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W. A. FOX ET AL

3,383,738

CHAIR TIE

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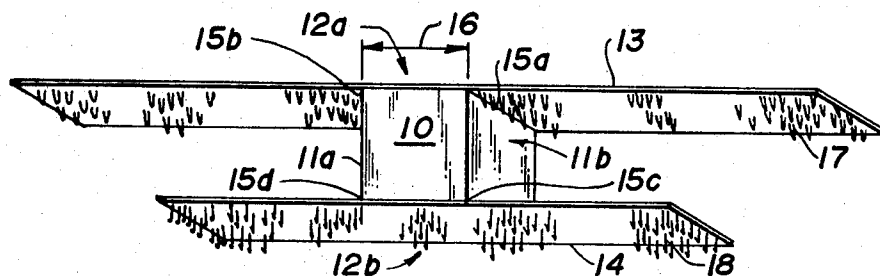


FIG. 1

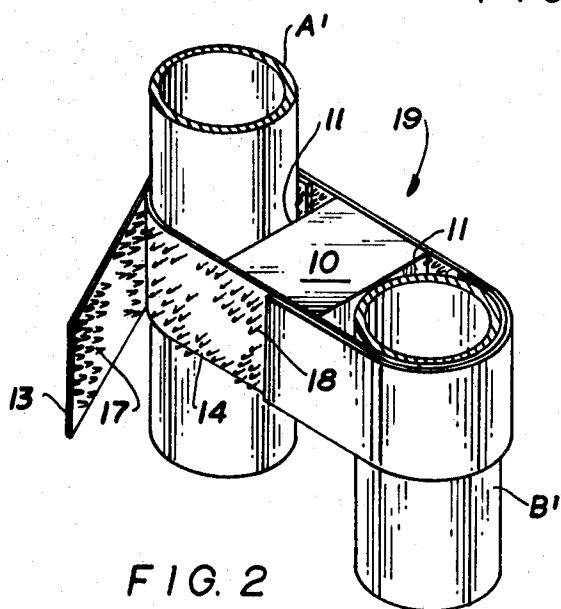


FIG. 2

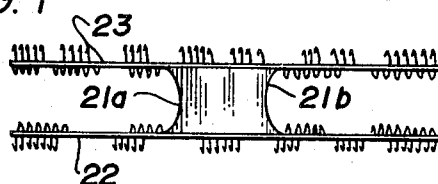


FIG. 4

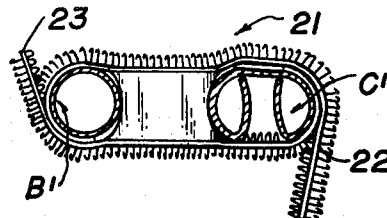


FIG. 5

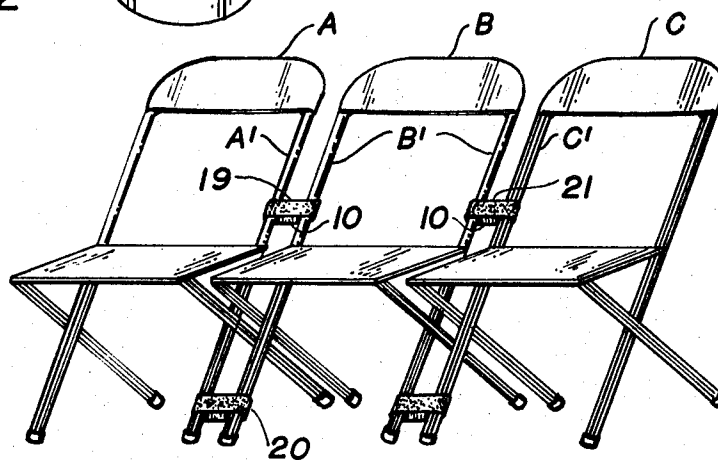


FIG. 3

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3,383,738
CHAIR TIE

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ABSTRACT OF THE DISCLOSURE

A chair tie for tying chairs in a side-by-side spaced relation. The chair tie includes a separator block defining opposed chair engaging surfaces in spaced relation. This block has affixed thereto on opposite sides inner and outer flexible bindings. These bindings are each attached in their medial portion to the block with their respective ends extending beyond the block. As utilized, the separator block of the chair tie is inserted between two chairs, confronting each chair at one of its chair engaging surfaces and effecting a spaced apart relation between the adjoined chairs. Thereafter the flexible bindings are wrapped in embracing relation around the respective chairs so as to secure each chair to the separator block. The bindings as embracing the chair fasten one to the other typically by interconnecting fiber members extending from the contacting surfaces between the embraced bindings.

The present invention relates to a device for tying chairs in a side-by-side relationship, and more particularly to a device for forming a fixed row of chairs from individual chair units.

