

[54] BUILDING WALL CONSTRUCTION

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[*] Notice: The portion of the term of this
patent subsequent to May 20, 1985,
has been disclaimed.

[22] Filed: **Oct. 8, 1971**

[21] Appl. No.: **187,901**

Related U.S. Application Data

[60] Continuation of Ser. No. 881,070, Dec. 1, 1969,
abandoned, which is a division of Ser. No. 730,530,
May 20, 1968, Pat. No. 3,527,010.

[52] U.S. Cl..... **52/731, 52/235, 52/501**

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

[58] Field of Search..... **52/502, 235, 501,**
52/499, 498, 210, 211, 573, 398, 399, 397

[56]

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3,527,010	9/1970	Brzezinski	52/501

Primary Examiner—John E. Murtagh

Attorney—Mason, Kolehmainen, Rathburn & Wyss

[57]

ABSTRACT

There is provided an improved building wall construction including a thermal expansion type split mullion. The mullion includes a continuous face member against which opposed panels are glazed with glazing tape as the seam end weathering. This eliminates the seam between the mullion halves from the exterior face of the mullion assembly altogether, protecting the seam from the weather, and reducing the vulnerable sealing lines exposed to the weather.

2 Claims, 5 Drawing Figures

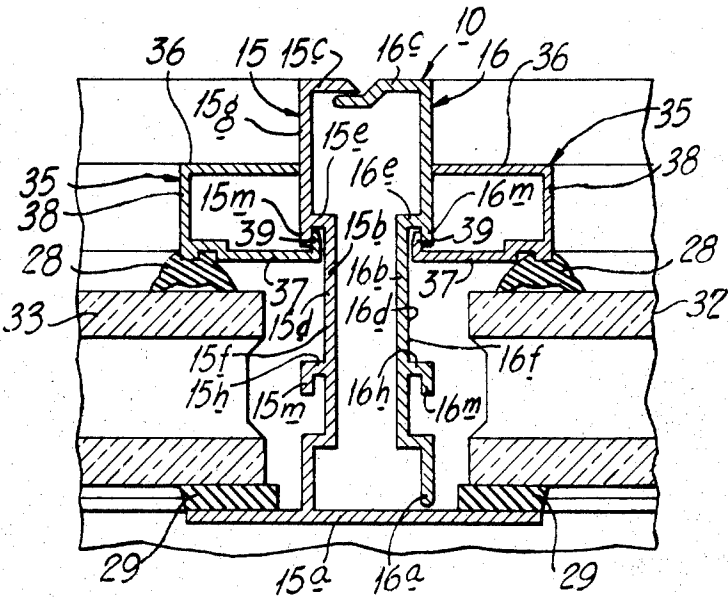


FIG. 1

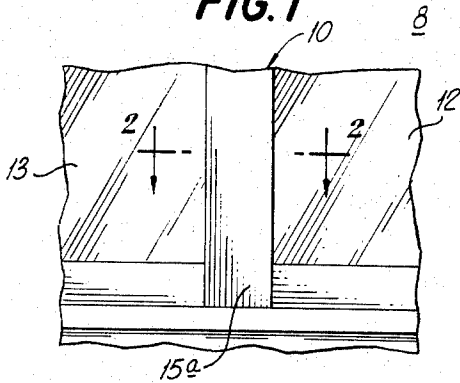


FIG. 2

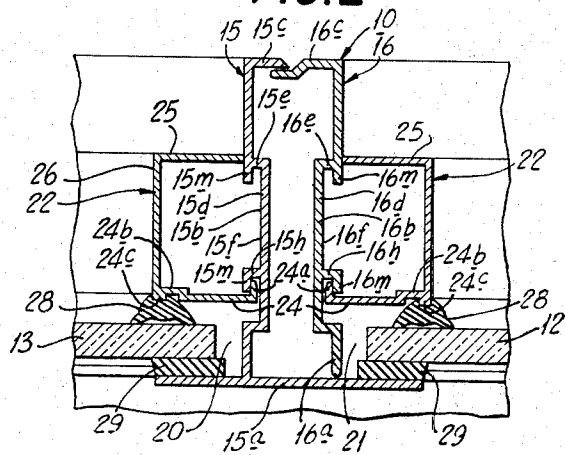


FIG. 4

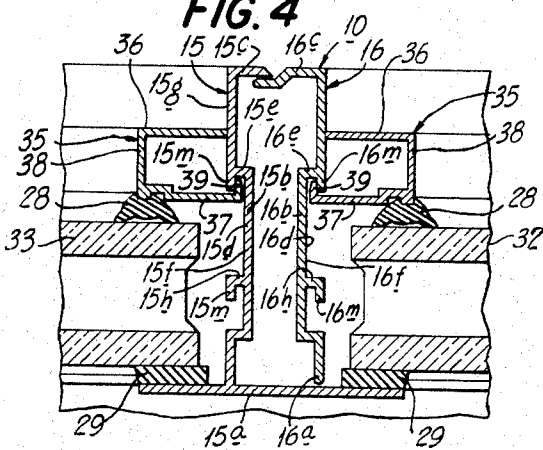


FIG. 3

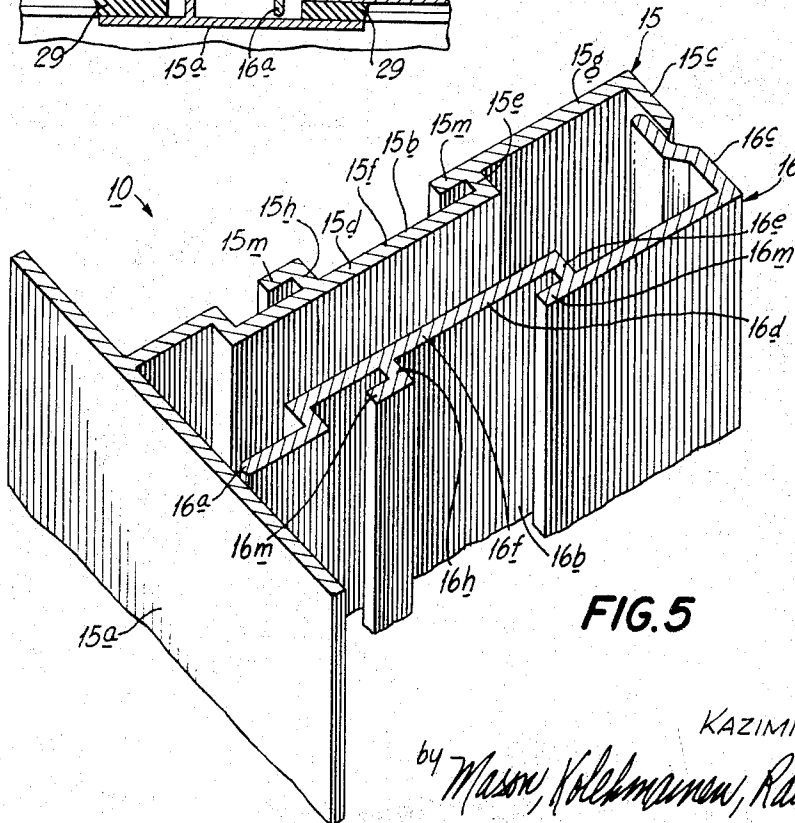
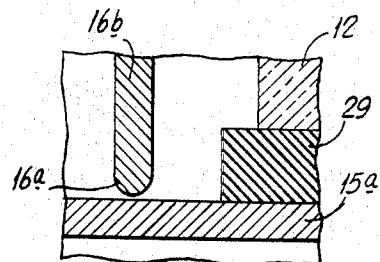


FIG. 5

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BUILDING WALL CONSTRUCTION

The present application is a continuation of application Ser. No. 881,070 filed Dec. 1, 1969; now abandoned, which application is a division of copending application Ser. No. 750,530 filed May 20, 1968, now U.S. Pat. No. 3,527,010 granted Sept. 8, 1970.

