



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>5</sup> : <b>B42C 9/00, 11/00, B42B 7/00</b></p>	<p><b>A1</b></p>	<p>(11) International Publication Number: <b>WO 90/08044</b> (43) International Publication Date: 26 July 1990 (26.07.90)</p>
<p>(21) International Application Number: PCT/DK90/00012 (22) International Filing Date: 15 January 1990 (15.01.90) (30) Priority data: 162/89 13 January 1989 (13.01.89) DK (71)(72) Applicant and Inventor: NICOLAISEN, Søren, Kjær [DK/DK]; Kjaersangervej 76, DK-4300 Holbaek (DK). (74) Agent: PLOUGMANN &amp; VINGTOFT; Sankt Annæ Plads 11, DK-1250 Copenhagen K (DK). (81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CM (OAPI patent), DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL, NL (European patent), NO, RO, SD, SE, SE (European patent), SN (OAPI patent), SU, TD (OAPI patent), TG (OAPI patent), US.</p>		<p><b>Published</b> <i>With international search report.</i></p>
<p>(54) Title: A METHOD OF INTERCONNECTING TWO SHEETS OR PLATES, ESPECIALLY A METHOD OF COVERING A BOOK</p>		
<p>The diagram shows a perspective view of a rectangular sheet or plate (10). A narrow strip (12) is attached to one edge. A protective strip (13) is applied over the adhesive strip (12). The strip (13) has a free end portion (15) that is folded back along a diagonal line (16), creating a gripping end. The sheet (10) is shown in an abutting engagement with another sheet (21), which is partially visible on the right side of the diagram.</p>		
<p>(57) Abstract</p> <p>A sheet or plate (10) for use for example as a stiffening plate for a book cover comprises an adhesive layer (12) applied to a narrow zone extending along and adjacent to at least one end of the plate or sheet. The adhesive layer (12) is covered by a protective peel-off strip (13) having a free end portion (15). This free end portion is folded along a folding line (16), which defines an acute angle with the longitudinal axis of the protective strip, whereby the free end portion of the protective strip extends beyond said edge of the sheet so as to define an accessible gripping end. The plate or sheet (10) may be arranged and retained in abutting engagement with a second sheet or plate (21), such as a book cover. Now, the protective strip (13) may be removed by pulling the free end portion (15), whereby the sheets or plates may be interconnected.</p>		

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	ES	Spain	MG	Madagascar
AU	Australia	FI	Finland	ML	Mali
BB	Barbados	FR	France	MR	Mauritania
BE	Belgium	GA	Gabon	MW	Malawi
BF	Burkina Fasso	GB	United Kingdom	NL	Netherlands
BG	Bulgaria	HU	Hungary	NO	Norway
BJ	Benin	IT	Italy	RO	Romania
BR	Brazil	JP	Japan	SD	Sudan
CA	Canada	KP	Democratic People's Republic of Korea	SE	Sweden
CF	Central African Republic	KR	Republic of Korea	SN	Senegal
CG	Congo	LI	Liechtenstein	SU	Soviet Union
CH	Switzerland	LK	Sri Lanka	TD	Chad
CM	Cameroon	LU	Luxembourg	TG	Togo
DE	Germany, Federal Republic of	MC	Monaco	US	United States of America
DK	Denmark				

A METHOD OF INTERCONNECTING TWO SHEETS OR PLATES, ESPECIALLY A METHOD OF COVERING A BOOK

The present invention relates to a method of interconnecting a first sheet or plate and a second sheet or plate in face to face relationship, especially a method of covering books, such as paperback books.

Within the field of covering paperback books (the term paperback book should in this specification be understood in its broadest sense comprising also telephone books and any printed matter provided with a relatively soft cover) various solutions have been proposed for protecting such books and for enabling the placing of the books in a shelf in an upright position. As an example GB Patent No. 1,480,954 discloses a cover for a book, such as a paperback book, comprising a front cover panel and a back cover panel hingedly connected one to each of the longitudinal edges of an intermediate panel or spine, and an adhesive located in strips adjacent to each of the free edges of the inside faces of said front and back cover panels, the adhesive being covered by a release paper or the like. The book cover according to this patent specification involves a number of drawbacks. The cover is relatively complicated to manufacture and therefore relatively expensive, and the covering operation is difficult to perform, as when the release paper has been removed, and the book and the cover has been brought into mutual engagement, the book will instantly adhere to the adhesive strip, so that a later correction of the alignment of book and cover will not be possible. Furthermore, it is necessary to use different sizes of covers for books of the same format having different thicknesses. An attempt to overcome the problem of using different sizes of covers for books with different thicknesses has been made in US-patent No. 3,133,750, but the three-part book cover according to that specification is also of a relatively complicated structure, and it is difficult to mount the cover in correct alignment with the book.

