United States Patent

Hemminger

[15] **3,690,079**

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[54] **MOISTURE DEFLECTOR**

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[73] Assignee: **American Metal Climax, Inc.,** New York, N.Y.

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[21] Appl. No.: **43,292**

Related U.S. Application Data

[62] Division of Ser. No. 815,633, April 14, 1969, Pat. No. 3,527,012.

[52] **U.S. Cl.** **52/97,** 52/235, 29/190

[51] **Int. Cl.** **E04b 2/88**

[58] **Field of Search**.....52/97, 209, 455, 456, 475, 52/476, 656, 665, 235; 29/190; 220/62

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[57] **ABSTRACT**

There is provided an improved moisture deflector for use in wall construction of the type including a vertical mullion defining a frame pocket and interconnected horizontal members. The horizontal members are secured to the vertical by means of a shear block attached to the vertical mullion. A filler member snaps or secures to the vertical mullion and defines a glazing pocket for glass or other panels. A moisture deflector is positioned at each end of the horizontal structure member and extends over the upper end of the glazing pocket so as to direct moisture between the frame pocket and the filler member.

2 Claims, 7 Drawing Figures

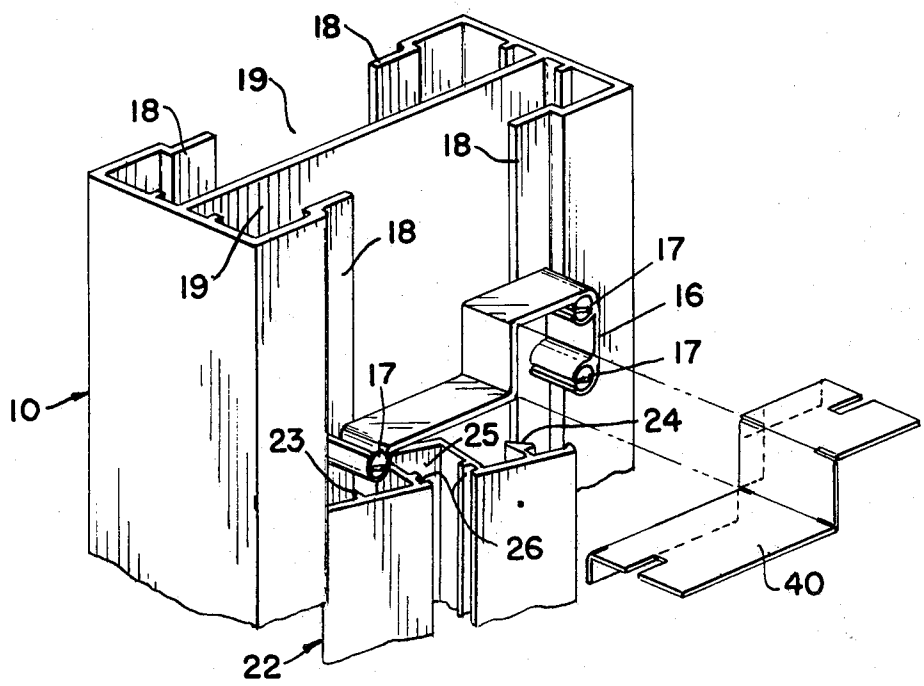


FIG. 3

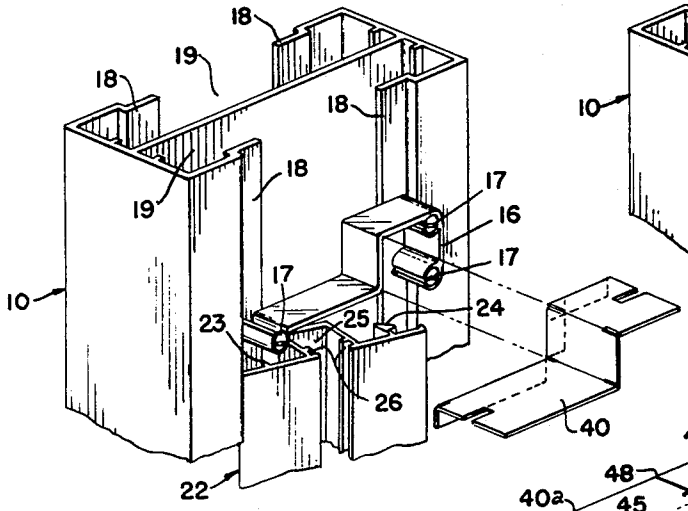


FIG. 4

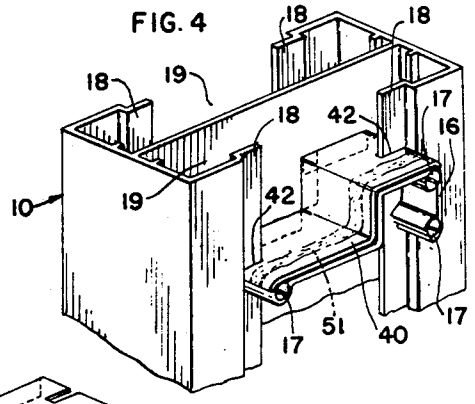


FIG. 5

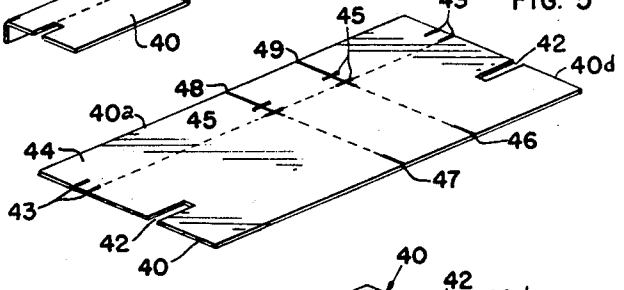
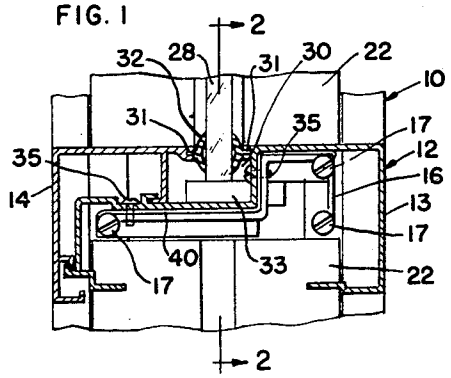


FIG. 1



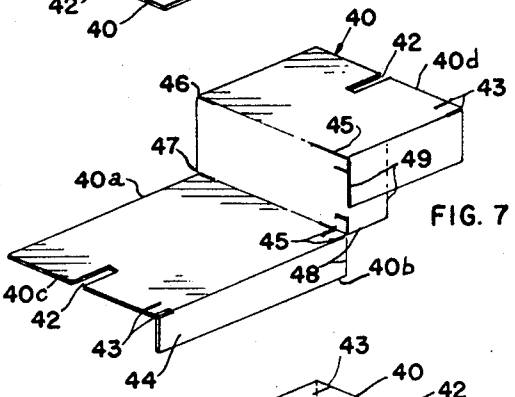


FIG. 7

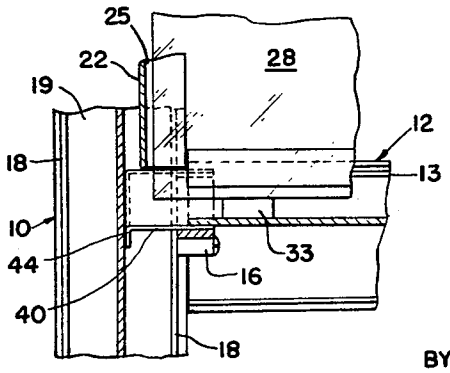


FIG. 2

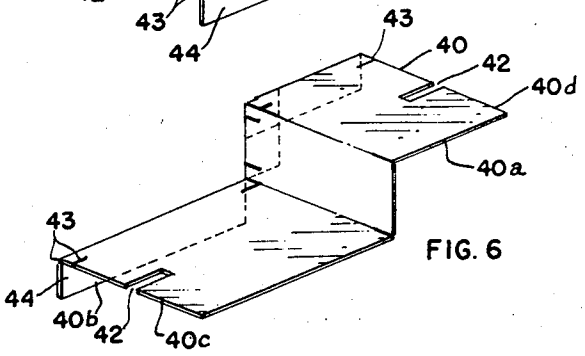


FIG. 6

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MOISTURE DEFLECTOR

The present invention relates to a new and improved moisture deflector for use in a wall construction and is a division of copending U.S. Pat. application Ser. No. 815,633, filed Apr. 14, 1969 and now U.S. Pat. No. 3,527,012.

