March 1, 1932. R. A. CARTER 1,847,925

STRETCHER

Filed Sept. 9, 1930

Fig. 1

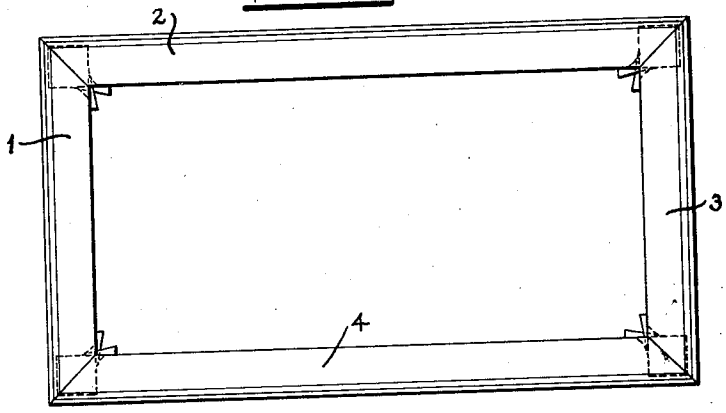


Fig. 2

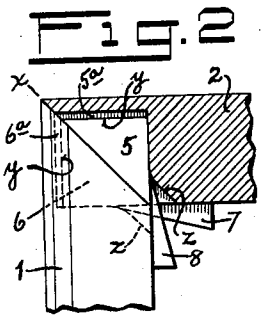


Fig. 3

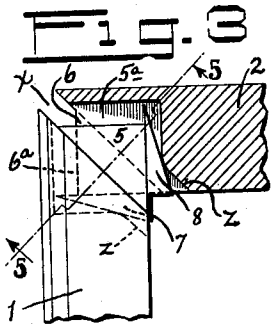


Fig. 4

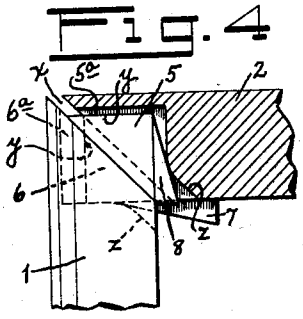


Fig. 5

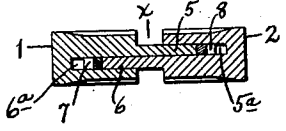


Fig. 6

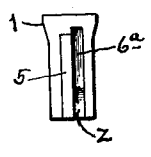


Fig. 7

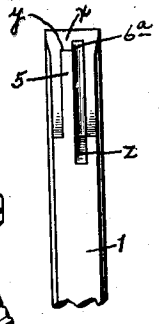


Fig. 8

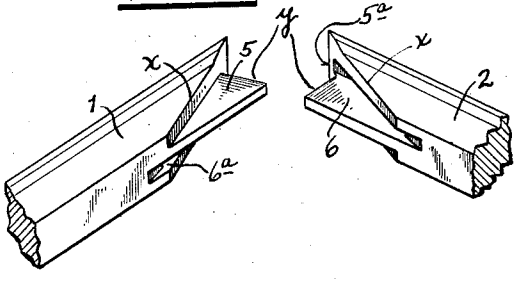
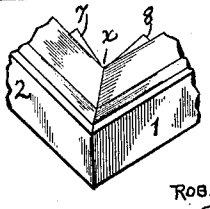


Fig. 9



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UNITED STATES PATENT OFFICE

ROBERT ARTHUR CARTER, OF GRANTWOOD, NEW JERSEY

STRETCHER

Application filed September 9, 1930. Serial No. 480,675.

My invention has reference to improvements of that kind of stretcher frame commonly used by artists in the mounting of their canvases or other material upon which they desire to operate. Specifically, it is an improvement upon the type of stretcher frame disclosed in the United States Patent to Rawbon, No. 1,128,362, patented February 16, 1915.

The object of my invention is to add to the strength of the corner joints of the frame while still leaving the entire edge portion of the frame, at the corners, perfectly plane and adapted to receive, without injury, the tacks used in applying the material to the frame.

Another object of my invention is to adapt this double-strength construction of mine to the use of a plurality of tightening wedges for each corner, instead of using a single wedge at such points. It will be understood that where two wedges are employed at each corner it is possible to regulate the tension more satisfactorily in the particular direction in which the stretching is to be applied. A common fault in the use of two wedges, as heretofore used, is obviated by my construction in which a double tenon and mortise connection is applied at each corner.

I obtain these objects by the arrangement of the parts illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of one of my stretchers constructed in accordance with the present invention with wedges in place at the corners ready to be driven in to cause a stretching of the canvas.

Figure 2 is a view of one corner of my stretcher frame with one of the members cut away to show the relation of the tenon of one member with the mortise of the other, the miter joint being drawn tightly together preparatory to any stretching of the frame joint by the wedges.

Figure 3 is a detail view of corresponding parts of the same corner with the miter separated due to the stretching action of the two wedges.

