

PATENT SPECIFICATION (11)

1 494 420

1 494 420

- (21) Application No. 40840/75 (22) Filed 6 Oct. 1975 (19)
 (31) Convention Application Nos. 49/120633 (32) Filed 18 Oct. 1974 in
 49/120632
 (33) Japan (JA)
 (44) Complete Specification published 7 Dec. 1977
 (51) INT. CL.³ A47C 31/00
 (52) Index at acceptance
 A4M 4B 4C



(54) IMPROVED CHAIR CONSTRUCTION AND METHOD OF ASSEMBLING THE SAME

(71) We, YOSHIDA KOGYO K.K., a corporation duly organized under the laws of Japan and existing at No. 1, Kanda Izumicho, Chiyoda-ku, Tokyo, Japan, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to chairs suitable for use in automobiles, theatres and the like.

It has been desired to manufacture chairs of the class described which are neatly and slightly assembled with the covering sheets kept taut uniformly over the seat and back-rest portions. The conventional method of covering these chair portions was to fit prefabricated sacks snugly into position over the respective chair portions. However, this operation by hand was time-consuming and tedious because such sacks were closely measured to match the dimensions of the chair with a view to producing a taut and smooth surface and hence were not too easy to put in place on the chair. Advanced methods may be considered for attaching the covering sheet to the chair with the use of a sliding clasp fastener. However, such sliding clasp fasteners have determinate lengths so that it is difficult to apply them to chairs of different sizes. What is more, complete sliding clasp fasteners are assembled with such sliders and end stops that would cause the sheet fabric to swell unsightly and become susceptible to damage.

According to a first aspect of the invention there is provided a chair construction having a back-rest finished with a covering sheet, which sheet comprises a front fly, a back fly, a longitudinal marginal strip integral with said front fly and defining with said back fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

According to a second aspect of the invention there is provided a chair construction having a seat and finished with a covering sheet, which sheet comprises a top fly, a bottom fly, a longitudinal marginal strip integral with said top fly and defining with said bottom fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

According to a third aspect of the invention there is provided a method of applying to a back-rest of a chair a covering sheet having a front fly and a back fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:— placing the covering sheet around the back-rest; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

According to a fourth aspect of the invention there is provided a method of applying to a seat of a chair a covering sheet having a top fly and a bottom fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:— placing the covering sheet around the seat; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

The invention will be described by way of example with reference to the accompanying drawings which illustrate some preferred embodiments of the invention and in which like reference numerals denote like or corresponding parts throughout the several views and in which:—

Figure 1 is a perspective view of a chair construction in accordance with the invention;

Figure 2 is a perspective view of the same

50

55

60

65

70

75

80

85

90

95

utilized to explain how the covering sheet is closed upon the back-rest;

Figure 3 is a fragmentary perspective view of the back-rest having its covering sheet just closed in place;

Figure 4 is a view similar to Figure 3 but showing a permanent interconnector attached to an end of the fastener chain;

Figure 5 is a fragmentary perspective view of the back-rest of the chair, showing an end portion of the fastener chain attached to a bottom end of the back-rest;

Figure 6 is an explanatory plan view showing how the covering sheet is attached to the back-rest of the chair;

Figure 7 is a perspective view of a sliding clasp fastener chain showing a permanent interconnector applied prior to the removal of a slider;

Figure 8 is a fragmentary perspective view of the back-rest of the chair to which a concealed type of fastener chain is applied to attach the covering sheet;

Figure 9 is a perspective view of a modified form of chair provided in accordance with the invention in which the covering sheet is attached to the back-rest by means of a single piece of sliding clasp fastener chain; and

Figure 10 is a perspective view of a seat of a chair.