US patent No. 3,825,963 discloses a method of casing books. In this known method an adhesive layer is applied to substantially the total area of one side surface of one of the sheets to be interconnected,

and a sheet of release paper covering the adhesive layer is folded and laid double so that the fold extends along one end of the sheet to which the adhesive is applied, while a free end portion of the release sheet extends beyond the opposite edge of the sheet. The sheets to be interconnected are placed in abutting engagement with the double layer of the release sheet therebetween. Thereafter, the release sheet is removed by exerting a pulling force to the exposed free end of the release sheet. The pulling force necessary to remove the release sheet is rather high, and, therefore, it is normally not possible to remove the release sheet manually without using mechanical means.

The present invention provides an improved method of the above type, said method comprising applying a layer of adhesive to a surface of said first sheet or plate, covering the adhesive layer with a protective peel-off strip, folding a free end portion of the protective strip along a folding line, placing a surface of the second plate or sheet in engagement with the first plate or sheet in a predetermined relationship in which said layer of adhesive is at least partly covered by the second layer or sheet, maintaining the predetermined relationship of said plates or sheets by pressing the first and second plates or sheets into tight mutual engagement, and pulling the folded free end portion of the protective strip so as to remove the protective strip from the adhesive layer while maintaining the close mutual engagement of the plates or sheets, and the method according to the invention is characterized in that said adhesive layer is applied to a narrow zone extending along and adjacent to at least one edge of the first plate or sheet, and that the free end portion of the protective strip is folded so that the folding line defines an acute angle with the longitudinal axis of the protective strip, whereby the free end portion of the protective strip extends beyond said edge of the first sheet so as to define an accessible gripping end. Because the folded end portion of the peel-off strip is sandwiched between and in engagement with only a relatively small area of the plates or sheets to be interconnected, the peel-off strip may be removed manually without using special mechanical devices. The adhesive layer may be applied to a zone extending along only one edge of the first plate or sheet. However, the adhesive layer may be

applied to zones extending along two or more edges of the preferably rectangular first plate or sheet.

In a preferred embodiment of the first plate or sheet the acute angle defined between the folding line and the longitudinal axis of the protective strip exceeds 45°, and the angle is preferably between 55° and 80°, providing for a gripping end portion of sufficient size with a minimum length of the free end portion, and a low risk of destroying the protective strip during the peel-off operation.

The adhesive for forming the adhesive layer can be a pressure sensitive adhesive, an instant hardening adhesive or an adhesive with a somewhat retarded hardening. Thus, acrylic adhesives or rubber-based adhesives may be used.

When using the method according to the invention for stiffening and/or covering a book the first sheet or plate is preferably a stiff or rigid cardboard or millboard plate, but obviously a plates of stiff or rigid plastics or other relatively stiff or rigid materials may be used. The faces of said first and second sheets or plates have substantially the same size, and the book and the cover may be put into alignment prior to removal of the protective strip to ensure a correct covering of the book.

The invention also relates to a sheet or plate for use in carrying out the method described above and comprising an adhesive layer applied to a surface part thereof, said adhesive layer being covered by a protective peel-off strip having a free end portion folded along a folding line, and the method according to the invention is characterized in that the surface part to which the adhesive layer is applied is a narrow zone extending along and adjacent to at least one edge of said sheet, and that said folding line defines an acute angle with the longitudinal axis of the protective strip, whereby the free end portion of the protective strip extends beyond said edge of the sheet so as to define an accessible gripping end.

Such plate or sheet is especially applicable as a book cover for a paperback book. When plates of the above kind are applied to the

front and the back of a book, the book can be placed in a shelf in an upright position, and as it is not necessary to provide the book with a spine cover. The text on the spine can still be read. Furthermore, it is possible to change the visual appearance of the book. For instance, the cover according to the invention may be decorated or stamped with the name of the owner of the book.

The invention will now be further described referring to the drawings, in which

Fig. 1 is a perspective view of a preferred embodiment of a plate according to the present invention for covering a book, and

Fig. 2 is a perspective view of a book, a pair of plates according to the present invention being positioned in engagement with the front and the back of the book.

