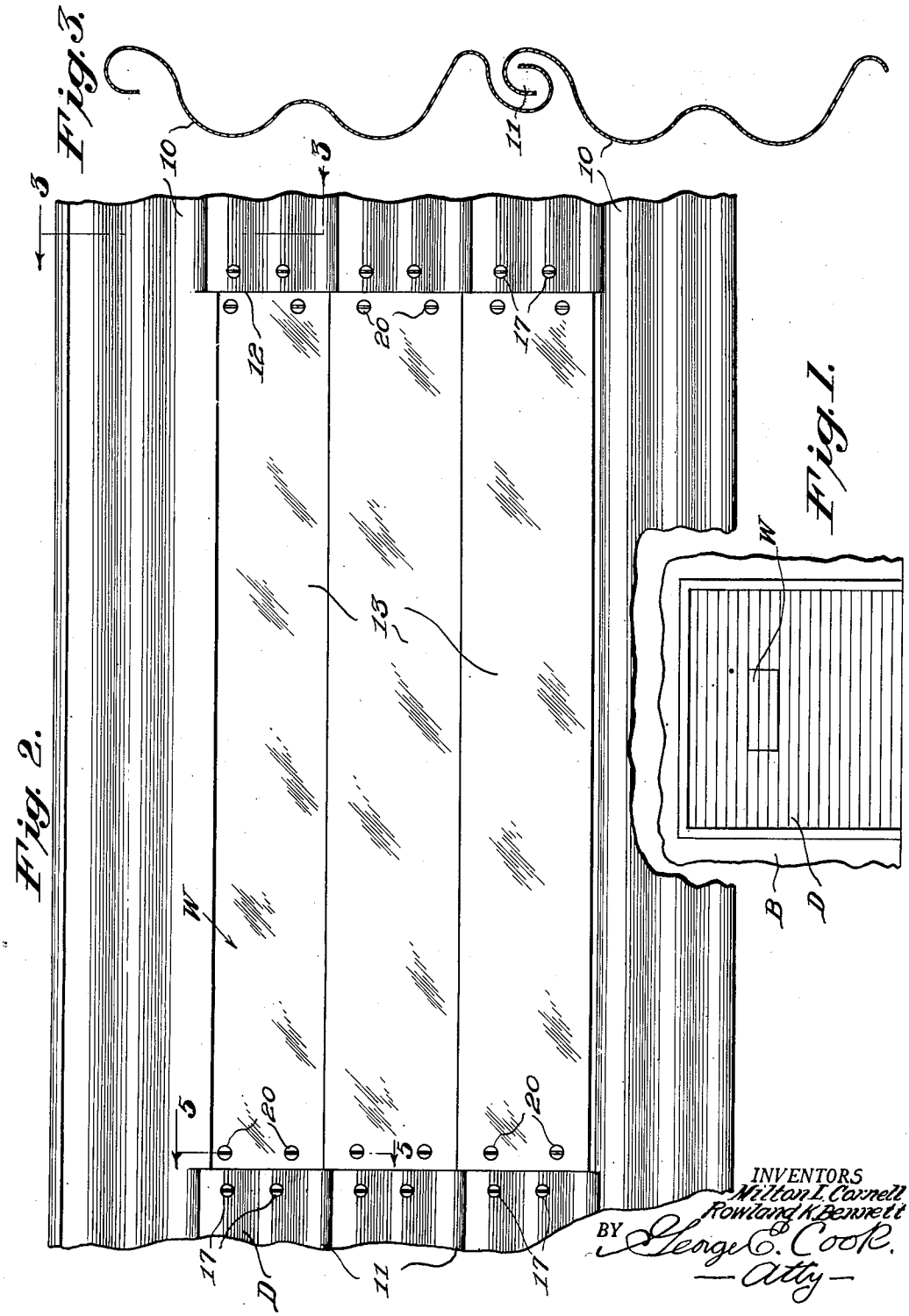
Feb. 12, 1952 M. L. CORNELL ET AL 2,585,627

VISION LIGHT METAL SLAT ROLLING DOOR

Filed Sept. 17, 1948 3 Sheets-Sheet 1



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Fig. 5.

