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(54) A stationery accessory

(57) A stationery accessory (1) is disclosed which is configured to be attached to a stack (17) of sheet articles, such as a stack of sheets of paper, by means of a staple (21), and which is also configured to subsequently remove the staple from the stack of sheet articles. The stationery accessory comprises a pair of spaced apart, substantially planar elements (2,3) which are hingedly connected together along adjacent edges. The pair of elements are spaced apart by a distance sufficient to allow the stack (17) of sheet articles to be inserted between the elements such that one element (2) is positioned adjacent the uppermost sheet of the stack and the other element (3) is positioned adjacent the lowermost sheet of the stack. Each element is made from a material suitable for puncture by a staple to permit a staple to be stapled, in sequence, through one element, through the stack, and through the other element to secure the stationery accessory to the stack of sheet articles. In order to remove the staple from the stack of sheet articles, one of the elements can be pulled away from the stack so as to remove the staple from the stack.

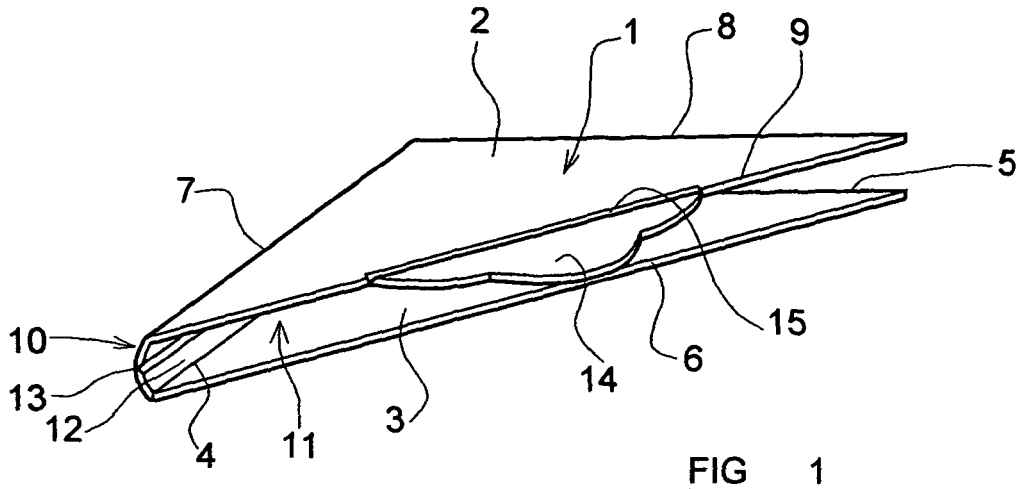

FIG 1

EP 1 621 362 A1

Description

[0001] The present invention relates to a stationery accessory, and in particular relates to a stationery accessory which is configured to be attached to a stack of sheet articles, such as a stack of sheets of paper, by means of a staple. The stationery accessory is also configured to remove the staple from the stack of sheet articles.

[0002] It is well known to secure a stack of sheets of paper, or other sheet articles, together by means of a staple ejected from a stapler, so as to puncture all of the sheets in the stack.

[0003] A stapler generally comprises a lower arm pivotally connected at one of its ends to a corresponding end of an upper arm such that the free ends of the arms are in spaced apart opposition. The free end of the lower arm has an anvil which is in opposition to a delivery head located at the free end of the upper arm. The upper arm carries a cassette of staples which are spring loaded against the delivery head. The cassette of staples comprises an inverted, flat-bottomed U-sectioned channel with a plurality of frangible sections, each of which defines a staple.

[0004] In order for a stack of sheets to be stapled, the stack is placed between the free ends of the arms of the stapler such that the lowermost sheet of the stack lies adjacent the anvil and the uppermost sheet of the stack lies adjacent the delivery head. Upon downward motion of the upper arm towards the lower arm, the frangible section at the end of the cassette becomes separated from the rest of the cassette to define a staple. The staple therefore comprises a thin element having a substantially flat base and two downwardly projecting puncture arms. Further downward motion of the upper arm drives the free ends of the puncture arms of the staple through the stack of sheets until the free ends of the puncture arms engage with recesses in the anvil which bend the arms outwardly or inwardly such that they lie generally parallel with the lower most sheet of the stack. Therefore, the stack of sheets become secured by the staple. It is usual for a staple to be stapled through the top left hand corner of a stack of sheets to facilitate the folding of the sheets over the base of the staple to view the sheets below. It is to be appreciated that the stapler mechanism by which the staple is applied to a stack of sheets may vary, but the end result is generally the same.

