

- [54] CANVAS STRETCHER
- [76] Inventor: Lester Packer, 561 Fifth Ave.,
Brooklyn, N.Y. 11215
- [22] Filed: Oct. 1, 1973
- [21] Appl. No.: 402,514
- [52] U.S. Cl. 160/378, 38/102.91, 160/404
- [51] Int. Cl. D06c 3/08
- [58] Field of Search 160/378, 381, 371, 404;
38/102.91, 102.4, 102.1; 223/109 R, 100

Primary Examiner—Patrick D. Lawson
Attorney, Agent, or Firm—Breitenfeld & Levine

[57] ABSTRACT

A modular stretcher to which sheets of canvas may be secured with staples or like fasteners, includes elongated members having a substantially L-shaped cross section and brackets connecting the ends of the members. Each elongated member includes on its outer surface a longitudinally extending groove for supporting a fastener-receiving strip. The inner corner of each member includes a longitudinally extending channel for accommodating an edge of a bracket. The brackets are connected to the members by bolts passing through holes in the bracket and holes in the member. The stretcher may be further strengthened with a cross bracing arrangement connected to the elongated members.

- [56] **References Cited**
- UNITED STATES PATENTS**

10,679	3/1854	Daugherty	223/100
1,742,339	1/1930	Borregard	160/378
2,126,051	8/1938	Sievers	223/109 R
2,650,662	9/1953	D'Azzo	160/404
3,137,088	6/1964	Spertus	160/378