The present invention relates to building wall construction, particularly to a new and improved building wall mullion of the type commonly referred to as a coupling or thermal expansion mullion. Split mullions for accommodating thermal expansion of adjacent panels are in common commercial use. One such mullion, for example, is disclosed in Letters Patent of The United States No. 3,037,591 granted to L. L. Pulling et al. The primary function of such a space or thermal expansion mullion is to accommodate thermally induced movement between immediately adjacent panel units.

Heretofore it has been the common practice on split or expansion mullions to expose the seam joint between the mullion halves to the wind and other elements. Because of repeated movement between the mullion halves, brought about by both temperature changes and wind pressure, even the best of weather seals fails to function satisfactorily when applied at the seam. Any failure of the seal will result in water infiltration into the mullion cavity and consequent window leakage.

Accordingly one object of the present invention to provide a new and improved expansion mullion.

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

Still another object of the present invention is the provision of a new and improved expansion mullion which does not expose the seam joint to the weather.

Further objects and advantages of the present invention will become apparent as the following description proceeds and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

In accordance with these and many other objects of the present invention, there is provided a new and improved wall construction having an improved split or thermal expansion mullion which does not expose the seam joints thereof between the mullion halves to the weather. The mullion includes a first element having a transverse face defining a panel receiving channel in one side. A second member interfits with the first in relative movable relation therewith and defines, with the transverse face of the first member, a second opposed panel receiving channel. Sealing tape is placed directly between the transverse face and the respective panel edges, and resilient means are interposed between the other side of the panel edges and the inside of the panel receiving channel.

Advantageously the improved expansion mullion eliminates the mullion seam from the exterior face of the mullion assembly altogether, and thereby reduces the number of vulnerable weathering seams from the conventional three to two in the present mullion. In addition, in the improved mullion, the sealing tape is placed directly between the face and the panel, and is subjected to but a fraction of the thermally induced movement normally encountered in the conventional coupling mullion assembly. The relative movement between the mullion halves is limited to the interior pane

rior weather seal. In addition the improved mullion design provides uniformity of the exterior appearance between all window mullions as there is no visible seam in the coupling or expansion mullion. There is only one homogeneous band of metal exposed in all of the mullions. The improved mullion construction provides for ease of installation as there is no seal present at the time of erection to render engagement of the mullion halves difficult due to friction or tension brought about by the presence of gaskets or other sealings. Moreover there is an ease of inspection as the seam is in fact placed in open view and can be readily inspected at any time during the installation. Moreover since the seams are exposed, the seams may be readily repaired and any flaws corrected.

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

FIG. 1 is a fragmentary view of a wall construction employing the improved expansion mullion;

FIG. 2 is a cross sectional view of the wall construction of FIG. 1, drawn to a larger scale, taken along line 2—2 of FIG. 1;

FIG. 3 is a detail view of the mullion construction of FIG. 2, illustrating the point of movement between the mullion halves;

FIG. 4 is a cross sectional view of a wall construction, similar to that illustrated in FIG. 1, but disclosing a double or thick panel arrangement; and

FIG. 5 is a cross sectional perspective view of the improved expansion mullion.

Referring now to the drawings, there is illustrated a wall construction generally illustrated at 8, including a mullion assembly 10 which supports opposed panels 12 and 13 which, in the illustrated embodiment, may be glass or window panels. As best illustrated in FIG. 5, the mullion assembly 10 is formed of a first construction element 15 of generally T-shape including a crossbar 15a to define a transverse face, and a leg 15b extending longitudinally thereof having one end secured intermediate the edges of the crossbar 15a. The other end of the leg 15b is provided with a flange 15c for interfitting association with another construction element. Intermediate the length of the leg 15c is defined a shallow channel-shaped depression 15d including a leg portion 15e and a bottom portion 15f. A jamb surface 15g extends from the top of the leg portion 15e outwardly toward the flange 15c. Moreover there is provided at least one intermediate leg portion 15h extending upwardly from the bottom of the depression 15d intermediate the bottom portion. Both of the leg portions 15e and 15h have toes 15m forming lips extending toward the crossbar 15a.

