Jan. 18, 1955 W. L. GITTINGS ET AL 2,699,816

CHAIR BACK

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FIG. 1

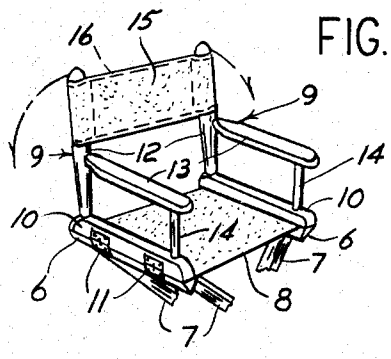


FIG. 2

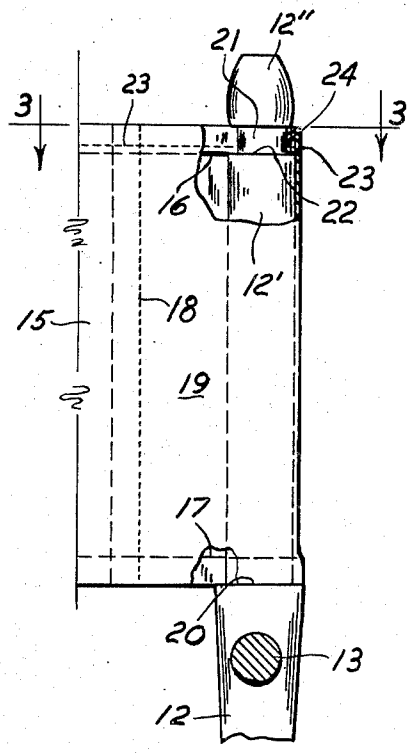


FIG. 3

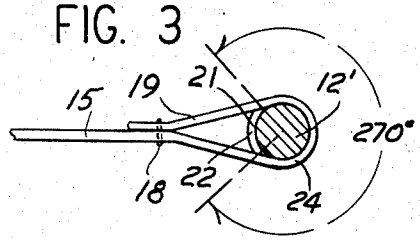


FIG. 4

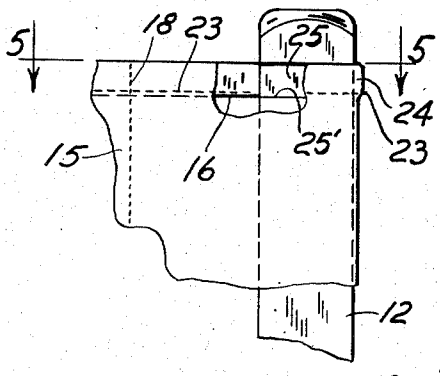
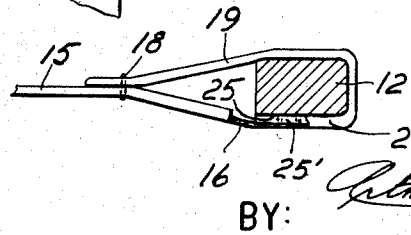


FIG. 5



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CHAIR BACK

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The present invention relates to seat backs, and more particularly to folding chair backs comprising a canvas or fabric back strap supported upon a pair of foldable or collapsible posts.

The objection to fabric backs of conventional chairs of the foregoing type results from the fact that the backs are usually loosely mounted upon the back posts of the chair and have a tendency to wrinkle and sag on the posts when subjected to any slight pressure exerted on the upper edge of the strap, thus causing an unsightly crumpled appearance.

To overcome the foregoing difficulties, tacks, staples, and other fastening devices for securing the fabric back strap to the posts have been employed. But these entail added expense and interfere with quick removal of the fabric from the post as required in order to fold or collapse most conventional chairs.

Therefore, the primary object of the present invention is to overcome the foregoing objections by the provision of an exceedingly simple and inexpensive seat back assembly which effectively serves to firmly and smoothly support the back fabric against sagging when in use, without the aid of fastening devices, and which does not interfere with easy assembling or removal of the back for collapsing and setting up of the chair.

