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W. M. KRANTZ

2,447,347

CORNER STRUCTURE

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FIG. 1.

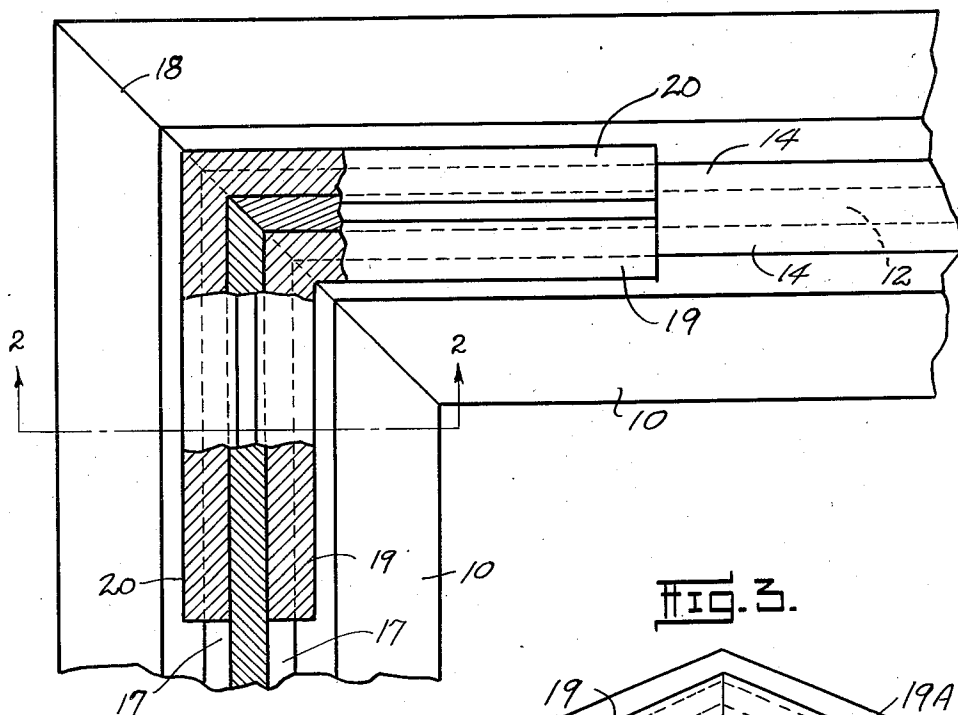


FIG. 2.

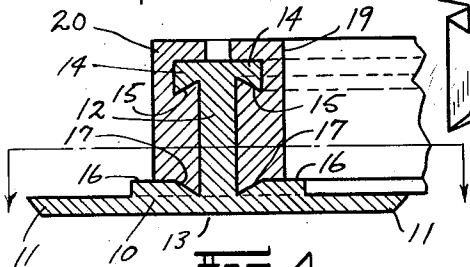


FIG. 3.

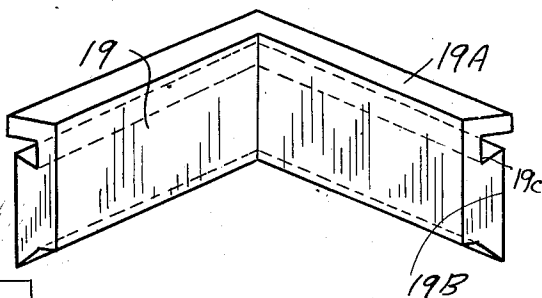
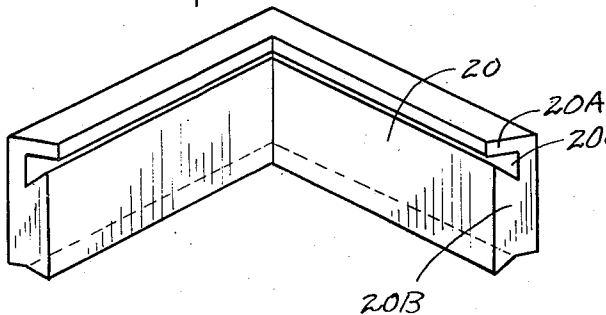


FIG. 4.



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CORNER STRUCTURE

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This invention relates to a corner structure for metallic shapes to enable the formation of frames therefrom.

The principal object of the invention is the provision of a corner structure for uniting cut sections of a metallic shape to form frames for window openings.

A further object of the invention is the provision of a corner structure capable of aligning pieces being attached to one another during the formation of a frame therefrom.

A still further object of the invention is the provision of a corner structure utilizing a pair of simple locking corner pieces for affixing cut sections of a channeled material to one another so as to form a frame.