Commercial structures are known wherein vertical mullions are provided defining vertical extending frame pockets for receiving snap-in faces or filler members. Intermediate horizontal members may be provided interconnecting adjacent vertical mullions. In certain types of commercial construction, the horizontal members but against the vertical mullions, and are secured thereto by any suitable means such as with shear blocks fastened to the vertical mullions. Glass or other panels fit within the glazing pockets of the floors, and on the horizontal members, being locked in place with suitable glass stops.

Difficulty has heretofore been experienced with moisture collecting in the glazing pocket defined in the horizontal members, such moisture running along the surface of the horizontal members and following the edge underneath the horizontal member, dropping loose in the glazing pockets of lower panels and eventually working its way to the interior of the building. Thus, it would be desirable to direct moisture from the glazing pocket into the space formed by the vertical mullion and filler where it may run down the open vertical channel of the mullion and be directed to the exterior of the building.

It is therefore an object of the present invention to provide a new and improved wall construction which overcomes the above-mentioned difficulty.

Another object of the present invention is to provide a new and improved wall construction.

Still another object of the present invention is the provision of a new and improved moisture deflector for use in a building wall construction.

Still another object of the present invention is the provision of an improved moisture deflector which would direct moisture from the glazing channels of a wall construction to the space between the mullion and filler thereof.

In accordance with these and other objects, there is provided an improved wall construction of the type including a vertical mullion defining a frame pocket, a shear block attached to the vertical mullion, and an intermediate horizontal member connected to the vertical mullion by means of the shear block. Filler members are positioned in the frame pockets to define suitable glazing pockets receiving glass or other panels.

In accordance with the present invention a moisture deflector is positioned at one end of the horizontal structural member extending over the outer ends of the glazing pockets in the filler to direct moisture between the frame pocket and the filler member. Advantageously, the moisture deflector may be formed of flat sheet metal having long and short sides, adapted to be folded so as to conform to the shape of the deflector to either end of the horizontal mullion, and in one embodiment containing slots receiving the vertical flanges of the frame pocket to position the deflector.

For a better understanding of the present invention, reference may be had to the accompanying drawing wherein:

FIG. 1 is a vertical cross-section view of a typical wall construction employing a moisture deflector according to the present invention:

FIG. 2 is a vertical cross-section view of the wall construction of FIG. 1, taken along line 2 —2 of FIG. 2;

FIG. 3 is an exploded view illustrating some of the components of the wall construction of FIG. 1;

FIG. 4 is a perspective view illustrating assembly of the moisture deflector to the shear block of a vertical mullion;

FIG. 5 is a developed view of the moisture deflector;

FIG. 6 is a perspective of the moisture deflector for the end of the horizontal mullion as illustrated in FIGS. 1 to 4; and

FIG. 7 illustrates a moisture deflector folded in the complementary direction for use at the other end of a horizontal structural member.

Referring now to the drawings, and particularly to FIGS. 1 to 4, there is illustrated a wall construction in accordance with the present invention and formed of a plurality of vertical mullions **10**, only one of which is illustrated in the drawings, and interconnecting horizontal members **12**. The horizontal members **12** in the illustrated embodiment each include a frame member **13** and an interlocking glass stop **14**. Moreover, each of the horizontal members **12** is fitted to the respective mullion **10**, and is secured thereto by a shear block **16**, fastened to the mullion **10** in any suitable manner as by screws **17**. The horizontal member **12** may be secured to the shear block **16** in any suitable manner, as with the screws **35**.

The mullion **10** in the illustrated embodiment is of generally I-shape, having inwardly facing flanges **18** to define opposed frame pockets **19**. The filler **22** may be snapped between the flanges **18**, and to this end is provided with suitable interlocking edge components **23** and **24**. The illustrated filler **22** is provided with an inwardly extending glazing pocket **25** having opposed gasket channels **26**. The glazing pockets **26** are adapted to fix glazing gaskets **27** to secure glass or other panels **28**.

The interlocking parts of the horizontal member **12** also define a glazing pocket **30** provided with opposed gasket channels **31** for securing suitable glazing gaskets **32**. The glass **28** normally would rest on a suitable setting block **33** in a manner known in the art.