Referring now to the drawings and Figure 1, there is shown a chair 10 provided in accordance with a preferred embodiment of the invention. The chair 10 comprises a seat portion 11 and a back-rest portion 12 hinged thereto, both being covered with a suitable sheet material such as of leather, cloth or the like. The covering sheet 13 according to a first embodiment shown in Figures 1 to 6, inclusive, essentially comprises a front fly 14 and a back fly 15, both flies being separably joined by a pair of sliding clasp fastener chains 16 extending near and along opposite longitudinal edges of the reverse side of the back-rest 12. The front fly 14 includes integrally formed top end strip 14a folded back around a top end 12a of the back-rest and side strips 14b integral with or otherwise joined to the front fly 14. The covering sheet 13 further includes longitudinal marginal strips 17 integral with or joined to the front fly 14 and extending along respective longitudinal edges of the back-rest 12. The marginal strips 17 each define with the back fly 15 an opening 27 along which the sliding clasp fastener chain 16 is attached, as shown in Figure 6, to separably interconnect the front fly 14 with the back fly 15. As better shown in Figures 3 and 4, the marginal strips 17 each have a tail 17a extending together with the sliding clasp fastener chain 16 beyond a bottom end 12b of the back-rest 12.

There is provided a permanent intercon-

ector in the form of a staple 18 which is applied to a terminal end of the sliding clasp fastener chain 16 either prior or subsequent to the removal of a slider or similar fastener closing member 19 in a manner hereafter described. After the staple 18 is thus attached to the fastener chain 16, the tail 17a is bent inwardly along the bottom end 12b of the back-rest 12 as shown in Figure 5.

Designated at 20 is a flap secured at one longitudinal edge to the bottom end 12b of the back-rest 12 and separably connected at the other edge of the back fly 15 by means of for example snap buttons 21. The flap 20 is thus adapted to enclose the tail 17a and the end portion of the fastener chain 16 that have been bent over the bottom end 12b of the back-rest 12. Referring now to Figure 10, there is shown a covering sheet 22 for the seat 11 of the chair 10, which sheet includes a top fly 23, a bottom fly 24 and a peripheral strip 25 interconnecting both flies through the medium of a sliding clasp fastener chain 16 extending all way around and attached to the peripheral strip 25. The peripheral strip 25 has both ends extended together with the fastener 16 beyond the rear end 11a of the seat 11, each of such extensions or tails 25a being bent inwardly over the rear end 11a as indicated by the arrows in Figure 10. The top fly 23 also has an extension 23a which is adapted to envelop the tail 25a and the end portion of the fastener 16 that have been bent in place, for which purpose the extension 23a is provided with snap buttons as at 26. The chair thus constructed is advantageous in that the fastener chain 16 is prevented by the staple 18 from accidental opening while in use and that the absence of the slider 19 when the covering sheet 13 is mounted in place serves to keep the sheet 13 neatly taut.

A preferred procedure of applying the covering sheet 13 to the chair 10, particularly to the back-rest 12 thereof will follow. To begin with, both of the fastener chains 16 are opened as by moving the sliders 19 upwardly toward the top end 12a of the back-rest 12, thereby separating the front fly 14 from the back fly 15. The covering sheet 13 in such disposition as shown in Figure 2 is mounted in place over the back-rest 12. Subsequently, the sliders 19 are moved downwardly to close the respective fastener chains 16 as shown in Figure 3. The staple 18 is then applied to a terminal end of each fastener chain 16 as shown in Figure 4. This can be done either before or after the slider 19 is removed. Preferably, however, the staple 18 should be applied prior to removal of the slider 19 in a manner illustrated in Figure 7 with a view to preventing accidental separation of the opposed stringers of the fastener chain 16. The tail 17a of each marginal strip 17 is now bent together with the

end portion of the fastener chain 16 over the bottom end 12b of the back-rest 12 and covered by the flap 20. A similar procedure applies to the application of the covering sheet 22 to the seat 11 of the chair 10. Thus, the operation of attaching the covering sheets 13 and 22 to the respective portions of the chair 10 is extremely simple and easy since the sheets 13 and 22 in the form of a bag can be kept partly open along the edges closed by the fastener chain and can therefore be secured to the chain with uniform tension and without being locally distorted.

While the invention has been described in connection to certain preferred embodiments, it is to be understood that various changes and modifications may be made therein without departing from the scope of the appended claims. As for an example, a single chain of sliding clasp fastener may be used as illustrated in Figure 9 instead of using two separate fastener chains, provided there is always involved the step of applying a permanent interconnector and removing the slider or similar fastener closing member upon closure of the fastener chain. As for another example, there may be used a concealed type of sliding clasp fastener chain as shown in Figure 8 whereby the fastener components are concealed from external view.