The corner structure shown and described herein has been devised to enable the rapid and inexpensive formation of window frames such as may be advantageously employed in the construction of metallic storm sash. It is known in the art that in forming storm sash many sizes of window openings are encountered, each of which requires a custom built storm sash in order that the same may fit properly and achieve a satisfactory degree of insulation when installed. The invention disclosed herein enables strip lengths of suitably shaped framing material to be cut as with a miter box and the cut sections joined to one another simply and efficiently and at the same time forming a strong and durable frame.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a top plan view with parts broken away and parts in cross section of the corner structure.

Figure 2 is a cross sectional elevation taken on line 2—2 of Figure 1.

Figure 3 is a perspective elevation of one of the members employed in the corner structure illustrated in Figure 1.

Figure 4 is a perspective elevation of another of the component parts of the corner structure shown in Figure 1.

By referring to the drawings and Figures 1 and 2 in particular it will be seen that a metal

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shape 10, preferably formed in continuous extruded lengths, is shown and is formed of a pair of oppositely disposed flanges 11 and an upstanding centrally disposed rib 12, the metal shape 10 and the oppositely disposed flanges 11 forming a continuous unbroken surface flange 13. The upstanding centrally disposed rib 12 is located on the opposite side of the metal shape 10 with respect to the surface flange 13. The centrally disposed rib 12 is provided at its uppermost ends with outwardly extending flanges 14 at either side thereof, which flanges 14 are formed continuously with the rib 12 and the under portions of which are undercut as indicated by the numerals 15. The area of the metal shape 10 adjacent the base of the upstanding rib 12 is provided with a section of increased thickness, as generally indicated by the numerals 16, so as to provide for the formation of parallel continuous grooves 17 tapered at an angle opposite to that of the undercut tapered sections 15 heretofore described. It will thus be seen that when continuous strip-like lengths of the metal shape 10 are cut on forty-five degree angles, as illustrated in Figure 1 and indicated by the numeral 18, appropriately formed end sections may be joined as shown in Figure 1 and held in position as in the formation of a metallic storm sash frame by the simple expedient of employing a pair of channeled corner pieces 19 and 20, respectively.

By referring to Figures 3 and 4 of the drawings, perspective detailed illustrations of the flanged corner pieces 19 and 20 may be seen and it will be observed that they are similar in construction, each including a flange 19A and 20A, respectively, which, in combination with angularly formed side sections 19B and 20B, form channels 19C and 20C respectively. The channels 19C and 20C are adapted to receive the outwardly extending flanges 14 of the upstanding rib 12 of the metal shape 10 and the angular shape 19B and 20B, respectively, and particularly the lowermost edges are adapted to register with the parallel continuously formed groove 17 heretofore described. It will thus be seen that when pairs of cut sections of the metal shape 10 are engaged with pairs of the corner pieces 19 and 20, as shown in Figures 1 and 2, a satisfactory and economic corner structure is achieved. The joined sections of metallic shape 10 are prevented from warping with respect to one another or moving out of proper alignment by reason of the plurality of closely engaging surfaces, particularly the engagement of the flanges 19A and 20A, respectively, over the uppermost edges of the outwardly extending flanges 14

of the upstanding rib 12 of the metal shape 10. This action, in combination with the aligning and holding of the component pieces made possible by the dovetailed formation of the corner pieces engaging the dovetailed sides of the upstanding rib 12 of the metal shape 10, results in an unusually strong and durable corner structure.

It will be seen that a simple and efficient metal frame of desired size and configuration may be formed by the utilization of the structure disclosed herein, that is, the dovetailed channels along the axially extending upstanding central rib thereof and the pairs of channeled corner pieces shaped to be insertable in the dovetailed channels along the axially extending rib of the metal shape 10.

Having thus described my invention, what I claim is:

1. A corner structure comprising in combination a shape having an axially extending rib, the said rib having undercut channels formed on either side thereof, and an L-shaped corner piece having an axially extending dovetailed projection along one side thereof and an outwardly extending flange overlying the said dovetailed projection, the dovetailed projection registering with one of the said undercut channels, and the outwardly extending flange overlying the said rib.

2. A corner structure comprising in combination a shape having an axially extending up-

standing rib, the said upstanding rib having a channel formed in at least one side thereof, the edges of the said channel undercut with respect to the said shape so as to form a dovetailed channel; and an L-shaped corner piece provided with a dovetail shaped extension along one side thereof and having an outwardly extending flange overlying the said dovetail shaped projection, the dovetailed projection registering with the said dovetailed channel and the outwardly extending flange partially overlying the said upstanding rib.

3. A corner structure comprising in combination a shape having a surface flange and an axially extending upstanding rib on the back thereof, continuous axially extending dovetailed channels formed in each side of the said upstanding rib and an L-shaped corner piece having a dovetail shaped projection continuously formed thereon, and an upwardly and outwardly extending flange continuously formed thereon overlying the said dovetail shaped projection, the dovetail shaped projection registering with one of the continuous axially extending dovetailed channels in the said upstanding rib, and the upwardly and outwardly extending flange continuously overlying the said upstanding rib.

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