[0005] A consequence of securing a stack of sheets in this manner is that the upper and lower sheets of the stack can become vulnerable to tearing because they are only secured to the rest of the stack by way of the small areas of contact presented by the base of the staple abutting the upper sheet and the free ends of the puncture elements abutting the lowermost sheet. Therefore, general handling of the stack of sheets, such as when sheets of the stack are folded over about the staple to enable viewing of sheets beneath, can cause tearing of the upper and lower sheets, resulting in them becoming detached from the rest of the stack.

[0006] Furthermore, general handling of a stapled stack of sheets may cause the sheets to move relative to each other such that the holes made through the sheets by the staple become enlarged, resulting in a reduction in the security of the staple fastening.

[0007] It is known that after a stack of sheets has been stapled together as described above, it is sometimes necessary to separate one or more of the sheets from the stack which requires the removal of the staple from the stack. To do this, the free ends of the puncture arms of the staple, which lie adjacent the lowermost sheet of the stack, must be bent back to their initial straight configuration to enable them to be withdrawn back through the holes that they initially made through the stack.

[0008] In this regard it is common to use a stationery accessory such as a staple remover to remove a staple from a stack of sheets. Such a staple remover typically comprises a pair of arms which are pivotally connected together at one end and which have opposing teeth at their free ends. The teeth on each arm have a wedge profile which starts at a point at the free end of the arm and which tapers away towards its arm in the direction of the pivot. When the arms are brought together, the opposing teeth overlap each other. Therefore, in order to remove a staple from a stack of sheets, the points of the teeth are brought together between the base of the staple and the uppermost sheet such that further motion of the arms towards each other causes the base to be drawn away from the points of the teeth in the direction of the pivot along the intersection of the wedge profiles, and hence away from the top sheet of the stack. The free ends of the puncture arms are therefore bent straight as they are withdrawn through their respective holes in the stack of sheets, enabling the staple to be removed from the stack of sheets.

[0009] However, the disadvantage of using such a staple remover is that not only is the staple remover not always conveniently available when needed, it can sometimes be difficult to engage the teeth between the base of the staple and the uppermost sheet which can cause damage to the uppermost sheet of the paper. Furthermore, removal of the staple from the stack can also cause damage to the lowermost sheet of the stack as the free ends of the puncture arms are withdrawn through the stack.

[0010] It is an object of the present invention to provide an improved stationery accessory.

[0011] According to the present invention there is provided a stationery accessory comprising:

> a pair of elements spaced apart from one another by a distance sufficient to allow a stack of sheet articles to be inserted between the elements so that the accessory can adopt an in-use position in which a first of said elements is positioned adjacent the uppermost sheet of the stack and the second of said elements is positioned adjacent the lowermost sheet of the stack, each said element being made from

material suitable for puncture by a staple to permit a staple to be stapled, in sequence, through the first element, through the stack and through the second element when the accessory is in said in-use position to secure the stationery accessory to the stack, wherein at least said first element is configured so as to remove said staple from the stack of sheet articles and from the second element as the first element is pulled away from the uppermost sheet of the stack, after said securement.

[0012] Preferably, the second element has sufficient strength to resist damage by the staple when the staple is removed from the second element.

[0013] Advantageously, at least the first element is flexible.

[0014] Conveniently, both the first and second elements are flexible.

[0015] Preferably, the first and second elements are connected to one another.

[0016] Advantageously, said connection defines an elongate abutment portion, such that when the stationery accessory is in the in-use position a first edge of each sheet article in the stack of sheet articles abuts the elongate abutment portion.

[0017] Conveniently, a locating abutment portion is provided on at least one of said elements, such that when the stationery accessory is in the in-use position a second edge of each sheet article in the stack abuts the locating abutment portion, and wherein the second edge is orthogonal to the first edge.

[0018] Preferably, the first and second elements are hingedly connected to one another.

[0019] Advantageously, the first and second elements are connected by a living hinge.

[0020] Conveniently, the stationery accessory is formed of a plastics material.

[0021] Preferably, at least the first element has a gripping formation, said gripping formation being configured to be gripped by a user so as to facilitate said pulling of the first element away from the uppermost sheet of the stack.

[0022] Advantageously, the second element is also provided with a gripping formation.

[0023] Conveniently, the or each gripping formation takes the form of a tab.

[0024] Preferably, the or each tab has a gripping projection.

[0025] Advantageously, the or each tab is connected to the respective element by a hinge.

[0026] Conveniently, the or each tab is connected to the respective element by a living hinge.

[0027] Preferably, wherein the or each gripping formation is spaced from the connection between the first and second elements.

[0028] Advantageously, the stationery accessory is provided with indicia.