The other half of the mullion assembly 10 is formed of a construction element 16 of generally L-shape having one end 16a of a long leg 16b spaced apart from the inner surface of the crossbar 15a, and having a short leg 16c defining a flange interfitting with the flange 15c of the construction element 15 to provide for relative transverse movement of the construction elements 15 and 16. In addition the long leg 16b is provided with means for retaining the glass similar to that of construction element 15, and specifically includes a depression 16d formed intermediate its length and defined by a leg portion 16e and a bottom portion 16f. A jamb surface 16g extends from the leg portion 16e to the flange 16c. An intermediate leg portion 16h extends intermediate

the bottom of the depression 16b. Each of the leg portions 16e and 16h have toe portions 16m extending upwardly toward the crossbar 15a of the construction element 15.

For defining opposed panel receiving channels 20 and 21, there is provided a first panel or glass stop 22 cooperative with the leg 15b of the construction element 15 to define the channel 20 with the crossbar 15a. A second glass stop 22 is cooperatively associated with the construction element 16 so as to define with the crossbar 15a the panel receiving channel 21. The glass stops 22 may be similar to those described and claimed in Letters Patent of the United States No. 2,983,969 granted May 16, 1961 to D. C. Muessel. Briefly such glass stops are of general channel-shape in cross section including side flanges 24 and 25, interconnected by a bight or bottom flange 26. The flange 24 has a reverse bend or toe 24a at its end facing toward the side flange 25, and hooked over one of the toes 15m, 16m, of the respective construction elements 15, 16. In addition, there is provided a weatherstrip channel 24b along the other end of the side flange 24, in the outer side surface thereof, defining a projecting portion 24c for retaining suitable resilient gasket means 28. A glazing tape 29 is provided between the outer edge of the panels 12 and 13, and the inner surface of the crossbar 15a serving both as a panel spacer and as exterior glazing seal; and further serving as the outside projection for the internal metal to metal seam between the construction elements 15 and 16 as best illustrated in FIG. 3.

From the above detailed description, it will be seen that the thermal expansion of the window elements such as horizontal members which results in the movement of the construction elements 15 and 16 toward and away from each other will result in specific movement between the end 16a of the construction element 16 along the inner surface of the crossbar 15a of the construction element 15, FIG. 3. Moreover such thermal expansion of the horizontal members will further result in movement between the resilient gasket 28 and the inner surface of the panel 12, rather than imposing any stress or strain to the glazing tape 29.

FIG. 4 illustrates an embodiment of the invention employing double or thick paneling. Corresponding parts of FIG. 4, and of the embodiment of FIGS. 1 through 3, are identified by the same reference numerals. Specifically there is provided the same mullion assembly 10 which is readily adapted to accommodate thick panels 32 and 33 by the use of suitable panel stops 35, similar to the panel stops 22, including side flanges 36 and 37 and a bottom flange 38. An inwardly extending toe 39 is hooked over the corresponding toes 15m, 16m of the legs 15e, 16e in the respective construction elements 15 and 16 thus accommodating the

thicker panels 32 and 33.

It will be understood that the mode of expansion of the mullion assembly 10 of FIG. 4 is identical to that heretofore described in connection with the embodiment of FIGS. 1, 2 and 3.

Although the present invention has been described by reference to various embodiments thereof, it will be apparent that numerous other modifications and embodiments will be devised by those skilled in the art which will fall within the true spirit and scope of the present invention.

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

1. A longitudinally split expansion mullion for supporting a pair of panels aligned in a common plane in side-by-side relation, said mullion comprising:

a first elongated element of generally T-shaped cross section including an outer cross member and a leg integrally joined to said cross member intermediate opposite longitudinal edges thereof;

and a second elongated element telescopically received within said first element and of generally L-shaped cross section having a first leg parallel to and movable toward and away from said leg of said first element, and an integral flange along the inner edge of said first leg away from said cross member extending toward said leg of said first element;

said first element including an integral flange along the inner longitudinal edge of said leg extending outward of and toward said first leg of said second element and in adjustable juxtaposition with said flange of said first element forming an inner wall portion of said mullion parallel to said cross member;

said first leg formed with an outer longitudinal edge terminating short of said cross member and adjustable toward and away from said leg of said first element, so that said cross member extends transversely beyond said outer longitudinal edge whereby no outer visible joints exist between said elements;

each of said legs being formed with an outwardly opening, longitudinally extending recess intermediate its opposite longitudinal edges and a stop retaining toe extending longitudinally along at least one edge of the recess for retaining engagement with a panel securing stop member.

