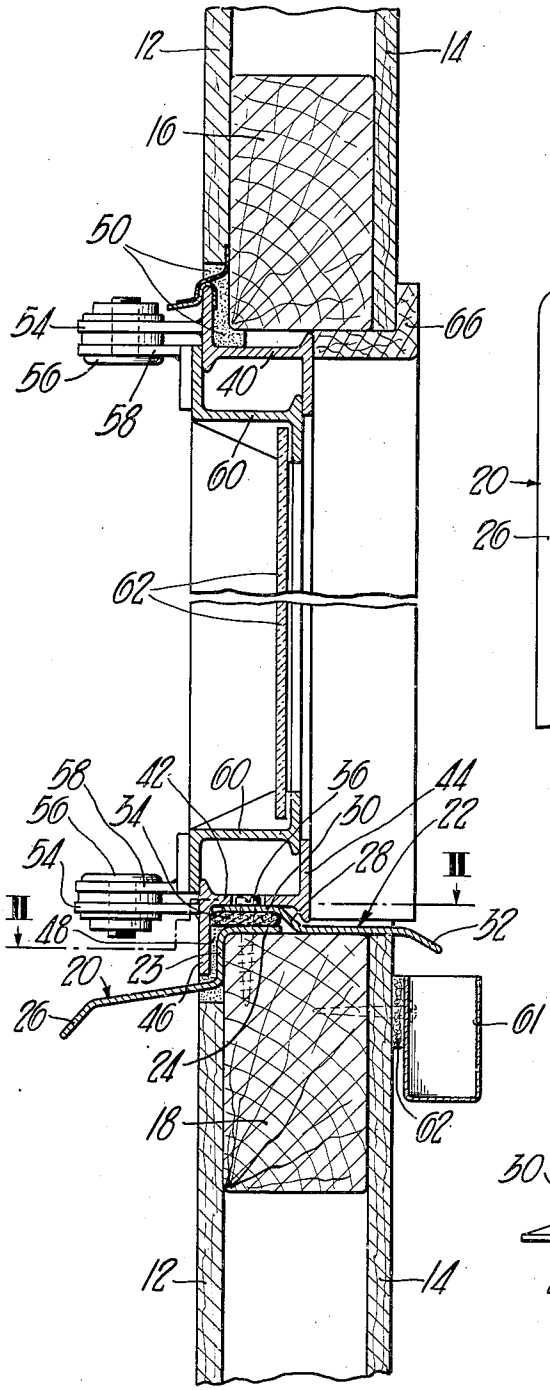


FIG. 2.

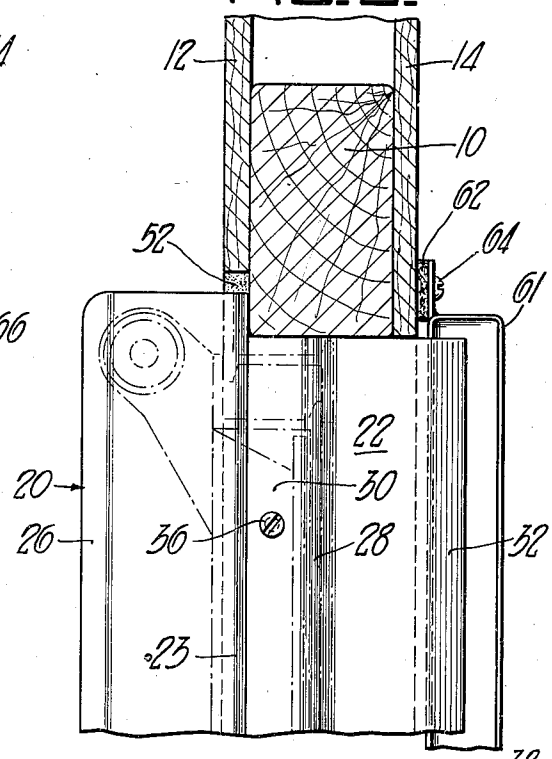


FIG. 3.