[0029] Conveniently, the first and second elements are substantially planar.

[0030] Preferably, the stationery accessory is provided with a label.

[0031] Advantageously, the stationery accessory is provided on the corner of a stack of sheet articles when in the in-use position.

[0032] In order that the invention may be more readily understood, and so that further features thereof may be appreciated, embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings in which:

Figure 1 is a schematic perspective view of a stationery accessory according to the present invention;

Figure 2 is a schematic top plan view of the stationery accessory of Figure 1 in an in-use position located on the corner of a stack of sheets of paper;

Figure 3 is a schematic cross-sectional view of the stationery accessory illustrated in Figure 2 taken along A-A;

Figure 4 corresponds generally with Figure 3 but shows the stationery accessory partially removed from the stack of sheets;

Figure 5 is a top plan view of an alternate embodiment of stationery accessory in an in-use position located on the corner of a stack of sheets of paper;

Figure 6 is a top plan view of a further embodiment of stationery accessory which is similar to that illustrated in Figure 5;

Figure 7 is a top plan view of another embodiment of stationery accessory shown in two alternate in-use positions;

Referring initially to figure 1, there is illustrated a stationery accessory 1 which is in accordance with the present invention. The stationery accessory 1 comprises a first upper element 2 and a second lower element 3, both of which are substantially planar. The lower element 3 has a triangular plan profile having a pair of orthogonal side edges 4, 5 and an hypotenuse edge 6.

[0033] The upper element 2 has a similar triangular profile to that of the lower element 3, the upper element having a pair of orthogonal side edges 7, 8 and an hypotenuse edge 9. The upper element 2 is superimposed above the lower element 3 and is spaced from the lower element 3.

[0034] The upper and lower elements 2, 3 are connected together along respective superimposed edges 4, 7 by a connection formation 10 which spaces the upper element 2 from the lower element 3 such that the planes

of the upper and lower elements 2, 3 are, at least initially, substantially parallel.

[0035] The connection formation 10 is preferably formed integrally with the upper element 2 and lower element 3, and comprises an element of substantially uniform thickness which extends in an arc from the edge 4 of the lower element 3 to the corresponding edge 7 of the upper element 2 such that the respective inner surfaces of the upper element 2 and lower element 3, and the connection formation 12 together define a channel 11 with substantially parallel sides. As will become clear hereinafter, the inner surface of the connection formation 10 defines an elongate abutment portion 12.

[0036] The connection formation 10 defines a hinge 13 whose axis extends parallel with the upper and lower edges 4, 7, and along the centre of the connection formation 10. The hinge 13 is preferably a living hinge which comprises a section of reduced thickness. Therefore, the space between the elements 2, 3 can be increased or decreased.

[0037] Extending outwardly from the hypotenuse edge 9 of the upper element 2, is a gripping formation in the form of a substantially planar tab 14. The tab 14 is hingedly connected to the upper element 2 by means of a hinge 15 whose axis is coincident with the hypotenuse edge 9. The hinge 15 is preferably a living hinge, which enables the tab 14 to be moved about the axis of the hinge 15. As can be seen from figure 1, because the tab 14 is formed along the hypotenuse edge 9, it is spaced from the connection formation 10.

[0038] The stationery accessory 1 is preferably made from a plastics material which is suitable for puncture by a staple as will be described in more detail below. Also, a preferred embodiment is formed such that the upper and lower elements 2, 3 are flexible.

[0039] Referring now to figures 2 and 3, the above-described stationery accessory is shown mounted in position on a stack of sheet articles. A corner 16 of the stack of sheet articles 17, such as a stack of sheets of paper which are required to be stapled together, is shown having been inserted into the channel 11 so that the accessory adopts an in-use position in which the elongate abutment portion 12 of the connection formation 10 abuts the edges 18 of one side of the stack 17. It can be seen from figure 3, that in the in-use position illustrated, the upper element 2 is positioned adjacent an uppermost sheet 19 of the stack 17 and the lower element 3 is positioned adjacent a lowermost sheet 20 of the stack 17. It is to be appreciated that due to the hinge 13, the space between the elements 2, 3 can be increased or decreased sufficiently to allow stacks of different thicknesses to be inserted between them. Preferably the hinge 13 is provided with a degree of inherent resilience to bias to upper and lower elements towards one another.

[0040] The stationery accessory 1 can then be stapled to the stack 17, by means of a staple 21 ejected from a conventional stapler. As mentioned above, a staple 21 generally comprises a base 22 having two downwardly projecting puncture arms 23 which are configured to be driven through a stack of sheets which require stapling.