Lightweight portable chairs, such as the familiar folding variety, are frequently fastened together in groups or rows. This fastening of chairs affords convenience of entrance and exit to the individual seats, and further is required by many safety and fire ordinances to prevent such dispersion of the chairs as would impede an emergency exit.

The devices presently known in the art for fastening portable chairs together require much time and effort for installation. In the usual application such devices are designed to fit on one particular location of the portable chairs and require time-consuming manipulation of screws, cams and the like to effect a fastening between adjacent chairs. Other known devices are permanently attached to the chairs and require physical maneuvering of one chair relative to the other to effect a union. The chair fastening structure of the present invention can be installed with a simple wrapping motion of flexible bindings and further can be affixed to various locations on adjacent chairs without the necessity of physically maneuvering the entire chair to effect a union.

A further disadvantage of existing chair tie devices is that their rigid construction restricts their use to one type or size of portable chairs. A chair tie according to the present invention by the use of a flexible binding makes the tying of chairs of different configurations possible with only one type of chair tie.

Existing chair ties known to the art have the further disadvantage of having metallic or wooden surfaces that permanently scar or damage the chairs in the area of attachment. The disclosed invention overcomes this difficulty by using flexible fabric bindings capable of effecting a firm fastening but nevertheless protecting the finished surface.

An object of the present invention is to provide a chair tie which is easily installed by an embracing wrapping motion of two fabric bindings and requires no movement of one chair relative to the other to effect an attachment.

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Another object of the present invention is to provide a single chair tie which can be fastened to different sized adjoining portions of adjacent chairs.

A further object of this invention is to provide a chair tie which holds joined portable chairs in a spaced relation to one another so that in use the joined chairs will not come in contact with each other so as to physically damage or scar each other.

An additional advantage of the disclosed chair tie is that no physical damage is effected to the individual chair by the chair tie at the location where they are joined or held.

A further advantage of the present invention is that it avoids protruding parts, screws, cams and the like which can entangle and tear the garments of the chair occupants.

An additional object of the present invention is to provide a simple chair tie which can be easily packaged after manufacture and stored in between respective uses with a minimum of effort or attention.

A still further advantage of the present invention is to provide a chair tie which can be manufactured simply and at a minimum of cost.

Other objects, features and advantages of the present invention will become more apparent after referring to the following specification and attached drawing in which:

FIG. 1 is a perspective view of the chair tie of the present invention;

FIG. 2 is a perspective view in partial cross section of two conjoining chair members showing the chair tie in the attached position;

FIG. 3 is a perspective view of three conjoined chairs;

FIG. 4 is a plan view of an alternate embodiment of the chair tie; and

FIG. 5 is a cross section of the adjacent members of two chairs conjoined by the alternate embodiment of the chair tie in the installed position.

Referring now to the drawings and with reference to FIG. 1, the chair tie comprises a separator block 10 made from wood, plastic, rubber or other relatively soft non-abrasive substance. The separator block has a pair of opposed chair-engaging surfaces 11a and 11b and a pair of opposite surfaces 12a and 12b for attachment of outer flexible binding 13 and inner flexible binding 14. Medial portions of outer and inner flexible bindings 13 and 14 are permanently attached to separator block 10 on opposite surfaces 12a and 12b, respectively. Opposite ends of outer flexible binding 13 extend beyond edges 15a and 15b of surface 12a. Opposite ends of inner flexible binding 14 similarly extend beyond edges 15c and 15d of surface 12b. For reasons which will become readily apparent hereinafter, outer flexible binding 13 can be constructed longer in total length than inner flexible binding 14 by at least separator block width 16. On the inside surface of outer flexible binding means 13, contact fastening means 17 is located. Similarly, on the outside surface of inner flexible binding means 14, opposing contact fastening means 18 is located. The contact fastening means, here shown by way of example, consist of specifically configured velvet fibers. As illustrated in FIG. 1, contact fastening means 17 is shown consisting of looped-shaped thickly matted fibers woven into or otherwise attached to outer flexible binding 13. Opposing contact fastening means 18 is illustrated consisting of hook-shaped fibers which are of greater thickness and more rigid in construction than contact fastening means 17. The combination of the respective contact fastening means 17 and 18 is referred to as Vel-Crotape and is described in U.S. Patent No. 2,717,437, issued Sept. 13, 1955 to G. de Mestral.

