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(54) **Foldable cardboard with a holder**

(57) At least two creases (3, 4) are made near the upper part of a folding line (2) of a cardboard sheet. The creases extend diagonally from the folding line to the edge of the cardboard sheet. A perforation (5) is in the folding line between the diagonal creases and at a distance from the edge. When the cardboard sheet is folded into a folder along the folding line, the cardboard is also pushed inwards between the creases, wherein an

internal nose is formed between the folds of the sheets. When the folder is now opened the nose also opens and the perforation in the middle of the nose becomes visible. A pen can then be pushed through this nose (21). The perforation has been made so that when the pen is in its position the force caused by edges of the perforation against the sides of the pen keeps it tightly in its place and prevents it from sliding away from the perforation.

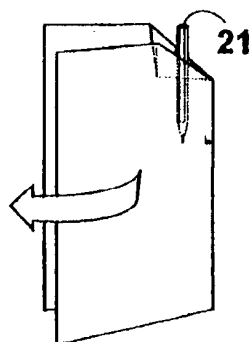


FIG. 3

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Description

FIELD OF THE INVENTION

[0001] The present invention generally relates to cardboard product and especially to a printing sheet that can be folded to make at least one fold. Especially the invention relates to a cardboard sheet that can be folded to form a folder or so that a fold can be formed parallel to the edge of the sheet.

BACKGROUND OF THE INVENTION

[0002] Folders folded from a cardboard sheet are widely used as a cover for pads and loose sheets. Printing desired patterns one- or two-sided on the surface of a cartoon band or a major sheet whereupon the sheets are cut apart makes the desired cover print. After this the sheets can be folded in a wanted way, for example along the symmetrical line of the sheet, so that a folder is formed. The sheet can also be folded in many other ways, like for example into a folder which has on one or both inner sides a fold or even so that a narrow, a page's length fold is folded only to one side. Making of folds can be made easier by pressing a groove, i.e. a crease, to the folding lines of the sheet.

[0003] The folders described above are used as advertising folders. In that case their purpose is to keep brochures, advertising etc materials. The usual use for folders is making notes. In this case there can be separate paper sheets or a note pad inside the folder for making notes and the folder itself works as a cover page with different prints on it. Putting course materials and note sheets inside the cardboard folder is the usual use.

[0004] It is not necessary to put separate sheets inside the folder but the notes can be made directly onto the folder's surface. According to the intended use grids, tables, lines etc can be printed onto the folder to make making of notes easier. This kind of use of the folders is known among different sports, where folders are used for marking down the results. So for example when a golf player starts his round he gets a scorecard where to mark with a pen all the shots he uses during the overall round. In shops where only examples of the products are shown to the customer he can mark the product codes with a pen to a folder card and then at the cash desk the products are collected according to codes.

[0005] When a folder is used as a part of the note-taking accessories like just described a pen is needed, too. It is known that the teacher of a course delivers folders with materials and the pen is loose inside the folder. Also in score card kind of applications a pencil is often given or the player uses a pen of his own.

[0006] When a folder is used for making notes and other markings the problem is the pen itself. If the notes are not made at the table but when standing, as it is for example the case of using above-mentioned score cards or shopping cards, the pen always has to be placed

somewhere when not needed. The most natural place to place the pen is to put it to the bag or pocket. When the pen is needed again the user has to look for it in his pocket or dig into his bag. The result often is that the pen stains fabric of the clothes or the contents of the bag. It is not rare that the pen is totally lost.

[0007] Using a pen with a clamp like in a ballpoint pen and pushing one of the pages between the pen and clamp can prevent stains caused by the pen, looking for the pen or losing the pen. But in many applications only short piece of pencil is needed and that is when the earlier mentioned problems occur. These kinds of applications are score and shopping cards which are meant for short term or throwaway use, where the folder with its soft point pencil is meant only to be used only once - i.e. during the game or shopping - and then to be thrown away.