10 Claims, 9 Drawing Figures

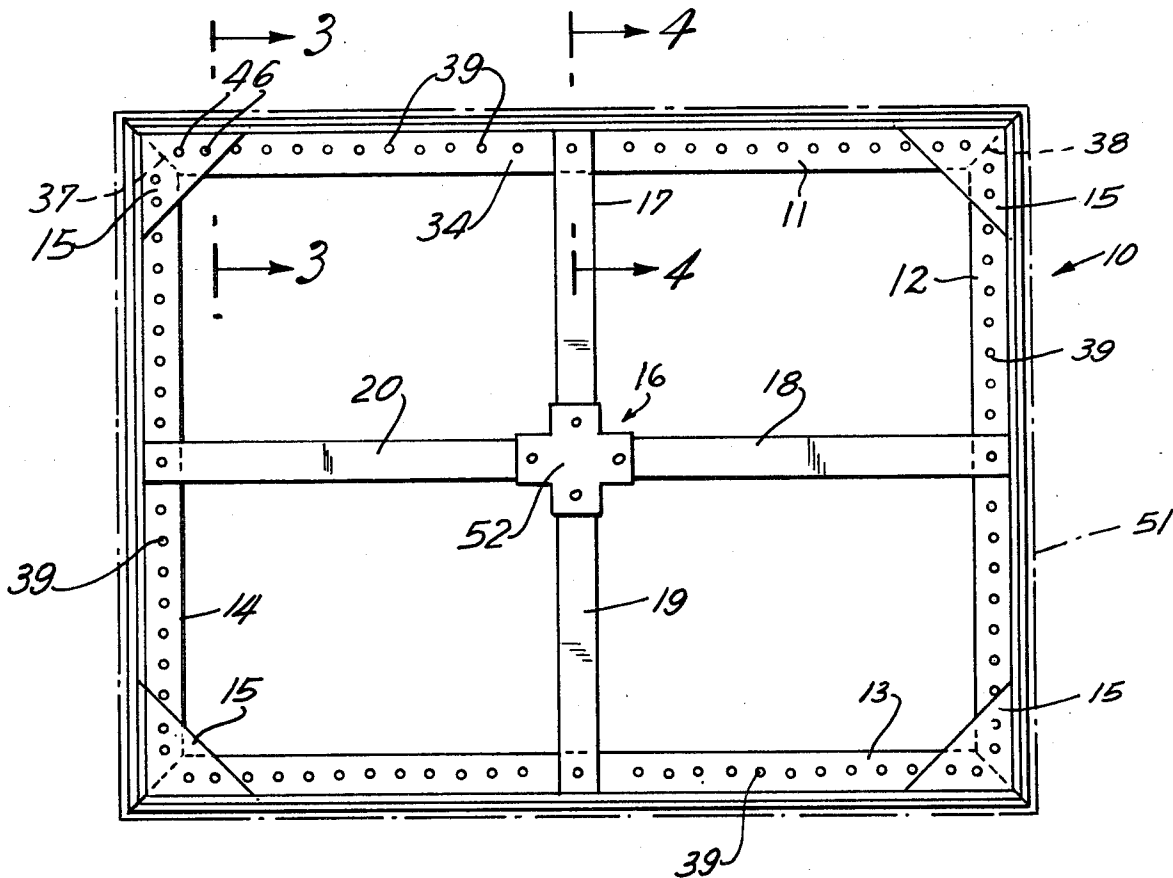


FIG. 1

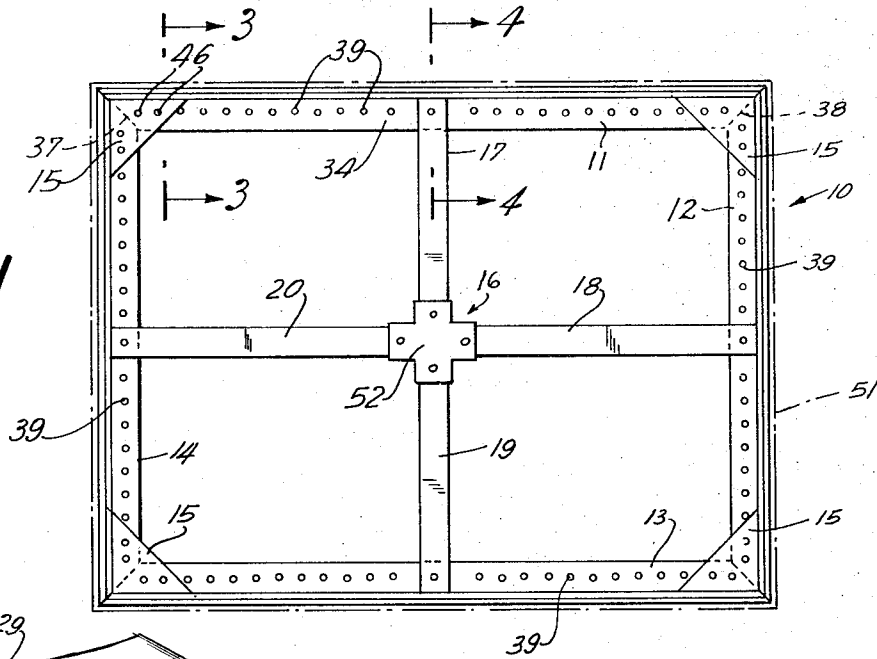


FIG. 2

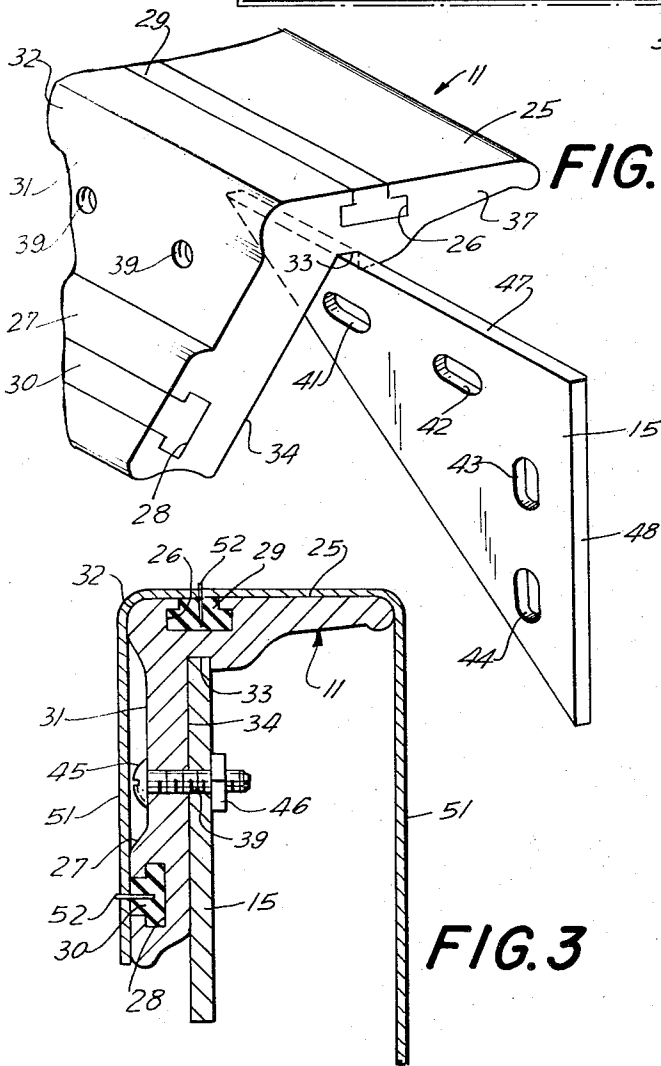


FIG. 3

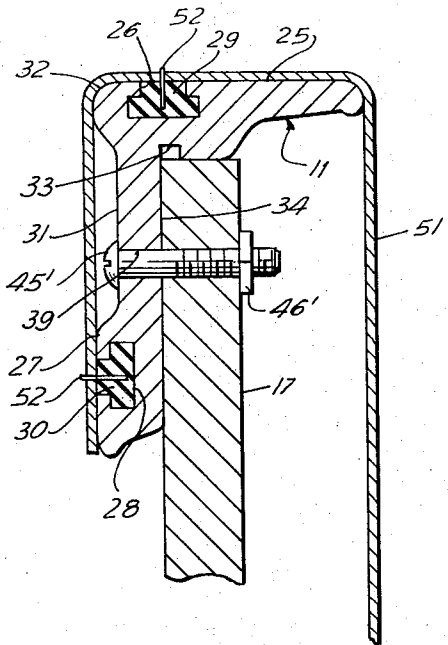