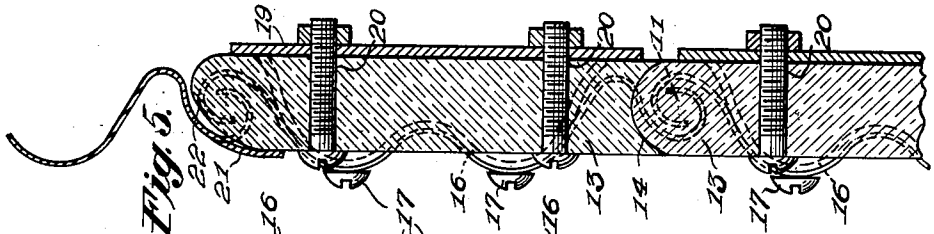


Fig. 4.

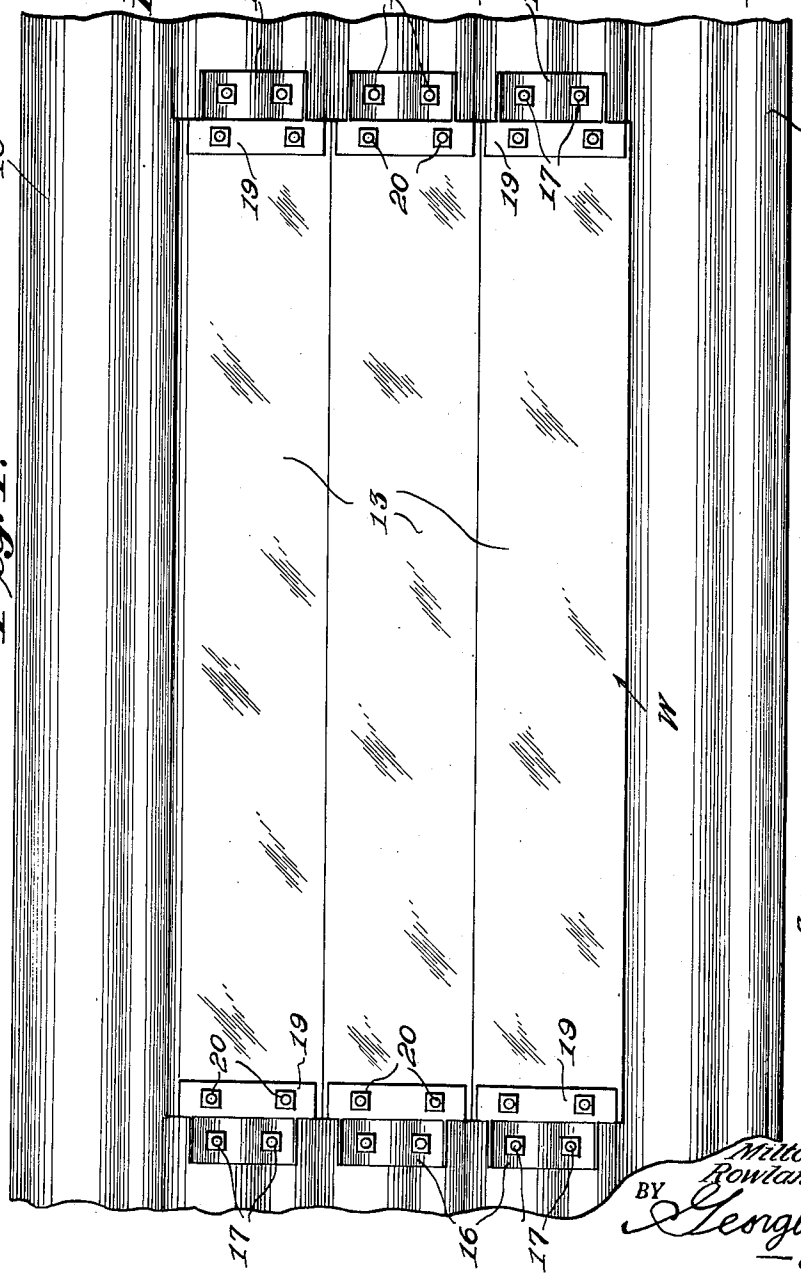


Fig. 7

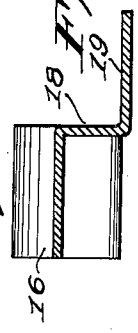
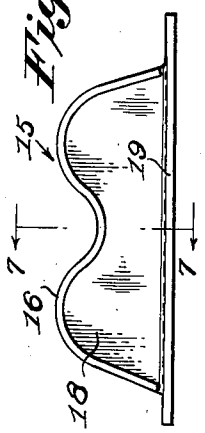


Fig. 6.