SUMMARY OF THE INVENTION

[0008] An objective of the present invention is a folder, which could prevent the earlier mentioned problems caused by the pen.

[0009] The objective is reached with a cardboard sheet comprising at least two diagonal creases on the upper part of a sheet's long folding line, said creases starting from the folding line and ending to sheet's edge. Between the diagonal creases there may be a perforation locating in the folding line at a distance from the sheet edge.

[0010] When the cardboard is folded into a folder along the folding line, the cardboard is also pressed in a suitable way inwards between the creases so that an inner nose is formed between the folds of the sheet. When the folder is now opened, the nose also opens and forms a kind of a shelf. Now a pen can be pushed against the bottom of this shelf and a hole can be made with the pen's sharp point whereupon the pen can be pushed further through the hole.

[0011] In an advantageous embodiment there is a perforation in the folding line between the diagonal creases and at a distance from the sheet edge. When the folding is now opened and the nose opens into a shelf the perforation becomes visible. A pen can be pushed into this perforation.

[0012] The perforation is formed so, that when a pen is pushed into the perforation the force caused by the edges of the perforation against the side of the pen keeps it tightly on its place and prevents the pen from falling through the perforation.

[0013] When the cardboard is folded into a folder according to invention and a pen is placed through the perforation in the nose the pen stays tightly in its place without fear of falling or getting lost. When needed the pen is easy to remove and put back to its place again.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The invention is explained in detail with enclosing drawings where

- Fig. 1 shows a cardboard sheet with a holder prior to folding up,
 Fig. 2 illustrates how to fold the sheet into a folder with a holder
 Fig. 3 shows a closed folder with a pen in the holder
 Fig. 4 - 6 show different types of folders with holders

DETAILED DESCRIPTION OF THE INVENTION

[0015] In fig. 1 reference number 1 refers to a cardboard sheet. Its size has no importance for the invention but the usual sizes are A3 and A4. Thickness of the cardboard has to be such that the folder becomes stiff enough. Folding line 2 is the line along which opposite sides S1 and S2 are folded against each other. If wanted - but not necessary - the line can be made to cardboard by pressing a groove, i.e. a crease. Otherwise pages are simply folded against each other along the line.

[0016] Creases 3, 4 and 6 are made at the one end of folding line 2. They start from folding line 2 at the distance d2 from the cardboard's edge, are directed in a certain angle and end up to the edge of cardboard 1. If folding line 2 is creased then crease 6 is part of the folding line and it is not needed to crease it separately. It is advantageous to do creases 3 and 4 symmetrical in relation to the folding line. In this way a triangular area 7 is formed at the edge of the sheet and the creases and cardboard's edges limit it.

[0017] In an advantageous alternative in addition to the creases a perforation 5 is made to middle creasing 6 of the triangular area, in this case onto the folding line 2 at a distance of d1 from the edge of the sheet. The perforation can be a round cut like in the figure, wherein the diameter of the cut is a bit smaller than thickness of the pen. Alternatively the cut can be done by punching out a grid with a diameter preferably wider than the thickness of the pen used.

[0018] Other kinds of cuts can be used for perforation, too. The important point is that the pen can be pushed with little force through the perforation and the edges of the perforation cause adequate pressure to retain the pen on its place. So instead of the round hole the perforation can be cross, slash, star-shaped or any other combination of these. The advantage of any other shape than round hole is that they can take and keep pens of different thickness whereas a round hole cannot retain pens having diameter smaller than the diameter of the hole. When the creases and possible cuts have been made the cardboard sheet can be folded into a folder.

[0019] Fig. 2 describes the folding phase. It is assumed that the perforation according to the advantageous alternative has been done to the cardboard

sheet. Pages S1 and S2 are turned towards each other along the folding line 2. At the same time the center part of the triangular area 7 is pushed inwards. Pushing causes that the area between creases 3 and 4 bends inwards. The cardboard sheet's folding line 2 causes that the triangular area will be folded in the folder.