Fig. 1 shows a millboard plate 10 for covering a book. On the surface 11 is applied an adhesive layer 12 which is covered by (and hidden behind) a protective peel-off strip 13 of paper. The protective strip 13 comprises a protective part 14 and a free end 15. The free end 15 is folded back and a fold 16 is formed between the free end 15 and the protective part 14. The fold 16 forms an acute angle of around 70° with the longitudinal axis of the protective part 14 of the protective strip 13.

Fig. 2 shows a paperback book 20 comprising a front 21, a back 22 and a spine 23. Identical front cover and a back cover plates 24 and 25 according to the invention are put into contact with the respective front 21 and back 22 of the book 20 and brought into alignment therewith. A gripping end 26 of a peel-off strip of the front cover plate 24 extends rearwardly from the arrangement enabling a person to catch hold of said end 26 and pull it off in a downward direction. A similar gripping end 27 extends from the back cover plate 25 so that the peel-off strip can be removed in an upward direction.

When the book 20 is to be covered with the covering plates 24 and 25, the book 20 and the plates 24 and 25 are aligned in the same way as a pack of cards. The correct alignment and a tight engagement is maintained by pressing the front and back cover plates 24 and 25

against the book 20 with one hand. Concurrently, the other hand is used for catching hold of the gripping end 26, and said end is pulled in a downward direction, substantially in a direction inclined in relation to the fold of the peel-off strip along the spine 23 of the book 20, whereby the peel-off strip is removed as the fold of the strip travels along the adhesive layer and the front cover 24 is gradually adhered to the front 21 of the book 20. While the engagement pressure with one hand is still maintained the peel-off strip of the back cover 25 is removed by pulling the gripping end 27 in an upward direction, substantially in a direction inclined in relation to the fold of the peel-off strip, and the back cover 25 is similarly adhered to the back 22 of the book.

It is obvious that the principles of the invention can be used in many different applications. For example, the concept according to the invention of folding a protective peel-off strip may be used for facilitating the correct mounting of stickers, posters or streamers to a substrate.

Furthermore, the invention may be subject to various modifications. The sheets or plates to be interconnected may both comprise a layer of protected adhesive, such as a two-component adhesive. The sheet or plate to be used as book cover may be of a transparent plastics material, so as to retain the original visual appearance of the book. Similarly, the protective strip may be of any other suited material, such as plastic or fabric.