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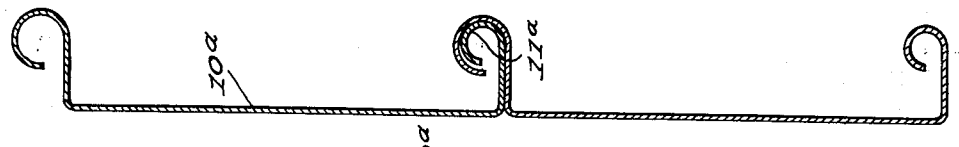


Fig. 5-A.

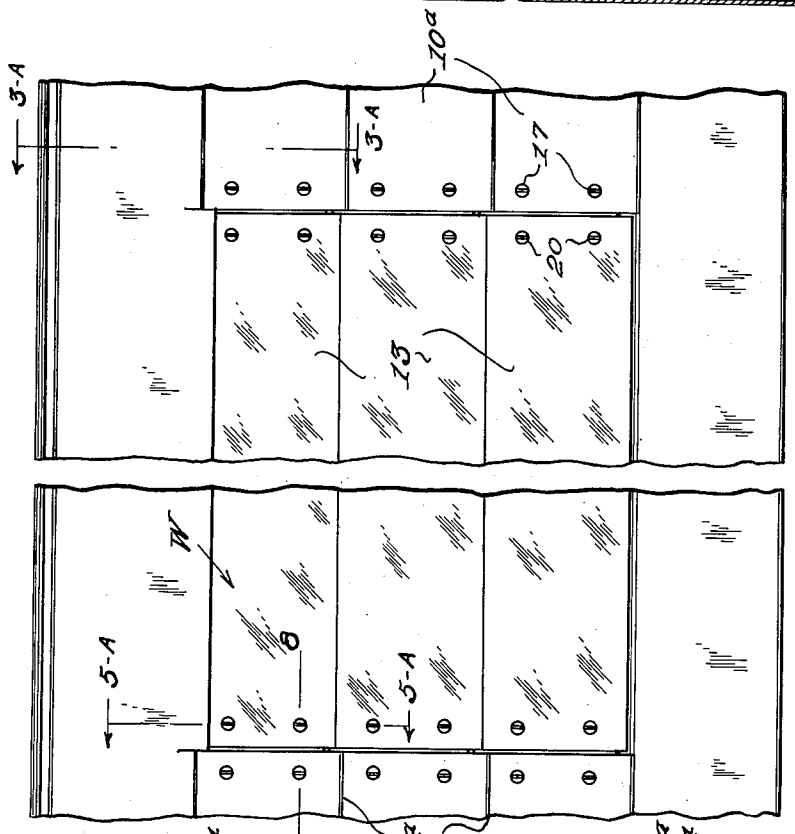


Fig. 2-A.

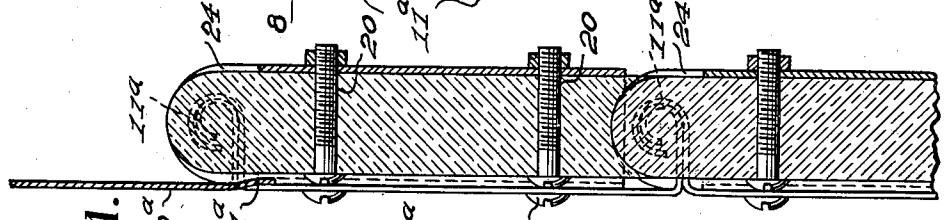


Fig. 5-A.

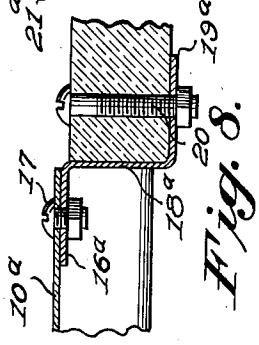


Fig. 8.

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VISION LIGHT METAL SLAT ROLLING DOOR

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4 Claims. (Cl. 160—180)

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This invention relates to improvements in metal slat rolling doors.

Metal slat rolling doors to which the improvements in accordance with the present invention are applied, are generally well known and comprise a plurality of horizontally disposed slats, in most instances of corrugated form, and such slats are provided with substantially semi-cylindrical interengaging edge portions to facilitate rolling of the door from a closed to an open position and vice versa.