FIG. 4

FIG. 5

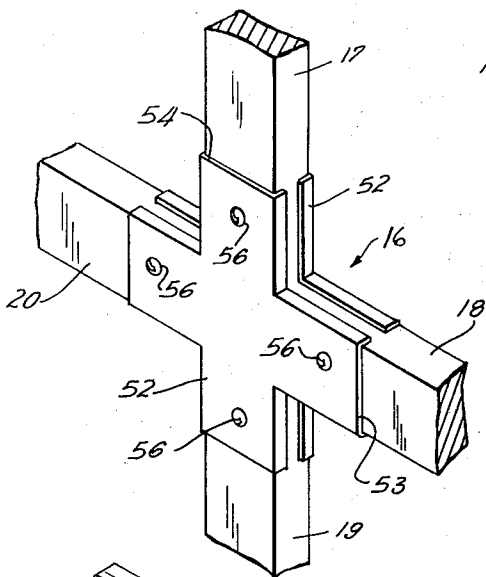


FIG. 6

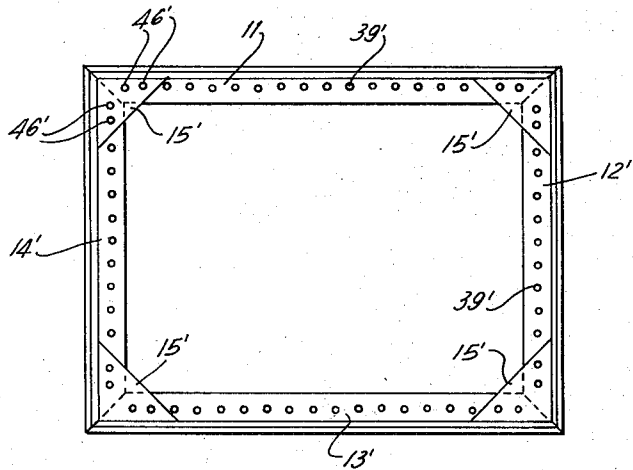


FIG. 7

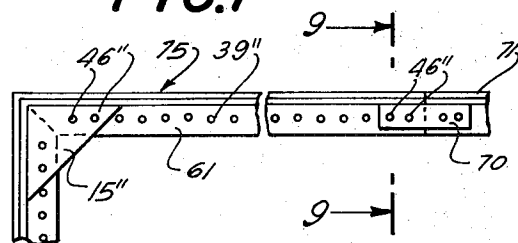


FIG. 8