[0020] When the sheets of the cardboard are fully against each other, the triangular area is pleated inside the folder. If the perforation 5 is used it stays in the middle of the pleat. Now the folders are ready for the delivery to the buyer.

[0021] When a buyer or user starts to use the folder he opens the folder a little bit so that the triangular area, which is pleated into two parts inside the folder, opens a bit - fig 2. When the folder is opened further the cut in the bottom of the pleat becomes visible. Now it is easy for the user to push a pen 21 through the perforation. When the pen is in the perforation and pushing is stopped, the force caused by the edges of the perforation prevents the pen from moving in perforation due to its own weight.

[0022] When the pen has been pushed to the cut, the folder can be closed again. Fig 3 shows this phase. The side parts of the holder press the pen and assure furthermore that the pen stays on its place. Now the folder can be handled in many ways and still the pen stays well in the holder. The pen's head is visible and so it can easily be drawn away from the holder when one needs to do notes onto the folder and it can be put back to holder when the notes are done.

[0023] If the perforation is not used, the user forces the pen through the bottom of triangular area simply by pushing the sharp point of the pen with force that is needed to make a hole. In this hole the pen stays firmly on its place.

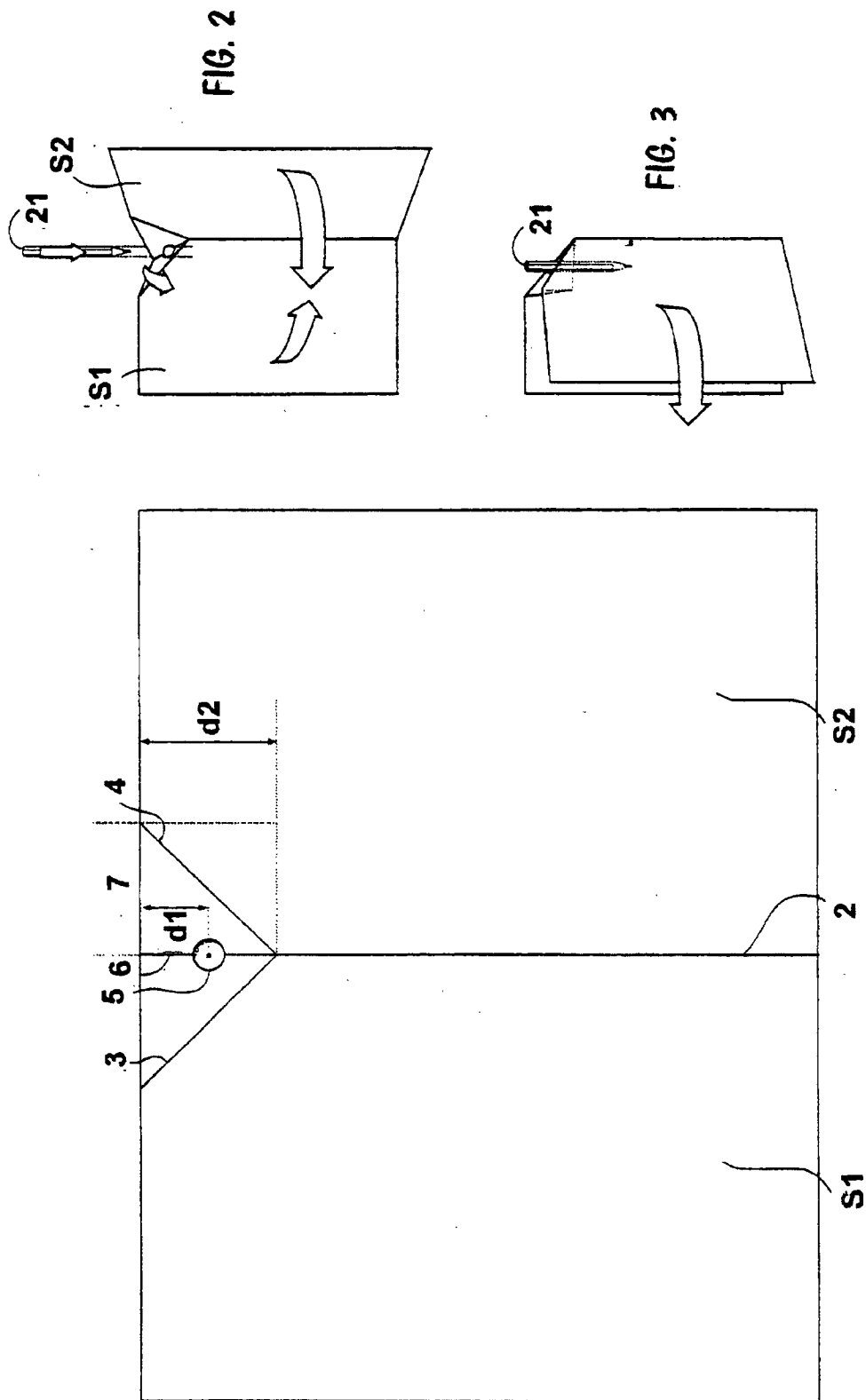
[0024] Referring still to fig. 1 it is advantageous to make the creases 3 and 4 so that they are at right angle with each other and so at the angle of 45° with the folding line 2. When this triangular area is folded inside the folder the centerline of the area pleats perpendicular towards folder's edge and so the pen will stay parallel with the folder's edge - fig 3. By changing the angle between the creases the pen, which has been pushed into the perforation, can be put to desired angle in relation to the folder's edge. Distance D2 determines how deep the lower edge of the holder goes when compared with the folder's upper edge.