It is a well recognized fact that windows are desirable in all doors, particularly when of relatively large dimensions as are most metal slat rolling doors. It is appreciated that it is common practice to provide doors of relatively large dimensions, such as those used on garages and the like with windows, but the use of windows heretofore has been usually in connection with such sectional wooden doors which are constructed for hinging or sliding movement.

Such forms of doors just referred to usually comprise relatively large sections and accordingly the provision of windows in the sections is a simple matter and would readily be suggestive from the long time use of windows in a single section door.

The provision of windows in a metal slat rolling door is just as desirable as in any other form of door, but due to the construction of such metal slat doors the provision of windows therein presents a problem in no way suggestive by the use of windows in sectional wooden doors.

It is accordingly a primary object of this invention to provide a metal slat rolling door with a window of sufficient dimensions to provide necessary admission of light as well as for observation from either side of the door.

A further object of the invention is to provide a multi-section window in a metal slat rolling door and wherein the adjacent edges of the sections have a pivotal movement corresponding with that of the slats of the door.

A still further object of the invention is to provide novel clips for removably securing transparent window sections to spaced end portions of metal slats in a rolling door.

A further object of the invention is to provide a transparent section in a hinged metal slat door with provision of a weather-tight joint between the door and all four sides of the transparent section.

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Other objects and advantages of the invention will become apparent in the course of the following detailed description, taken in connection with the accompanying drawings, wherein:

Fig. 1 is a more or less diagrammatic view showing a metal slat rolling door from the outside thereof and further showing the improved window therein.

Fig. 2 is an elevational view showing a portion of a metal slat rolling door from the outside thereof with the improved window incorporated therein in accordance with a preferred embodiment of the invention.

Fig. 2A is a broken elevational view similar to Fig. 2 but disclosing the application of the window or transparent section to a hinged metal slat door wherein the slats are of flat form in contradistinction to the corrugated form of Fig. 2.

Fig. 3 is a vertical sectional view of substantially full size dimensions in the plane of line 3—3 on Fig. 2.

Fig. 3A is a vertical sectional view in the plane of line 3A, 3A on Fig. 2A and corresponding to Fig. 3.

Fig. 4 is a view similar to Fig. 2, but as observed from the opposite side thereof or from the inside of the door.

Fig. 5 is a vertical sectional view of substantially full size dimensions as observed in the plane of line 5—5 on Fig. 2.

Fig. 5A is a vertical sectional view as observed in the plane of line 5A, 5A on Fig. 2A and corresponding to Fig. 5.

Fig. 6 is an elevational view of one of the improved clips for removably securing the window sections to the door slats.

Fig. 7 is a vertical sectional view in the plane of line 7—7 on Fig. 6.

Fig. 8 is a horizontal section in the plane of line 8—8 on Fig. 2A and disclosing a modified form of clip member for use with the flat metal door slats.

Referring now in detail to the drawings, by use of reference characters, B in Fig. 1 designates a portion of a building, such as a garage, or the like, D designates a metal slat rolling door operatively supported in a door opening in the building

and W designates the improved window in the door.

The metal slat rolling door may be of usual construction and comprise a plurality of corrugated metal slats 10 which extend horizontally and in parallel relation. The opposite edges of the slats are rolled in the provision of substantially semicylindrical portions which are in interfitting relation to provide the pivotal connections 11 between the successive slats.

An opening 12 (Fig. 2) is provided in the door as by cutting away portions of a desired number of the slats depending upon the size of windows desired or required.

While the window herein disclosed is of a height equal to the combined widths of three slats 10, it may be of a height equal to the combined widths of a lesser or greater number of slats, and the width of the window may be of any dimensions desired.

The window W comprises a plurality of transparent sections 13 and which are preferably formed from plastic for the dual purpose of withstanding shock or strain, as well as to facilitate the machining thereof to proper shape.

The window sections 13 are of substantial thickness as is indicated in Fig. 5, and the adjacent edges of each two sections have cooperating curved surfaces 14 which are concentric with the axes of the pivotal connections 11 of the metal slats, whereby the window sections will pivot with the metal slats during the rolling movement of the door, and provide a weather-tight joint when the door is closed.