Figure 4 is a corresponding illustration of the same members with the miter drawn apart through the stretching in one direction only due to the wedging action of a single wedge.

Figure 5 shows a cross-section through the corner joint on the dotted line 5, 5 of Figure 3.

Figure 6 is an end view of one corner member, showing the tenon and mortise thereon.

Figure 7 shows a view of the corner member illustrated in Fig. 6, but viewed from the underside thereof.

Figure 8 shows a perspective view of two members making up a corner of the frame, from which it is apparent how each corner piece carries a tenon as well as a mortise and how the tenon of each piece cooperates with the mortise in the other piece.

Figure 9 is a perspective view of the outer portions of an assembled corner of my stretcher frame showing that the outer edges of the frame are solid to the miter, permitting the tacks to hold thereat as well as elsewhere on the frame.

Referring to the drawings, similar parts are correspondingly numbered in the several figures. The frame shown in Figure 1 has members 1, 2, 3 and 4 joined by miter joints at the corners. As shown in the drawings, the corner is made up of two double-interlocking conformations of the parts the ends being duplicates of each other, so arranged that any end of any side piece 1, 2, 3 or 4, may be brought into operative relation with any other part. For example, Figure 8 shows a side piece 1, cut with a miter x and having a tenon 5 and a mortise $6a$; the cooperating end of side piece 2 also has a miter x and a mortise $5a$ into which the tenon 5 of part 1 may fit, the tenon 6 of the member 2 correspondingly fitting in the mortise $6a$ of member 1. An improved feature of this construction is that each tenon is cut off or fore-shortened as shown at y in connection with members 1 and 2, while each mortise stops short of the outer edge of the frame. Another improved feature of this construction, as particularly evidenced in Figure 5 and Figure 8, is the placing of the mortise in immediate relation to the tenon of that member, so that an increased thickness of tenon is possible without weak-

ening the side walls of the joint members, the two tenons of the joint thus being brought in direct frictional engagement with each other when in place in their respective and cooperating mortises. This permits the close completion of the miter joint upon inter-locking the two members 1 and 2 as illustrated in Figure 2, and without exposing either tenon at the sides of the corner. It will be apparent that the double inter-locking of each member 1 with each member 2 creates a joint of great strength and rigidity, not found in prior constructions where, for example, there is only the cooperation of a tenon on one member with a mortise in the other member at a miter joint. Referring to Figures 2, 3 and 4, it will be seen that the joint in each instance is accompanied by wedges or keys 7 and 8. It will be observed that the mortise is enlarged at the inner portion of the frame member, providing easy entrance to the wedge and the production of a shoulder against which the wedge contacts in exerting continued pressure, as is most clearly shown in Figures 3 and 4. In Figure 2, these wedges are not driven home and the miter joint is a tight joint. In Figure 3 both wedges 7 and 8 are shown driven into their respective grooves to secure a wide separation of the miter joint in both directions while in Figure 4 only one of such wedges, 8, has been driven home. It will be seen that by foreshortening the tenons in all cases, and restricting the depth of the mortise, the tenon of one member does not reach the outside surface of its cooperating member, leaving solid edges at the joint right up to the miter, in each case; this protects the wood from splitting and prevents the loosening of the tacks at the joint when the wedges are driven in to tighten the canvas mounted on the frame.

Having thus described the novel features of my invention, what I claim is as follows:

1. A double interlocking joint in a stretcher frame or the like comprising a tenon in each mitered corner-piece and a mortise adjacent thereto, the tenon of one piece fitting the mortise of the cooperating piece, each tenon being shorter than the miter and each mortise stopping short of the outer edge of the frame.

2. A double interlocking joint in a stretcher frame or the like comprising a tenon in each mitered corner-piece and a mortise adjacent thereto, the tenon of one piece fitting the mortise of the cooperating piece, each tenon being shorter than the miter and each mortise stopping short of the outer edge of the frame, the inside corner of the mortise being enlarged to form a shoulder for cooperation with a wedge.

3. A double interlocking joint in a stretcher frame or the like comprising a tenon in each mitered corner-piece and a mortise adjacent thereto, the tenon of one piece fitting the mortise of the cooperating piece, each tenon being shorter than the miter and each mortise stopping short of the outer edge of the frame, the inside corner of the mortise being enlarged to form a shoulder for cooperation with a wedge and two wedges in different planes to give stretching capacity in two directions.

4. A mortise and tenon joint in which the cooperating ends of the two members to be joined each have a tenon and each have a mortise which are oppositely disposed to permit each tenon to enter its cooperating mortise, forming a double interlocking joint with the two tenons in immediate contact, each tenon and mortise being shorter than the miter and stopping short of the outer end thereof.

5. A mortise and tenon joint in which the cooperating ends of the two members to be joined each has a tenon and each has a mortise which are oppositely disposed to permit each tenon to enter its cooperating mortise, forming a double interlocking joint with the two tenons in immediate contact.

Signed at 1475 Broadway, in the county of New York and State of New York, this 8th day of September, A. D. 1930.

ROBERT ARTHUR CARTER.