[0025] In figures 4 - 6 there are different types of folders with holders. The folders do not have to consist of two pages because the amount and the form of the pages can be whatever. The only necessary thing is that there is at least one fold where the holder can be made according to invention.

[0026] If there are several folds the holder can be made naturally to more than one of the folds. This enables to keep more pens for different needs in the folder, for example certain color for certain marking.

Claims

1. A cardboard sheet having at least one folding line (2) extending from one edge of the sheet to the other edge of sheet along which the cardboard sheet is foldable by turning against each other the parts of the sheet which are limited by the folding line, **characterized in that**
at least three straight creases has been made near one end of the folding line (2) so that the ends of creases are at an edge of the sheet at a distance from each other and the opposite ends join each other in same point at a distance (d2) from the edge.
2. The cardboard sheet as in claim 1, **characterized in that** the center crease (5) is provided with a perforation piercing the cardboard.
3. The cardboard sheet as in claim 1, **characterized in that** the center crease (6) is a part of the folding line (2).
4. The cardboard sheet as in claim 1 or 3, **characterized in that** the outermost creases (3, 4) are symmetrical to the center crease (6).
5. The cardboard sheet as in claim 2, **characterized in that** the perforation piercing the cardboard sheet is circular in shape.
6. The cardboard sheet as in claim 2, **characterized in that** the perforation piercing the cardboard is at least one short cut.
7. A folder that has been formed by folding the cardboard sheet along a folding line (2) extending from one edge to another edge until the parts of the sheet that are limited by the folding line are against each other, **characterized in that** a fold has been formed near one end of the folding line by pushing inwards an area between two such straight creases (3, 4) whose one ends are at the edge of the sheet at a distance from each other and the other ends join each other at the same point at a distance (d2) from the edge of the sheet.
8. The folder as in 7, **characterized in that** between the two creases (3, 4) there is a perforation (5) piercing the cardboard, wherein the fold and perforation together form a holder for a pen that can be pushed through the perforation.
9. The folder as in claim 7 or 8, **characterized in that** pushing inwards takes place on a third crease (6) between said two straight creases (3, 4), whose one end is at the edge of the sheet and the opposite end locates at the same point where said two straight creases (3, 4) join.
10. The folder as in claim 9, **characterized in that** the third crease (6) is a part of the folding line and the perforation is on the third creasing.
11. The folder as in claim 8 or 9, **characterized in that** the perforation is a round cut.
12. The folder as in claim 8 or 9, **characterized in that** the perforation is at least one cut piercing the cardboard.