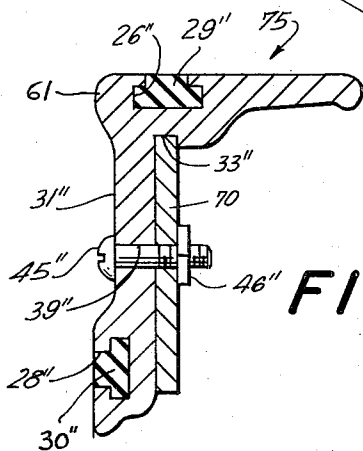
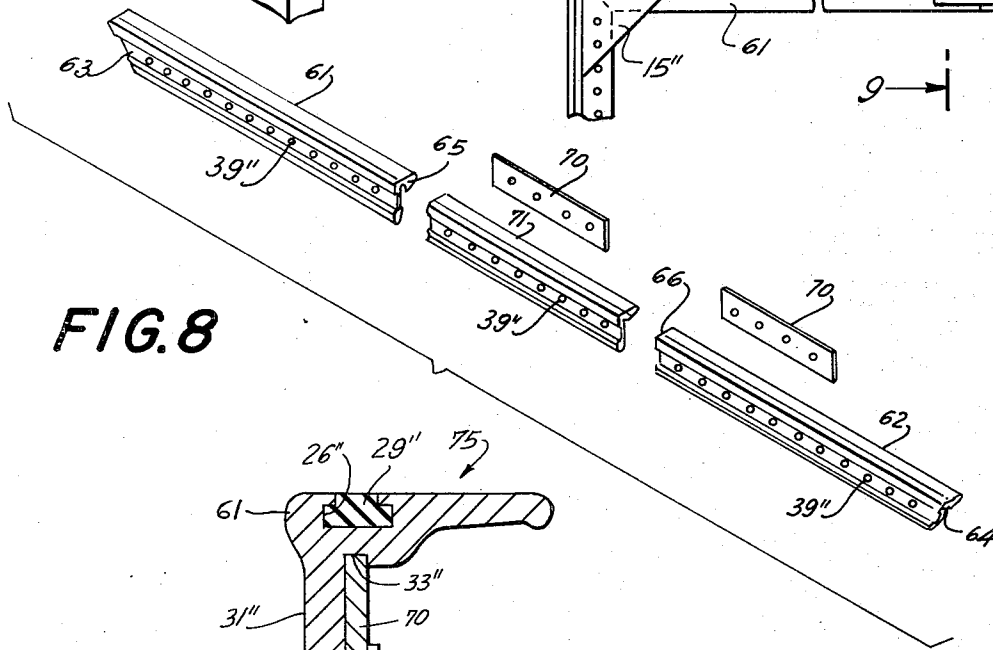


FIG. 9

CANVAS STRETCHER

The subject invention relates to canvas stretchers, and in particular to canvas stretchers of modular construction.

