Aug. 19, 1924. 1,505,402

B. T. MESKER

MULLION COLUMN

Filed Nov. 13, 1922

Fig. 1.

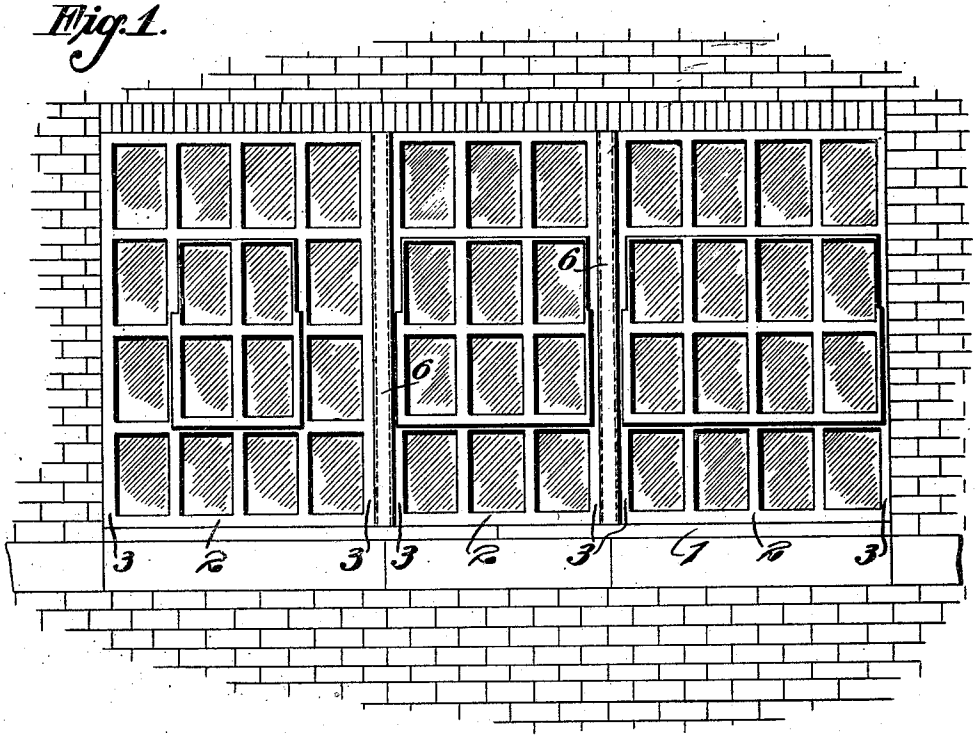


Fig. 3.

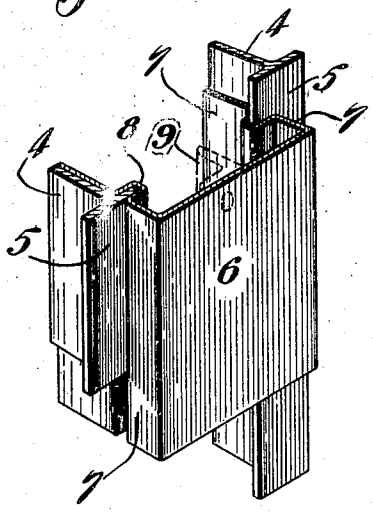
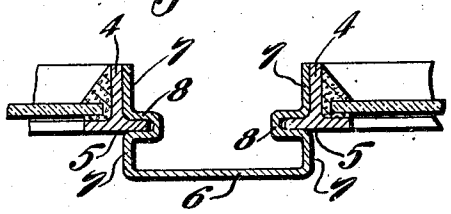


Fig. 2.



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UNITED STATES PATENT OFFICE.

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MULLION COLUMN.

Application filed November 13, 1922. Serial No. 600,568.

To all whom it may concern:

Be it known that I, BERNARD T. MESKER, a citizen of the United States, residing at Saint Louis, Missouri, have invented a certain new and useful Improvement in Mullion Columns, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this application.

My invention relates to building construction and particularly to such construction as utilizes steel sash for the windows or doors, a comparatively recent development which has been widely introduced in industrial buildings and is being used more and more in all kinds of buildings.

My invention consists in the provision of improved means for uniting adjacent steel sash and to be used in place of mullions and transoms of stone, terra cotta, cast iron, brick, wood, or built-up structural steel, all of which are comparatively expensive to produce, usually occupy an excessive portion of the window opening, and are often difficult to make weather-proof.

The object of my invention is to provide a one-piece steel mullion or transom adapted to combine adjacent window sash of the common structural T-bar type, or other flanged sash section, thereby eliminating the necessity of field assembly of a plurality of structural transom or mullion parts, as well as eliminating the undesirable features above referred to attendant upon the other types of construction heretofore used.