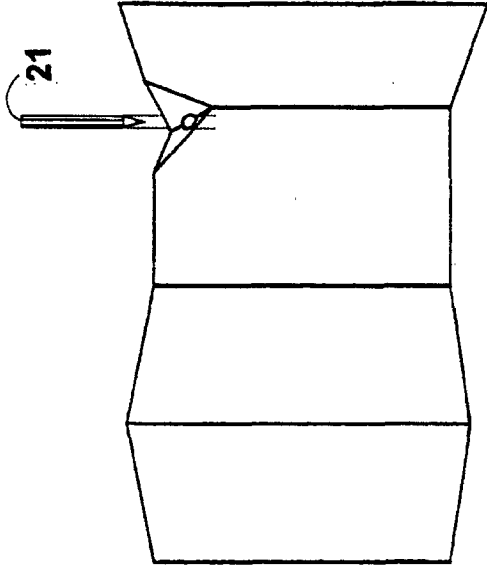


FIG. 5

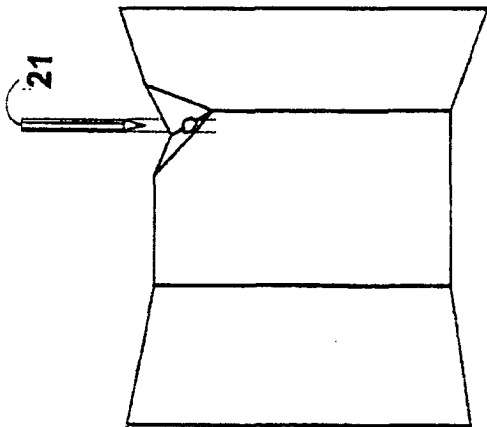


FIG. 4

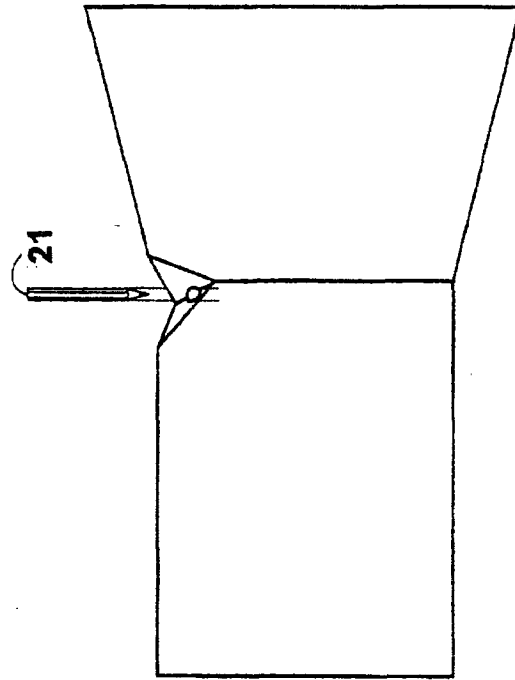


FIG. 6



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EUROPEAN SEARCH REPORT

Application Number
EP 03 10 2657

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)
A	US 4 296 945 A (PAVLIK KATHLEEN W) 27 October 1981 (1981-10-27) * column 2, line 58 - column 4, line 62; figures *	1,7	B42F7/04 B42F7/02
A	GB 2 172 548 A (KIRBY VICTOR GEORGE) 24 September 1986 (1986-09-24) * the whole document *	1,7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B42F
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 24 November 2003	Examiner Louvion, B
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 10 2657

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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24-11-2003

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