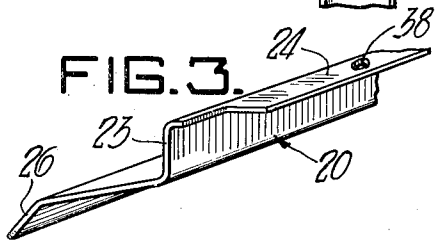
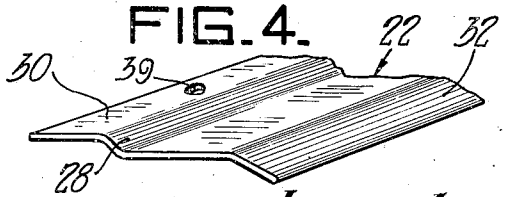


FIG. 4.



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WINDOW SILL CONSTRUCTION

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6 Claims. (Cl. 189—75)

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The present invention relates to improved features of construction and arrangement of a metal window sill.

One object of the invention is to provide a window sill whose component parts can be readily formed from sheet metal stock by simple bending or forming operations.

Another object is to provide a window sill construction including at least two metal parts having coacting portions spaced apart by a fibrous strip effective to minimize cold transmission and accompanying condensation and frosting at the inner part of the sill and window.

A further object is to construct, combine and arrange the several component parts of the structures shown in such manner that they individually and collectively perform the functions herein described.

For a more complete understanding of the invention, reference should be made to the following disclosure, the accompanying drawings and the appended claims.

In the drawings which illustrate a preferred embodiment of the invention—

Figure 1 is a vertical section through the window sill structure and related parts.

Figure 2 is a horizontal section on line II—II of Figure 1 omitting the window and trim.

Figure 3 is a perspective detail of the outer sill member.

Figure 4 is a perspective detail of the inner sill member.

Referring in detail to the drawings, 10 represents any conventional form of studding to which is nailed or otherwise secured any suitable outer sheathing 12, and an inner wall such as plywood panels or the like indicated at 14. At suitable locations in the building structure, window head rails 16 will span the space between two upright studs 10 and similarly, a base rail 18 will span the space at about the sill level of the window.

The herein claimed invention relates specifically to the structural features and combination of coacting elements including a novel window sill formed of two main pressed metal parts referred to herein as the first outer sill member 20 and a second or inner sill member 22. The outer sill member is of generally stepped configuration, comprising a substantially vertical wall 23, a substantially horizontal wall 24 fixed to the top of wall 23, and a ledge portion 26 projecting substantially horizontally from the bottom of wall 23. The wall 24 constitutes the inner offset marginal portion of the outer sill member 20.

The inner member 22 is formed with an inner

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upwardly offset marginal portion comprising a substantially horizontal wall 30 connected by an inclined portion 28 to a substantially horizontal portion 32 having a downwardly bent lip. Interposed between the inner marginal offset extremities of the outer and inner sill members 20 and 22, there is a strip of fibrous material 34 such as felt or the like. Wood screws or other fastening devices such as indicated at 36 penetrate holes 38 and 39 respectively formed in marginal portions of the outer and inner sill members 20 and 22 and serve the double function of anchoring the sill members to the supporting member 18 and compressing the fibrous strip 34 to make a tight joint between the sill members. The fibrous strip 34 also functions as a heat insulator particularly effective to prevent the transmission of cold from the weather exposed member 20 to the interior sill member 22. Such structure is advantageous in a metal window sill structure because it prevents condensation and frosting at the inner part of the window sill and also minimizes the frosting of the window in cold climates.

While not limited thereto, the sill construction shown and described is well suited for use in buildings employing metal window frames. By way of illustration, I have shown a metal window frame of substantially Z-shape in cross-section including substantially horizontal web portions 40 and 42 at the top and bottom of the window and inner and outer upright flanges 44 and 46. The lower web portion 42 is seated on top of the marginal portion 30 of the inner sill member 22 and the outer flange 46 extends downwardly parallel to the vertical wall 23 of the outer sill member 20. The clearance space between outer sill member 20 and the flange 46 is preferably filled with a body of caulking compound as indicated at 48, thus making a weather-tight joint around the window frame and preventing infiltration of air between the metal window frame and the metal sill parts. A similar filling of caulking compound such as indicated at 50 and 52 may be provided at the top of the window frame and adjacent the sides thereof. The metal window frame is equipped with a conventional form of hinge lug 54 supporting a pintle 56 which passes through a lug 58 extending out from the metal sash 60 which has suitable window glass 62 secured thereto in any conventional manner.