[0041] Accordingly, when the stationery accessory 1 is in the in-use position on the corner 16 of a stack of sheets 17, the free ends of the puncture arms 23 can be driven simultaneously in sequence through the upper element 2, through the stack 17, and then through the lower element 3 to secure the staple 21 to the stack 17 as illustrated in figure 3.

[0042] It should be appreciated that because the upper and lower elements 2, 3 abut a greater area of the uppermost and lowermost sheets 19, 20 of the stack 17 than the area which would be abutted only by a staple 21 (i.e. without the stationery accessory also being secured to the stack 17), the likelihood of tearing, or detachment of the uppermost and lowermost sheets 19, 20 from the stack 17 due to general handling of the stack 17 may be reduced.

[0043] It should also be appreciated that because the edge 18 of each sheet article in the stack 17 abuts the elongate abutment portion 12 over a substantial length, relative rotational movement between the sheets of the stack 17 about the staple 21 may be reduced, also making for a more secure fixing.

[0044] Referring now to figure 4, it can be seen that the stationery accessory 1 also has a second function. As shown, the tab 14 can be bent away from the uppermost sheet 19 about the tab hinge 15 to enable both sides of the tab 14 to be gripped between the fingers of the user. Figure 4 shows that as the user pulls on the tab 14 in a direction generally away from the uppermost sheet 19, the upper element 2 is moved away from the uppermost sheet 19 of the stack 17 such that the upper element 2 pivots about the hinge 13 and the space between the upper and lower elements 2, 3 is increased. The consequence of this is that the upper element 2 bears against the base 22 of the staple 21 and withdraws the staple 21 from the stack 17. It is to be appreciated that as the staple 21 is being withdrawn from the stack 17 the free ends of the puncture arms 23 of the staple 21 pass back through their respective puncture holes in the lower element 3, their free ends being bent from their inwardly or outwardly securing position back towards their initial straight position, to facilitate this withdrawal.

[0045] Therefore, the staple 21 and the stationery accessory 1 can be conveniently removed from the stack 17 in a simple manner, without the need for any additional tool to remove the staple.

[0046] It is to be appreciated that the spacing of the tab 14 from the connection formation 10 facilitates the pulling of the upper element 2 away from the uppermost sheet 19, and provides sufficient leverage to withdraw the staple 21 from the stack 17.

[0047] The material of the upper element 2 should possess sufficient strength to resist substantial deformation by the base 22 of the staple 21 as it is being pulled away from the uppermost sheet 19 of the stack 17 so that the staple 21 can be removed from the stack 17.

[0048] It is to be appreciated that as the free ends of the puncture arms 23, are being withdrawn through their respective puncture holes in the lower element 3, it is the periphery of each hole which acts as a die to force the free end of its puncture arm 23 to bend from its inwardly or outwardly directed securing position back towards its initial straight position. Therefore, it is preferable that the material of the lower element 3 should possess sufficient strength to resist damage to the respective puncture holes as the free ends of the puncture arms 23 of the staple 21 are being withdrawn through them. This is to prevent the holes from becoming enlarged, or the area surrounding the holes from becoming deformed to the extent that damage is caused to the lowermost sheet 20 of the stack 17 as the staple 21 is being removed.

[0049] Referring now to figure 5, there is illustrated an alternate embodiment of stationery accessories. The same reference numerals are used for this embodiment to identify features which correspond to features of the first embodiment illustrated in figures 1 to 4. Accordingly, there is illustrated a stationery accessory which is similar to that of the first embodiment in that the upper element 2 generally has a triangular plan profile but differs in that the hypotenuse edge 9 is not straight but curved. Furthermore, a generally planar tab 14 is provided which is of triangular form and which is hingedly connected to the upper element 2 in an apex region between the side edge 8 and hypotenuse edge 9, the axis of the hinge 15 of the tab 14 lying parallel with the side edge 7 and hence with the hinge 13 of the connection formation 10.

[0050] Referring now to figure 6, there is illustrated a further embodiment of stationery accessory which differs from the one illustrated in figure 5 in that the hypotenuse edge 9 extends all of the way from the side edge 7 to the side edge 8 in a generally sinusoidal curve, and that the tab 14 has a plan profile which defines the apex between the side edge 8 and the hypotenuse edge 9. Furthermore, the tab 14 is provided with a series of gripping projections 24 to provide an improved gripping surface for the user when the tab 14 is being gripped by the user to pull the upper element 2 away from the uppermost sheet 19 of the stack 17.