2. The mullion of claim 1 in combination with at least one stop member including a lip along one longitudinal edge engageable with said stop retaining toe in said recess and including a stop surface parallel to the adjacent inside surface of said cross member for retaining an edge portion of a panel therebetween.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,769,775 Dated November 6, 1973

Inventor(s) Kazimierz J. Brzezinski

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 4, line 32; Delete "first" and insert --second-- therefor.

Signed and Sealed this

Sixth Day of March 1979

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

DONALD W. BANNER
Commissioner of Patents and Trademarks

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 3,769,775

DATED : November 6, 1973

INVENTOR(S) : Kazimierz J. Brzezinski

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Abstract, left-hand column, line 7, Notice:

delete "May 20, 1985" and

insert "September 8, 1987"

Signed and Sealed this

Fifteenth Day of September 1981

[SEAL]

Attest:

GERALD J. MOSSINGHOFF

Attesting Officer

Commissioner of Patents and Trademarks

REEXAMINATION CERTIFICATE (202nd)

United States Patent [19] [11] **B1 3,769,775**

Brzezinski [45] Certificate Issued * **Jun. 5, 1984**

[54] **BUILDING WALL CONSTRUCTION**

[75] Inventor: **Kazimierz J. Brzezinski**, Willowdale,
Ontario, Canada

[73] Assignee: **Kawneer Company Inc.**, Niles, Mich.

Reexamination Request:

No. 90/000,146, Jan. 26, 1982

Reexamination Certificate for:

Patent No.: **3,769,775**
Issued: **Nov. 6, 1973**
Appl. No.: **187,901**
Filed: **Oct. 8, 1971**

[*] Notice: The portion of the term of this patent
subsequent to May 20, 1985 has been
disclaimed.

Related U.S. Application Data

[60] Continuation of Ser. No. 881,070, Dec. 1, 1969, abandoned, which is a division of Ser. No. 730,530, May 20, 1968, Pat. No. 3,527,010.

[51] Int. Cl.³ **E04B 2/88; E06B 3/62**

[52] U.S. Cl. **52/731; 52/235;**
52/501

[58] Field of Search **52/235, 731, 561, 732,**
52/501

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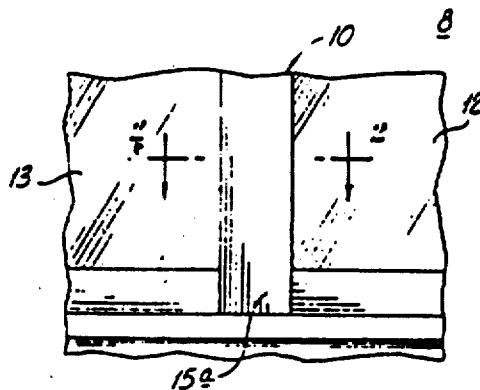
Robertson Versatile Wall, Sweet's 1964 catalog, p. 3.

Robertson Versatile Wall, 1957 display placard.

Primary Examiner—John E. Murtagh

[57] **ABSTRACT**

There is provided an improved building wall construction including a thermal expansion type split mullion. The mullion includes a continuous face member against which opposed panels are glazed with glazing tape as the seam end weathering. This eliminates the seam between the mullion halves from the exterior face of the mullion assembly altogether, protecting the seam from the weather, and reducing the vulnerable sealing lines exposed to the weather.



**REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307.**

AS A RESULT OF REEXAMINATION, IT HAS
BEEN DETERMINED THAT:

- 5 Claims 1 and 2, having been finally determined to be
unpatentable, are cancelled.

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

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