United States Patent [19]

Campione

[11] **3,886,990**

[45] **June 3, 1975**

[54] **INTEGRAL UNIVERSAL STRETCHER BAR**

[76] Inventor: **Joseph C. Campione,** 1156 Wilcox Ave., Monterey Park, Calif. 91745

[22] Filed: **Apr. 23, 1973**

[21] Appl. No.: **353,693**

[52] **U.S. Cl.** **160/374.1;** 38/102.91

[51] **Int. Cl.** **B44d 3/18**

[58] **Field of Search** 160/374.1, 378, 380, 135; 38/102.91; 16/150

[56] **References Cited**

UNITED STATES PATENTS

2,096,559	10/1937	Riley	16/150
3,238,996	3/1966	Munn	160/374.1
3,273,497	9/1966	Rosema et al.	160/378 X
3,477,574	11/1969	Malfroy	160/378 X
3,559,316	2/1971	Galper	160/378 X
3,662,807	5/1972	Miller	160/135

Primary Examiner—Philip C. Kannan

Attorney, Agent, or Firm—Matthew P. Lynch

[57] **ABSTRACT**

A stretcher mechanism for canvas consisting of a substantially rectangular base member and a flap secured to each side of the base member by a living hinge. The canvas is secured to the flaps and the flaps are pivoted about their hinges through a segment of an arc, thereby causing the canvas to be placed under equal tension in four directions.