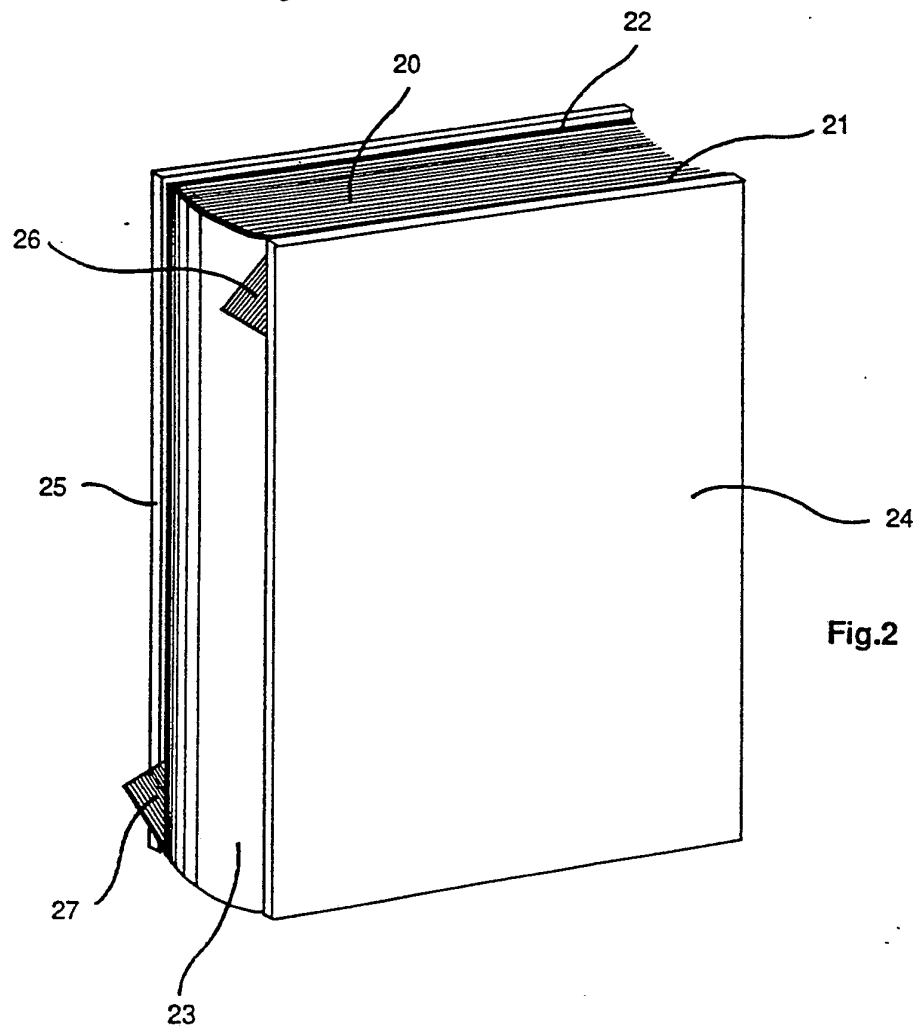
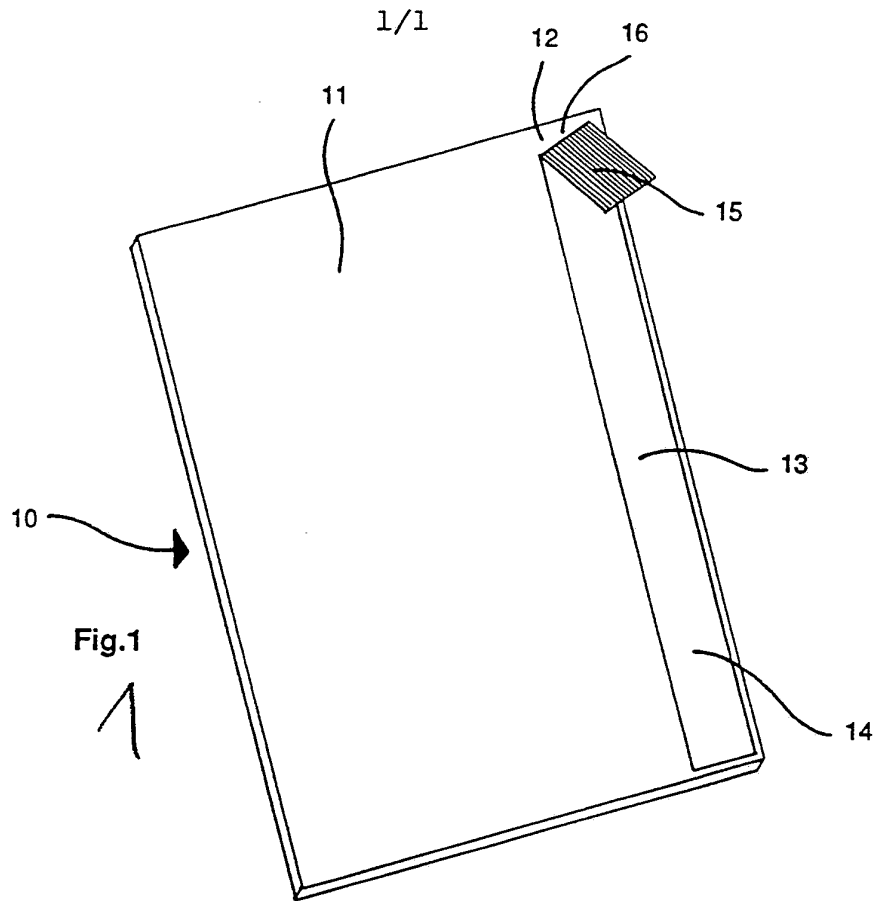
## CLAIMS

1. A method of interconnecting a first sheet or plate (10, 24, 25) and a second sheet or plate (21, 22) in face to face relationship, said method comprising
- 5     applying a layer of adhesive (12) to a surface of said first sheet or plate (10, 24, 25),
- covering the adhesive layer (12) with a protective peel-off strip (13),
- folding a free end portion (15) of the protective strip along a
- 10    folding line (16),
- placing a surface of the second plate or sheet (21, 22) in engagement with the first plate or sheet (10) in a predetermined relationship in which said layer of adhesive is at least partly covered by the second layer or sheet,
- 15    maintaining the predetermined relationship of said plates or sheets by pressing the first and second plates or sheets into tight mutual engagement, and
- pulling the folded free end portion (15) of the protective strip (13) so as to remove the protective strip from the adhesive layer
- 20    while maintaining the close mutual engagement of the plates or sheets,
- c h a r a c t e r i z e d in that said adhesive layer (12) is applied to a narrow zone extending along and adjacent to at least one edge of the first plate or sheet (10), and that the free end portion (15) of
- 25    the protective strip (13) is folded so that the folding line (16) defines an acute angle with the longitudinal axis of the protective strip (13), whereby the free end portion of the protective strip extends beyond said edge of the first sheet so as to define an accessible gripping end.
- 30    2. A method according to claim 1,
- c h a r a c t e r i z e d in that the acute angle exceeds 45°.
3. A method according to claim 1 or 2,
- c h a r a c t e r i z e d in that the acute angle is between 55° and 80°.