Incidental to the foregoing, a most specific object of the invention is to provide the back posts of the chair with horizontal grooves or notches for reception of a hem or welt formed on the upper edge of the end loops of the fabric back strap to firmly support the back against sagging and crumpling on the posts.

With the above and other objects in view, the invention resides in the novel features of construction fully described in the specification, and more particularly defined by the appended claims, it being understood that modifications in structure and design are contemplated within the scope of the invention.

Other objects and advantages will become apparent upon reading the following description in light of the accompanying drawings, in which:

Figure 1 is a fragmentary perspective view of a conventional type of chair incorporating the present invention;

Figure 2 is an enlarged fragmentary front elevational view of one of the back posts and fabric back strap with parts broken away and in section to more clearly illustrate structural features;

Figure 3 is a horizontal sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a fragmentary front elevational view of a slightly modified form of the invention, with parts broken away; and

Figure 5 is a horizontal sectional view taken on the line 5—5 of Figure 4.

Similar reference numerals refer to similar parts throughout the drawings.

With particular reference to the drawing for explanatory purposes, the invention is illustrated as applied to a well-known type of folding arm chair consisting of a pair of horizontally disposed seat rails **6** provided with the usual pivotally connected supporting legs **7**. A fabric seat **8** is attached to the rails **6** in any suitable or well-known manner.

Mounted on the seat rails **6** is a pair of arm and back assemblies **9** comprising horizontal side rails **10** foldably connected to the seat rails **6** by hinges **11** to be mounted on top of the rails **6**. Secured to the rear

ends of the side rails **10** is a pair of back posts **12** mounted vertically to carry transversely connected arms **13** which are supported at their forward ends respectively by a spindle **14** which extends vertically between the top of rails **10** to the under side of arms **13**.

Mounted on the upper ends of the upright back posts **12** is a fabric back strap **15** which extends between the posts **12**. The strap **15** has reinforcing hems **16** and **17** formed on its upper and lower edges respectively. The ends of the strap **15** are turned back upon themselves and secured to the strap by stitches **18** to form end loops **19** for reception of the back posts **12**.

As best shown in Figures 2 and 3, each of the upper ends of the back posts **12**, upon which the loops **19** are supported, are shaped to form a cylindrical spindle **12'** terminating in a top knob **12''**. At the juncture of the spindle **12'** with the post **12**, a shoulder **20** is formed to provide support for the lower end of the loop **19**. Below the knob **12''** the spindle **12'** is reduced to provide an annular groove **21** forming a circular shoulder **22** that serves to support the lower edge of the upper hem **16**.

Preferably, in forming the hem **16**, the fabric is folded back upon itself several times and secured by stitching as at **23** to provide a substantial inturned hem or welt **24** normally nested within the annular groove **21**.

That form of the invention illustrated in Figures 4 and 5 is also adaptable to a cheaper constructed chair in which the back posts **12** are rectangular in cross section throughout their length and are provided, adjacent their upper ends, with transverse kerfs or notches **25** for reception of the fabric welt **24**. In such instances, lower shoulders **25'** formed by the kerfs serve to support the welt **24**. Obviously, the kerfs **25** could be formed only in either the outside surfaces or back faces of the rectangular posts **12**. However, if formed in the outer surfaces, right and left posts would be required, to add slight additional cost to production and assembly. While kerfs in the back faces of the posts would serve to support the welts **24** to some extent, due to the fact that pressure upon the back strap **15** by the occupant of the chair is exerted upon the front of the strap, notches formed in the front faces of the posts are more effective as they are closer to the force on the strap. Also, inasmuch as the welt extends into the notches, the front face of the strap remains smooth and the welt is not apparent.

In operation, when the chair is set up as shown in Figure 1, the length of the back strap **15** is such as to create a slight inward pull on the back posts **12**, tending to draw them toward each other. This maintains tautness of the strap and causes the welts **24** to be normally forced into the annular grooves **21** or the notches **25** of the back posts **12**, as the case may be.