4 Claims, 10 Drawing Figures

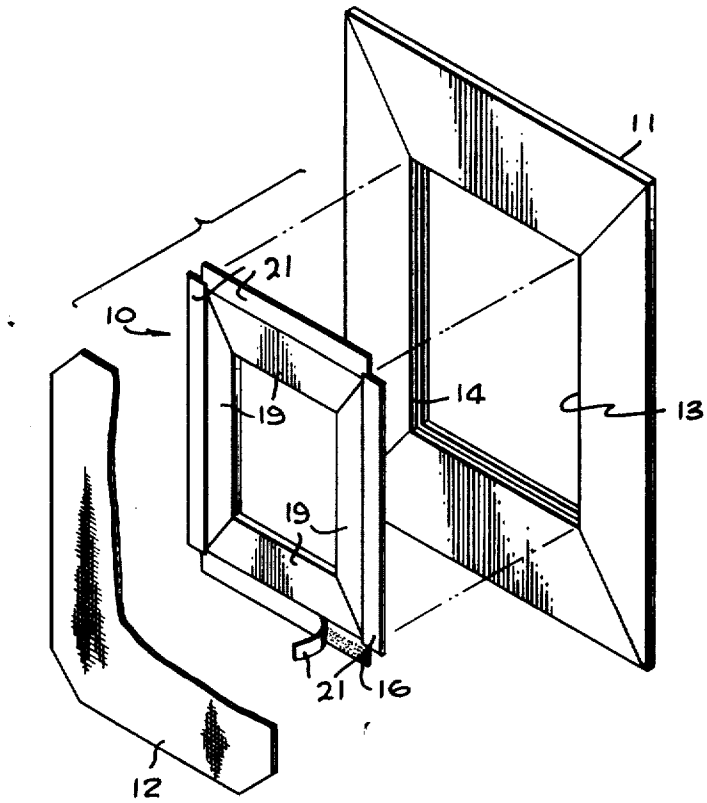


Fig. 1

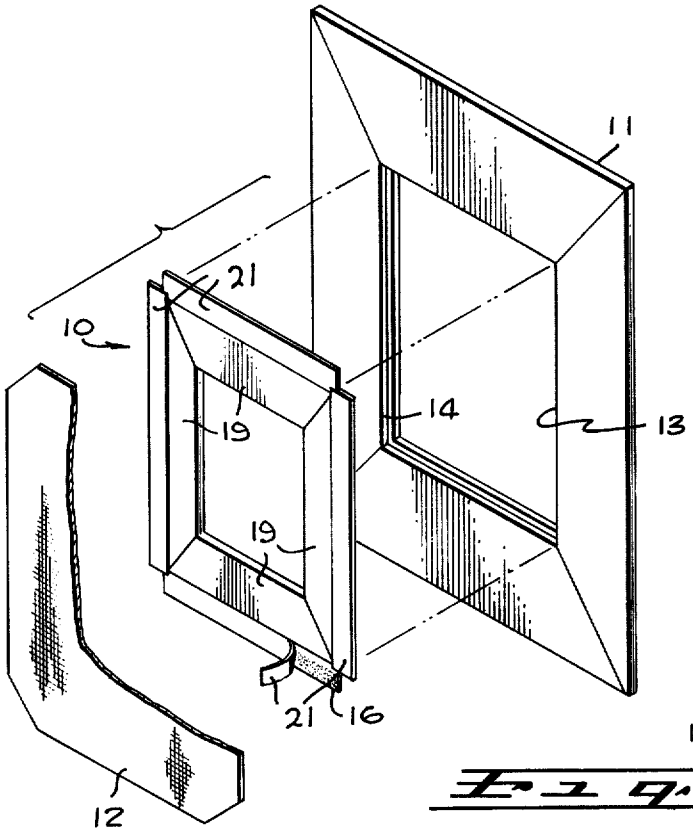


Fig. 2

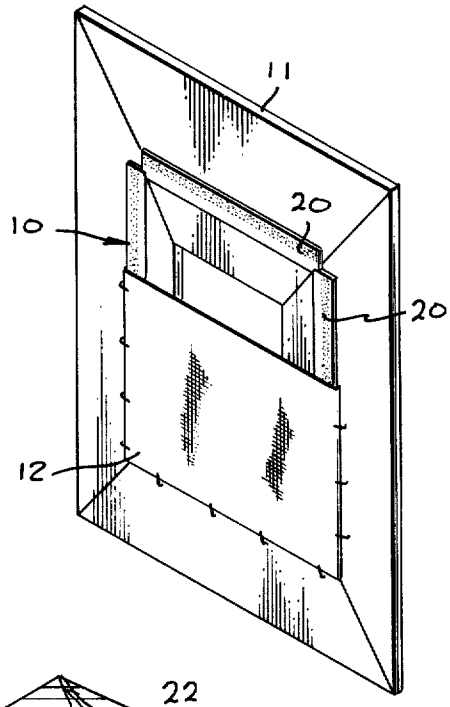


Fig. 3

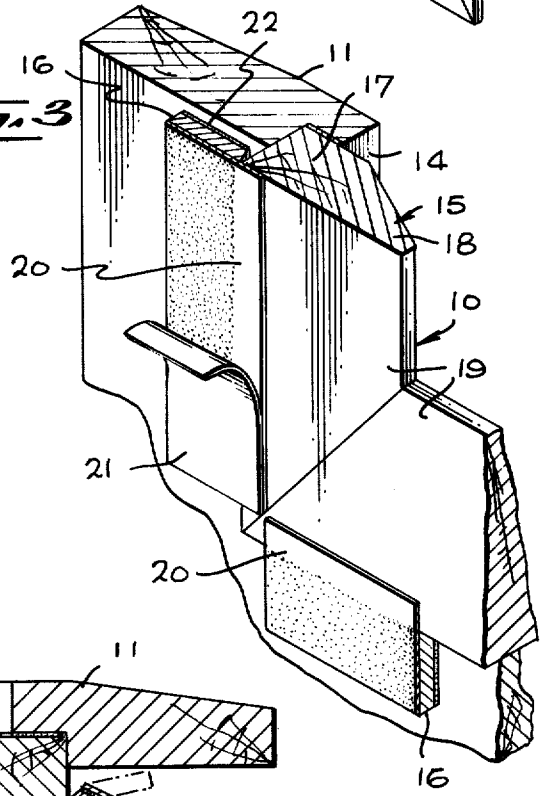
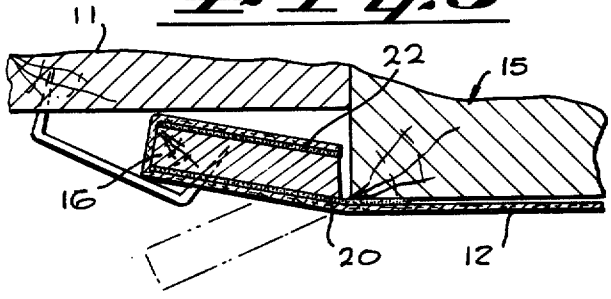