With reference to FIG. 2, the partially installed chair tie 19 is shown in an expanded view conjoining adjacent chair members A' and B'. In the installation of the chair

tie, two chairs are brought into the position in which they are desired to be conjoined. Separator block 10 is placed between the respective chair members A' and B' so that opposed chair engaging surfaces 11 engage respective chair members A' and B'. In this configuration inner flexible binding 14 is embracingly wrapped over chair member B'. By firmly wrapping the outer flexible binding 13 both over the inner flexible binding 14 and chair member B' the bindings are firmly fastened together by their respective contact binding means 17 and opposing contact binding means 18. The above-described process is then repeated with adjacent chair member A'. In FIG. 2, flexible binding 14 is shown partially wrapped by outer flexible binding 13 over chair member A' in a position illustrative of its actual physical application.

With reference to FIG. 3, a chair tie according to the present invention is installed at 19 conjoining chairs A and B at adjacent chair members A' and B'. A second identical chair tie is installed at point 20 conjoining the thickened legs of chair members A' and B'. A third identical chair tie at point 21 conjoins chairs B and C and, in a manner similar to FIG. 5, readily adapts to conjoin the cylindric chair member B' with the double oval-shaped chair member C'.

For purposes of illustration, the contact binding means 17 and 18 have been illustrated as respectively looped-shaped and hook-shaped velvet-like configured fibers. While this embodiment has the advantage of providing a continuously adjustable bond between the two fastenings, such opposing contact fastening means is not essential to the practice of this invention. The respective hooked pile and looped pile may be reversed on the two fastenings. Further the hooked pile and looped pile may be substituted for other contact bonding means such as hooks, snaps and the like which, while adhering the respective binding, will not fasten to or damage the adjoined portable chairs.

With reference to FIG. 4, separator block 10 has opposed chair engaging surfaces 21a and 21b shaped to mate or conform with adjacent chair members which they are normally used to join.

As illustrated in FIGS. 4 and 5, the necessity of having to wrap one specific flexible binding under the other flexible binding can be avoided by placing contact fastening means on both sides of the respective flexible bindings 22 and 23. With this arrangement the bond between the two chairs may be effected by wrapping either binding over the other to effect a union.

With further reference to FIGS. 1 and 2, an additional advantage of this invention is apparent. As can be seen in FIG. 1, outer flexible binding 13 is longer than inner flexible binding 14. Referring to FIG. 2 in the attached position, outer flexible binding 13 wraps over the extended portion of inner flexible binding 14 and also that portion of inner flexible binding 14 which is attached to separator block 10. This in effect strengthens the bond between the outer and inner flexible bindings 13 and 14 with the increased contact length between the two respective flexible bindings.

While one embodiment of this invention has been shown and described, it will be apparent that other adaptations and modifications can be made without departing from the true spirit and scope of this invention.

What is claimed is:

1. A chair interlocking unit for conjoining a pair of

chairs in spaced-apart relation comprising: a separator block defining a pair of opposed surfaces for engaging confronting members of adjacent said chairs; a first flexible binding attached to said block for embracing a member of a first chair and for retaining the member in contact with one said surface of said separator block; a second flexible binding attached to said block for embracing a member of said second chair and for retaining the member in contact with the other said surface of said separator block, and means for releasably securing said first and second flexible binding in embracing relation to respective chair members.

2. A chair tie for conjoining a pair of chairs in spaced-apart relation comprising: a separator block defining a pair of opposed chair engaging surfaces for engaging adjacent members of respective said chairs; inner and outer flexible bindings respectively attached in the medial portions thereof to opposite sides of said block; the opposite ends of said bindings extending in generally parallel relationship beyond the edges of said block for cooperatively embracing a chair member engaged with said chair engaging surface; and contact bonding means on the inside surface of said outer flexible binding and contact bonding means on the outside surface of said inner flexible binding for releasably securing said inner and outer flexible bindings in embracing relation to said respective chair members.

3. A chair interlocking unit for coupling together adjacent chairs according to claim 2 wherein said bonding means comprises hook-shaped fiber members on one flexible binding and loop-shaped fiber members for continuous cooperative engagement with said hook-shaped fiber members on the other flexible binding.

4. A chair interlocking unit for coupling together adjacent chairs according to claim 2 wherein: said outer flexible binding extends over said inner flexible binding at each opposite end thereof by at least a length of one-half the width of the separator block.

5. A chair interlocking unit for coupling together adjacent chairs according to claim 2 wherein: said separator block is configured on said opposed chair engaging surfaces to mate with said respective chair members.

6. A chair interlocking unit for coupling together adjacent chairs according to claim 2 wherein: the contact binding means is affixed to both sides of the flexible bindings.

7. A chair interlocking unit for conjoining a pair of chairs in spaced-apart relation comprising: a separator block defining a pair of chair engaging surfaces confronting members of adjacent chairs; at least one flexible binding attached to said separator block for embracing a member of said first chair and embracing a member of a second chair and for retaining said chair members in contact with said opposed surfaces; and means for releasably securing said flexible binding about said chair members.

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