[0051] Referring now to figure 7, there is illustrated another embodiment of stationery accessory shown in alternate positions on the stack 17. In this embodiment, both the upper and lower elements 2, 3 have a substantially semi-circular profile. With regard to the upper element 2, it can be seen that this profile is defined by side edge 25 and an arcuate edge 26 which extends between the ends of the side edge 25. Figure 7 shows that this embodiment of stationery accessory can be placed in its in-use position along any side edge of the stack 17. Furthermore, the upper element 2 is not provided with a tab, but the material of the upper element 2 is sufficiently flexible that when the stationery accessory 1 is in the in-use position and stapled to a stack of sheets 17, the user can lift the upper element 2 away from the uppermost sheet 19 of the stack 17 by placing a fingernail under the arcuate edge 26 of the upper element 2 and then grip the upper and lower surfaces of the upper element 2 between his or her other fingers to pull the upper element 2 away from the uppermost sheet 19.

[0052] It is envisaged that the embodiments referred to in figures 1 - 6 could be modified to have a tab on both the upper element 2 and lower element 3, or to have no tabs at all and ensuring that the material of the upper and/or lower elements 2, 3 is sufficiently flexible to enable a user to grip the upper and/or lower element 2, 3 in the manner described above with regard to the embodiment illustrated in figure 7.

[0053] It is also envisaged that the embodiments of stationery accessory illustrated in figures 1-6 could be provided with a locating abutment portion on either the upper element 2 or the lower element 3. The locating abutment portion would take the form of a projection, or lip, upstanding from the inner surface of the element such that when the stationery accessory is in the in-use position, the edges 18 of a first side of the stack 17 abut the elongate abutment portion and the edges 18 of a second side of the stack 17 abut the locating abutment portion, thus ensuring accurate location of the stationery accessory 1 on the corner of the stack.

[0054] It is to be appreciated that all of the embodiments of stationery accessory described above can be provided with surface indicia or labels as a means of identification.

[0055] Furthermore, it is envisaged that once the stationery accessory has been secured to a stack of sheets 17 by means of a staple 21, a label may be stuck to the lowermost element 3 over the free ends of the puncture arm 23 as a security measure. If the stationery accessory were to be used to remove the staple from the stack 17, then the label would become damaged indicating that the stack of sheets 17 has been tampered with. A supply of such labels could be supplied in combination with the stationery accessory.

[0056] It is also envisaged that after the stationery accessory has been used to remove a staple from a stack 17, it can then be reused.

[0057] Finally, it is envisaged that prior to placing the stationery accessory 1 onto a stack of sheets 17 it could be stored in an initial flat position wherein the upper and lower elements 2, 3 are opened out about the hinge 13 such that they lie substantially in the same plane.

[0058] When used in this specification and claims, the terms "comprises" and "comprising" and variations thereof mean that the specified features, steps or integers are included. The terms are not to be interpreted to exclude the presence of other features, steps or components.

[0059] The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse

forms thereof.

Claims

1. A stationery accessory comprising:

   a pair of elements spaced apart from one another by a distance sufficient to allow a stack of sheet articles to be inserted between the elements so that the accessory can adopt an in-use position in which a first of said elements is positioned adjacent the uppermost sheet of the stack and the second of said elements is positioned adjacent the lowermost sheet of the stack, each said element being made from material suitable for puncture by a staple to permit a staple to be stapled, in sequence, through the first element, through the stack and through the second element when the accessory is in said in-use position to secure the stationery accessory to the stack, wherein at least said first element is configured so as to remove said staple from the stack of sheet articles and from the second element as the first element is pulled away from the uppermost sheet of the stack, after said securement.

2. A stationery accessory according to Claim 1, wherein the second element has sufficient strength to resist damage by the staple when the staple is removed from the second element.

3. A stationery accessory according to Claim 1 or Claim 2, wherein at least the first element is flexible.

4. A stationery accessory according to any preceding Claim, wherein both the first and second elements are flexible.

5. A stationery accessory according to any preceding Claim, wherein the first and second elements are connected to one another.

6. A stationery accessory according to claim 5, wherein said connection defines an elongate abutment portion, such that when the stationery accessory is in the in-use position a first edge of each sheet article in the stack abuts the elongate abutment portion.

7. A stationery accessory according to Claim 6, wherein a locating abutment portion is provided on at least one of said elements, such that when the stationery accessory is in the in-use position a second edge of each sheet article in the stack abuts the locating abutment portion, and wherein said second edge is orthogonal to said first edge.

8. A stationery accessory according to any preceding Claim, wherein the first and second elements are hingedly connected to one another.

9. A stationery accessory according to Claim 8, wherein the first and second elements are connected by a living hinge.

10. A stationery accessory according to any preceding claim, wherein the stationery accessory is formed of a plastics material.