Fig. 5



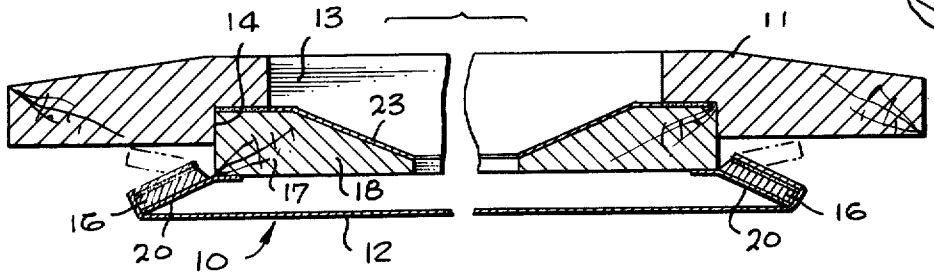


Fig. 4

Fig. 10

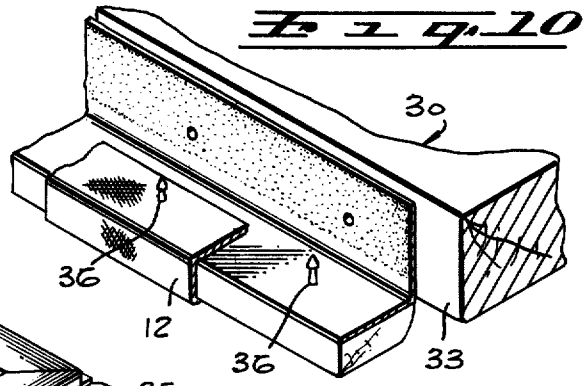
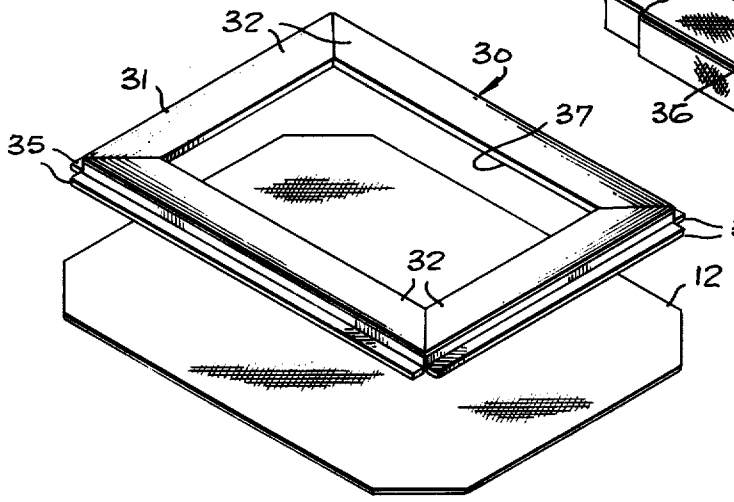