As is known, a canvas stretcher is a frame upon which a canvas is mounted in taut condition before an artist begins painting on the canvas. Artists generally select the size of the canvas on which they desire to paint in accordance with the subject matter, the place where the painting is to be displayed, and their esthetic values. Because these factors are variable, it frequently occurs that an artist must build a stretcher for his canvas so as to satisfy his individual requirements. Typically, this involves buying lumber, cutting the lumber to size, assembling the lumber into a stretcher, and tacking the canvas to the stretcher. The task of making such a stretcher is frequently more complex because lumber warps and sometimes splits during assembly. Moreover, with larger stretchers, the task of providing a structurally sound and rigid stretcher requires carpentry knowledge and ability beyond that which is possessed by the average artist. With regard to large paintings, it should be noted that frequently such paintings and stretchers have to be disassembled for transportation. This presents two problems: First, a great deal of time is generally consumed assembling and disassembling the stretcher, and second, wooden stretchers which have been assembled, disassembled and reassembled, usually have weak joints.

Accordingly, it is an object of the present invention to provide a canvas stretcher composed of modular sections which may be assembled and disassembled readily without requiring great skill or consuming excessive amounts of time.

It is another object of the present invention to provide a stretcher of selectable dimensions from modular sections.

It is still another object of the present invention to provide modular sections for a stretcher which may be manufactured readily, for example, by an extrusion of molding process.

Briefly, the invention provides a stretcher to which canvas may be secured with staples or like fasteners, comprising: a plurality of elongated members formed of material substantially impenetrable by the fasteners; strips of material which are readily penetrable by the fasteners; means for mounting the strips on the elongated members; and means for connecting the members together into a frame-like structure.

The foregoing and other objects and features of the invention are incorporated in the examples now to be described with reference to the accompanying drawings, in which:

FIG. 1 is a front view of a canvas stretcher according to the invention;

FIG. 2 is a fragmentary perspective view showing the engagement of a bracket of the stretcher with the inner corner of one of the elongated members of the stretcher;

FIG. 3 is a cross-sectional view taken along line 3—3 of FIG. 1;

FIG. 4 is a cross-sectional view taken along line 4—4 of FIG. 1;

FIG. 5 is a fragmentary perspective view of a bracing arrangement of the stretcher;

FIG. 6 is a front view of another embodiment according to the invention;

FIG. 7 is a fragmentary front view of a corner and side of a stretcher, according to the invention, the side being composed of sections connected by a bracket;

FIG. 8 is an exploded perspective view of a side of the stretcher composed of three elongated members and a pair of brackets; and

FIG. 9 is a cross-sectional view taken along line 9—9 of FIG. 7.

A canvas stretcher 10, according to the invention, is shown in FIG. 1. Generally, stretcher 10 includes four elongated members 11, 12, 13, and 14, the members having mitered ends, and plate-like brackets 15, in the shape of right triangles, fastened to the ends of the members to provide miter joints. Additional structural support is provided for the frame 10 by a bracing arrangement 16 and elongated bracing members 17, 18, 19, and 20 connected to the elongated members 11—14, respectively, and the arrangement 16.

Elongated members 11—14 are similar in all respects except that members 11 and 13 are slightly longer. Thus, FIGS. 2—4 accurately set forth the structure of all but the length of the elongated members 11—14. Referring to these figures, it may be seen that elongated member 11 is generally L-shaped in cross-section. In the top surface 25 of member 11 there is located a longitudinally extending groove 26 whose cross-section resembles an inverted T. Similarly, in the outside vertical surface of member 11 there is located a longitudinally extending groove 28 whose cross-section also resembles a T, the stem of the T being adjacent the surface 27. As more fully discussed below, grooves 26 and 18 support strips 29 and 30, respectively. Surface 27 includes a channel 31 which extends longitudinally, the channel being located between the groove 28 and the outer corner edge 32 of member 11. In addition, the inner corner of member 11 is formed with a longitudinally extending rectangular channel 33 which is flush with the inner vertical surface 34 of the member. Channel 33 is provided, as more fully discussed below, for engaging brackets 15 and 70 used to assemble the frame.