4. A method according to any of claims 1-3,  
c h a r a c t e r i z e d in that the adhesive applied is a pressure  
sensitive adhesive, an instant hardening adhesive, or an adhesive  
with a somewhat retarded hardening, such as acrylic adhesives or  
5 rubber-based adhesives.
5. A method according to any of claims 1-4,  
c h a r a c t e r i z e d in that said first sheet or plate is a  
stiff or rigid cardboard or millboard plate (10) to be applied for  
stiffening and/or covering the second plate or sheet (21).
- 10 6. A method according to claim 5,  
c h a r a c t e r i z e d in that wherein the second plate (21) is  
the front or the back of a book cover.
7. A sheet or a plate for use in carrying out the method according to  
any of the claims 1-6 and comprising an adhesive layer (12) applied  
15 to a surface part thereof, said adhesive layer being covered by a  
protective peel-off strip (13) having a free end portion (15) folded  
along a folding line (16),  
c h a r a c t e r i z e d in that the surface part to which the  
adhesive layer (12) is applied is a narrow zone extending along and  
20 adjacent to at least one edge of said sheet (10, 24, 25), and that  
said folding line (16) defines an acute angle with the longitudinal  
axis of the protective strip, whereby the free end portion of the  
protective strip extends beyond said edge of the sheet (10) so as to  
define an accessible gripping end.
- 25 8. A sheet or plate according to claim 7,  
c h a r a c t e r i z e d in that the acute angle exceeds 45°.
9. A sheet or plate according to claim 7 or 8,  
c h a r a c t e r i z e d in that the acute angle is between 55° and  
80°.
- 30 10. A sheet or plate according to any of the claims 7-9,  
c h a r a c t e r i z e d in that the adhesive is a pressure  
sensible adhesive, an instant hardening adhesive, or an adhesive with

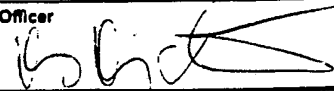
a somewhat retarded hardening, such as acrylic adhesives or rubber-based adhesives.

11. A sheet or plate according to any of the claims 7-10,  
c h a r a c t e r i z e d in that it is a stiff or rigid cardboard  
5 or millboard plate for backing the front or the back of the book  
cover.



# INTERNATIONAL SEARCH REPORT

International Application No **PCT/DK 90/00012**

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (if several classification symbols apply, indicate all) <sup>6</sup>		
According to International Patent Classification (IPC) or to both National Classification and IPC		
IPC5: B 42 C 9/00, 11/00, B 42 B 7/00		
<b>II. FIELDS SEARCHED</b>		
Minimum Documentation Searched <sup>7</sup>		
Classification System	Classification Symbols	
IPC5	B 42 C; B 42 B; F 16 B	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched <sup>8</sup>		
SE,DK,FI,NO classes as above		
<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>9</sup>		
Category <sup>9</sup>	Citation of Document, <sup>11</sup> with indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>
A	SE, B, 426928 (ABILDGAARD LABS) 30 May 1975, see page 6, line 17 - line 22 --	
A	US, A, 3825963 (VELO-BIND) 30 July 1974, see column 4, line 53 - column 5, line 5 --	
A	AT, B, 296223 (ELISABETH ERTL) 10 February 1972, see the whole document --	
A	CH, A, 264313 (R MÜLDNER, W M BEKAAR) 3 January 1950, see the whole document --	
<p><sup>9</sup> Special categories of cited documents: <sup>10</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"Z" document member of the same patent family</p>		
<b>IV. CERTIFICATION</b>		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
2nd April 1990	1990 -04- 10	
International Searching Authority	Signature of Authorized Officer	
SWEDISH PATENT OFFICE	Hans Hagström 	

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	US, A, 4511298 (JONES) 16 April 1985, see the whole document -- -----	