Fig. 6



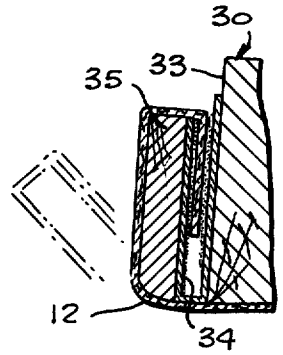


Fig. 9

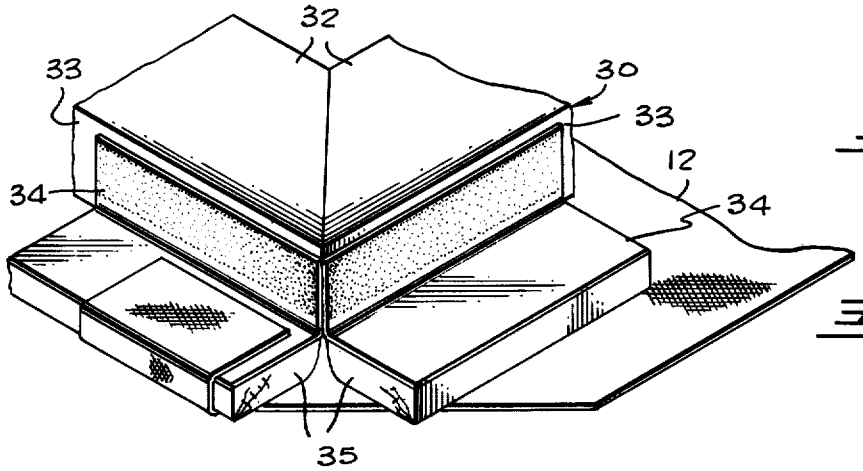


Fig. 7

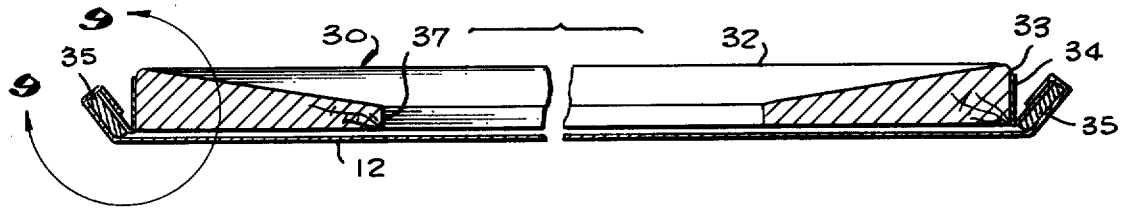


Fig. 8

INTEGRAL UNIVERSAL STRETCHER BAR

BACKGROUND OF THE INVENTION

Originals of masterworks of art, such as oil paintings and the like, can obviously be owned by very few individuals. Accordingly, the masses of art lovers are able to own the master-works only in the form of mechanical reproductions thereof, such as prints and the like. It is generally recognized, however, that even the finest of mechanical reproductions cannot give the satisfaction, or take the place of, an original painting. Moreover, the pleasure derived from ownership of an original painting, despite the fact that the same may comprise the work of an unknown artist cannot usually be satisfied by a mere reproduction. Thus, there has been a growing demand in recent years for original paintings.

In order to satisfy the aforementioned demand for original paintings, it is of course necessary to make such paintings commercially available at a price reasonable enough for most people to afford. Aside from the cost of the artist's talents, one of the most important consideration in any scheme of massproduced original paintings is the time and expense required to prepare and mount the canvas before painting. In this regard, it is well known that the canvas must be properly stretched and mounted on some type of supporting framework, usually rectangular in shape.

Heretofore, the preparation and mounting of the canvas was accomplished by the artist in one of the following ways. Four cooperating wooden strip members were connected together with mitered corner joints to afford a rectangular open framework. These wooden members were usually formed with pairs of aligned slots adjacent the inner corners thereof. A piece of canvas was cut roughly to the size of the framework and the marginal edges thereof were nailed to the side edges of the frame members. It was then necessary to delicately tap wooden wedge blocks into the slots at all four corners in order to obtain the desired degree of tautness in the canvas. As many as eight such wedges were ordinarily needed. The described operation was not only time consuming, but also required considerable skill and judgment of the artist in tapping the wedge blocks into the corner slots to obtain the proper and uniform tautness over the entire surface of the canvas.

Another method was to construct the framework as set forth hereinabove and then staple one edge of the canvas to the back of one side of the framework. The artist then manually pulls the canvas taut over the opposite side and holds it in place while he staples that side, then the entire operation is repeated for the two remaining sides. This method obviously takes a greater degree of skill and time than the prior method since it is very difficult to correctly tension and space the canvas and avoid wrinkles while simultaneously stapling it.

A further method is to pre-cut the four cooperating wooden strip members with their mitered corner joints and additionally carefully cut the canvas to size and cut off the four corners diagonally, thereby forming four elongated hexagons along its sides, which hexagons consist of a narrow rectangular section and an isosceles trapezoidal section. The four wooden strips are then tacked to the outer isosceles trapezoidal section of the sides and rotated inwardly through an arc of 180° until the mitered corners abut and then the abutting corners of the strip members are stapled or joined together by any well known mechanical fastening means. This method has a number of obvious disadvantages, most important of which is that unless the wooden strips are secured to the canvas at exactly the right position and orientation, the mitered corners will not meet correctly and the forcing of the strips will cause the framework to warp and thereby cause wrinkles in the canvas.

All of the aforementioned methods of stretching canvas have inherent problems which require that they only be practiced by highly skilled and consequently highly paid artisans.

SUMMARY OF THE INVENTION

The present invention overcomes the aforementioned problems by providing a stretcher bar that eliminates the need to employ skilled artisans in order to properly stretch a canvas for framing.

The stretcher bar or mechanism of the present invention comprises a base member having a substantially rectangular configuration and a flap secured to each side of the base by a living hinge, whereby the flap is held in spaced complementary relationship to the base. A canvas is caused to be secured to the flap and the flap is then pivoted through a segment of an arc about its hinge causing the canvas to be placed under tension and stretched to a drum-tight condition across the base member.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is an exploded perspective of one embodiment of the invention.

FIG. **2** is a partially cut-away perspective of the invention in its assembled condition.

FIG. **3** is an enlarged sectional view of the stretcher mechanism.