As shown in FIGS. 1 and 2, the ends 37 and 38 of member 11 are mitered. In addition, holes 39 are regularly spaced along the length of member 11, each hole extend to the inner vertical surface 34 of the member. As more fully described below, the holes 39 are used to fasten a bracket 15 to the member 11. At this point, however, it should be noted that the elongated member 11, but for the holes 39 and mitered edges 37 and 38, has a uniform cross section and that this shape lends itself to production either with a molding or preferably an extrusion process. Thus, the elongated members may be manufactured from a suitable rigid plastic or a metal such as aluminum. The description given above with respect to member 11 applies as well to the other elongated members 12—14.

As shown in FIGS. 1—3, right angle bracket 15 includes two pairs of oblong holes 41, 42 and 43, 44. Each pair of holes, such as 41 and 42, are arranged for alignment with two of the holes 39 of an elongated member when the edge 47 to which that pair of holes are parallel is engaged with channel 33 of that member. As shown in FIG. 3, bracket 15 is connected to member 11 with bolts 45 and nuts 46. Since the right angle edges 47 and 48 of the right angle bracket 15 may be

machined accurately and since a substantially straight groove 33 may be provided when the elongated members are manufactured by either an extrusion or molding process, the fastening arrangement disclosed may be utilized to quickly assemble a stretcher having substantially right angle corners.

As previously mentioned, grooves 26 and 28 support strips 29 and 30, respectively. The strips 29 and 30 may be manufactured, for example, from wood or expanded polystyrene. In fact, any material into which nail-type fasteners, such as staples, nails, or tacks, may be driven, and which will hold such fasteners is suitable. It should be noted that the elongated members may be manufactured from materials which are hard or impenetrable to nail-type fasteners so as to provide the rigidity and strength required to construct a strong stretcher. However, although the elongated members are hard, provision of the strips 29 and 30 of softer material nevertheless allows fasteners to be driven into the members so that a canvas can be secured to the stretcher. Each strip has a T-shaped cross-section comparable to the groove which accommodates it. In this way, the strip is securely fastened to its respective elongated member. After fabrication of the elongated members and strips, a strip may be slipped endwise into one of the grooves.

As shown in FIG. 3, after a canvas 51 is stretched over the stretcher, the margin of the canvas is secured to the stretcher with staples or other fasteners 52. The canvas covers the channel 31 without touching the bolts 45 used to assemble the frame because the head of the bolt lies within the channel 31. Thus, channel 31 provides a saving in that less material is required to provide the elongated members 11-14 and allows a person stretching the canvas onto the stretcher 10 to do so without obstruction from the bolts 45.

Referring to FIGS. 1 and 4, it will be seen that holes 39 are used in cooperation with bolts 45' and nuts 46' to secure the ends of bracing members 17, 18, 19, and 20 to elongated members 11-14. The bracing members are connected at their other ends to a bracing arrangement 16. Referring to FIG. 5, the bracing arrangement includes a pair of identical braces 52 formed, for example, of sheet metal. Depending on the cross section of the bracing members which in this example is rectangular, the brace provides perpendicular channels, 53 and 54, the ends of which are snugly engageable with the ends of the bracing members. Typically, the braces 52 are joined to sandwich between them the ends of the bracing members 17-20 and separate bolts 56 and nuts (not shown) are used to fasten each end of a bracing member to the two braces 52. Since, in effect, the two braces 52 provide a sleeve to which an end of the bracing member is attached by a bolt and nut, the bracing members 17-20 are firmly held in place and reinforce the frame 10.