In accordance with the present invention, there is provided a moisture deflector **40** positioned on the shear block **16** for directing moisture collecting in the glazing pockets **25** and **30** to the frame pocket **19** outside of the filler **22**, as best illustrated in FIG. **2**. Specifically, the moisture deflector **40** is formed of flat sheet metal, generally rectangular in its developed form, as illustrated in FIG. **5**. Thus, the deflector **40** defines a pair of long sides **40*a*** and **40*b***, and a pair of short sides **40*c*** and **40*d***. The short sides **40*c*** and **40*d*** have opposed inwardly extending slots **42** to receive a pair of flanges **18** of the frame member, as illustrated in FIG. **4**. Additionally, the short ends **40*c*** and **40*d*** include one or more pairs of slits **43** defining score marks for folding a flange **44** along the inner end of the deflector **40**. Additional slits **45** may be provided intermediate the slits **43** to further define score marks and facilitate in bending or folding of the flap **44**. Moreover, the outside edge of the moisture deflector **40** includes additional slits **46**

and 47 and the inner edge 40*a* includes cuts 48 and 49 extending inwardly a distance equal to the spacing of the slits 43 and 45 to permit folding of the flange 44. Thus, the deflector 40 may be folded along its score marks to conform to the shape of the shear block 16. Moreover, the deflector 40 may be folded with either side of its surface up, as illustrated in FIGS. 6 and 7, thereby adapting the deflector for use on either end of the horizontal member 12.

FIG. 4 illustrates the assembly of the moisture deflector 40 onto the shear block 16. Specifically, it will be noted that the slots 42 fit or receive a pair of inwardly opposed flanges 18 of the mullion 10. The flange 44 of the moisture defector forms a drip edge extending beyond the glazing pocket 25 of a lower filler 22, as illustrated in FIG. 2. Preferably, a strip of mastic or other sealing compound 51 is positioned on each side of the moisture deflector 40 to prevent the creepage of moisture along the underside of the horizontal member 12 or between the deflector 40 and the shear block 16.

It will be understood that the moisture deflector 40 is effective to prevent moisture accumulating in the glazing channels 25 and 30 from moving along the lower surface of the components, or from dripping into the glazing pocket 25 of a lower filler member. Thus, such moisture can only move outwardly to the end of the deflector 40, and down the flange 44 thereof. The flange 44 serves as a drip edge and directs moisture collecting thereon into the space of the frame pocket 19 formed by the mullion 10 and filler 22, so that such moisture can pass down the mullion 10 to the bottom of the mullion where it will be deflected outwardly of the building.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A blank for forming a universal moisture deflector for use in directing moisture away from either end of a horizontal structural member of the type having a plurality of levels with at least one end secured adjacent to a pair of spaced apart, inwardly directed flanges of a hollow, vertical structural member; said blank comprising a flat sheet of metal of rectangular shape and having pairs of long and short opposite sides; said short sides having opposed, inwardly extending slots spaced between said long sides dimensioned for receiving said flanges of said vertical structural member, said short sides having opposed inwardly directed, longitudinally aligned slits spaced between one of said long sides and said slots for defining the ends of a flap fold line parallel of said one long side; said long sides having a pair of inwardly directed, spaced apart, and transversely aligned slits defining a pair of parallel riser fold lines adapted for the folding of said blank into a Z-shaped configuration with an intermediate riser and end segments adapted to rest on the plural levels of said horizontal structural member, said blank having longitudinal cuts transversely intersecting said last mentioned slits along said flap fold line adapted for the folding of flaps along said one long side, normal to said end segments and riser portion.

2. A universal moisture deflector for use in directing moisture away from the end of a horizontal structural member of the type having a plurality of levels with said end secured adjacent a pair of spaced apart, inwardly directed flanges of a hollow, vertical structural member; said deflector formed of thin sheet material having a Z-shaped cross-section with an intermediate vertical riser and a pair of parallel horizontal segments joining the upper and lower edges of said riser adapted to overly said levels of said horizontal structural member, each of said horizontal segments having an inwardly directed slot in an outer edge for receiving an inwardly directed flange of said hollow vertical structural member, said deflector having an L-shaped cross section transversely of the direction of said Z-shaped cross section and including vertical edge flaps defining drip edges for discharging moisture from said horizontal segments, said deflector including pairs of spaced apart slits on opposite sides defining opposite ends of the upper and lower edges of said vertical riser and pairs of spaced slits on opposite sides of said slots defining the ends of a pair of flap hold lines.

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