Another object of my invention is to provide a one-piece mullion or transom member which may be assembled with window sash after the latter are in position, thereby eliminating the handling as a unit of a plurality of sash. I accomplish this object by providing a groove in the member extending from end to end thereof and adapted to receive endwise the projecting flanges of the sash T-bars.

In the accompanying drawings illustrating a selected embodiment of my invention—

Figure 1 is an elevation of a wall in which are set a plurality of steel sash united by my improved mullion columns.

Figure 2 is a transverse section through one of the mullions and the adjacent portions of the steel sash.

Figure 3 is an isometric view, sectioned in part, of my mullion and two adjacent sash T-bars.

Seated on a sill 1 of a brick wall are the steel sash 2, each including upright side members 3, preferably formed of structural steel T-bars 4 so arranged that their flanges are located in the plane of the window and one flange 5 of each upright T-bar member projects beyond the window and toward the adjacent window.

There is always a substantial space between adjacent windows for an intermediate column which extends from sill to lintel and the substance of my invention as here illustrated is the provision of a column or mullion-formed of a single steel plate pressed into the section, best shown in Figure 2, in which an outwardly facing mullion-forming surface 6 is formed from the center of the plate with suitable flanges 7 extending rearwardly therefrom to the rear of the window sash but grooved intermediate their front and back at 8 to form recesses adapted to receive flanges 5 on the window sash.

The outer face of the mullion column may be curved, angular, fluted, or otherwise shaped for various decorative effects but preferably is of constant cross section from end to end. This is particularly true of the rearwardly extending flanges, hence the grooves 8 are open-ended and the mullion column may be placed above two adjacent sash and driven endwise between the same until the ends are aligned with the top and bottom of the window in structural mullions.

By making the width of grooves 8 slightly smaller than the thickness of flanges 5 and, in assembly, spreading the lower end of each groove 8 sufficiently to start the T-bar flange therein, a pressed fit will be provided the full length of the window and mullion column which will be more effective for excluding moisture from entering between the front of T-bar 4 and the adjacent edge of the mullion than a riveted joint which invariably results in gaps at intervals between the riveted members.

An additional advantage of this construction is that the parts may expand and contract without any strain either in themselves or on connecting bolts or rivets heretofore

required. In the construction shown there is a full two inches of continuous weathering contact which exceeds that afforded by built-up structures previously used.

The use of mullions of this type affords considerable economy in the assembly of the devices in the field as the mullion may be placed above and between two adjacent sash and then driven into its final position, or the sash may be inclined toward each other like a V and their flanges inserted into the mullion recesses and the mullion and the inclined edges of the sash pushed back to the final straight line position.

Where mullions of unusual length are required, it may be desirable to reinforce them intermediate their sides and this may be done by means of a structural member such as indicated at 9 in Figure 3. This element could be added in the shop before the mullion is sent to the field and consequently is adapted to economical riveting or spot-welding construction.

Obviously, the panel section of the mullion may be varied in width and shape to accommodate different width of window openings and produce various architectural effects without changing the sash from certain standard sizes or varying the sash engaging flanges. While my drawing illustrates my invention embodied in a vertical member used as a mullion, it is obvious that the same member without change could be applied horizontally as a transom and retain all of the advantages of the mullion illustrated.

Various sizes and shapes of the sash elements may be accommodated by the provision of suitable grooves or recesses in the mullion columns, and other details of my invention may be modified without departing from the spirit thereof as expressed in the following claims.

I claim:

1. In combination, a metal sash element comprising a multi-flanged structural shape, and a metal sash engaging member having a side contour which parallels at least two of the flanges of said element and embraces opposite sides of at least one of the flanges of said element.

2. In combination, two sashes having opposed side edges of uniform contour from end to end, and a one-piece pressed steel member connecting said sashes and having integral reenforcing sides provided with longitudinally extending grooves fitting over the side edges of said sashes.

3. In combination, two adjacent sashes each having a side formed of a structural T-bar with one flange extending outwardly from the sash in the plane thereof, and means for uniting the sashes comprising a pressed steel member having reinforcing flanges which are grooved throughout their length and are adapted to receive the projecting flanges of said T-bars lengthwise.

4. In combination, a metal sash having a projecting flange, and a mullion or transom comprising a sheet of metal bent into a U-shape, a leg of the U being bent inwardly and outwardly to receive and grip said flange.

5. In combination, a sash element consisting of a T-bar with one flange projecting outwardly of the sash in the plane thereof and another flange projecting transversely of the sash plane, and a sash connecting member consisting of a plate having a portion forming the front of a post, a flange at the side thereof bent at right angles to offset said portion from the sash, then in a groove to receive said first-mentioned sash flange and then rearwardly along said second-mentioned sash flange.

In testimony whereof I hereunto affix my signature this ninth day of November, 1922.

BERNARD T. MESKER.