11. A stationery accessory according to any preceding claim, wherein at least the first element has a gripping formation, said gripping formation being configured to be gripped by a user so as to facilitate said pulling of the first element away from the uppermost sheet of the stack.

12. A stationery accessory according to Claim 11, wherein the second element is also provided with a gripping formation.

13. A stationery accessory according to Claim 11 or Claim 12, wherein the or each gripping formation takes the form of a tab.

14. A stationery accessory according to Claim 13, wherein the or each tab has a gripping projection.

15. A stationery accessory according to Claim 13 or Claim 14, wherein the or each tab is connected to the respective element by a hinge.

16. A stationery accessory according to Claim 13 to Claim 15, wherein the or each tab is connected to the respective element by a living hinge.

17. A stationery accessory according to any one of Claim 11 to Claim 16, wherein the or each gripping formation is spaced from the connection between the first and second elements.

18. A stationery accessory according to any preceding claim provided with indicia.

19. A stationery accessory according to any preceding claim, wherein the first and second elements are substantially planar.

20. A stationery accessory according to any preceding claim, being provided with a label.

21. A stationery accessory according to any preceding claim, being provided on the corner of a stack of sheet article when in the in-use position.

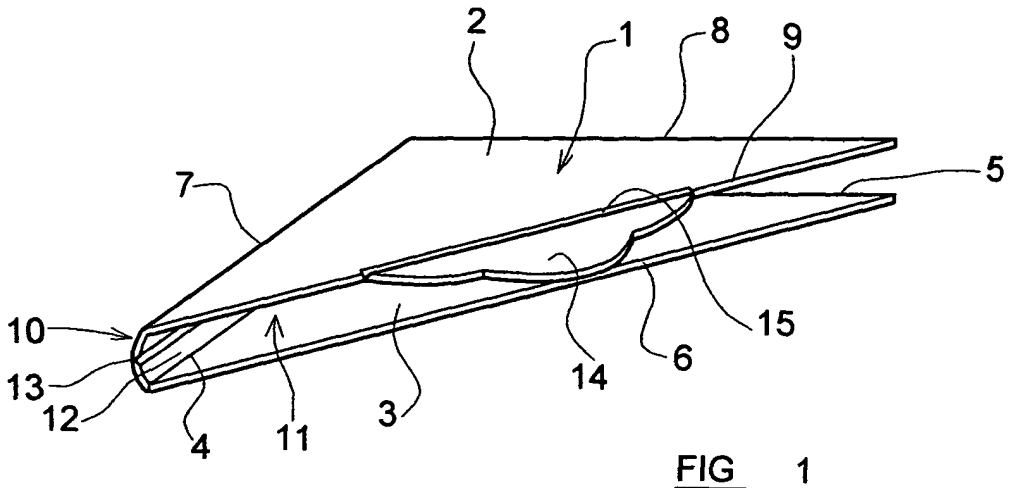

FIG 1

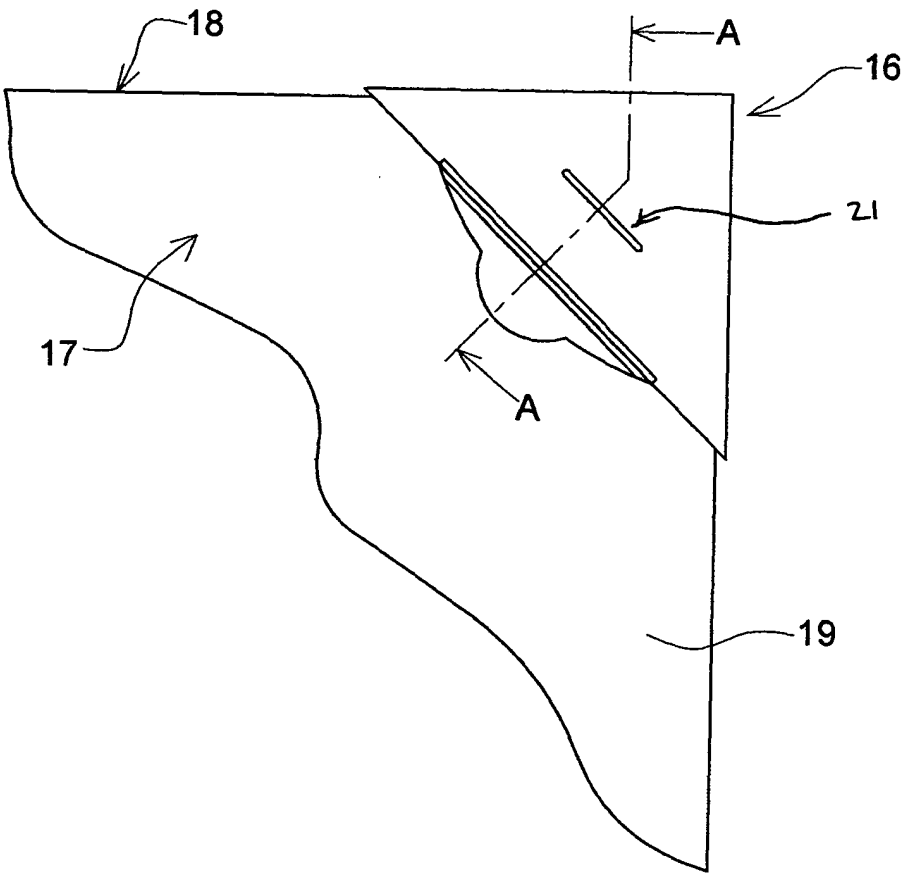

FIG 2

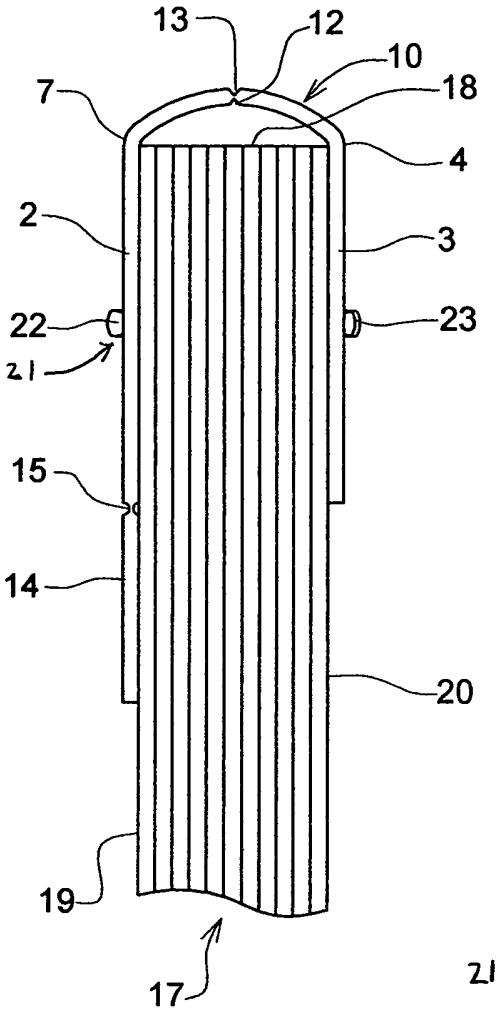

FIG 3

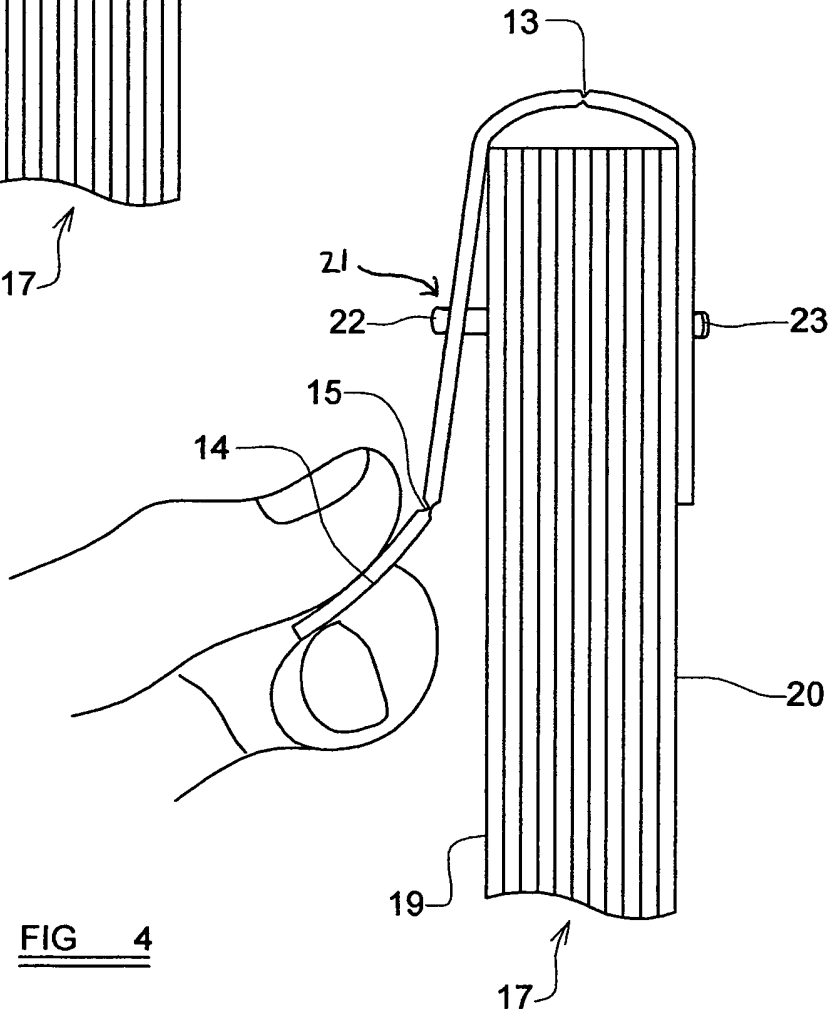

FIG 4

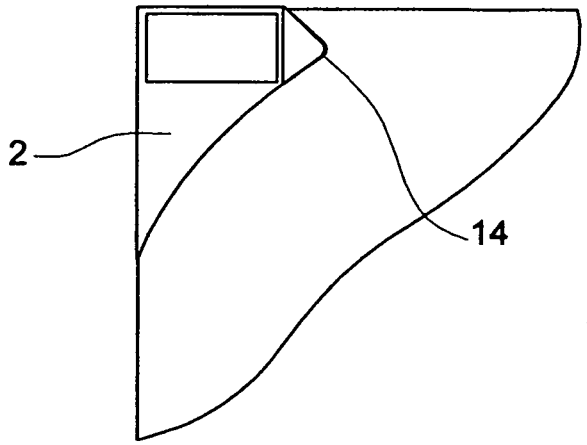

FIG 5

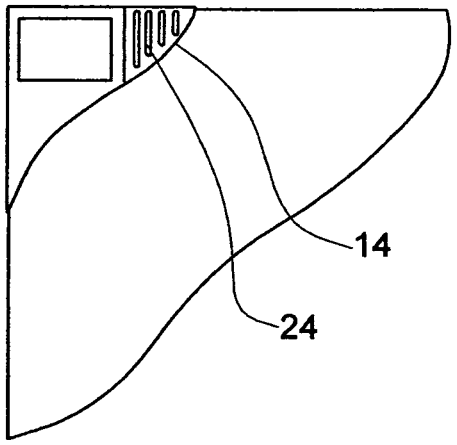

FIG 6

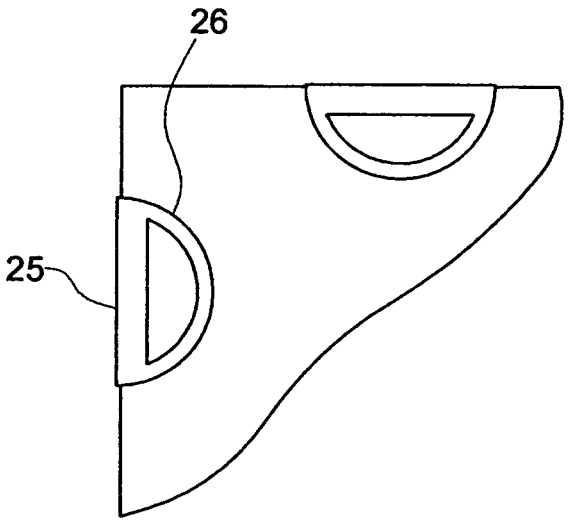

FIG 7

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 01 8041

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 085 547 A (RANDOLPH, RICHARD) 10 August 1983 (1983-08-10) * page 4, line 1 - page 9, line 7; figures *	1-5	B42F1/00 B42F3/00
X	EP 0 158 002 A (LORBER, KURT) 16 October 1985 (1985-10-16) * page 7, line 1 - page 10, line 18; figures *	1-5	
A	US 2002/088098 A1 (BOULEY ROGER R) 11 July 2002 (2002-07-11) * the whole document *	1-21	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B42F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	25 February 2005	Louvion, B

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 04 01 8041

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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25-02-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0085547 A	10-08-1983	AU 1094383 A	11-08-1983
		DK 42183 A	03-08-1983
		EP 0085547 A1	10-08-1983
		GB 2114647 A ,B	24-08-1983
		JP 59011296 A	20-01-1984
		NZ 203160 A	14-03-1986
EP 0158002 A	16-10-1985	DE 3408562 A1	19-09-1985
		AT 33090 T	15-04-1988
		DE 3561923 D1	28-04-1988
		EP 0158002 A1	16-10-1985
		JP 60196419 A	04-10-1985
US 2002088098 A1	11-07-2002	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82