In order to fold or collapse the chair, the arm and back assemblies **9** must be swung outwardly on the hinges **11**, as indicated by the arrows in Figure 1. Consequently, to perform such operation, it is first necessary to remove the back strap from the upper ends of the back posts, which, in the present instance, is easily accomplished by slightly springing the posts **12** inwardly to relieve pressure on the strap **15** and release the welt **24** from the grooves **21** or the notches **25**. Thus, it will be seen that tacks or other fastening devices for securing the loops **19** to the back posts **12** would seriously interfere with the collapsing of the chair, and would require removal and insertion of the fasteners with each folding operation. Snap-fastening devices might be used, but obviously these would add to the cost of manufacture.

From the foregoing explanation, considered in connection with the accompanying drawing, it will be readily seen that simple and effective means have been devised in which the inherent characteristics of the back strap and seat post structure serve to effectively and tautly support the back strap on the seat post to avoid sagging and unsightly wrinkling or crumpling of the strap as a result of usage.

Attention is further directed to that fact that various shapes and forms of grooves and notches may be employed for receiving the fabric welts to accomplish the

purpose of the invention. But in instances where the back posts include round strap-receiving spindles, annular grooves, such as the grooves **21**, are preferable inasmuch as the same provide maximum supporting shoulders **22** which effectively engage the welt **24** for an arcuate distance of substantially 270 degrees of the end loops Figure 3, whereas in a straight kerf or notch, the effective extent of supporting shoulder would be materially reduced.

Also, inasmuch as the back posts are preferably straight, instead of tapered, it is possible to cut and stitch the ends of the back strap square, instead of at an angle, thus saving material and time.

It should be further noted that it is preferred that the distance between the groove or notch **21** on post **12** to the lower shoulder **20** thereon be at least as great as the corresponding distance on the fabric **15**. Then the fabric **15** will always be taut in that vertical direction. Further, it should be obvious that if necessary or desirable a notch or groove could be provided on post **12** in a position immediately above the shoulder **20** to receive fabric welt or hem **17** similar to the relation at the top of post **12**.

In the disclosure of this invention, only two specific embodiments have been shown. However, the protection of this invention should be limited only to the scope of the appended claims.

We claim:

1. In a collapsible chair, a seat, a pair of back posts extending generally vertically upward from said seat, a fabric back strap of a generally rectangular shape spanning the upper end portions of said posts, a welt formed on the upper edge of said strap, said strap being provided with opposite end loops extending substantially the full vertical height thereof with a portion of said welt disposed at the upper edge of at least one of said loops and providing a downwardly facing internal shoulder, at least one of said posts having a notch adjacent the upper end thereof to provide an upwardly facing shoulder on said one of said posts, said loops encircling said posts with said strap under tension and with said portion of said welt of said one of said loops seated in said notch on the corresponding said one of said posts with the shoulder on said welt juxtaposed on top of the shoulder on said one of said posts for holding the strap against downward movement on said one of said posts, and said posts having their laterally outermost portions uniformly engaged with the corresponding internal portions of said loops whereby said strap is substantially uniformly tensioned upon laterally outward movement of said posts.

2. In a collapsible chair, the combination comprising a chair seat, a pair of upright back posts attached to said seat, each of said posts having a notch adjacent the upper ends thereof to provide an upwardly facing first shoulder, an upwardly facing second shoulder on each of said posts at a predetermined position below said notch, a fabric back strap of a generally rectangular shape to span the upper end portions of said posts between said notch and said second shoulder, said strap having opposite end loops extending the full distance between said notch and said second shoulder, a welt formed on the interior of the upper edge of each of said loops to provide a downwardly facing shoulder, said loops removably encircling said posts with said strap under tension and with said shoulder of said welt seated on said first shoulder of said post and the lower edge of said loop seated on said second shoulder of said post for holding said strap against downward movement on said posts, and said posts having their laterally outermost portions uniformly engaged with the corresponding interior portions of said loops whereby said strap is uniformly tensioned on said posts.

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