Since smaller stretchers are, generally, not subjected to large stresses or strains, it is of course to be understood that the bracing members and bracing arrangement are not always required. Thus, as shown in FIG. 6, bracing members 17-20 and the bracing arrangement 16 have been dispensed with in a frame 60. In FIG. 6, parts similar to those shown in FIG. 1 have, for convenience, been designated with the same reference numerals followed by a prime.

When a very large stretcher is required, an arrangement such as that shown in FIG. 7-9 may be used. In

these figures, parts corresponding to parts referred to in FIGS. 1-4 bear the same reference numerals followed by a double prime. Elongated members 61 and 62 are mitered only on one end, identified as 63 and 64, respectively. Their other ends are square cut, as at 65 and 66, respectively. An extension elongated member 71 is provided, both of its ends being square cut. The cross-sectional configurations of members 61, 62, and 71 are identical to those of members 11-14. The parts are joined by butting the ends of extension member against the ends 65 and 66 of members 61 and 62, and then joining the parts by means of rectangular plate-like brackets 70. Each bracket 70 has a number of holes which overlie holes 39'' in the elongated members when bracket 70 is inserted into channel 33''. Bolts 45'', passing through the aligned holes, and nuts 46'' are then used to secure the bracket 70 to the elongated members.

From the foregoing, it may be noted that modular stretchers of various sizes and configurations may be provided using elongated members having the cross section as described above, and brackets fastened to the elongated members. The resulting structures exhibit great strength because the elongated members may be manufactured from materials which are much stronger than the wood which is customarily used for stretchers. Moreover, it must be noted that canvas may be readily attached to the frames because the elongated members are provided with fastener-receiving strips of softer material.

It is to be understood that the description herein of preferred embodiments according to the invention have been set forth as an example thereof and are not to be construed or interpreted as limitations on the claims which follow and define the invention. For example, although each elongated member has been shown provided with two strips 29 and 30, only one need be provided if desired. Also, the strips may be secured to the members in ways other than by channels 26 and 28 as shown. Furthermore, the elongated members may be joined at angles other than right angles if desired to form non-rectangular frames.

What is claimed is:

1. A stretcher to which canvas may be secured with nail-type fasteners, comprising:
 - a plurality of elongated members formed of material substantially impenetrable by said fasteners;
 - strips of material which are readily penetrable by said fasteners and which can hold said fasteners;
 - means for mounting said strips on said elongated members; and
 - means for connecting the members together into a framelike structure.
2. A stretcher as defined in claim 1 wherein said means for mounting said strips include a groove in the surface of said elongated member for accommodating said strip.
3. A stretcher as defined in claim 2 wherein the groove extends along the entire length of the elongated member.
4. A stretcher as defined in claim 1 wherein each of said elongated members includes a channel extending longitudinally along one side of the member, and a hole extending from the channel through said one side; and wherein said means for connecting the members together includes a bracket having at least one hole, and

5

6

means extending through said holes for fastening the bracket to the elongated member.

5. A stretcher as defined in claim 1 wherein each of said elongated members has a substantially L-shaped cross-section, and said connecting means includes a bracket, the inner corner of the member having a channel for accommodating an edge of the bracket.

6. A stretcher as defined in claim 1 wherein each of said elongated members has a substantially L-shaped cross-section defining two mutually perpendicular outer surfaces, one of said strips being carried by each of said outer surfaces.

7. A stretcher as defined in claim 6 including a groove in each of said outer surfaces for accommodating one of said strips.

8. A stretcher as defined in claim 1 wherein adjacent ends of two of said elongated members are mitered, and said connecting means includes a plate-like triangular-shaped bracket fitting into the angle between said members.

9. A stretcher as defined in claim 1 wherein adjacent ends of two of said elongated members are square cut and butted together, and said connecting means includes a plate-like bracket extending across the butted edges and means for fastening said bracket to both of said elongated members.

10. A stretcher as defined in claim 1 including a cruciform brace, and bracing members extending from said brace to said elongated members.

15

* * * * *

20

25

30

35

40

45

50

55

60

65