FIG. **4** is a transverse cross-section of FIG. **2**, showing in solid line the flaps in their open position and in dotted line their closed position.

FIG. **5** is a transverse cross-section of FIG. **2**, showing in solid line the flap in its closed tension position.

FIG. **6** is a perspective view of an alternate embodiment of the invention.

FIG. **7** is an enlarged sectional view of the stretching flaps in their open position.

FIG. **8** is a transverse cross-section of the stretching frame.

FIG. **9** is an enlarged sectional view along line **9—9** of FIG. **8.**

FIG. **10** is an enlarged sectional view of an alternate method of securing the flaps.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, wherein like reference numbers designate like or corresponding parts throughout the several views, there is shown in FIG. **1** an integrated stretcher mechanism **10.** The stretcher mechanism **10** is adapted to become an integral part of frame **11** and secure in a drum-tight condition thereto a canvas **12.** The canvas **12** is shown with its corners clipped in order that the final stretched framed product will have a neat appearance without the canvas being bunched up in the corners; however, the clipping is not necessary for the successful operation of the invention.

The frame **11** is of a standard type having an opening **13** and a stepped cut-out portion **14** along the inner periphery of the opening **13.** The cut-out portion **14** is

adapted to receive the stretcher mechanism **10** which can be secured therein by glue or other chemical or mechanical bonding means in a manner shown best in FIG. **3**.

FIG. **3** is an enlarged view of the stretcher mechanism **10** in position on the frame **11**, prior to the securing thereto of the canvas **12**. The stretcher mechanism **10** has a base **15** and a flap **16** which is secured to the base **15** in a manner hereinafter described. The base **15** consists of four wooden strips **19** having mitered complementary corner joints adapted to form a rectangular structure. Each of the strips **19** has a rectangular portion **17** coextensive with a trapazoidal portion **18**, the portion **17** mating with the stepped cut-out **14** of the frame **11** and the trapazoidal portion **18** extending inwardly into the opening **13** along all four sides.

The flaps **16** are substantially rectangular in shape and are secured to the back side of the rectangular portion **17** of each of the strips **19** by a securing means **20** which has all the attributes of a living hinge. The securing means **20** may be constructed from any of a large number of flexible materials including, but not limited to, plastic, cloth and paper.

The securing means **20** is fastened along one end to the back side of the rectangular portion **17** of each of the strips **19** substantially along its entire length by any well known means, such as glue. The opposite free end of the securing means **20** is fastened along its free end to one side of the flap **16** so that the secured side of the flap **16** lies in spaced co-planar alignment with the back face of the base **15** and in substantially parallel spaced relationship to the back face of the frame **11**. In order to facilitate the interconnection between the flaps **16** and the base **15**, the securing means **20** may be constructed from two-sided adhesive tape, wherein both sides of the tape have an adhesive coating which during non-use is protected and covered by a peelable protective strip **21**. The aforementioned two-sided adhesive tape is best illustrated in FIGS. **3** and **5**, where it can be seen that in addition to being secured to the co-planar side of the flap **16**, an additional strip is fastened to the opposite side thereof as indicated by numeral **22**.

In assembly, the canvas **12** is laid on a flat surface with its painted side facing up, then the protective strip **21** is removed from the securing means **20**, which serves the dual purpose of being both a hinge and a securing means. The frame **11**, including the stretcher mechanism **10** is poitioned over the canvas **12** until the picture on the canvas is centered within the opening **13**, then the frame **11** is set down upon the canvas and the canvas is thereby caused to adhere to the securing means. The frame **11**, with the canvas held in position thereon, is then turned over and the protective strip **12**, which overlaps and protects the strip of adhesive tape **22** on the opposite side of the flap **16** is removed. The canvas **12** is then folded over the flap so that the flap **16** is sandwiched along two sides and an edge by the canvas. The canvas **12** is held in position by the securing means **20** and the strip of adhesive tape **22**. Then the flap **16** is forced downwardly towards the frame **11**, thereby causing the canvas to stretch and become drum-tight without wrinkles. The aforementioned operation is repeated along all four flaps and then the flaps are held in juxtaposition to the back side of the frame **11** by staples or other mechanical securing means.

It will be obvious that depending upon the angular orientation of the flaps **16** relative to the frame **11**, as shown in FIG. **4**, the degree of tension to be applied to the canvas **12** can be carefully controlled and therefore canvasses of varying dimensions can be stretched and mounted by the stretcher means **10** without having to trim the canvas or change the dimensions of the stretcher means.