Each slat 10 is provided with a window section 13, and in order to removably secure the sections to the slats 10 adjacent opposite sides of the door opening 12, a plurality of novel clip members 15 are provided.

The clip members 15 each comprise a portion 16 shaped to substantially conform with the corrugations in a slat 10, and such portion engages the interior of the slat and is removably secured thereto as by bolts 17 which extend through alined apertures in the portion 16 and the slat 10.

The clip further includes a wall portion 18 engageable by an end of a window section and a flange portion 19 projects from the wall portion 18 at right angles thereto.

The flange portions 19 provide seats for the inner faces of the window sections adjacent the opposite ends thereof, and the window sections 13 are removably secured to the flange portions 19 as by bolts 20 extended through alined apertures therein.

The flange portions further function to provide a weather-tight joint between the edges of the window and the door.

The lower edge of slat 10 above the uppermost window section is modified in form in the provision of an apron 21 in overlapping relation to the upper edge portion 22 of window section to provide a weather-tight joint without affecting the proper rolling of the door.

While the window sections have been disclosed in a corrugated metal slat rolling door, the invention is not limited to such application since the window sections may be disposed in a metal slat rolling door wherein the slats are of flat rather than corrugated form, as is disclosed in Figs. 2A, 3A, 5A and 8.

As is illustrated in these figures, the metal slats 10^a are of flat form and have pivotal connection at 11^a. Since in this embodiment of the invention, the slats 10^a are of different form than slats 10, a different form of clip is provided for removably securing the window sections 13 to the door slats 10^a.

Each clip, of which there is one at each end of each window section 13, comprises a portion 16^a underlying an adjacent slat end and removably secured thereto by a pair of bolts 17. The clip further includes a wall portion 18^a engageable by the adjacent end of the window section and a flange portion 19^a underlying the window section and secured thereto by a pair of bolts 20.

The slat 10^a above the upper window section 13 is provided with an apron 21^a, and the clip wall portions 18^a are preferably provided with extensions 24 to complete a weather-tight seal between the door and the window sections.

While the window sections have been disclosed as removably disposed in metal slat doors wherein the slats in one embodiment are corrugated and in another embodiment are of flat form, the essence of the invention is the provision of window sections in metal slat rolling doors wherein the bodies of the slats may be of any desired form.

From the above, it will be seen that each window section 13 is rigid with the transversely aligned slat sections to which it is secured, and that the adjacent edges of the window sections are provided with a pivotal connection coaxial with that of the corresponding slat sections whereby the window sections will partake of the same movements as the slat sections during rolling movement of the door and thus avoid any strain in the window sections.

While I have disclosed my invention in accordance with certain specific embodiments thereof, such are to be considered as illustrative only, and not restrictive, the scope of the invention being defined in the sub-joined claims.

What we claim and desire to secure by U. S. Letters Patent is:

1. A metal slat rolling door including a plurality of slats having their adjacent edges rolled and interengaged for pivotal movement of the slats on parallel axes, several of said slats each comprising a pair of sections having aligned spaced ends which together with slats above and below said pairs of slats provide a rectangular opening in the door, a plurality of window sections in said opening with each section alined with the slat sections of one pair thereof, the opposite ends of each window section being disposed adjacent corresponding ends of the slat sections, clip members removably connecting the ends of the window sections with the corresponding ends of the slat sections, adjacent side edges of the window sections being concave and convex for pivotal movement thereof on the pivotal axes of the corresponding slat sections, and the side edges of the upper and lower window sections adjacent said slats above and below said opening being arcuate and conforming with adjacent edges of said last slats for pivotal movement therewith.

2. The structure according to claim 1, wherein the slat above said pairs of slats is extended downwardly below the pivotal axis between same and the adjacent slat sections of one pair thereof, the downward extension being disposed over the front of the uppermost window section in the provision of a weather-tight joint.

3. The structure according to claim 1, wherein said slats and slat sections are of corrugated form and wherein each clip member comprises a wall portion engaged by a corresponding end of a window section, a reversely curved portion

conforming to the corrugated form of the slats projecting laterally from the wall portion and detachably connected to an end of a slat section, and a flat flange projecting from said wall portion in opposition to said reversely curved portion and detachably connected to an adjacent end of a window section.

4. The structure according to claim 1, wherein said slats and slat sections comprise flat body portions, and wherein said rolled and interengaged edges are disposed laterally of the flat body portions.

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