WHAT WE CLAIM IS:—

1. A chair construction having a back-rest finished with a covering sheet, which sheet comprises a front fly, a back fly, a longitudinal marginal strip integral with said front fly and defining with said back fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

2. A chair construction as claimed in claim 1 wherein said marginal strip has a tail bent inwardly together with said fastener chain over the bottom of the back-rest.

3. A chair construction having a seat and finished with a covering sheet, which

sheet comprises a top fly, a bottom fly, a longitudinal marginal strip integral with said top fly and defining with said bottom fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

4. A chair construction as claimed in claim 3 wherein said marginal strip has a tail bent inwardly together with said fastener chain over the rear end of the seat.

5. A chair construction as claimed in claim 1, 2, 3 or 4 wherein the said slider has been removed.

6. A method of applying to a back-rest of a chair a covering sheet having a front fly and a back fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:—

placing the covering sheet around the back-rest; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

7. A method of applying to a seat of a chair a covering sheet having a top fly and a bottom fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:—

placing the covering sheet around the seat; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

8. A method as claimed in claim 6 or 7 wherein said permanent interconnector is applied subsequent to the removal of said slider.

9. A chair construction as claimed in claim 2 or 4 and substantially as herein described with reference to and as illustrated in the accompanying drawings.

10. A method substantially as herein described with reference to and as illustrated in the accompanying drawings.

MARKS & CLERK.



end portion of the fastener chain 16 over the bottom end 12b of the back-rest 12 and covered by the flap 20. A similar procedure applies to the application of the covering sheet 22 to the seat 11 of the chair 10. Thus, the operation of attaching the covering sheets 13 and 22 to the respective portions of the chair 10 is extremely simple and easy since the sheets 13 and 22 in the form of a bag can be kept partly open along the edges closed by the fastener chain and can therefore be secured to the chain with uniform tension and without being locally distorted.

While the invention has been described in connection to certain preferred embodiments, it is to be understood that various changes and modifications may be made therein without departing from the scope of the appended claims. As for an example, a single chain of sliding clasp fastener may be used as illustrated in Figure 9 instead of using two separate fastener chains, provided there is always involved the step of applying a permanent interconnector and removing the slider or similar fastener closing member upon closure of the fastener chain. As for another example, there may be used a concealed type of sliding clasp fastener chain as shown in Figure 8 whereby the fastener components are concealed from external view.

WHAT WE CLAIM IS:—

1. A chair construction having a back-rest finished with a covering sheet, which sheet comprises a front fly, a back fly, a longitudinal marginal strip integral with said front fly and defining with said back fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

2. A chair construction as claimed in claim 1 wherein said marginal strip has a tail bent inwardly together with said fastener chain over the bottom of the back-rest.

3. A chair construction having a seat and finished with a covering sheet, which

sheet comprises a top fly, a bottom fly, a longitudinal marginal strip integral with said top fly and defining with said bottom fly an opening, and a sliding clasp fastener chain extending over and along said opening and closing said opening, said fastener chain having a permanent interconnector secured to its terminal end to prevent opening of the fastener chain after closure thereof by a slider.

4. A chair construction as claimed in claim 3 wherein said marginal strip has a tail bent inwardly together with said fastener chain over the rear end of the seat.

5. A chair construction as claimed in claim 1, 2, 3 or 4 wherein the said slider has been removed.

6. A method of applying to a back-rest of a chair a covering sheet having a front fly and a back fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:—
placing the covering sheet around the back-rest; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

7. A method of applying to a seat of a chair a covering sheet having a top fly and a bottom fly interconnected by a sliding clasp fastener chain, which method comprises the steps of:—
placing the covering sheet around the seat; closing said fastener chain by means of a slider; applying a permanent interconnector to a terminal end of said fastener chain prior to or subsequent to removal of said slider; and removing said slider.

8. A method as claimed in claim 6 or 7 wherein said permanent interconnector is applied subsequent to the removal of said slider.

9. A chair construction as claimed in claim 2 or 4 and substantially as herein described with reference to and as illustrated in the accompanying drawings.

10. A method substantially as herein described with reference to and as illustrated in the accompanying drawings.

MARKS & CLERK.