The lower web 42 of the metal window frame is provided with suitable holes to permit the passage therethrough of the screws 36 and this window frame may be secured in place by the same screws that are used to anchor the sill mem-

bers to the support or separate fastening means may be utilized to secure the frame to the members 16 and 18 and to the upright studs 10. On the inside of the building, I will usually provide a substantially trough-shaped member 61 whose inner wall is separated from the panel 14 by a spacer 62, the member 61 being secured in place by screws or other fastening devices 64 which penetrate the panel 14 and enter the support 18. Any suitable wood, metal or plastic trim such as indicated at 66 may be secured adjacent the inner flange 44 of the metal window frame in order to make a neat finish.

While I have described quite specifically the preferred embodiment of the invention herein illustrated, it is to be understood that the drawings and descriptive matter are to be interpreted in an illustrative, rather than in a limiting sense.

I claim:

1. A window sill structure including a first metal sill member of generally stepped configuration comprising a substantially vertical wall adapted to bear against a side of a supporting member at the bottom of a wall opening, a substantially horizontal marginal portion connected to the top of said wall and adapted to fit on the top of the supporting member at the bottom of a wall opening, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion adapted to fit on the top of the supporting member at the bottom of a wall opening, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; and means sealing said space between said substantially horizontal marginal portion of said first metal sill member and the upwardly offset marginal portion of said second metal sill member.

2. A window sill structure including a first metal sill member of generally stepped configuration comprising a substantially vertical wall adapted to bear against a side of a supporting member at the bottom of a wall opening, a substantially horizontal marginal portion connected to the top of said wall and adapted to fit on the top of the supporting member at the bottom of a wall opening, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion adapted to fit on the top of the supporting member at the bottom of a wall opening, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; resilient heat insulating means sealing the space between the substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member; and means compressing said sealing means between said marginal portions of said sill members.

3. A window sill structure including a supporting member at the lower end of a window opening having a substantially horizontal top and a substantially vertical side; a first metal sill member of generally stepped configuration comprising a substantially vertical wall bearing against said side of said supporting member, a substantially horizontal marginal portion connected to the top of said wall and bearing on the top of said supporting member, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion bearing on the top of said supporting member, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; and means sealing said space between said substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member.

4. A window sill structure including a supporting member at the lower end of a window opening having a substantially horizontal top and a substantially vertical side; a first metal sill member of generally stepped configuration comprising a substantially vertical wall bearing against said side of said supporting member, a substantially horizontal marginal portion connected to the top of said wall and bearing on the top of said supporting member, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion bearing on the top of said supporting member, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; resilient heat insulating means sealing the space between the substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member; and fastening means passing through said substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member to clamp said sealing means between said marginal portions and fasten said metal sill members to said supporting member.

5. A window structure comprising a wall structure having an opening therein; a supporting member at the lower end of said opening having a substantially horizontal top and a substantially vertical side; a first metal sill member of generally stepped configuration comprising a substantially vertical wall bearing against said side of said supporting member, a substantially horizontal marginal portion connected to the top of said wall and bearing on the top of said supporting member, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion bearing on the top of said supporting member, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; means sealing said space between said substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member; and a window frame comprising a substantially horizontal portion bearing on said second metal sill member, and a substantially vertical portion extending downwardly to overlap said substantially vertical wall of said first metal sill member.

6. A window structure comprising a wall structure having an opening therein; a supporting member at the lower end of said opening having a substantially horizontal top and a sub-

stantially vertical side; a first metal sill member of generally stepped configuration comprising a substantially vertical wall bearing against said side of said supporting member, a substantially horizontal marginal portion connected to the top of said wall and bearing on the top of said supporting member, and a ledge portion projecting substantially horizontally from the bottom of said wall; a second metal sill member comprising a substantially horizontal portion bearing on the top of said supporting member, and an upwardly offset marginal portion spaced from and overlapping said substantially horizontal marginal portion of said first metal sill member; resilient heat insulating means sealing the space between said substantially horizontal marginal portion of said first metal sill member and said upwardly offset marginal portion of said second metal sill member; a metal window

frame comprising a substantially horizontal portion bearing on said second sill member, and a substantially vertical portion extending downwardly in spaced overlapping relation to said substantially vertical wall of said first metal sill member; and means sealing the space between said substantially vertical portion of said first metal sill member and said window frame.

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