If desired, a cloth liner **23** can be disposed over the front side of the base **15** as shown in FIGS. **3** and **4**, so that when the canvas is secured to the stretcher means **10** a complete framed, lined and stretched canvas will be produced.

An alternate embodiment of the present invention is illustrated in FIGS. **6–10**, wherein in FIG. **6** the canvas **12** is shown with its truncated ends. The stretcher mechanism **30** of the alternate embodiment consists of a base **31**, which is constructed from four wooden strips **32** having mitered complementary corner joints in order to form a rectangular base having an opening **37** when the strips **32** are joined aling their corner joints. Secured to the outer edges or periphery **33** of the base **31** is a securing means **34** which serves as a hinge and is shown for illustrative purposes to be two-sided adhesive tape, but can be constructed from any type of flexible material. A plurality of flaps **35**, which have a substantially rectangular configuration with a beveled corner are secured to the base **31** by the securing means **34**, as shown best in FIG. **7**. The flaps **35** are initially positioned so that the beveled corner is disposed adjacent the lower outer edge of each of the strips **32** forming the base **31**. When in this position the flaps **35** are in perpendicular orientation to the outer edges **33** of the base **31**.

In assembly, the canvas **12** is laid on a flat surface with its painted side down. The stretcher mechanism **30** is positioned as shown in FIG. **6** and then set down on the back of the canvas as illustrated in FIG. **7**. When the stretcher mechanism **30** is in position so that an equal portion of the canvas extends outwardly beyond each of the flaps **35**, the canvas is wrapped over the flap as partially shown in FIG. **7**, so that the canvas **12** is caused to adhere to the securing means **34**. When all four flaps have been sandwiched by the canvas **12**, the two opposing flaps **35** are pivoted upwardly towards the outer edges **33** of the base **31**. Since the canvas **12** is held by the securing means **34** as the flaps **35** are pivoted as shown in FIG. **8**, the canvas **12** is caused to be stretched, thereby becoming drum-tight across the opening **37** of the base **31**. When the flaps **35** are pivoted into abutment with the outer edges **33**, the canvas is caused to be held in sandwiched relationship between the securing means **34**.

After the aforementioned assembly operation has been completed for two of the opposite flaps, the operations should be repeated with the remaining two flaps.

It will be noted from FIG. **9** that the outer edges **33** of the base **31** are beveled slightly inwardly so that when the flaps **35** are in a fully closed position the thickness of the canvas causes the flaps to be slightly set off from the outer edges, thereby causing the flaps to assume a vertical inclination. If it is desired to achieve a greater detail of tension upon the canvas, a simple method of accomplishing same is to incline the outer edges inwardly to a greater angle, thereby enabling the flaps to move through a greater segment of its arc and place additional stress upon the canvas.

FIG. **10** illustrates an additional alternate embodiment wherein mechanical fastening means **36**, such as nails, are secured to the flaps **35** so that when the flaps are pivoted upwardly to cause the canvas **12** to be sandwiched between the flaps **35** and the outer edges **33** of the base **31**, the mechanical fastening means **36** are caused to be driven into the base **31**, thereby securely holding the flaps and canvas in abutting juxtaposition to the outer edges of the base.

For the purposes of exemplification, particular embodiments of the invention have been shown and described according to the best present understanding thereof. However, it will be apparent that changes and modifications in the arrangement and construction of the parts, including the types of material utilized therein, may be resorted to without departing from the spirit and scope of the invention.

I claim:

1. An assembly for stretching a canvas comprising:

a substantially rectangular base having an opening therein;

a plurality of flaps;

flexible means pivotally securing one of said flaps to each side of said base, said flaps extending outwardly away from the side of said base in spaced complementary relationship thereto;

means for (maintaining) securing said flaps to the sides of said base in complementary juxtaposition to the sides of said base, whereby a canvas secured to said flaps is maintained in a taut condition between said flaps and the sides of said base.

2. An assembly in accordance with claim **1**, wherein said flexible means and said securing means comprise an adhesive faced tape.

3. An assembly in accordance with claim **1**, wherein said means for securing said flaps in complementary juxtaposition to the sides of said base comprises an adhesive faced tape.

4. An assembly in accordance with claim **1**, wherein said means for maintaining said flaps in complementary juxtaposition to the sides of said base comprises a slender piece of metal having a pointed end for piercing said base.

* * * * *